

A.I.D. EVALUATION SUMMARY - PART I

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS
 2. USE LETTER QUALITY TYPE, NOT 'DOT MATRIX' TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit: USAID/PAKISTAN Mission or AID/W Office (ES# _____)	B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan? Yes <input checked="" type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/> Evaluation Plan Submission Date: FY 90 Q 02	C. Evaluation Timing Interim <input type="checkbox"/> Final <input checked="" type="checkbox"/> Ex Post <input type="checkbox"/> Other <input type="checkbox"/>
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D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report).

Project No	Project/Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
391-0475	Primary Health Care	1982	09/90	30,000	30,000

ACTIONS

E. Actions Decisions Approved By Mission or AID/W Office Director	Name of Officer Responsible for Action	Date Action to be completed
<p style="text-align: center;">Action(s) Required</p> <ul style="list-style-type: none"> • Future project strategies must take account of sustainability, both financial and institutional. • For financial sustainability of health programmes, consistent advocacy is required for proper budgetary planning and allocations by GOP. Urgent measures are required to review recurrent costs and to study alternative health financing schemes and implement the feasible models. • For institutionalization of PHC activities and improving efficiency it is essential to decentralize the management supervision of health system to divisional or district level. Appropriate curriculum and training especially of medical students, needs strengthening. <ul style="list-style-type: none"> -- Excellent progress achieved in vertical accelerated EPI program. To be sustained, EPI must be integrated into existing health care system. • Private sector involvement on a much larger scale is essential. • Nutrition Education is lacking at all levels and should be addressed: from teaching mothers to training physicians. 	Goldman Goldman Goldman Goldman Goldman	03/90 On-going On-going On-going On-going

APPROVALS

F. Date Of Mission OR AID/W Office Review Of Evaluation:	(Month) 1	(Day) 24	(Year) 90
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G. Approvals of Evaluation Summary And Action Decisions:				
	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	Heather W. Goldman	Shamsul Arfeen	Mark Gellerson	James A. Norris
Signature				
Date	12/29/91	30-31-93	3-29-93	3-31-93

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

Final Evaluation of the \$30.0 million Primary Health Care Project (PHCP) (9/1982 -- 9/1990) took place from May 19 to June 22, 1990 by an expatriate team of six public health professionals. The team was joined by eight Pakistani doctors from the four provinces and from the federal level who hold very senior positions in Pakistan's Primary Health Care (PHC) system. The methodology employed was to use secondary data, to visit the PHC health facilities in the field, and to talk with the officers and staff responsible for providing the PHC services including planning, coordination and policy.

The objectives of the PHC evaluation were to: assess the success of the PHC project, identify lessons learned, and determine program issues to quantify changes in health status, especially those directly attributable to PHCP inputs. There is consensus that deaths associated with diarrheal and vaccine-preventable diseases in children have decreased markedly. Accessibility of basic health service has improved.

There has been significant progress in "awareness" in the MOH and Provinces recognizing that preventive programs are cost effective as a correct treatment. Problems in the system, including its Child Survival component, which must be resolved by the Ministry of Health (MOH) and Provinces include: decentralization, health planning, education and research, and problems within the health personnel system such as career structure, incentives to specialize in preventive medicine and public health versus curative, incentive for rural health service, overlapping of job responsibilities, and lack of supervision.

Major subjects, evaluated with appropriate findings, and recommendations include: Institutionalization, Management, Donor Coordination, Financial Sustainability, Expanded Program of Immunization, Control of Diarrheal Diseases, Nutrition, Training, Community Involvement, Health Education/Communications and Monitoring/Health Information Systems.

Some of the more important recommendations are as follows:

- **Decentralization:** Operational responsibility should be delegated to the field -- District level, since over centralization of control continues to restrict efforts in the field.
- **Financial Sustainability:** GOP budgetary planning and allocations to sustain the PHC program should be strengthened, especially recurrent cost financing.
- **Rural Area Service Incentives:** The GOP should take urgent steps to provide incentives to significant numbers of doctors and paramedics who avoid the rural sector.
- **Expanded Program on Immunization (EPI):** The excellent progress on EPI (over 70 percent coverage) should be consolidated.
- **Control of Diarrheal Diseases (CDD):** Recent progress in CDD is encouraging and should continue as a high priority activity. More emphasis on nutrition is needed in clinical training sessions.
- **MIS and HIS:** Monitoring and Health Information Systems (MIS/HIS) must be rationalized on a priority basis.
- **Training:** There is an urgent need to develop an integrated training plan including budget, since training remains a vital element of the Child Survival Project (CSP).
- **Pre-Service Training:** Pre-service training of medical students on CS topics should be developed without delay;
- **Infant Feeding:** Establishment of a national program to improve infant feeding practices is urgently needed.
- **Donor Coordination:** Donor coordination needs substantial improvement and GOP coordination.

C O S T S

I. Evaluation Costs

Name	1. Evaluation Team	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Vincent W. Brown (Team Leader)		ISTI	PIO/T#391-0475-3-40506 PO#391-0475-0-00-0822-00	24,984	391-0475
Dayle Donaldson (Economist)		MSCI	PIO/T#391-0475-3-70463	37,168	391-0475
Dr. William Hawley (Medical Advisor)		MSCI	PO#-PDC-1406-I-00-7114-00 D.O. No. 3		
Robert Clay (Training/Communications)		AID/W	TA# 0990381 and 2	6,000 (approx)	OE Mission
Dr. Danielle "Maye Olivola" (CDD Advisor)		CDC/Atlanta	--	--	F u n d s
Dr. Nathaniel Peirce (CDD Advisor)		WHO/Geneva	--	--	CDC/Atlanta WHO/Geneva
2. Mission/Office Professional Staff			3. Borrower/Grantee Professional		
Person-Days (Estimate) <u>78 DAYS</u>			Staff Person-Days (Estimate) <u>260 Days</u>		
26 days X 3 PHP, PO, PMA = 78 days			26 days X 10 persons = 260 days		

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S U M M A R Y

Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- Purpose of evaluation and methodology used
- Principal recommendations
- Purpose of activity(ies) evaluated
- Lessons learned
- Findings and conclusions (relate to questions)

Mission or Office:
USAID/Pakistan

Date This Summary Prepared:
08/90

Title And Date Of Full Evaluation Report:
Primary Health Care Evaluation - 06/90

A. OBJECTIVES OF THE EVALUATION

Final evaluation of the US \$ 30 million Primary Health Care (PHC) project (9/1982 - 9/1990) took place from May 19 to June 22, 1990. The objectives were to:

- Assess the success of the PHC project in achieving its purpose and outputs;
- Identify lessons learned and successful approaches; and
- Determine program issues and policy areas requiring analysis under the Child Survival Project.

B. METHODOLOGY

The evaluation was conducted by a team of six members with the following skills: Team Leader/Management; Public Health Physician; Health Economist; Training, Health Education, Communications Specialist; and two diarrheal disease specialists from WHO and CDC/Atlanta. The team was joined by eight Pakistani doctors holding very senior positions in Pakistan's Primary Health Care System.

The methodology employed was to use secondary data to the fullest extent by reading the relevant documents prepared over the life of the project. Equally important were visits to the PHC health facilities in the field and talks with the officers and staff responsible for providing the PHC services. Meetings were also held with key senior officials in the four provinces responsible for implementation of the project as well as those in charge of planning coordination and policy at the federal level.

C. FINDINGS AND CONCLUSIONS:

Although it is impossible to quantify specific changes in health status, especially those directly attributable to PHCP inputs, there is consensus that deaths associated with diarrheal diseases in children have decreased markedly; the morbidity and deaths due to diphtheria, whooping cough, polio and measles are reduced and the accessibility of basic health services has improved. The overall sustainability of these gains depends on:

- Institutionalization of changes in attitude among the political body, health care providers and the public;
- Provision of the necessary policy and administrative support for the system and facilities;
- Availability of sustained financial commitment and resources.

1. **Institutionalization:** There is good evidence that the PHC strategy, emphasizing the prevention and appropriate treatment for basic health problems has been accepted within some health departments. There has been significant progress in "awareness" in the MOH and Provinces recognizing that preventive programs are cost effective. Problems in the system, including its child survival component, which must be addressed and resolved by the MOH and Provinces, encompass: decentralization, health planning, health information, allocation of financial resources, education and research, and problems within the health manpower system such as career structure, incentives to specialize in preventive medicine and public health, incentive for rural health service, and overlapping of job responsibilities. Lack of supervision seems to be a chronic problem.
2. **Financial Sustainability:** From a PHC project standpoint the government has taken, by and large, the necessary steps to continue the Health Technician Training Schools which were a major component of the PHC project, and other project activities not continuing under the Child Survival Project (CSP). However, the team noted that the recurrent budgets were extremely tight in all four provinces with Rural Health centers and Basic Health facilities running short of medicines well before their quarterly resupply resulting in underutilization of the facilities, In addition supervision and monitoring were inadequate largely due to lack of Petrol, Oil and Lubricants (POL).

3. **Management:** Management assistance has focused on general management skills and improved clinical case management. Support for case management will continue under the CSP, especially for diarrheal diseases, pneumonias, and malnutrition. Since the latter two subject matter areas received little attention under the PHCP, they will be addressed under the CSP. The PHC program is highly centralized at the provincial level. As a result inefficiencies are occurring at the divisional and district levels, which could be reduced if operational responsibilities for them were transferred to them.

Appropriate incentives (financial and career) are needed to encourage service by doctors and paramedicals (male and female) in the Rural Areas. Other management skills in the field of planning and budget, as well as monitoring and HIS, including computerization, will continue to need strong support from CSP activities.

4. **Expanded Program on Immunization:** Progress since 1982 under the EPI program has been outstanding. Immunization status in the age group of 12-23 months was only 8 percent in 1982. It has increased substantially to 78 percent in 1989. An evaluation in 1988 based on card and history found a coverage in the three most populous provinces (Punjab, Sindh and NWFP) at 75 to 88 percent - in children 12 to 23 months. Under the PHC project USAID provided US\$ 6.5 million in commodities as well as valuable training assistance. Critical issues for government attention are the need for:

- Monitoring of disease outbreaks through a functional surveillance system;
- Maintaining the integrity of the cold chain; and
- Planning for budgetary self-sufficiency.

One of the weakest coverage areas is vaccination of mothers with tetanus toxoid (TT) which is around 29 percent in the four provinces.

USAID supplied TA and equipment to the tetanus toxoid vaccine production unit at NIH. MOH needs to ensure that GOP management and financial issues in vaccine production are given high priority.

5. **Control of Diarrheal Disease:** The conclusions of the evaluation team were : 1) a number of important achievements have been made in the Pakistani CDD program, 2) staff of the DTUs should continue by opening new DTUs and ORTUs according to the initial plan. However, it was felt that priority should be given to establishing the management of ORTUs at the district level by the District Health Officers.

The teaching of medical students about case management of diarrheal diseases should be considerably strengthened to ensure that newly graduated physicians are familiar with treatment strategies and techniques and support the objectives of the national CDD program.

6. **Training:** While training activities were strengthened during the PHCP, much remains to be done. It is essential that the GOP develop an integrated training plan including budget for "Vertically managed" programs and other core training activities. Special campaigns to recruit females for training at the professional level are still urgently needed. In general the team found training methods off to a good start, but trainers/tutors need more experience in experiential learning. Provision and upgrading of trainers should be a high priority of the GOP/MOH.
7. **Community Involvement:** The level of effort of this aspect of PHC has been inadequate in the past. The government in its National Health Policy has underlined the importance of enhancing community development, by recommending Community Health Workers in the urban areas, and the Village Worker program in the rural areas. This program needs to be carefully planned and budgeted in order to be successful.
8. **Health Education/Communications:** Health Education and Communications will be critical to the success of the child survival efforts. Under the PHCP, radio and television were used, particularly for EPI and ORS. While much remains to be done and there has been no formal evaluation, the high degree of knowledge about EPI and ORS is an indirect indicator that communications effort were effective.

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D. RECOMMENDATIONS:

The most important recommendations of the evaluation team follow:

1. Steering committees should meet regularly (quarterly) at the Federal and Provincial levels in order to strengthen program and policy making in such areas as planning, budgeting, overall policy direction, etc.
2. Donor coordination should be improved through GOP/MOH meetings on a regular basis (e.g., quarterly) with carefully prepared agendas and minutes of the meetings sent to all donors.
3. Overcentralization of control continues to hamper the efforts of those in the field to handle the resources assigned to them productively. Decentralization is required. Operations Research techniques should be used to determine appropriate operational responsibilities which should be delegated to the District Health Officer/Tehsil Hospital level.4. GOP Budgetary efforts to sustain the PHC program should be supported by carefully prepared annual plans for health interventions projecting both capital and recurrent costs through the next five years.5. Monitoring and Health Information Systems (HIS) must be rationalized on a priority basis. The CSP must streamline data collection and analysis for automation at the district level.
4. GOP Budgetary efforts to sustain the PHC program should be supported by carefully prepared annual plans for health interventions projecting both capital and recurrent costs through the next five years.
5. Monitoring and Health Information Systems (HIS) must be rationalized on a priority basis. The CSP must streamline data collection and analysis for automation at the district level.
6. The GOP (Federal and Provincial) should take urgent steps to provide incentives (financial and career) to significant number of doctors and paramedics who now avoid the rural sector, by providing solutions to the causes of frequent transfers, lack of interest in the work, lack of housing, education for children etc.
7. The excellent progress of EPI should be consolidated by focusing on issues such as: monitoring disease outbreaks through a functional surveillance system; improving significantly the coverage of TT vaccinations for women, maintaining the integrity of the cold chain, and budgetary planning.
8. Recent progress in CDD is encouraging and should continue. The plan to establish responsibility for the operation of the program at DHO level is highly recommended as soon as is feasible.
9. The implementation, supervision and monitoring of Acute Respiratory Infection (ARI) control should be conducted administratively and at the health facility level with that of CDD, Nutrition and EPI.
10. While significant progress was made in PHC Training over the life of the project, there is an urgent need to develop integrated training plans which include "vertically-managed" programs. The CS project should assist the government in this endeavor.
11. Two additional training activities require vigorous action by the Federal and Provincial authorities:
 - Strengthened pre-service training of medical students on child survival topics; and
 - Establishment of a national program concerned with improving infant feeding practices.
12. The MOH should encourage the Private Sector (business, nongovernmental organizations and private practitioners) to participate in primary health care with a particular interest in its support of Child Survival Project.

ATTACHMENTS

K. ATTACHMENTS (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier)

- Primary Health Care Project Evaluation

MISSION COMMENTS ON FULL REPORT

L. COMMENTS BY MISSION, AID/W OFFICE AND BORROWER/GRANTEE

Comments were not submitted in writing but were incorporated into the final actions and recommendations.

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MSCI

**PRIMARY HEALTH CARE PROJECT
EVALUATION**

NO. PDC-1406-I-00-7114-00

DELIVERY ORDER NO. 3

Submitted to:

**HEALTH, POPULATION AND NUTRITION
DIVISION (HPN)
AGENCY FOR INTERNATIONAL DEVELOPMENT
USAID MISSION
18-6th Avenue, Ramna-5
Islamabad, Pakistan**

Submitted by:

**MEDICAL SERVICE CORPORATION INTERNATIONAL
1716 Wilson Boulevard
Arlington, Virginia 22209**

June 1990

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F.	Vaccine Production
G.	Pharmaceuticals
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ABBREVIATIONS

ADG	Assistant Director General
ADHO	Assistant District Health Officer
ADP	Annual Development (Capital) Plan
AHP	Accelerated Health Plan
ARI	Acute Respiratory Infection
BHSC	Basic Health Services Cell
BHU	Basic Health Unit
CBA	Child Bearing Age
CDC	Communicable Disease Control
CDD	Control of Diarrheal Disease
CHW	Community Health Worker
CSP	Child Survival Project
DA	Daily Allowance
Dai	Traditional Birth Attendant
DD	Deputy Director
DDG	Deputy Director General
DDHS	Deputy Director Health Services
DG	Director General
DHO	District Health Office
DHQ	District Headquarters
DHS	Director Health Services
DOH	Department of Health (Provincial)
DTU	Diarrhea Training Unit
EPI	Expanded Program on Immunization
FHT	Female Health Technician
FMT	Female Medical Technician
FP	Family Planning
FSMO	Field Supervisory Medical Officer
FSN	Foreign Service National
GDP	Gross Domestic Product
GOP	Government of Pakistan
HEC	Health Education Cell
HPN	Health, Population, and Nutrition Office, USAID/P
HS	Health Services
HT	Health Technician
IMR	Infant Mortality Rate
IRHC	Integrated Rural Health Complex
LBW	Low Birth Weight
LOP	Life of Project
LHV	Lady Health Visitor
MA	Management Analyst
MCH	Maternal and Child Health
MHT	Male Health Technician
MIS	Monitoring Information System
MO/IC	Medical Officer InCharge

MO	Medical Officer
MOH	Ministry of Health (Federal)
MOPD	Ministry of Planning and Development
MOHSW	Ministry of Health & Social Worker
MPHW	Multipurpose Health Worker
MS	Medical Superintendent
MSH	Management Sciences for Health
MT	Medical Technician
NBHSC	National Basic Health Services Cell
NGOS	Non Governmental Organizations
NIH	National Institute of Health
NWFP	North West Frontier Province
OPD	Out Patient Department
OR	Operations Research
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
P&D	Planning and Development
PACD	Project Activity Closing Date
PC1	Planning Commission Document No. 1
PHC	Primary Health Care
PHCP	Primary Health Care Project
PHS	Primary Health Services
PMRC	Pakistan Medical Research Council
POL	Petrol, Oil and Lubricants
PRICOR	Primary Health Care Operations Research Project
PRITECH	Technologies for Primary Health Care
PROAG	Project Agreement
PRTCPTS	Participants
PTO	Program Training Officer
RC	Recurrent Costs
RHC	Rural Health Center
RHS	Rural Health Services
TBA	Traditional Birth Attendant
Tehsil	Subdistrict
THQ	Tehsil Headquarters
TT	Tetanus Toxoid
UNICEF	United Nations Childrens Fund
USAID/P	United States Agency for International Development/Pakistan
VHC	Village Health Committee
VHW	Village Health Worker
WFP	World Food Program
WHO	World Health Organization
WMO	Woman Medical Officer

EXECUTIVE SUMMARY

A. Background

Final evaluation of the US\$ 30.0 million Primary Health Care (PHC) project (9/1982 – 9/1990)¹ took place from May 19 to June 22, 1990 by a team of six public health professionals with the following skills: Team Leader/Management; Public Health Physician; Health Economist; Training, Health Education, Communications Specialist; and two diarrheal disease specialists from WHO and CDC/Atlanta.

The team was joined by eight Pakistani doctors from the four provinces (Baluchistan, North West Frontier Province (NWFP), Punjab and the Sindh) holding very senior positions in Pakistan's Primary Health Care system, a senior research officer from NIH, a doctor from the MOPD and a FSN Physician from the USAID's HPN office. As a result, the report contains recommendations for both the government and USAID.

The methodology employed was to use secondary data to the fullest extent by reading thoroughly the relevant documents prepared over the life of the project. Equally important were visits to the PHC health facilities in the field and talks with the officers and staff responsible for providing the PHC services. Meetings were also held with key senior officials in the four provinces responsible for implementation of the project as well as those in charge of planning, coordination and policy at the federal level.

B. Objectives of the Evaluation

The objectives of the PHC evaluation were to:

- Assess the success of the PHC project in achieving its purpose and outputs particularly for: Management, Training of Health Professionals, and the Accelerated Health Program focusing on EPI and CDD;
- Identify lessons learned and successful approaches;
- Recommend mechanisms to ensure a smooth transition from the PHC Project assistance to the new US\$ 62 million follow-on, Child Survival Project (CSP); and
- Determine program issues and policy areas requiring analysis under the Child Survival Project.

C. The Evaluation – an Overview

Although it is impossible to quantify specific changes in health status,² especially those directly attributable to PHCP inputs, there is consensus that deaths associated with diarrheal diseases in children have decreased markedly; the morbidity and deaths due to diphtheria, whooping cough, polio and measles are reduced and the accessibility of basic health service has improved. The overall sustainability of these gains depends on:

¹ Of the US\$ 30.0 million, US\$ 300,000 went to Pakistan Narcotics Control Board for drug abuse health education.

² Due to lack of adequate base line data at the beginning or during the life of project, it is not possible to measure the reduction in infant and child morbidity and mortality rates which were goals of the PHCP. In addition the Project which started out resembling a sector support grant, was changed and gradually focused over the years on three areas: Health Technician Training, Management of essential primary health care services (vs. overall management of health services) and the interventions affecting child survival such as EPI and CDD.

- Institutionalization of changes in attitude among the political body, health care providers and the public;
- Provision of the necessary policy and administrative support for the system and facilities; and
- Availability of sustained financial commitment of monetary and personnel resources to ensure an acceptable quality of services.

1. Institutionalization

There is good evidence that the PHC strategy, emphasizing the prevention, self reliance and appropriate treatment for basic health problems has been accepted within some health departments from the district level to the union council. There has been significant progress in "awareness" in the MOH and Provinces recognizing that preventive programs are cost effective, as an appropriate treatment.

In addition to the favorable language in the Seventh Five-Year plan, the National Health Policy 1990 (NHP '90), which has been approved recently at Cabinet level, adopts PHC as the means to meet the basic health needs of Pakistan. The content of the policy is encouraging, and identifies many of the issues discussed in the evaluation as ones needing resolution.

Problems in the system, including its child survival component, which must be addressed and resolved by the MOH and Provinces, encompass: decentralization, health planning, health information, allocation of financial resources, education and research, and problems within the health manpower system such as career structure, incentives to specialize in preventive medicine and public health, incentive for rural health service, and overlapping of job responsibilities. Lack of supervision seems to be a chronic problem.

Resolution of the problems in the health manpower structure by the Federal and Provincial governments will be key to implementing the CSP and institutionalizing PHC. In this connection the CSP should cooperate especially for the planning of future research activities and public health training. A number of specific recommendations concerning these institutional concerns is contained in the body of the report.

The Federal, Provincial and Interprovincial Steering Committees established to coordinate PHC policies and procedures have met infrequently and have been underutilized. However, the results of the different committees have been a very positive factor in getting new policies and procedures approved and overcoming operational barriers. Program and policy-making could be strengthened if steering committees met regularly at the Federal and Provincial levels for budget, planning, overall policy direction, and donor coordination.

Lack of frequent and close coordination between the government and donors, and between donors was noted. This lacuna should be remedied as soon as possible. MOH should take the initiative in calling at least quarterly meetings with donors with well prepared agendas and with minutes of each meeting sent to all donors to assure that they are well informed.

2. Financial Sustainability

From a PHC project standpoint the government has taken, by and large, the necessary steps to continue the Health Technician Training Schools which were a major component of the PHC project, and the other project activities not continuing under the CSP. For the PHC system in general, Federal and Provincial government expenditures are on the rise, particularly capital expenditures for the expansion and building of additional PHC facilities.

However, the team noted that the recurrent budgets were extremely tight in all four of the provinces with Rural Health Centers and Basic Health facilities running short of medicines well before their quarterly resupply resulting in underutilization of the facilities. In addition supervision and monitoring were inadequate largely due to lack of POL (petrol and maintenance funds) and travel.

ACKNOWLEDGEMENTS

The Primary Health Care Evaluation team would like to take this opportunity to thank our colleagues in the Pakistan government at the Federal and Provincial levels and at the USAID for their excellent collaboration and cooperation in carrying out of the evaluation of this important Primary Health Care project.

At the Federal level, the team is very grateful for the strong support and personal interest of Professor Doctor Ali Mohammad Ansari, Director General of Health, MOH; Dr. Siraj-ul-Haque Mahmood, Senior Chief, Health Section, Planning Division, MOPD; and Dr. M. Zafar Ahmad Deputy Director General Health, BHS Cell. The team also would like to express its gratitude to Dr. Abdul Ghafoor, Executive Director, National Institute of Health (NIH) for his interest and help.

At the Provincial level, the team wishes to thank Dr. Mohammad Iqbal Khan, Director of Health Services, Balochistan; Dr. Sardar Ali, Director of Health Services, NWFP; Dr. Mazahir Ali Hashmi, Director General Health Services, Punjab; and Dr. Sajjan Memon, Director Health Services, Sindh for all their help and interest in making the visits of the evaluation team very productive.

The timely assistance and guidance from USAID Pakistan was also most valuable. Special thanks goes to USAID Director, Jim Norris; Ms. Anne Aarnes, Chief, Office of Health and Population; and Ms. Heather Goldman, Deputy Chief Office of HPN.

The list of the many health professionals who helped the team during its stay in Pakistan is of course much longer. Annex K lists the principal persons contacted during its visits to the Federal and Provincial capitals as well as during its field trips.

The evaluation was greatly enriched and made more relevant to the actual conditions in the four Provinces by the addition to the evaluation team of very senior and experienced administrators from Pakistan's Primary Health Care Program from posts in Balochistan, NWFP, Punjab, the Sindh, NIH and MOPD. While the team accepts full responsibility for its report, many of the findings, ideas, insights, and recommendations are in the report because of the perspicacity and in-depth knowledge of its Pakistani members.

The Pakistani team members were: Dr. Arjumand Faisal, Public Health Physician, USAID; Dr. Hakim Khan, Deputy Director Health Services, NWFP; Dr. Khamal Khan Mandokhel, Divisional Director, Baluchistan; Dr. Ghulam Mohammad Memon, DHO Sindh; Dr. Asghar Nazeer, Federal Planning Division; Dr. Mohammad Rafique, EPI Director, Punjab; and Dr. Moti-Ur-Rehman, Senior Scientific Officer, NIH.

To sum up, we enjoyed our stay in Pakistan, and we are very grateful for the opportunity to carry out this very important assessment of Primary Health Care activities in Pakistan.

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All CS programs, such as nutrition and disease control programs, will need more operating, communications and research funds once donor contributions for these components and training and commodities are phased out. The GOP should plan to budget more for preventive health care now, so that it will be ready for the transition over the next several years.

D. Management

Management assistance within the PHCP has focused on general management skills and improved clinical case management. Support for case management will continue under the CSP, especially for diarrheal diseases, pneumonias, and malnutrition. Since the latter two subject matter areas received little attention under the PHCP, they will be addressed under the CSP. The PHC program is highly centralized at the Provincial level. As a result inefficiencies are occurring at the divisional and district levels, which could be reduced if operational responsibilities for them were transferred to them.

Appropriate incentives (financial and career) are needed to encourage service by doctors and paramedicals (male and female) in the Rural Areas. Other management skills in the field of planning and budget, as well as monitoring and HIS, including computerization, will continue to need strong support from CSP activities.

E. Expanded Program on Immunization

Progress since 1982 under the EPI program has been outstanding. Immunization status in the age group of 12-13 months was only 8 percent in 1982. It has increased substantially to 78 percent in 1989. An evaluation in 1988 based on card and history documented put coverage in the three most populous provinces (Punjab, Sindh and NWFP) at 75 to 88 percent - in children twelve to 23 months. Under the PHC project USAID provided US\$ 6.5 million in commodities as well as valuable training assistance.

Critical issues for government attention are the need for:

- Monitoring of disease outbreaks through a functional surveillance system;
- Maintaining the integrity of the cold chain; and
- Planning for budgetary self-sufficiency.

One of the weakest coverage areas is vaccination of mothers with tetanus toxoid (TT) which is around 29 percent in the four provinces. Raising the TT coverage for mothers of child bearing age (CBA) will be emphasized in the CSP. One of the longer term challenges for cost efficiency will be in moving the highly effective vertical EPI program into the fixed facilities as targets are achieved.

Vaccine production by the NIH continues to be a major objective of the GOP. Results to date are not encouraging. Not all of the financial and management components of the highly technical vaccine production program are in place yet. MOH should give high priority to the resolution of these problems.

F. Control of Diarrheal Diseases

The conclusions of the evaluation team were: 1) a number of important achievements have been made in the Pakistani CDD program, 2) staff of the DTU should continue their training activities for physicians and paramedical staff, 3) the expansion of the project should continue by opening new DTUs and ORTUs according to the initial plan. However, it was felt that priority should now be given to establishing the management of strengthened ORTUs at the district level by the District Health Officers, with the DTU staff continuing to play an important supportive role, especially for ongoing training activities.

During the visits of ORTUs, the most striking finding was the prevalence and severity of malnutrition among diarrhea patients. The lack of appropriate guidelines for the case management of those children in the ORTU centers, contrasted with the general adequacy of the oral rehydration treatment given in those centers. Insufficient breastfeeding, excessive use of milk formula given in bottles, and poor weaning practices are obviously important risk factors, but at present little is done to improve these

practices. The problem of malnutrition among infants is so great, and its effect upon morbidity and mortality due to diarrhea is so strong, that a substantial further reduction in diarrheal-associated mortality will not likely be achieved until nutritional status is improved.

The teaching of medical students about appropriate case management of diarrheal diseases should be considerably strengthened to ensure that newly graduated physicians are familiar with treatment strategies and techniques and support the objectives of the national CDD program. The training curricula of all categories of health personnel should be revised to reflect the national policy.

Finally, some recommendations are made to improve the coordination of training on CDD, ARI and nutrition, which are the major contributors to under-five mortality.

G. Acute Respiratory Infection (ARI)

ARI is a major cause of infant mortality, killing almost as many children as diarrheal diseases. Together, these two problems account for about 60 percent of infant mortality in most developing countries. The implementation, supervision and monitoring of ARI control should be conducted both administratively and at the health facility level with that of CDD, Nutrition and EPI.

H. Training

While training activities were strengthened during the PHCP, much remains to be done. It is essential that the GOP develop an integrated training plan including budget for "vertically managed" programs and other core training activities. Special campaigns to recruit females for training at the professional level is still urgently needed. In general the team found training methods off to a good start, but trainers/tutors need more experience in experimental learning. Provision and upgrading of trainers should be a high priority of the GOP/MOH.

I. Community Involvement

The level of effort of this aspect of PHC has been inadequate in the past. The government in its National Health Policy has underlined the importance of enhancing community development, by recommending Community Health Workers in the urban areas, and the Village Health Worker program in the rural areas. This program needs to be carefully planned and budgeted in order to be successful. There is great need for the orientation of the health provider on how to work effectively with the community. TBAs, previously trained under AHP, offer a potential pool for female community health workers. More needs to be known about community needs and practices. This knowledge is essential for better health education and communication programs.

J. Health Education/Communications

Health Education and Communications will be critical to the success of the child survival efforts. Under the PHCP, radio and television were used, particularly for EPI and ORS. While much remains to be done and there has been no formal evaluation, the high degree of knowledge about EPI and ORS is an indirect indicator that communications efforts were effective.

K. Private Sector

Though the team was not able to review the private sector activities in detail, we felt it was important to share its observations in this area.

A Health partnership should be the goal of the public/private activities. Both have important roles to play. In order to achieve this goal the following action should be taken:

- The Government, assisted by the CS Project, should invest in workshops and conferences to encourage public/private collaboration.
- Indigenous NGOs should be encouraged to participate fully in health care delivery as appropriate to their skills and expertise.

- The CSP should encourage the full participation of private practitioners in child survival activities.

L Recommendations

There follows 11 of the most important recommendations of the Evaluation team which indicate the thrust of their conclusions. Additional important conclusions and recommendations concerning the Primary Health Care Project and the follow-on Child Survival Project are contained in the body of the report and in Annex I.

- Steering committees should meet regularly at the Federal and Provincial levels (quarterly), in order to strengthen program and policy making in such areas as planning, budgeting, overall policy direction, etc.
- Donor coordination needs improvement and should be enhanced by thorough coordination by the GOP/MOH on a regular basis (e.g., quarterly) with carefully prepared agendas and minutes of the meetings sent to all donors.
- Overcentralization of control continues to hamper the efforts of those in the field to handle the resources assigned them productively. Decentralization is required. Operations Research Techniques should be used to determine appropriate operational responsibilities which should be delegated to the District Health Officer/Tehsil Hospital level.
- GOP budgetary efforts to sustain the PHC program should be supported by carefully prepared annual plans for health interventions projecting both capital and recurrent costs through the next five years.
- Monitoring and Health Information Systems (HIS) must be rationalized on a priority basis. The CSP must streamline data collection and analysis for automation at the district level.
- The GOP (Federal and Provincial) should take urgent steps to provide incentives (financial and career) to significant numbers of doctors and paramedics who now avoid the rural sector, by providing solutions to the causes of frequent transfers, lack of interest in the work, lack of housing, education for children, etc.
- The excellent progress on EPI (over 70 percent coverage except for TT) should be consolidated and by focusing on issues such as: monitoring disease outbreaks through a functional surveillance system; improving significantly the coverage of TT vaccinations for mother and child, maintaining the integrity of the cold chain, and budgetary planning.
- Recent progress in CDD is encouraging and should continue. The plan to establish ORTUs and train staff in DHQ, THQ, hospitals and RHCs should be completed. The switch of responsibility for the operation of the program to the government at DHO level is highly recommended as soon as is feasible.
- The implementation. Supervision and monitoring of Acute Respiratory Infection (ARI) control should be conducted administratively and at the health facility level with that of CDD, Nutrition and EPI.
- While significant progress was made in PHC Training over the life of the project, there is an urgent need to develop an integrated training plan including budget for "vertically-managed" programs. The CS project should assist the government in this endeavour.
- Two additional training activities require vigorous action by Federal and Provincial authorities:

- Strengthened pre-service training of medical students on child survival topics;
and
 - Establishment of a national program concerned with improving infant feeding practices.
- The MOH should encourage the Private Sector (business, nongovernmental organizations and private practitioners) to participate in the primary health care with a particular interest in its support of Child Survival interventions.

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CHAPTER I

INTRODUCTION

A. Country Setting

The Islamic Republic of Pakistan is a land area of over 800,000 sq. km. sharing borders with Afghanistan, China, India, and Iran. Administratively the country is divided into four provinces: Baluchistan, North West Frontier (NWFP), Punjab, Sindh and the Federally Administered Northern Areas (FANA); Federally Administered Tribal Areas (FATA); Azad Jammu and Kashmir (AJK). Each province is subdivided into divisions, districts, tehsils, and union councils.

The economy of Pakistan increased by 6.5 percent per year in the 1980's. Growth rates by sector were: agriculture 3.7 percent, manufacturing 7.7 percent, and social sectors 7.1 percent. Demand for goods and services from the Middle East supports Pakistan's export-led growth and industrialization strategy. The GOP has also adopted policies to increase market roles in economic decision-making, including price and regulation decontrol, opening private sector trade, and implementing a flexible exchange rate. Inflation averaged 5 percent over the Sixth Five-Year Plan period (1982-1987).

Macroeconomic balances have worsened during this period. Due to rapid expenditure increases and inadequate revenue generating effort, consolidated federal and provincial fiscal deficits increased from 4.5 percent of GDP in 1980-81 to 8.6 percent of GDP in 1988. Higher domestic and external borrowing have been used to cover the deficit, and interest payments as a percentage of the GOP's current expenditure increased from 14 percent in 1981-82 to 23 percent in 1988-89. Since 1988, the balance on the current account has worsened to 4.1 percent of GDP, and foreign exchange reserves have fallen to only a few weeks of imports, insufficient to meet short-term fluctuations in foreign exchange requirements.

To address these problems, the GOP is undertaking a program of economic reform which includes policies to mobilize resources through reform of the tax system and selected user charge increases (including for selected social services). In addition, the program aims to reduce the growth of current expenditures, while trying to ensure adequate resources for infrastructure investment and human resource development (World Bank, 1989).

B. Demographic and Health Profile

1. Demographic and Social Characteristics

The 1988 population of Pakistan was estimated at 107.5 million persons, the ninth most populous country in the world. At the current estimated growth rate of 3.1 percent per year, Pakistan's total population will double within 22 years. Approximately 31 percent of Pakistan's population was residing in urban areas by mid-1987, and the urban rate of population growth is estimated at 4.8 percent per year. Approximately 44 percent of the population is under the age of 15, indicating significant potential for rapid future population growth (World Bank, 1988, p. 3-4).

The 1985 estimated literacy rate was 40 percent male and 19 percent female (MSH, p. 96), with only 6 percent for rural females (World Bank, 1989, p. v). In 1987/8, 64 percent of all children were enrolled in primary schools (80 percent male, and 46 percent female) (GOP 7th Plan, p. 414). Ninety-seven percent of the population is Muslim. However, there are still significant ethnic differences, reflected in the fact that regional languages are more often first languages than Urdu (MSH, p. 96). Per capita incomes in 1986 averaged US\$ 350.

2. Health Profile

Various sources give different estimates of Pakistan's infant and child mortality rates (IMR, CMR). UNICEF estimates place the IMR at 110/1000, and the CMR at 169/1000 and the World Bank (Social Indicators of Development - 1989) estimates place IMR at 109/1000 and CMR (0-5 years) at 142/1000.

Major causes of mortality in children under five include: diarrheal disease, measles, tetanus, acute respiratory infections, and malnutrition. Maternal mortality is estimated at 6-8/1000 live births. An estimated 60 percent of pregnant women are malnourished. Given that 60 percent of infant mortality occurs in the first four weeks and is associated with past maternal health, efforts to improve maternal health are expected to have a vital impact on infant mortality. A 1979 study in Pakistan determined that birth intervals and the age of the mother were determinant of variations in infant mortality, other factors being equal.

Half of Pakistan's population lives in malarious areas. Pulmonary tuberculosis of adults is a major problem. The MOH maintains vertical programs for these illnesses, but the effectiveness of current control programs is not well documented. While communicable diseases are the predominant causes of illness, gains in life expectancy are beginning to shift morbidity patterns to chronic illnesses of cancer, heart disease, hypertension, etc.³

C. Evolution of GOP Health Policy, 1975-1992

In 1975, the GOP developed a new approach to rural health care involving an IRHC with three tiers of health personnel and facilities. The first tier was to be staffed by a doctor and supervise 4-10 BHUs staffed by a mid-level worker, the MT, who in turn would supervise CHWs. Adopted in the **Fifth Five-Year Plan, 1977-1982**, the IRHC model approach to rural health services formed the basis for USAID's support of the BHS Project which included assistance to develop curricula for the MT, establish MT schools, and build RHCs. An **Accelerated Health Program** was launched in 1982 with emphasis on immunization, diarrheal disease control, and training of TBAs.

In the **Sixth Five-Year Plan, 1983-1987** the GOP adopted a policy of posting a MO in every rural facility, to the level of the BHU. The IRHC model was abandoned due to the difficulty of physicians supervising other physicians. The role of MT was revised to focus more on outreach work for disease prevention and health promotion, and the capital investment in rural facilities expanded to include adequate housing and ancillary services for the physicians. The Sixth Plan indicated that consolidation of rural facilities would be given preference over expansion of numbers, doctors would be provided incentives to enter private practice, and that user fees would be instituted to cover the gap between recurrent financing requirements and available government funds.

The **Seventh Five-Year Plan, 1988-1993** "aims at improving the quality of care, removing urban-rural imbalances, providing care to vulnerable groups, minimizing drug abuse, treating persons suffering from pulmonary tuberculosis, establishing a national school health service and effective accident and emergency services. Maternal health and child spacing will be integral components of PHC. Imbalances in health manpower will be removed; a proper drug policy and health insurance introduced; and incentives provided to private professionals and management personnel."⁴

As can be seen from the above brief summary, many of the initiatives under the Seventh Five-Year Plan continue the government's emphasis on PHC and CSP. For example, under Major Policy Directions, paragraph 15, the Seventh Plan cites:

- "Emphasis will be placed on improving the quality of care at all levels. Preventive programs like immunization, training of birth attendants, control of diarrheal diseases and malaria;
- Outreach services will be provided by properly trained health auxiliaries, one per census village;

³ Pakistan -- Population and Health Sector Report, World Bank, 6/28/88.

⁴ Text taken from the Seventh Plan, Chapter 31, Health and Nutrition, "Seventh Plan Strategy for Improving Health Services", Paragraphs 11.

- The community will be involved at all levels by creating autonomous boards, governing bodies, management committees and health committees;
- Nutritional status will be improved . . . ;
- Fertility regulation will be a focal point of primary health care;
- Existing imbalances in health manpower will be removed with special emphasis on enhanced output of specialists, nurses and paramedics;
- Managerial capacity of the public health system will be improved; and
- Establishment of private clinics and hospitals will be encouraged by the provision of appropriate incentives.⁵

The team is pleased to note these GOP initiatives which auger well for the success of the government's Primary Health Care Program and the new joint MOH/USAID Child Survival Project.

D. Public Health System and Evolution

Health services are a delegated function. Responsibilities of the National Ministry of Health and Social Welfare (MOHSW) include: 1) coordination of health functions, 2) national health planning, 3) external relations in health, 4) provision of health services for government employees and the Federal District of Islamabad, 5) establishment of post-graduate medical centers and maintenance of professional education standards, 6) drug control, 7) services for mental illness and retardation, and 8) containment of communicable diseases.

Provincial health departments (DOH) have responsibility for providing health services, directly through teaching hospitals and indirectly otherwise through districts. District services include: 1) a district hospital with medical superintendent (MS) reporting to the provincial DMS for health, 2) a District Health Officer, who also reports directly to Director of Health Services (DG in Punjab), with management responsibility for the medicines, supplies and promotive health activities of tehsil hospitals, RHCs, BHUs, and other rural facilities. Population planning activities are managed by a different district officer.

Demographic trends⁶ described above have profound implications for the development of health services in Pakistan. To the extent that the GOP develops plans to provide health services on a fixed personnel or facility to population ratio, the rapid growth of the population will require continued investment in new health facilities and continued real increases in the development and nondevelopment budgets for health.

The GOP has adopted a plan for the structure of the health system as follows:

<u>Level</u>	<u>Population Served</u>	<u>Facilities</u>
- Villages	1,000 population	2 CHWs
- Basic Health Units	10,000 population	1 doctor, 3-6 auxiliaries
- Rural Health Centers	100,000 population	3 doctors, 8 auxiliaries, 10-20 beds
- Tehsil hospitals	380,000 population	Surgical, medical, lab, x-ray
- District hospitals	1,160,000 population	Specialists
- Teaching Hospital	Province	All facilities

Annex C contains "Progress and Status" Reports on the PHC Programs in the four Provinces (Baluchistan, NWFP, Punjab and Sindh).

⁵ Ibid., para 15.

⁶ With an estimated growth rate of 3.1 percent in 1989, the population will double from 106 million to 212 million by the year 2011 (22 years).

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E. Health Sector Financing, Trends and Issues

A 1983 study of the financing of health services in Pakistan estimated that only 3.2 percent of GNP was spent on health, and over half of this expenditure was made in the private sector (World Bank, 1983, p. 23). Total public expenditure for health grew on average by 8.1 percent per year between 1973 and 1988, and health's share of total government expenditure has ranged between 3.5 and 4.5 percent. Over this 15 year period, the development budget for health increased on average in real terms by 15.5 percent per year, while the non-development or recurrent expenditure increased by only 5.3 percent.⁷ Per capita health expenditure was Rs. 64.40 (US\$ 3.67) in 1988 (Dunlop and Beg), however the allocation of public sector recurrent expenditure is estimated to be about 6 times higher in urban than rural areas (World Bank, 1982, p. 2).

Projected expenditure levels for the 7th Plan period suggest that development expenditures for health will decline by 46 percent between 1987/8 and 1992/3 (on average by 8 percent per annum). Non-development expenditures are projected to increase by 15 percent over the Plan period, or by about 3 percent per annum. Given population growth rates of over 3 percent, these projections imply that overall public sector health expenditures will decline per capita, and that levels of recurrent expenditure will remain roughly constant (see Table I-1).

Studies of health sector financing in Pakistan, as well as the GOP's development plans and National Health Policy documented inadequacies in health sector finance, particularly of recurrent financing for operating and maintenance expenditures (including drugs).⁸ The 6th Plan identified the insufficiency of operating funds as one of the "most important difficulties" confronting government health services, and proposed to mobilize additional recurrent financing through user charges. However, proposals by the national and provincial governments during the 6th Plan to increase user fees resulted in such intense public criticism that institution of higher fees was never implemented (Dunlop/Beg, p. 27).

The National Health Policy, approved by the Cabinet in May 1990, again identified several financial constraints: low rates of pay for health manpower in rural areas, and inadequate operation and maintenance funds (including for drugs). Drug supply to the peripheral health facilities is a major problem. Supplies from the MSD to the periphery vary both in quality and quantity. Annex G, "Pharmaceuticals," documents the seriousness of this problem and indicates that where the monitoring information system was functioning, the supply problem was alleviated.

While the policy explicitly stated that "The ultimate aim of the National Health Policy is to provide, in 10 years time, a universal health cover, free of charge to those who cannot afford to pay for it . . .," the policy also identifies several options which the GOP is interested in exploring to: 1) rationalize the allocation of available resources, 2) increase non-government financial resources for public sector health services, and 3) privatize some services, thereby reducing their financial burden to the overall system.

⁷ The development budget includes construction of new health facilities, as well as program activities such as the EPI which receive donor funding. The recurrent expenditures associated with these activities will thus appear in the development budget until the project activities are shifted to the non-development budget.

⁸ Detailed assessment of real trends in personnel, as compared to non-personnel domestic and foreign exchange using recurrent expenditures was not possible given the limited time allowed for the PHCP evaluation. Determination of levels of investment and recurrent expenditure for the health sector by program and by input for even one year requires consultation of 10 budget documents (2 national, and 2 for each of the 4 provinces).

Table I-1

TOTAL GOVERNMENT EXPENDITURES FOR HEALTH, 1978/9-1992/3

YEAR	NOMINAL			DEFLA	REAL			% REAL ANNUAL CH		
	DEVELOP MENT	ON-DEV LOPMENT	TOTAL	TOR 80=10	DEVELOP MENT	ON-DEV LOPMENT	TOTAL	DEVEL MENT	NON- DEVEL	TOTAL
5TH PLAN										
1978/9	569.00	1336.00	1905.00	90.5	628.73	1476.24	2104.97			
1979/80	717.00	1208.00	1925.00	100.0	717.00	1208.00	1925.00	14.0%	*****	-8.5%
1980/1	942.00	1460.00	2402.00	110.8	850.18	1317.69	2167.87	18.6%	9.1%	12.6%
1981/2	1076.00	1612.00	2688.00	120.8	890.73	1334.44	2225.17	4.8%	1.3%	2.6%
1982/3	1080.00	1550.00	2630.00	127.7	845.73	1213.78	2059.51	-5.1%	-9.0%	-7.4%
6TH PLAN										
1983/4	1398.10	1640.90	3039.00	140.0	998.64	1172.07	2170.71	18.1%	-3.4%	5.4%
1984/5	1587.45	1785.12	3372.57	148.2	1071.15	1204.53	2275.69	7.3%	2.8%	4.8%
1985/6	1881.51	2393.81	4275.32	155.6	1209.20	1538.44	2747.63	12.9%	27.7%	20.7%
1986/7	2615.00	3270.00	5885.00	161.0	1624.22	2031.06	3655.28	34.3%	32.0%	33.0%
1987/8	3114.00	4064.00	7178.00	175.0	1779.43	2322.29	4101.71	9.6%	14.3%	12.2%
7TH PLAN										
1988/9	2687.00	4720.00	7407.00	192.5	1395.84	2451.95	3847.79	*****	5.6%	-6.2%
1989/90	2671.00	5584.00	8255.00	211.7	1261.39	2637.07	3898.47	-9.6%	7.6%	1.3%
1990/1	2626.00	6720.00	9346.00	232.9	1127.40	2885.05	4012.45	*****	9.4%	2.9%
1991/2	2676.00	8465.00	11141.00	256.2	1044.43	3303.83	4348.26	-7.4%	14.5%	8.4%
1992/3	2690.00	10555.00	13245.00	281.8	954.44	3745.04	4699.49	-8.6%	13.4%	8.1%

Sources:

5th Plan figures and deflators up to 1987/8 from Dunlop and Beg (1987)

"Economic Analysis of the Child Survival Project in Pakistan",
Child Survival Project Paper.

6th and 7th Plan figures from Iqbal Masud (1990) "Government Financing of
the Health Sector".

CHAPTER II

EVALUATION SCOPE OF WORK AND METHODOLOGY, EVALUATION INDICATORS

A. Objectives of the Evaluation

The objectives of the PHC evaluation were to:

- Assess the success of the PHC project in achieving its purpose and outputs particularly for the three main components: Management, Training of Health Professionals, and the Accelerated Health Program focusing on EPI and CDD;
- Identify lessons learned and successful approaches in the PHC project including the DTU;
- Recommend mechanisms to ensure a smooth transition from the PHC Project assistance to the new US\$ 62 million follow-on CSP that became operational in June 1990; and
- Determine program issues and policy areas requiring analysis under the CSP.

(The full Scope of Work is contained in Annex A.)

B. Evaluation Organization and Methodology

A final evaluation of the US\$ 30 million Primary Health Care (PHC) project (9/1982 -- 9/1990)¹ was carried out from May 19 to June 22, 1990 by a team of six public health professionals who were in Pakistan for various periods of time during that period with the following skills: Team Leader/Management, Public Health Physician, Health Economist, Training/Health Education/Communications Specialist, and two from WHO and CDC/Atlanta specializing in diarrheal diseases.

The team was joined by eight Pakistani doctors from the four provinces (Baluchistan, North West Frontier Province (NWFP), Punjab and the Sindh) holding very senior positions in Pakistan's Primary Health Care system, as well as a senior research officer from the National Institute of Health (NIH), a doctor from the MOPD and a FSN Physician from the USAID's HPN office. As a result, the report contains recommendations for both the government and USAID.

By dividing into three groups, the team was able to visit representative health facilities (Basic Health Units, Rural Health Centers, Tehsil Hospitals, District Hospitals, Divisional Hospitals and Hospitals with Diarrhea Training Units) in the four provinces. The visit to the field in the Sindh was somewhat truncated because of the political situation, but the team received an excellent briefing in Provincial Headquarters in Karachi.

The methodology employed by the team had several facets. The first was to use secondary data to the fullest extent by reading thoroughly the relevant documents, and studies, etc. prepared over the life of the project. (See Annex J for a listing of the principal documents.) In addition to the visits to the PHC health facilities in the field and talks with the officers and staff responsible for providing the PHC services, meetings were also held with key senior officials in the four provinces responsible for implementation of the project as well as those in charge of planning, coordination and policy at the federal level.

C. Indicators for Evaluation

1. Current Project

The inputs of PHCP were mostly in establishing an infrastructure through development of management and monitoring systems, training in essential elements of PHC. Therefore the evaluation has rested on process indicators. The projected facilities were constructed and equipped within the PHCP period. Training was focused on priority concerns and new activities. The amount of training was commensurate with the financial inputs. The majority of the trained persons observed were functioning satisfactorily.

There has been a significant loss of trained personnel because of high turnover rates and transfers at the district level and below. Hopefully, not all of this training will be lost to the system. To compensate for this trend perhaps greater emphasis should have been placed on development of master trainers and implementation of a policy that Principals and tutors should not be frequently transferred.

The revised daily Out-Patient Register is accepted as a significant improvement. The new monitoring system has had varying levels of acceptance and utilization at this early stage. A key issue in its utilization seems to be the perception of whether it has been imposed on the reporting unit or adopted by it.

2. Future Child Survival Project

More quantifiable indicators are needed for the future evaluation of the CSP. The lack of a useful HIS (Health Information System), in spite of past efforts including those of the PHCP, makes it unlikely a system capable of producing reliable morbidity data can be developed in the first phase of the CSP. It does seem feasible, however, to establish a system for reliable disease and age specific mortality information utilizing existing health outreach workers. Consideration should be given to using the village health worker and the community-based CHW proposed in the National Health Policy (Chapter VIII E) to collect health information and perform surveillance. Payments would be justified on the basis of information collection rather than health services rendered. (Health services could still be a part of their duties but they would not be seen or see themselves as service providers with the potential of getting outside the control system, i.e., quacks).

The minimum indicators would include death rates due to measles and dehydration associated with diarrhea in children (under five years) and the infant mortality rate (deaths < 1 year/1,000 births). The number of indicators (disease specific death rates) could be expanded to include neonatal tetanus, whooping cough, polio, malaria and ARI if the level of performance permits. Nutrition status can only be monitored by morbidity data, not death rate, as the diagnostic criteria are never clear.

The establishment of such a system should have high priority in Phase I of the CSP. Initially, this could be started on a pilot basis in order to determine the reliability/validity of the information collected.

Coverage of rural population by the system would be incomplete, but should be possible to cover more than 75 percent without sacrificing reliability or reproducibility significantly. If this does not prove feasible, a system could be developed by selecting representative sites, which are functioning, from the system and concentrating on establishing enough additional functioning sites to set up sentinel monitoring sites.

A less desirable system would rely on cluster sample surveys periodically; semi-annually for death rates and quarterly for morbidity. The system depends upon recall which is less reliable than monitoring. Reproducibility can be adversely affected by sample selection. The use of specially trained, more highly skilled personnel may permit collection of a broader range of information without sacrifice of reliability. But the cost of fielding survey teams regularly is high.

D. Recommendations

- It is recommended that a **community based monitoring system** be the goal, initially incorporating only a few disease/age specific mortality events. Such a system has much greater potential for further expansion.
- At the same time a pilot study should be made of the periodic cluster survey model which would evaluate not only the implementation, reliability and accuracy of recall, but also the cost of this survey method. Accuracy and reliability would be measured against the monitoring system in the same community.
- More reliable EPI coverage data will be needed to monitor program progress. The initial focus should be on standardizing and improving the recording system. The basic register permits categorization by age groups up to five years, but recording and reporting by age should be more standard. Although the guidelines are standardized, their implementation is not uniform.
- Greater emphasis should be placed on the individual patient record which supports the importance of the immunization to the individual and provides cross-check for the monitoring system. The upcoming census seems to be the most appropriate time to redefine targets based on updated demographic and service catchment areas.

CHAPTER III

PROJECT DESCRIPTION, OUTPUTS AND EXPENDITURE

A. Project Goal and Objectives

The goal of the PHCP was to "improve the health status of the rural population (of Pakistan)". Indicators of achievement of the project's goal included: 1) reduction in infant and child mortality of at least 20 percent, 2) reduction in malnutrition of at least 20 percent, and 3) reduction in deaths due to diarrheal disease of 35 percent or more. The original strategy for achieving the project's goal was to assist the GOP in improving the quality and coverage of PHS in the rural areas. Key areas for project support included: training of HTs, management training, and support for EPI and CDD.

B. Project Evolution

The PHCP was authorized by USAID/P on September 22, 1982 with LOP funding of US\$ 20.0 million and a PACD of September 30, 1987. The PROAG was amended on October 28, 1985 to delete some, and modify other conditions precedent to disbursement for the accelerated EPI. The PROAG was further amended in April 23, 1986 to allow for Development Assistance funding, and on July 10, 1986 to delete a Conditions Precedent for Disbursement for the Accelerated EPI. The PROAG was amended a fourth time on July 29, 1987 to increase the LOP funding by US\$ 10.0 million and extending the PACD by 18 months to March 31, 1989. The PACD was extended on February 13, 1988 to September 30, 1989 to allow for completion of the PRITECH buy-in, completion of construction of three HT schools, and delivery of vaccine production equipment. The PACD was further extended on June 9, 1989 by fifteen months to September 30, 1990 to extend contract support for project and PRITECH staff until the GOP's PC-1 and technical assistance team for the Child Survival Project (CSP) were in place, and to allow completion of the procurement of equipment for tetanus toxoid production.

C. Achievements – Policy Changes

Several positive changes in government policies or program emphases changed over the LOP. Those linked with the USAID PHCP project assistance and/or coordinated donor efforts are given below:

1. Among decision-makers, some shift in concept of PHC from providing "buildings" to providing broad-based PHC services.

Project-specific action:

- Improved commitment to Primary Health Care as the posts of Project Director (Deputy Director General (DDG), Basic Health Services (BHS) have not been left vacant after transfers in any province in at least the past three years; Federal Cell now has positions for two Assistant Director Generals (ADGs) as well as a DDG.
2. Primary Health Care Project was targeted to address prevalent life-threatening health problems.
- Project-specific action:
- Increased assistance to the Accelerated Health Program (especially EPI/CDD);
 - National treatment guidelines/policy for six priority services; and
 - Management training based on these essential health programs.

3. Recognition that malnutrition remains a problem in Pakistan which must be addressed.

Project-specific action:

- USAID assistance to analyze national nutrition survey data; survey results led to nutrition benchmarks for US\$ 80 million Title I PL 480 program;
- Annotated bibliography on infant feeding practices in Pakistan; and
- To address poor breastfeeding practices, creation of a National Breastfeeding Promotion Steering Committee which has managed provincial and federal workshops, a prenatal workshop in conjunction with the International Pakistan Pediatrics Association meetings and which has produced and distributed breastfeeding education materials.

4. GOP commitment to explore options for financing health care, particularly for curative care.

5. In May 1990, pediatrics was designated a core subject in undergraduate medical education. Future physicians will be better prepared to support child survival programs (and should require less in-service training to work effectively in rural areas, where childhood infectious diseases are serious public health problems).

6. MOH has reduced the number of nonessential drugs provided to rural health centers and BHUs. In 1982, 130 drugs were indented and there was no essential drug list. In 1990, 20 essential drugs are recommended.

Project specific action:

- ORS logo used on packets with:
 - Standard WHO formula;
 - Standard project size; and
 - Standard packet label.
- ORS sales deregulated so ORS can be sold in retail shops as well as chemist shops.
- ORS has been included on drug indents in three provinces.
- Antidiarrheal drugs in the form of syrups and drops (potentially lethal for infants if misused) have been removed from provincial formularies.

7. Development of Health Information Systems is being given more priority.

Project specific action:

- Experimental monitoring system shows that information systems improve management of health care systems; and
- For the first time, computers installed in 1989 at Federal MOH, DTU and provincial health department levels; staff has been trained to use software programs.

8. Increased GOP priority on training and deploying female health providers.

Project specific action:

- HT Schools and hostels have made it possible to attract and train larger numbers of female auxiliaries; and
- Percent of female students doubled in the last three years.

9. Use of published standard curricula.

Project specific action:

- For HTs; CHWs; and
- For clinical training in DTUs.

10. Increased appreciation of usefulness of Operations Research (OR) specifically and of well-designed research in general.

Project specific action:

- Three OR activities conducted in 1989.

11. Use of mass media for child survival.

- Inclusion of child survival topics in regular PTV and radio programs.
- All USAID funded programs are pretested for audience understanding.

General:

- PTV is launching an educational TV channel which will include child survival programs.

The Evaluation Team was encouraged to see that USAID/P's activities under the PHCP and other projects has given rise to opportunities for dialogue regarding important policy issues. The positive relationships of USAID/P staff with GOP officials are a strong basis for this constructive policy dialogue. This dialogue should continue.

However, the team recommends that USAID/P consider whether "Conditions Precedent" will have to be developed for the second phase of the CS project with respect to such issues as the sustainability of project activities and increases in federal funding levels for the EPI, creation and filling of DTU physician posts, and revision of medical school curriculum, etc. Well conceived "Conditions Precedent" may assist GOP health officials to develop consensus for appropriate policy changes, and/or to implement accepted policy decisions. USAID/P's overall assistance in the health sector places the agency in a position to leverage difficult policy reforms.

D. Project Outputs

Specific outputs achieved during the life of the project are listed below by major category.

1. Health Technician Training Program

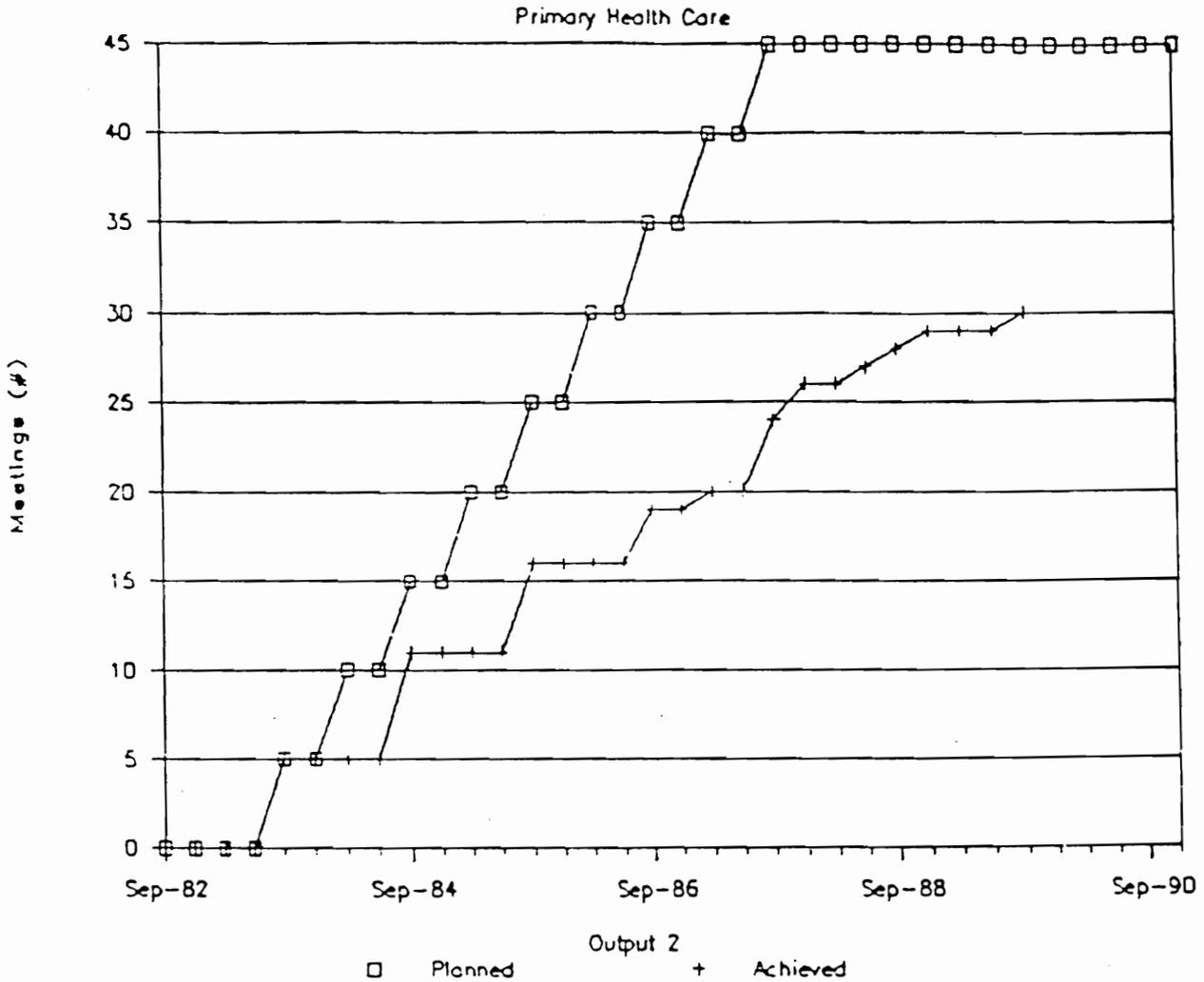
- Thirteen HT Training Schools and hostels in Sindh, Punjab, NWFP and Baluchistan have been constructed, fully furnished and equipped;

- 2,300 HT trained; 1,417 HT students currently enrolled of whom 40 percent are female;
 - A three-volume curriculum revised and translated into Urdu and Sindhi for teaching community-health skills to mid-level workers; also published curriculum for CHWs; and
 - Thirty-five motorcycles provided for HT field supervision.
2. **Management Training**
- 2,898 MOs given training in management of RHCs;
 - Standard treatment guidelines developed for prevalent life threatening diseases;
 - Developed management systems for BHS and automated information system for priority primary health programs; and
 - Forty-eight participants sent for short-term training overseas (MOs, senior MOH official, etc.).
3. **Control of Diarrheal Diseases Program**
- Developed a widely tested logo for ORT which provides a standard symbol for this life-saving measure;
 - Designed ORS packets with pictorial instructions on packet;
 - US\$ 1.46 million for CDD communications campaign; over 30,000 ORT radio spots broadcast for two years on 16 stations around Pakistan; 600 promotional spots on ORT broadcast on TV regularly; 12 million pictorial ORT leaflets and other printed material distributed nationally; and
 - Diarrheal Treatment Unit Program: 1,195 health providers trained of whom 369 were general practitioners in the private sector; more than US\$ 1 million worth of commodities supplied to 10 DTUs and 400 ORT corners in health facilities.
4. **Expanded Program of Immunization**
- Commodities totaling US\$ 6.32 million, provided for the Expanded Program of Immunization which now reaches 78 percent of children 12-23 months old in Pakistan. These include 76.5 million syringes with 2,000 destruction devices; 130 vehicles; 631 motorcycles; a vaccine delivery van; 9,810 bicycles; and 1,500 vaccine carriers given for EPI;
 - 304 MOs, 103 supervisory personnel, and 757 paramedics trained in EPI/CDD WHO courses; 7,000 multipurpose health workers trained in Punjab; and
 - US\$ 2.5 million of production equipment provided for vaccine manufacture, including two bacterial fermentors and ancillary equipment for production of tetanus toxoid vaccine and a freeze drier for measles vaccine.

While the project has had significant achievements, performance on several components was below planned levels. These components include: Federal and Provincial Steering Committees, short-term participant training, TT vaccination. (See Figures III-1, III-2, and III-3 which follow, prepared by the USAID HPN office to monitor progress of the PHC project). Given that these components continue in the Child Survival Project (CSP), the CSP team and USAID/P will either have to increase efforts to achieve

Figure III-1

Provincial/Federal Steering Committees



Progress: Interprovincial PHC meeting with Directors of Health Services and provincial Project Directors held September 1989. Project achievements were reviewed and project activities planned until June 1990.

Problems: None.

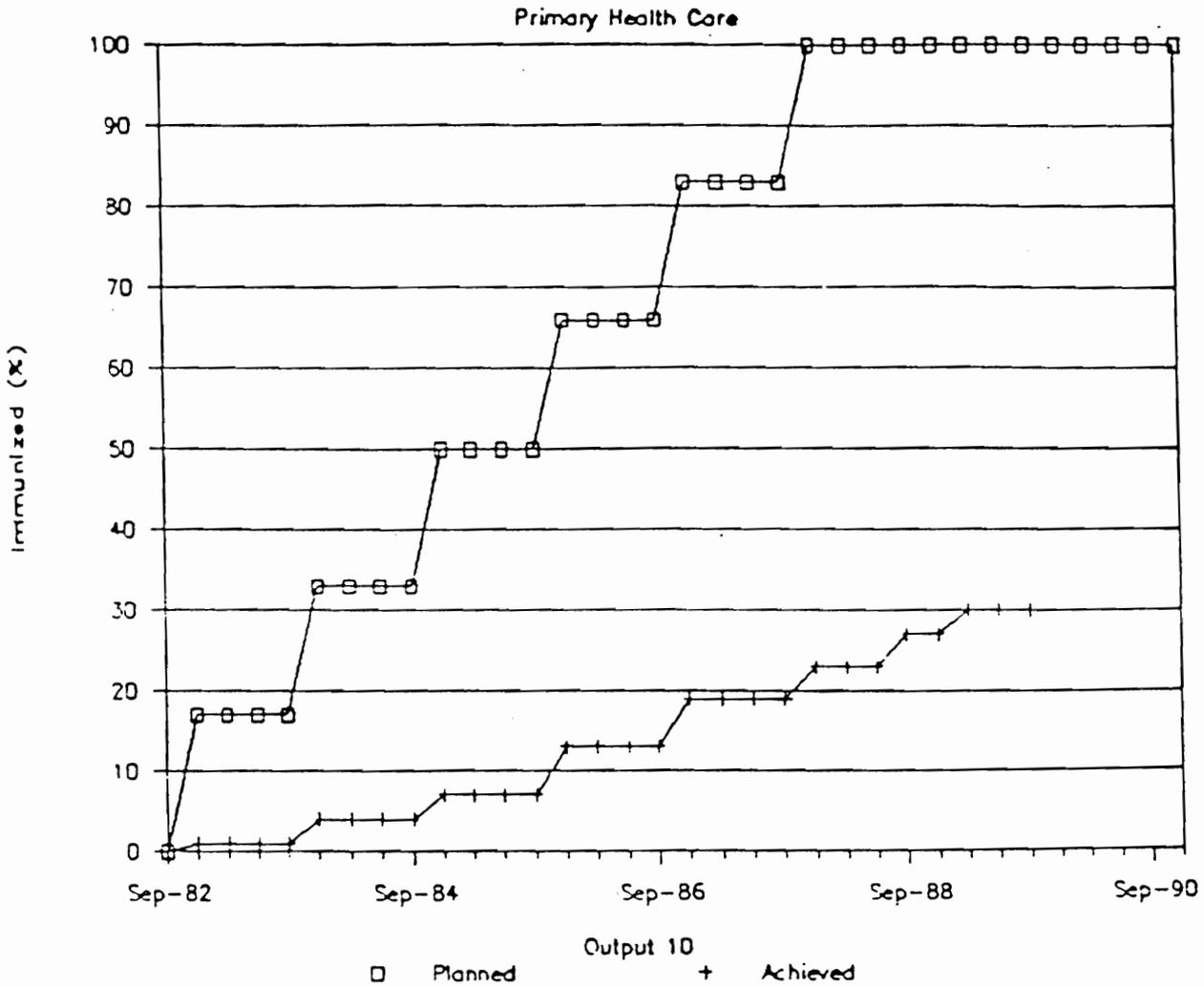
Actions Planned: Next Meeting Scheduled for January 1990.

Source: USAID HPN, 1989.

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Figure III-2

Tetanus Toxoid Program (Women CBA)



Progress: Estimated national coverage is 26 percent.

Problems: No major A.I.D. assistance problems. Program priority and strategy are issues.

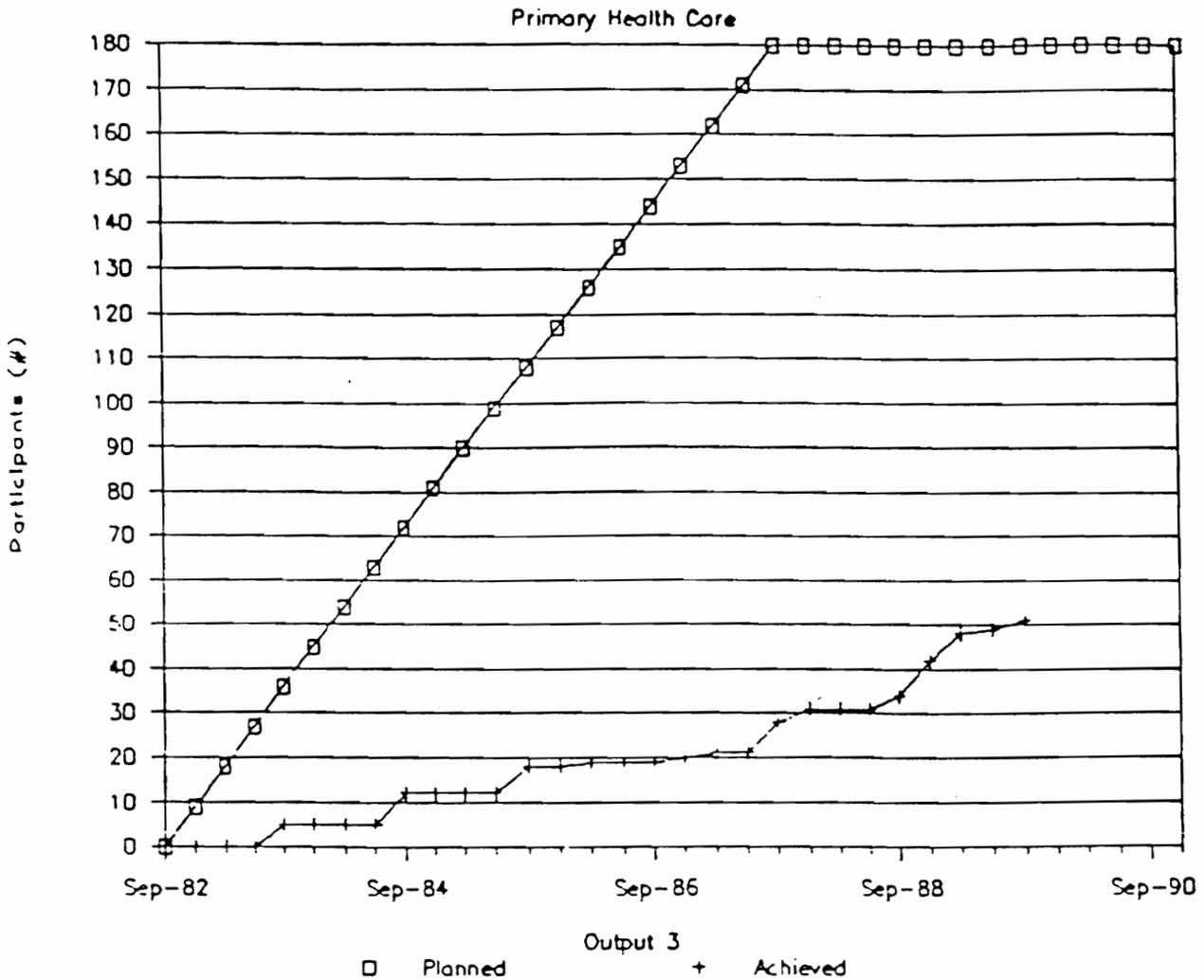
Actions Planned: Because of management implications, refrain from actively promoting a program until Child Survival team is here.

Source: USAID HPN, 1989.

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Figure III-3

Short-term Participant Training



Progress: Training plan for FY 90 discussed with the Directors of Health Services. Since then, there has been some improvement in numbers of appropriate nominations for FY 90. Only one participant attended a course since last review. The Minister of Health and the Nutrition Chief were sent to conferences.

Problems: Slow process.

Actions Planned: Continue to explain that these training opportunities are available.

Source: USAID HPN, 1989

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planned activity levels (e.g., Steering Committee meetings), or revise downward planned levels of output (e.g., TT coverage).

Changes in GOP policy over the LOP required modifying some of the PHCP original objectives. Outputs included in the original PHCP Project Paper which were dropped due to GOP policy changes include:

- "Each MT deployed by September 1985 was to train and supervise 10 CHWs." This project activity was dropped because the GOP did not include CHWs in their **Sixth Five-Year Plan**. However, the PHCP did develop a manual for training CHWs.
- "Annual provincial operational PHC plans for each province", and "A planning and management system for IRHCs implemented with an institutionalized mechanism for continuing analysis and review of the system." These project activities were dropped because: 1) USAID shifted their project emphasis towards supporting the EPI and CDD programs, and improving clinical management skills with respect to six priority illnesses, and 2) because the GOP abandoned their concept for IRHC's with the posting of doctors to all rural facilities. Dropping these activities eliminated project assistance to provinces to assist with infrastructure planning for rural health services, or with developing and overall planning framework for basic health interventions -- including those supported by the vertical programs of EPI/CDD.

E. Project Expenditure

Table III-1 which follows provides project expenditure by component/activity, e.g., construction, EPI commodities, training, management, etc. All project funds are expected to be expended by close of project date September 30, 1990.

Table III-1

PRIMARY HEALTH CARE PROJECT

(391-0475)

EXPENDITURE STATEMENT BY ELEMENT/YEAR

YEAR	TECHNICAL ASSISTANCE	TRAINING	COMMODITIES	OTHER COSTS	CONTINGENCY	TOTAL	CUMULATIVE TOTAL
09/30/83	340,000	21,000	68,000	0	0	429,000	429,000
09/30/84	573,000	175,000	33,000	34,000	0	815,000	1,244,000
09/30/85	122,009	319,938	214,863	123,777	0	780,587	2,024,587
09/30/86	256,867	284,094	222,103	1,761,349	0	2,534,413	4,559,000
09/30/87	421,855	224,716	1,505,544	4,577,177	0	6,729,292	11,288,292
09/30/88	261,835	397,698	3,366,238	2,694,813	0	6,720,584	18,008,876
09/30/89	160,705	484,362	1,290,868	2,222,942	38,114	4,196,991	22,205,867
03/31/90	46,058	87,998	1,242,781	1,475,028	513	2,852,478	25,058,345
(PROJECTED)							
09/30/90	85,671	548,194	2,660,603	1,585,914	61,273	4,941,655	30,000,000
TOTAL:	2,278,000 (7.6%)	2,543,000 (8.5%)	10,604,000 (35.3%)	14,475,000 (48.3%)	100,000 (0.3%)	30,000,000 (100.0%)	

BREAKDOWN:

COMMODITIES: For 13 HT schools: \$1.4m; EPI: \$6.4m, Vaccine Production: \$2.5m;

OTHER COSTS: Construction 13 schools: \$9.2m; CCD Communications: \$1.5m, DTU Program: \$1.9m.

makers. Discussion at the policy level gave the impression that knowledge and acceptance of PHC were superficial and should be strengthened.

4. Support PHC/CS by Utilizing National Health Policy's 1990 Commitment to PHC in Rural Areas

The National Health Policy 1990 (NHP '90) adopts PHC as the means to meet the basic health needs of Pakistan. Specific problems in implementing this strategy including its CS components are addressed in Section III, E, pg. 7, i.e., problems of health planning, education and research, and specifically part 2 relating to manpower planning. Problems within the health manpower system such as career structure, incentives to specialize in preventive medicine, and public health versus curative, incentives for rural health service, and overlapping job responsibilities are considered the major impediments to institutionalizing PHC. These are addressed in various ways in the NHP'90 (see VA p. 10-12; II p. 15, (VIIA. p. 16 and 17;) VIIB+D, p. 18, VIIF, p. 19 etc). Resolution of these problems in health manpower structure will be key to implementing CSP and institutionalizing PHC.

In keeping with NHP '90 (p. 45), the strategy will include strengthening the Pakistan Medical Research Council (PMRC) and providing support for research capacity of monitoring and evaluation cells (MEC) within the BHSC; research units within medical colleges and The National School of Public Health; utilization of public and private non health finance and administration academics, etc. as implementing units for PMRC which will function in a coordinating and policy role.

5. Institutionalization

The evaluation team identified some issues with respect to the institutionalization of PHCP project activities which will continue under the CSP.

Several GOP institutions have been involved in the implementation of the PHCP. Central to project implementation have been the Basic Health Services (BHS) cells at the national and provincial levels. The BHS cells are responsible to respond to parliament on all issues regarding rural health, and for all health education programs (federal), monitoring and evaluation of BHS programs, tracking personnel and infrastructure requirements for rural health services, and implementation of the HT program. However, the BHS cells do not have line authority for implementation of CS activities. The NIH and project managers and the provincial level are responsible for the EPI, and implementation of CDD activities principally through the DTUs at teaching hospitals. The evaluation team is concerned that organizational arrangements for the CSP strengthen the coordination and institutionalization of CS activities within government's institutions.

At the provincial level, the PHCP hired Pakistani nationals for the positions of Management Analysts and Training Specialists. The wages paid to these individuals were significantly higher than what they would receive in wages and benefits were they in government service, since their jobs required extensive travel in remote areas (curtailing private practice) and they had short contracts which were renewed. While some provinces have created posts for the Management Analyst and Training Specialist, personnel employed by the project are not likely to accept the post at the lower government wages. Even if they were willing to do so, it is unlikely that they would receive the post when advertised by the Civil Service Commission.

6. Financial Sustainability

Financial issues concerning the sustainability of specific PHCP project activities are discussed in the chapters which follow. Essentially the GOP has picked up the recurrent costs of most PHCP activities for which USAID support is ending, e.g. HT schools. However, donors - including USAID - continue to finance significant proportions of the recurrent costs of the EPI and CDD programs. An important challenge for the CSP will be to assist the GOP progressively absorb these recurrent costs over the LOP.

As noted above in Chapter I, Section E, there are overall financial constraints on the overall public health sector with respect to both further geographic expansion of services, as well as provision of adequate recurrent financial support. The GOP, working with USAID and CSP, should continue to explore realistic ways and means of resolving these difficulties.

B. Recommendations

1. Improve Donor Coordination

- Frequent regular meetings (quarterly) should be held among donor agencies working in the health field. These should be convened by the MOH with representatives invited from Planning and Finance.
- Minutes should be kept of the above mentioned meetings and copies shared with all of the donors whether they were able to attend the meeting or not.

2. Strengthen Roles of Federal and Provincial Steering Committees and Inter Provincial Coordinating Committees

To increase the effectiveness of senior management at Federal and Provincial levels of the PHC/CS programs:

- The Federal Steering Committee at Secretary of Health level should meet every six months based on carefully prepared agendas sent in advance with relevant documentation.
- Inter-Provincial Steering Committees at DG level, and Provincial Steering Committees should meet every three months. Agendas should be carefully prepared, and documentation for important agenda items sent to the participants in advance where feasible.
- In addition to the MOH members, all of these Committees should have the participation of representatives from Planning and Finance as well as donor agencies.
- Minutes of these Meetings should be sent to Health Administrators in the Provinces.

3. Broaden and Strengthen Support for PHC

Seminars are frequently too time consuming for policy makers, but brief articles which can be perused at leisure, documenting the effectiveness of PHC as an appropriate technology may be effective. Advantage must be taken of every personal contact to reinforce the PHC strategies. The individual and community must also be educated that PHC means improved quality of health care, if the PHC system is to be sustained. The CSP project can help with this aspect, especially as it concerns the core interventions of EPI, CDD, ARI, Nutrition, Health, Education, etc.

4. Support PHC/CS by Utilizing National Health Policy's 1990 Commitment to PHC in Rural Areas

It is recommended that the MOH/GOP:

- Give immediate and urgent support to finalizing its manpower policies;
- Develop plans including studies which may be needed to resolve priority issues between maintenance of adequate curative service and strengthening rural health essential; and
- Care, prevention, promotive and administrative services are required for a comprehensive, integrated health service. (The ADB is providing help in this area.)

5. Institutionalization

Regarding implementation of Child Survival programs, one option discussed would be for the DOHs to place the Program Managers (Assistant Directors) for all Child Survival activities (e.g., EPI, CDD, ARI, nutrition) under a single Deputy Director of Health Services (DDHS) at the provincial level.⁹ This "umbrella" directorship at the provincial level would help assure adequate coordination of these programs. Under this model, the CSP team would work through offices identified as project offices also connected to the Offices of the Directors of Health Services (DHS) at the national and provincial levels.¹⁰ Project activities could then be conducted through existing national and provincial organizational structures.

Regarding the integration of project staff into government service, the evaluation team believes that if the position is expected to continue after the LOP (e.g., DTU physician) then every effort should be made to have these posts created and filled by the government service once the initial start-up phase is completed.

6. Financial Sustainability

Specific recommendations pertaining to improving the prospects for the financial sustainability of ongoing project activities, e.g., the EPI and CDD programs appear in the chapters which follow.

Regarding the financial sustainability of the health system, the team supports the current efforts of the GOP and USAID to undertake an integrated series of studies aimed at strengthening the financing of the health system. Based on review of the current health financing literature for Pakistan, and on implementation of health financing studies in other countries, it is recommended that the GOP/USAID studies include:

- Estimation of the investment and recurrent financial requirements of the existing and planned expansion for the health sector, of estimated domestic and donor financing and of the financing gap between financing requirements and resources. This analysis can assist to concretely establish the necessity for financing reform, and identify the recurrent financing requirements of different elements of planned expansion of the health system. Estimates of the potential revenue from new financing efforts can be compared with the estimated financing gap.
- The set of financing alternatives proposed by the Health Financing Team (e.g., user and drug fees, insurance, privatization) appears to be sound. Proposed options should be compared with each other with respect to their 1) revenue generating potential, 2) acceptability to consumers and providers, 3) impact on the appropriate use of services, 4) impact on the efficiency of service provision, 5) distributional considerations, and 6) administrative feasibility.

In addition, to the extent that recurrent financing problems have arisen as a result of inadequate attention to the relationship of health investment decisions to recurrent financing requirements within the planning process, this indicates the need to significantly strengthen the planning and budgeting skills of MOH planning and budget personnel.

It is recommended that GOP and/or CSP provide training to national and provincial personnel in health planning and economics/financing.

⁹ Deputy Director General of Health Services in the Punjab.

¹⁰ Director Generals of Health Services in the Punjab.

CHAPTER V

MANAGEMENT COMPONENT

A. Overview

Management of the Primary Health Care System in Pakistan at Federal and Provincial levels has been a major focus of the PHC project. The project started out in 1982 very much resembling a sector grant to support primary health care, with a gradual narrowing of its scope to concentrate on training and on specific interventions such as EPI and CDD when an additional US\$ 10.0 million was added in 1987. The evaluation team found a high degree of interest in management questions on the part of the GOP at all levels. The following points reflect principal concerns of both the GOP/MOH and the USAID in management of the PHC project and the "lessons learned and points of emphasis" for the follow-on Child Survival project.

B. Findings

1. Decentralization Needed

- Control of the PHC project is highly centralized at the provincial level. There is a need to delegate much of the operational decision-making to Divisional and District levels. (This need is recognized in the National Health Policy, page 11, point A7). Albeit very important for the efficient operation of the PHC system, actually moving to meaningful decentralization is difficult.

2. Incentives Needed for Service in Rural Areas

- Apart from lack of suitable accommodation for doctors in rural areas, which is a serious problem in itself, urban doctors are paid substantially more than those working in rural areas. Lack of education facilities for their children and no water or electricity supply are serious constraints. Doctors working in the Primary Health Care system posted in rural areas earn less (have smaller allowances,) and are not considered favorably for postgraduate training due to lack of clinical experience only available in larger hospitals. This results in serious morale problems, lack of motivation, frequent transfers, and lower interest and productivity at the health facility. Further there are very few career opportunities for doctors posted to the rural areas. The National Health Policy (Page 16, VII. A) offers a number of positive suggestions about measures to be taken to ameliorate this problem.
- Action needs to be taken to correct this imbalance if the quality of health services provided in the rural area is to be improved, as provided for in the Seventh Five-Year Plan. Some alleviation of this problem is required for successful implementation of the Child Survival Project.

3. Primary Health Care Facilities Underutilized

- Some of the reasons for the relatively low level of utilization of MOH facilities at (Tehsil level hospitals, RHCs and BHUs, MCH centers, dispensaries) are: a) insufficient availability of basic medicines, b) generally low quality of health services provided in these health facilities, c) location of facilities, d) lack of mobility of staff, etc. The National Health Policy has pledged itself to take the necessary action to remove the weaknesses of the BHUs/RHCs and improve their effectiveness. (see page 16, VII., A., 1a.)

- Successful maintenance of EPI coverage, including outreach mobile teams and its integration into the provincial fixed health system, expansion of CDD, family planning, nutrition, etc. are predicated in large part on health education of the mothers at the various health facilities. If mothers do not go to the centers for curative reasons, opportunities for health education will decrease, and the preventive medicine program will suffer.

4. Reduction of Excessive Numbers of Registers Needed

- All the health facilities in Pakistan maintain many registers (in some cases from 35 to 90 or more). While they may provide useful and vital information, they are very difficult to maintain and/or correctly complete on a timely basis.
- The workload of completing these registers should be lessened, and the information required consolidated into a smaller number of registers. The new revised registers should be simple and provide the information in a manner that can be easily computerized thus facilitating analysis of the data collected for management and decision-making purposes. Resolution of this problem will free up more time for the health professionals charged with completing these registers to devote to Child Survival activities. This consolidation should be closely related to the requirements of the government's Health Information System, and Monitoring activities.

5. Shift in Project Support from PHCP to CSP Manageable

- Because the PHCP initially focused mainly on facilities and systems development, the change to a targeted activities approach should not cause significant problems. The change to the more targeted CS approach has already been effected with the PHCP since 1988 without significant problems. The training schools are utilizable and there output will continue to contribute to the development of health care workers. The loss of inputs through the PHCP to other areas such as malaria and tuberculosis should not create a big problem for the MOH/GOP since prior assistance was minor – e.g., guidelines on clinical management. Management skills have been improved but their is considerable attrition, especially of MOs, due to transfer drug inventory. Some management tools, such as simplified daily patient register and bin card system, have been adopted. Other tools such as treatment protocols and monitoring, have been less widely accepted. Most management tools will be perceived as threats by the users unless specific benefit can be clearly demonstrated. Since the major benefits are to program, planning and budgeting (PPB), the major benefits will accrue only at the level of authority for PPB. The benefits to users without authority will only result when they perceive that they share this authority as a team member.
- Specifically, the physicians in RHCs and BHUs will continue to see the benefit of the new monitoring form as the section which provides opportunity for statement of major issues requiring supervisory action. They will perceive the rest of the form as threatening until they feel they are part of a District Health Team jointly sharing in the decisions about scarce resources including personnel, drugs, transport, etc.

6. Further Reforms and Prioritizing of Management Assistance Needed

- Management assistance within the PHCP has focused on general management skills and improved case management. Support for case management will continue under the CSP especially for diarrheal disease. Development of case management skills and tools will be needed for the ARI and nutrition component which has had little attention under the PHCP due to the small TA team.

- General Management was supported by the PHCP through full-time management analysts, training in problem solving and analytical techniques and preliminary development of operations manuals and job descriptions.

7. Rural Health Service Manual will Offer Management Opportunity and Fully Inform All Rural Health Workers of Their Job Description

- Rural Health Service Manual will be published summer 1990 and will contain job descriptions.
- After final approval of the job descriptions currently in final phase, every employee must be fully informed of his/her job description and fully understand it. Posting the job description in the work area is a useful means to reinforce this understanding.

C. Recommendations

- **Decentralize responsibility for smooth implementation of the Child Survival Project.**

The MOH and Provincial Health Departments should give a high priority to working out simple but practical procedures for decentralization of authority for implementation of Primary Health Care to the Divisional and District levels.

Operations Research and Survey funds should be made available under the CSP project to assist the MOH in carrying out the necessary research/studies/and surveys needed to assure that the plans and procedures for decentralization are done thoroughly and carefully.

- **Provide Incentives for Service in Rural Areas.**

A multi pronged attack on this problem is required.

- Bring the benefits of doctors (and paramedics) posted to rural areas up to the same level as those posted in urban areas.
- Offer additional hardship allowances (bonuses) for those MOs and paramedics posted to the rural areas and for supervisors working in the field. For example the additional amounts might be tied to the MOs' (paramedic's) length of stay – a modest bonus for the first year, larger for the second and substantial for the third year -- completion of tour.

Such a plan should include District/Tehsil level Hospitals, as well as RHCs, BHUs, and dispensaries.

- Offer postgraduate training for further specialization to those doctors who complete their three years of duty with outstanding performance reports.
- A working group composed of representatives from the Federal and Provincial levels should be formed to consider ways and means of establishing a career advancement path for those who remain in service in the rural areas for a longer period.

(Note: All of the above points are mentioned more generally in the National Health Policy approved by the Cabinet and released in April 1990.)

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- **Improve Utilization of Primary Health Care Facilities.**

The MOH has the major role in improving utilization of PHC facilities. However, since their use has a direct effect on the long-term success of the major components of the CSP, the CS team should be prepared to help, e.g. in helping with the planning process, and carrying out studies necessary to permit sound management/policy decisions.

- **Simplify and Reduce Excessive Numbers of Registers being kept by PHC Facilities.**

A joint Provincial/Federal level exercise should be organized involving the Pakistan Health community to revise, consolidate the registers, and ready them for computer applications -- computers are already available at Provincial level. The Child Survival Project, if asked, should provide an experienced consultant familiar with this problem to help facilitate the process.

- **Impact of Shift from PHC to CS Approach Minimal -- Increased Communication Needed.**

Quarterly joint meetings of representatives from each health care unit with the district staff should be the first step in developing the team approach. This should be supplemented by district wide distribution of memos or newsletters. The visits of the DHO and ADHO to the units are needed, but tend to reinforce the idea of units which function in isolation. The development of management tools will continue in the CSP, although with a narrower focus. Therefore, there should be no loss due to the focused approach as many of the management tools developed will have broader applicability. Actually, more specific improvement can be expected because of greater concentration of efforts.

- **Refocus and Prioritize Assistance to Improve Management, Including Monitoring.**

The development of the Rural Health Services operation manual and HT training school operations manual must be completed and users trained in their use. The Rural Health Services operations manual should be published in loose leaf format using a modular approach to facilitate updating as elements are implemented. The CSP Training Coordinator can probably teach the MAs in each province the fundamentals of the operation manual, and how they can train the rural health service or HT training school personnel in their use. The provinces should be assisted in establishing management training capacity patterned after the Management Training Institute for Doctors (MTID) in Punjab through assistance in development in curriculum for all cadres of health workers, development of training aids and development of computer programs which facilitate analysis of data as a management tool.

Because good management of the health services operations is essential to achieving high quality care which is efficient and effective, the need for management training and new and improved management tools is endless. Therefore, the emphasis must be on institutionalizing management training through development of master trainers and training facilities. The possibility of utilizing existing management training institutes, especially within the private sector, should be investigated.

The development and use of monitoring systems is discussed above. Compliance with the process should be assessed by comparing the event register with the collated categorized data on the proforma for completeness and accuracy. This is a part of the supervisory visit. The reliability of the data should be assessed by surveys, and each Health Education Cell (HEC) at the BHSC should have the capacity for performing small surveys. Institutionalization of the monitoring process depends on establishing its usefulness to the users as discussed above. Feedback and follow-up are part of the team process as also discussed in that section.

Additional recommendations of importance are indicated in Annex I.

CHAPTER VI

TRAINING/COMMUNITY INVOLVEMENT AND HEALTH EDUCATION/COMMUNICATION

Training is an essential element for any health program. Staff must be given proper knowledge and skills to perform their assignments correctly. The project has achieved substantial progress in this area. Community Involvement is stressed in the Seventh Five-Year Plan and National Health Policy. The team fully endorses this emphasis by the GOP. Communication will continue to be important under the CSP project. Past activities in connection with Health Education will remain important.

A. Training

1. Health Technician (HT) Training

The PHC Project has completed the construction and furnishing of thirteen HT Training Schools. All schools are operational and currently training students for field placement. However, because there is a shortage of teaching staff at several HT schools, numerous class sizes are too large for proper instruction and supervision.

The PHC project has made major strides in the recruitment and training of female HTs. Despite original skepticism, the project was able to increase female enrollment. In 1985, roughly 22 percent of the students were female. This has increased to an average of 51 percent for the three provinces of NWFP, Sindh, and Baluchistan. In Punjab, due to overcrowding and lack of teachers, the increase in enrollment of females is less and stands at 32 percent.

The team learned that there remains several barriers to the recruitment, training, deployment and retention of females. These include:

- Lack of overall general education for many females (6 percent literacy rate for females)
- Continued male/female problems at HT schools
- Lack of knowledge about the HT program and other opportunities
- Lack of support from family members for jobs that would expose the female to such a wide population
- Lack of adequate career advancement in the health system.

The development of the HT Curriculum was a significant achievement of the PHCP, and this was accomplished through active participation of provinces. The training methodology stresses student participation. It involves a mixture of practical and theoretical instruction for skill building, field experience and problem solving. This approach is sound and should be the model for other health worker training.

Though the training makes use of appropriate teaching methodologies, all tutors are not familiar and/or comfortable with the methods. Lecture is most familiar whereas role play and problem solving methods are uncomfortable for some tutors.

Students are placed in the field to have practical training as part of the HT course. For this to be effective, proper supervision of their activities and the skills they are learning is necessary. This aspect of the program is weak in many schools. Some students are being exposed to incorrect procedures without corrective action, which could undercut the classroom instruction. The lack of vehicles for

Table VI-1

GOVERNMENT RECURRENT FINANCING FOR HEALTH TECHNICIAN SCHOOLS

	BALU- CHISTAN	NWFP 1/	PUNJAB	SINDH
NUMBER OF SCHOOLS	2	2	5	3
NUMBER OF STUDENTS/YR.				
Planned	100	100	500	150
Actual 1990/1	93	98	756	79
TRAINING STAFF PER SCHOOL				
Principal	0	1	1	0
PTOs	2	2	2	2
Tutors	4	4	2	2
VEHICLES				
Drivers	2	2	2	2
TOTAL HT BUDGET				
Number of Months	11	8	11	11
Budget	1,956,729	1,603,380	6,776,610	1,824,140
1988/9: Ave/Month	177,884	200,423	616,055	219,614
BUDGET/SCHOOL				
1988/9: Ave/Month	88,942	200,423	123,211	73,205
AVE. BUDGET/STUDENT				
Planned	1,779	2,004	1,232	1,464
Actual	1,913	2,045	815	2,780

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B. Community Involvement/Community Health Worker (CHW)

1. Findings

There is an urgent need to look more carefully at health issues in Pakistan from the community and caretaker's perspective. To date, most of the systems have been designed from the **health provider's point of view**. We found that there is a general lack of adequate data on the dynamics of the community and its members regarding their health behaviors and practices. Community involvement is essential for well-targeted communication and research programs. This involvement is also needed to assure effective interventions (which will have an impact on the major interventions under the CSP).

The level of community involvement/participation has been generally low in Pakistan. Although there are examples of community involvement (income generation schemes, discussions of health issues at Union Councils, etc.) these activities are isolated and not widespread.

The unit of organization for health is predominantly the extended family and the community plays a minor role. The team found that there was general support for more long-term community-based activities. Currently, most health care assistance is provided by outside paramedical workers who visit the area generally on a monthly basis. This type of assistance is adequate to achieve short-term targets but longer-term goals require more involvement.

To improve community participation, it will first be necessary to determine what level of involvement by the community is desired. Possible areas include participation through: 1) financing of health care; 2) selection and support of CHWs; 3) feedback on services at the BHU and RHC through audience research; ethnographics research for better disease control programs; and/or 4) organized community activities on such topics as sanitation and health education. Each of these options has different implications for follow-up activities. The degree of involvement sought will determine the size and amount of resources necessary to achieve these goals.

The GOP has endorsed the training of Community Health Workers as a means to involve the community more in the health program. It is specifically highlighted in the GOP's National Health Policy. There have been up to 6,000 workers trained to date. In addition, the PHC project has developed a training manual based on their experience in the HT Training Schools. Through a pilot project in Mansehra, the GOP has practical experience using this material for one year training with review workshops on each unit, taught in the previous month's training period.

A community-based worker has distinct advantages over facility-based outreach workers. They are from the community and can easily access its members. They are easily available for care/consultation as needed by the community. If chosen correctly, they are leaders in their community and can motivate the community to take an active role in their health activities.

The GOP has trained over 41,000 TBAs. As they have an established role in the community, they could play a very substantial role in the CHW program.

The CHW program must be carefully planned, both in terms of program organization and financing. There must be a clear understanding of such items as: level of qualifications of CHWs; selection; training; supervision; resupply of kits; record keeping; salary payments; SOW; in-service training; coordination with other health staff; and incentives.

2. Recommendations for Community Involvement and CHW Program

- The CSP should seek to understand the term "community involvement" better by supporting community-based studies to generate data on the dynamics of the community and its members' perspective on health-related issues.

- Before the GOP launches a major CHW program, a detailed plan should be completed which would cover the various aspects of the program, including adequate recurrent financing. Only after this review and careful planning, should the CHW scheme be deployed.
- Annex D contains the full text of all of the additional recommendations for community involvement.

C. Health Education/Communication

1. Findings

Health education/communication will be critical to the success of the child survival efforts. The team noted that there exists a general recognition that more health education/communication is needed at all levels in Pakistan.

The general awareness of the public towards CDD and EPI are significant achievements of the educational and communications efforts to date which included radio and television. A great deal of pretesting was done for spots prepared for radio broadcasts, television telecasts, and also for printed leaflets, posters, calendars, etc. The annual National Conferences on Health Education and Information on Health have been very important in generating awareness and support for these activities but do not produce Action Plans with targets. These meetings involved not only the health community but also the finance and planning ministries. There is also a National Communication Working Group which is assisting in the planning and coordination of activities.

Health education/communication is an area which requires extensive strengthening. There is an urgent need for trained staff and materials to carry out these activities. For a country of 107 million people, we were informed that only 33 health educators at present work at the Federal, Provincial and Division levels. That is one health educator for approximately 3.2 million population. There is currently no university or graduate level training in health education offered in Pakistan. Therefore, most health educators have no specialized training in health education. Most district units do not have any health education staff. Those that are posted have few supplies or any budget to work effectively. Other health staff have not been adequately trained in health education techniques and therefore there are many missed opportunities between health workers and mothers.

Communication messages are effective if they reach the desired population with simple, actionable messages. In order to determine whether this is indeed happening, a system must be in place to monitor and evaluate the communication work. This involves such techniques as small surveys, KAP studies, focus groups, etc. **To date, little has been done to evaluate the impact of the communication activities carried out. It should be stressed that this monitoring is not only needed for summative work but is necessary in the design and redesign of the materials.**

The skills exist in Pakistan to develop and produce effective communication messages. Though there have been some difficulties in establishing funding mechanisms and relationships with the private sector which have delayed or postponed activities, this work with the private sector is encouraging. (See also Chapter IX).

2. Recommendations for Health Education/Communication

- **At the Federal level, the Health Education Plan of Action is in the process of revision. The CS Project should participate in its development and finalization and encourage a comprehensive communication strategy. At provincial and division levels such plans generally do not exist. Training and Technical assistance should be given to assist these units in developing appropriate plans and budgets.**

- A regular professional track in health education needs to be established so that trained professionals will be more widely available for these activities.
- Adequate financial resources need to be provided by the GOP for the translation of communication materials into local languages and cultures. Also transmission and high quality print materials with research (audience tested) messages is needed. Health education staff must have equipment, production and incentives, to carry out their activities.
- The private sector has a developed capability to design and produce communication messages. Their resources should be utilized where ever possible to assist in these activities.

CHAPTER VII

EXPANDED PROGRAM ON IMMUNIZATION

A. Findings

■ Expanded Program on Immunization (EPI) – Overview

The GOP launched a country wide EPI in 1979 as part of the Fifth Five-Year Plan. By 1982 only 2 percent of children under 5 years of age were fully immunized. To cover the backlog of unimmunized children, the EPI was accelerated as part of the AHP. The success of the program has been recognized internationally. An evaluation in 1988 based on card and history documented coverage in the three most populous provinces (Punjab, Sindh and NWFP) of 75 to 88 percent – in children 12 to 23 months. Coverage data for 1989 based on event recording indicates measles coverage in 0-11 months infants in excess of 75 percent.

The Program is a vertical program although some integration into the basic rural health system has started in the provinces with at least one fully operational static health unit in every Union Council (notably some divisions in Punjab). The National coordinator, EPI, located in NIH is responsible for coordination with the provincial and AJK Health Departments and with the international agencies, and for vaccine quality control. The Project Manager, EPI, within the Federal Cell is responsible for program planning, evaluation, procurement and supply of vaccines, cold chain equipment, transport, injection equipment, health education on EPI, coordination with provincial EPI Manager and collaboration with the WHO/EPI Senior Advisor. The Provinces implement the program with great autonomy calculating their own target population, implementing delivery strategies and even establishing independently their own criteria for reporting coverage. This can lead to some incongruous data at the national and even provincial level, but permits area and resource specific approaches to improve coverage.

■ EPI Monitoring and Surveillance.

As noted in the EPI introduction above monitoring is by coverage of target population based on recorded events and assessed periodically by surveys using EPI card records and history. Even this is not straight forward as there is variation in defining the catchment population (political versus service area < 1 yr. vs. < 2 yr. age group) and in extrapolating from the 1981 census data (varying estimates of rate of increase; no consideration of migration). Although measles < 1 year is recognized nationally as the coverage indicator, experience indicates this is not universally applied. In a well managed EPI system where cold chain problems are minimal and vaccine quality assured, good coverage data correlates well with disease incidence and significant reduction can be expected and in fact, assumed when immunization levels reach levels which interrupt secondary and – tertiary transmission or offer herd immunity.

However, whenever actual coverage reaches levels of 70 percent, it is always better to document the reduction in disease incidence. Deaths due to measles and paralytic polio usually reach the health service system and can be documented by mid-level or higher health workers. This is particularly true in most areas of Pakistan where static health units are readily available and staffed. Actual disease incidence will be reflected by these indicators. Even low-level health workers can be trained to recognize and distinguish neo-natal tetanus and cause of death. But early neo-natal deaths, actually perinatal deaths, frequently must be sought out in the population. Tuberculosis, meningitis, pertussis and diphtheria require a much higher level of training for accurate differentiation.

Based on these assumptions, a recommendation has been made to first standardize and validate the population coverage data as being the easiest, least costly and having good correlation with the goal of disease reduction. Since it can be assumed for most populations in Pakistan measles or full antigen coverage less than 1 year will be 70 percent or greater, immediate attention should be given to developing a monitoring system which measures at the minimum deaths due to measles, neonatal tetanus and IMR, although the latter is not as directly related to EPI. Paralytic polio can be added but contributes little unless there is an antigen problem which would not be reflected by the reduction in measles.

Because the key element of the CDD program is symptom prevention and treatment, the incidence of diarrhea in the population is not a useful indication. It reflects personal and general hygiene, water supply, water and food sanitation and socioeconomic status rather than successful implementation of ORT. The best indication of an effective program is documented change in KAP of the mothers although incidence of moderate to severe dehydration at the static centers usually correlates well with the KAP.

- **EPI Training for Monitoring**

Use of the WHO EPI modular training program generally provides an adequate level of skills and knowledge. The addition of one to two days of CDD training should not distract from this and support program integration and the multifunctioning health worker concept. But variation in level of achievement can be quite different between a training session and within the trainees group. Therefore, careful monitoring and follow-up reinforcement on the job is an essential component. The WHO model contains a pre- and post-test. Supervisory visits in the immediate post-training period are especially useful to detect and correct deficiencies early and avoid institutionalizing bad habits.

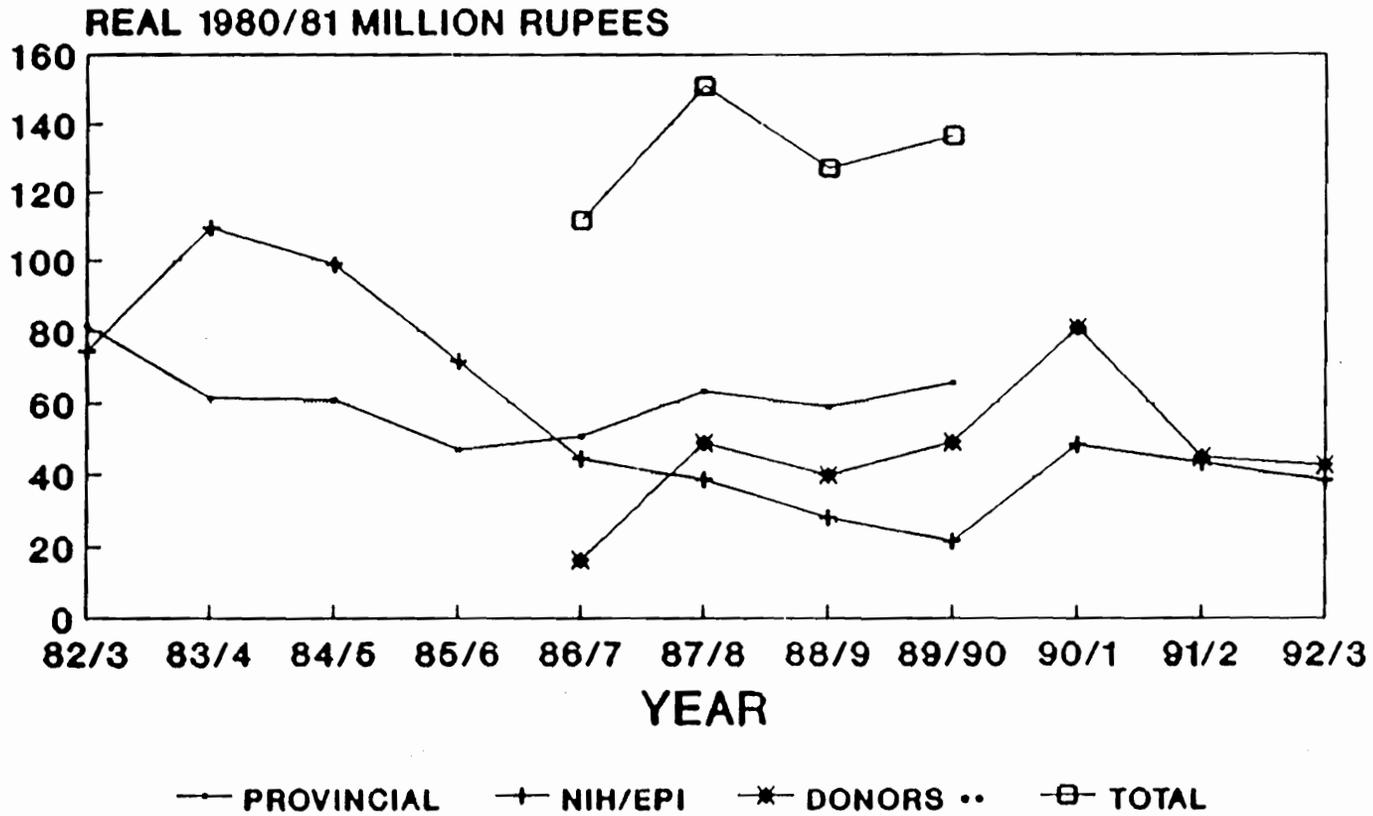
- **Financial Sustainability of EPI Commodity Inputs**

The EPI program at the NIH primarily funds vaccines, and the salaries of the program staff. Provincial governments provide funding for the salaries of supervisors and vaccinators, and fuel and maintenance for EPI transport vehicles. Donor funds are utilized for training; the provision of disposable syringes and needles, transport, and cold chain equipment; and occasionally for vaccines. Review of expenditures by all parties from 1982-1992 indicates that the GOP's funding for the EPI at the NIH has declined in real terms over the 10 year period, while donor funding of the program has increased. By 1989/90 total donor contributions to the EPI totaled 36 percent of total expenditure for the EPI program. While EPI coverage has increased, in part through increases in vaccinators and number of centers served, overall provincial expenditures for the EPI program have not risen. Although EPI expenditures have increased in NWFP and Sindh, EPI expenditures in the Punjab declined by 46 percent in real terms between 1982/3 and 1989/90 (see Figure VII-1 and Table VII-1 on next page).

It was not possible during this evaluation to determine the recurrent costs of the EPI program, and/or how these might be affected by different coverage levels, and/or different strategies. It is recommended that a study of these issues be undertaken. In any event, given the preventive nature of immunization, it is not recommended that the EPI program be singled out for cost recovery efforts, rather that it continue to be funded out of public revenues. Further, just as the shift from government to donor financing has been gradual, so should the shift back to government financing be gradual. As long as donors are willing to provide financing for the EPI, the GOP will move their funds to other programs. Donors that expect to withdraw part or all of their EPI funding, should do so in a gradual fashion, and should consult with the GOP so that government can gradually increase their own allocations. To the extent that domestic production of vaccines and disposable needles/syringes may lag behind domestic demand, in view of Pakistan's overall foreign exchange constraints, donors should consider providing these inputs on a local currency reimbursable basis.

Figure VII-1

EPI BUDGET 1982-1992 *



• Source: Table 7.1
•• USAID, UNICEF, WHO

Table VII-1

TRENDS IN GOVERNMENT AND DONOR FINANCING FOR THE EPI, 1982/3-1992/3

YEAR>	(Rs. Millions)										
	1982/3	1983/4	1984/5	1985/6	1986/7	1987/8	1988/9	1989/90	1990/91	1991/2	1992/3
NAME OF PROVINCE 1/											
Baluchistan	2.502	10.647	4.301	3.301	4.000	9.832	1.839	16.587	n.a.	n.a.	n.a.
NWFP	4.703	7.363	7.933	11.336	14.543	22.977	25.500	28.456	n.a.	n.a.	n.a.
Punjab	84.903	50.596	54.958	35.000	38.651	40.871	43.988	45.764	n.a.	n.a.	n.a.
Sindh	1.970	9.505	13.392	14.554	15.250	24.855	28.776	30.212	n.a.	n.a.	n.a.
SUB-TOTALS											
Nominal	94.078	78.111	80.584	64.191	72.444	98.535	100.103	121.019	n.a.	n.a.	n.a.
Real	81.594	61.748	61.002	47.095	50.909	63.367	58.884	65.771	n.a.	n.a.	n.a.
NATIONAL INSTITUTE OF HEALTH 2/											
Nominal	85.749	138.866	130.832	98.039	63.474	60.000	48.069	39.550	97.800	96.530	94.351
Real	74.370	109.775	99.040	71.929	44.606	38.585	28.276	21.495	48.320	43.357	38.526
DONORS (Rs.)											
UNICEF					4.287	42.832	36.138	52.422	120.981	56.700	58.800
USAID/P					15.168	29.165	27.737	33.655	38.179	38.267	40.368
WHO					3.871	4.121	4.214	4.598	5.040	5.040	5.040
SUB-TOTALS											
Nominal					23.326	76.118	68.090	90.675	164.200	100.007	104.208
Real					16.392	48.951	40.053	49.280	81.126	44.919	42.551
DONORS (US\$) 3/											
UNICEF					0.266	2.495	2.058	2.736	5.761	2.700	2.800
USAID/P					0.940	1.699	(Source provided amounts in Rs. as shown above).				
WHO					0.240	0.240	0.240	0.240	0.240	0.240	0.240
TOTAL (Rs.)											
Nominal	179.827	216.977	211.416	162.230	159.244	234.653	216.262	251.244	n.a.	n.a.	n.a.
Real	155.964	171.523	160.042	119.024	111.907	150.902	127.213	136.546	n.a.	n.a.	n.a.
GDP Deflator (1980/1 = 100)											
	1.153	1.265	1.321	1.363	1.423	1.555	1.700	1.840	2.024	2.226	2.449
Exchange Rates US 1.00 = Rs.											
	10.55	12.75	13.48	15.16	16.13	17.17	17.56	19.16	21.00	21.00	21.00

Sources:

1/ Provincial EPI budgets/expenditures from provincial EPI managers.

2/ NIH EPI budgets/expenditures from EPI,CDD,TBA PC-1 (1990, draft).

3/ Information on donor contributions from a variety of sources. Information on donor contributions before 1986 was not available, but was minimal in comparison with contribution since 1986.

USAID budgets for EPI for 1986/7-1987/8 from Articles of Agreement.

USAID EPI budget/expenditures for 1988/9-1992/3 from EPI/CDD/TBA PC-1 (1990, draft).

UNICEF expenditures for EPI for 1986/7-1988/9 from UNICEF office/Islamabad.

UNICEF EPI budget/expenditures for 1988/9-1992/3 from UNICEF Five Year Programme.

WHO EPI budget/expenditures for 1986/7-1988/9 from Articles of Understanding.

Budget for 1989/9 to 1992/3 projected at same level.

- **Vaccine Production at NIH**

Over the LOP, USAID has financed technical support for vaccine production by the NIH. Equipment purchased by USAID has included a freeze-dryer which doubled NIH's capacity for measles vaccine production, and 2 bacterial fermentors and related equipment for TT production. Total support for vaccine production has been US\$ 2.5 million. CIDA and UNICEF have also supported the development of vaccine production at NIH. However, the development of vaccine production capability has to date not been undertaken with adequate consideration for issues of economic desirability and financial feasibility, although there is increasing sensitivity among the donors to this issue.

The Seventh Five Year Plan, the National Health Policy, and the current Director General for Health all indicate that self-sufficiency in the production of vaccine is a goal for the GOP. Nevertheless, budgetary allocations to the NIH have not met requests since 1987/8 and preference has not been given to maintaining the budget for the vaccine production unit, leading to interruption in vaccine production due to lack of sufficient funds for purchase of parts or repair of facilities. The vaccine production unit faces other financial and managerial problems, which contribute to concerns regarding the sustainability of the vaccine production capability initiated in Pakistan. Further details regarding the vaccine production unit at NIH are provided in Annex F.

- **Needles, Syringes and Vehicles**

The EPI program currently purchases most of its vaccine supply from UNICEF and has also received donations from Rotary, Intl. Most of the disposable needles and syringes, and vehicles for EPI are provided by USAID. When donor support for these commodities ends, budgetary support for the NIH will have to increase to purchase needles and syringes, and financing for vehicle replacement will become the responsibility of the provincial governments.

The MOH has expressed an interest in developing the capability to produce needles and syringes in the Pakistani private sector. An appropriate study should be carried out to determine the technical and financial feasibility of developing this capacity.

It is recommended that USAID conduct a survey of the current uses of current EPI/CDD vehicles to determine the impact of their non-replacement. Identification of ways to utilize vehicles available for other purposes should be documented. Based on this assessment, the minimum number of vehicles required to sustain EPI activities should be determined, and provincial governments advised.

- **EPI Donor Coordination**

In addition to the contribution of the GOP, principal donors are UNICEF, WHO and the USAID. Past cooperation has been excellent with a cooperative agreement for EPI inputs worked out between UNICEF, WHO, and the USAID (1986-1988) with the agreement of the GOP. Annex G contains excerpts from the agreement setting forth the respective amounts in dollars by category (i.e., salaries, supplies, equipment, cold chain, training, etc.). At present there is no such clear cut understanding, and donor coordination is not as effective as in the past. The close cooperation of the past should be maintained, especially for future planning, so that the EPI inputs planned under the CSP, and those of other donors will be provided in a manner that is mutually reinforcing.

Also included in Annex G are passages from UNICEF's mid term evaluation which summarizes the progress of the EPI program, and projects the amounts and categories of assistance which UNICEF is planning to provide through 1992.

B. EPI Recommendations (Including Vaccine Production)

■ **Monitoring and Surveillance**

One should first standardize and validate the population coverage data as being the easiest, less costly and has good correlation with the goal of disease reduction.

Since it can be assumed for most populations in Pakistan measles or full category coverage less than 1 year will be 70 percent or greater, immediate attention should be given to developing a monitoring system which measures at the minimum: deaths due to measles, neonatal tetanus and IMR, although the latter is not as directly related to EPI.

■ **EPI Training for Monitoring**

Careful monitoring and follow-up reinforcement on the job is an essential component. Supervisory visits in the immediate post-training period are recommended as especially useful to detect and correct deficiencies early and avoid institutionalizing bad habits.

■ **Financial Sustainability of EPI Commodity Inputs**

It is recommended that CSP working with the MOH undertake a study to determine the recurrent costs of the EPI program, and to determine how these might be affected by different coverage levels, and/or different delivery strategies.

■ **Vaccine Production by NIH**

- The NIH with USAID and/or other donor funding should undertake a study of the financial requirements (budgetary and quantity/pricing) of the vaccine production unit under various scenarios given its current production capacity for all vaccines, and expansion of capacity.

The study should include evaluation of the overall vaccine requirements for Pakistan. The study should make specific recommendations regarding capital investment, allocation of an initial and subsequent annual working capital, production levels and pricing policy with a goal to achieve self financing within a three to five year period.

- Further managerial and budgetary autonomy should be granted the vaccine/ORS production unit. Decisions which should be left up to the management of the unit (under review by a Board) include the employment of personnel, setting of wages and benefits, development of a career structure, and determination of prices through negotiation with government and other potential buyers.
- Based on the results of the study, the GOP should determine what scenario for vaccine production/procurement they will follow for the medium and long run. Based on this decision, determination should be made of what additional assistance (if any) for vaccine or vaccine production will be required from donors beyond the current five year plan period and associated PCI for EPI, and associated Articles of Understanding (1988-1992 draft).
- The GOP should ensure that a fully functioning, competent National Control Authority (NCA) independent of the production units at any level is established to ascertain the safety and efficacy of the vaccines in accordance with WHO requirements.

- **Domestic Production of Needles and Syringes**

It is recommended that USAID provide short-term technical assistance to determine the technical and financial feasibility of an effort to produce disposable needles and syringes, and price competitiveness of a Pakistani product within and outside Pakistan.

Should the results of the feasibility study prove to be positive, then USAID should consider any recommendations by the study regarding how USAID HPN or the Private Sector offices could facilitate this development.

Should the manufacture of disposable needles and syringes prove not to be advisable, then USAID should explore the possibility that these commodities might be provided at cost on a local currency (Rs.) reimbursable basis.

- **Donor Coordination**

The degree of coordination on EPI should be increased between donors and the government, particularly as it concerns future inputs. As done in the past, specific agreements should be drawn up setting forth the nature and use of each donors contribution as well as the government's inputs for EPI over the next several years. This strengthening of donor cooperation will avoid duplication and enhance the productivity of the funds provided.

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CHAPTER VIII

CONTROL OF DIARRHEAL DISEASES

A. Findings

Substantial progress has been made since CDD was added to the PHCP as an area of concentration in 1987/88. While much remains to be done and this focus will continue under the CSP, the achievements listed below are substantial. Annex H contains supporting graphics and text for the chapter which follows.

1. CDD Achievements

- National policy on case management established.
- Wide awareness and distribution of ORS achieved: 80 percent of the population was aware of ORS in 1989.
- Standard formulation, packaging and labeling of ORS established.
- Antimotility drugs banned for use in children.
- Ten Diarrhea Training Units established.
- ORT units and corners established in 37 percent of hospitals and rural health centers.
- Physicians and paramedics trained in case management and operation of ORT units.
- Patient evaluation and rehydration therapy substantially improved.

2. Major Areas of Concern

a. Nutrition

Most infants and children seen in DTUs are malnourished due to inappropriate feeding, i.e. i) insufficient breastfeeding, ii) partial or complete feeding with commercial milk or formula during the first 4-6 months, and iii) late and inadequate introduction of solid foods after 4-6 months.

Nutritional status is routinely evaluated by weight-for-age and reference growth charts are uniformly available, but there is little follow up of children with grade I, II or III malnutrition, unless they are admitted to hospital. There is therefore almost no way to determine whether the mother is able to follow feeding advice and whether the child is growing satisfactorily. Without such follow up initial assessment of nutritional status is of very limited value.

Malnutrition is a major underlying cause of persistent diarrhea, post diarrheal distension and continuing diarrhea-related mortality. After ORT is successfully implemented to prevent deaths due to acute dehydration, further reduction in diarrhea-related mortality will depend primarily on improving the normal feeding practices for infants. Few hospitals have an organized program to teach mothers about appropriate feeding of infants. At present, DTUs do give children food, which helps to reinforce the message that feeding during diarrhea is important, but they are more effective in teaching about ORT than about appropriate infant feeding. Food is not provided to children in ORTUs.

b. Management of Diarrhea

(1) Home Case Management of Diarrhea

The project achieved high rates of ORS awareness as demonstrated by the results of several national surveys. However community studies indicate that ORS use at home remains low. Interviews of mothers visiting the ORTUs indicated that although reported ORS use rates are high (about 60 percent) in this selected group, the adequacy of ORS preparation and the amount given was questionable.

The national CDD policy is to use certain food-based home fluids during diarrhea. However, the age distribution of cases attending the ORTUs shows that more than half of the children are under one year of age. In this age group, solid feeding is not traditionally provided. Most children receive only breastmilk or artificial milk as foods. During diarrhea, the diet may even be restricted to water. Until better weaning practices are adopted by mothers, compliance with the recommendations stated in the national policy regarding home case management may not be sufficient to prevent the occurrence of dehydration or other complications from diarrhea.

It is recommended in the National CDD policy that rice be provided to children during diarrhea (as rice water or kitchri). Data collected during the National Nutrition Survey indicates that the consumption of rice is far less common than that of wheat in Pakistan. In some Provinces (i.e. Baluchistan) it was reported by health personnel that the price of rice far exceeds the price of wheat. This raises the issue of the availability of rice in the low income households all year round.

(2) Teaching Mothers about Home Management of Diarrhea

In DTUs, mothers of children with mild-moderate dehydration, are carefully taught to prepare and give ORS, and children receive a semi-solid or semi-liquid weaning food, usually containing rice, lentils and oil, after initial ORT. However, patients without dehydration are not always referred to the DTU, but may be seen in the outpatient department and discharged with minimal instruction to mothers about home therapy. Also food is not routinely given to children without dehydration. Mothers are instructed by the LHV or doctor about signs indicating they should return to the DTU. A doll is used to teach these signs. Few aids are available to reinforce messages about feeding.

(3) Case Management in DTUs and ORTUs

■ Management of dehydration

In ORTUs and DTUs, assessment of hydration status is generally satisfactory. Use of ORS solution to treat patients with mild/moderate dehydration is good. In some instances, the center closes at 2 pm. Children who arrive late, or who are not completely rehydrated by the time the center closes, may be admitted or sent back home with ORS packets to complete rehydration. If they are admitted, children may be put on IV fluids.

■ Management of dysentery

Children with bloody diarrhoea are routinely given an oral antibiotic. There is little information, however, to guide the selection of the most appropriate antibiotic. Ampicillin is widely used as the first choice, but is unlikely to be ideal because resistance is common.

■ Management of persistent diarrhea

The terms "persistent diarrhea" and "chronic diarrhea" are both applied to episodes of long duration. Standard definitions are not used. Although persistent diarrhea is recognized to have increased mortality, there are no specific guidelines for its management. In general, children with persistent diarrhea are treated similarly to those with acute diarrhea.

- **Management of severe malnutrition**

Children with grade III malnutrition are admitted to hospitals when there are other complications, e.g. pneumonia; "uncomplicated" cases may not be admitted because of the lack of beds. Most hospitals do not have a nutritional rehabilitation unit or facilities for preparing diets required for initiating rehabilitation. There do not appear to be standard guidelines for rehabilitation of severely malnourished children.

- **Prevention and management of post-diarrheal abdominal distension (PDD)**

PDD is widespread in Pakistan and has a high case fatality rate (10-40 percent). The cause is not fully understood, but use of antimotility/antisecretory drugs (e.g., loperamide, diphenoxylate) is strongly implicated, and potassium depletion (due to diarrhea and malnutrition) is probably a contributing factor. There are no standard guidelines for management of this disorder. The recent withdrawal of antimotility drugs from the market is expected to relieve a substantial part of this problem.

- **Referral of complicated or severe cases.**

DHQ hospitals, and to a lesser extent THQ hospitals, are intended to serve as referral centers for management of complicated or difficult cases. In diarrheal diseases, these would include (i) children with severe malnutrition, (ii) persistent diarrhea cases that do not respond to initial management, and (iii) children with PDD. Such cases cannot be managed at BHUs, RHCs, and are not managed well at most THQ and DHQ hospitals. DHQ hospitals are well positioned to assist in certain CDD training activities if the staff had greater expertise in case management.

c. Training

(1) Pre-Service Training

- **Teaching of medical students about diarrheal diseases**

Most physicians in Pakistan complete their medical training with little knowledge and few of the skills required for appropriate management of diarrheal diseases. This reflects:

- Insufficient time devoted to teaching of the subject;
- Inadequate emphasis on the strategy promoted by the national CDD program and its scientific basis;
- Little if any practical experience in case management; and
- Low attendance by students during their assignment to paediatrics because this subject has had only token inclusion in the qualifying examination.

This situation has persisted despite knowledge that diarrheal diseases are a major contributor to IMR in Pakistan and that it is much more cost effective to train medical students correctly than to attempt to retrain physicians, often many years after they have qualified.

- **Teaching of paramedics**

The CDD training course currently conducted during the LHVs pre-service training is not consistent with the national CDD policy. (i.e. the systematic use of IV fluids for the treatment of dehydration is recommended).

(2) In-Service Training

- Completion of current training objectives (DTU project)

To-date at least one physician from about half of the target facilities (DHQ hospitals, THQ hospitals, RHCs) has been trained in a DTU course. About 80 percent of the participating facilities have received the ORT equipment and about 70 percent of these have a functioning ORT unit. Pre-training and post training visits to each facility have been essential steps to gain support of the DHO or MS, to identify the most appropriate trainee, and to assist with training of paramedical staff or other medical officers. Failure to establish a functioning ORT unit occurs in about 20 percent of facilities owing to (i) lack of administrative support from the DHO or MS, (ii) transfer of the trainee, or (iii) lack of sustained interest by the trainee.

- Training of DTU staff in nutritional management and in communication with mothers

Although the DTU training course includes the topic of nutritional management of diarrhea and the related topic of effective communication with mothers, trainee performance in these areas is less effective than in the management of rehydration. This is complicated by the fact that health facilities have policies against providing food for children or outpatients. The result is that ORTUs are relatively ineffective in teaching mothers about appropriate feeding of infants and children during health and during diarrhea.

- Linking training on CDD, ARI and nutrition

For historical reasons, CDD and EPI training efforts have been linked. There are however greater similarities in the strategies for control of diarrheal diseases, respiratory infections and malnutrition, than in CDD and EPI strategies. This is because the first three require maternal education related to care of the child at home, and training of health workers to give effective case management and teaching in health facilities. Treatment of diarrhea and respiratory infections at health facilities provides a unique opportunity to detect and initiate special efforts to manage children with malnutrition or poor feeding practices.

- Paramedics training

Paramedics graduating from the schools are not familiar with the CDD program policy and activities. When deputed to ORTUs, their knowledge and skills in managing diarrhea cases and education of mothers about home case management must be up-graded. A short training course should be conducted by the ORTU and DTU physicians for that purpose.

d. Management of Expanded CDD Activities

(1) Program Monitoring

At present, the project is centralized at the Provincial (or Division) level where the DTUs are located. All the project related activities are initiated, implemented and monitored at this level. The monitoring of the project is done by the DTU physician mostly through follow up visits and compilation of data collected from records kept in the units. As the number of assisted centers increases, providing good follow up to each one is becoming increasingly difficult for the DTU physician.

With the system being centralized at the provincial level, little responsibility has been formally given to the DHOs. The DHOs involvement in the initial phase of the project, and consequently their support for the project has been limited. Availability of ORS and drugs, adequate staffing of the ORTUs, and implementation of national policy in district health facilities, which are the DHO's responsibilities, have been inadequate, in some instances.

(2) Personnel and Equipment

- The project funds one physician, and one LHV for each DTU. Some physicians are hired directly through USAID funds by service contractors, others are assigned from posts in the government health service. The higher salary received by the DTU staff (when compared to government rates) is intended to compensate for the extra time spent on the job, which limits the opportunity for private practice during extra hours.
- The equipment provided for each DTU and ORTU is basic but adequate. It is easy to maintain, sturdy, and in line with the needs for case management of diarrhea in the ORTUs. The ORTU setting is comfortable, which is appropriate, because mothers spend several hours in the unit with their children.

(3) Health Information System

- The current data collection for CDD activities is limited, aside from that collected through the DTU project. At present, there is no operating system for diarrheal diseases surveillance.
- Several data collection forms are currently in use in DTU assisted health facilities. The ORTU patient register serves as (i) a job-aid for the ORTU health personnel, and (ii) a tool for data collection (monitoring of program activities and disease trends). The data collected with those forms is compiled in monthly reports which are forwarded to the central level where further tabulation and compilation is done. It is obvious that the health staff does not perceive the value of the data collection, partly because little or no feedback has been given to them so far.
- The information collected routinely is very extensive, and not all of it is essential for program purposes. If data collected are to be reliable, a significant amount of time must be spent interviewing mothers in depth. In busy centers, this may not be sustainable in the long term.
- Information related to the duration of diarrhea is not collected routinely in ORTUs and DTUs. Consequently children with persistent diarrhea are not usually identified. The case management of children with persistent diarrhea is not usually different from that of children with uncomplicated acute diarrhea. Case fatality rates are higher for children with persistent diarrhea. Identification of those children and their follow up after discharge from the ORTUs is essential.

e. Financial Sustainability

The Child Survival Project Paper indicated that the project would set up 18 DTUs, 48 feeding/ORT training units, and ORT corners in 80 percent of government health facilities. Based on the number of health facilities in Pakistan in 1986, this implies that about 3000 government facilities in Pakistan will have received training and be equipped to provide ORT by the EOP. Overall, the estimated annual recurrent costs for all DTUs and ORT corners at EOP will be Rs. 26,262,541 (US \$1,250,597). Estimates of the long run recurrent costs for an individual DTU and ORT corners are provided in Table 8.1.

The on-going activities of the DTUs include provision of ORT to hospital patients, and provision of continuing education services. During the start-up phase for the project, the DTU staff (physician, LHV, and driver) are paid by the project so as to allow them to undertake the travel required to set-up ORT corners, as well as to compensate them for the financial loss due to lack of time for private practice. However, after completion of the initial start-up phase, efforts will be made to create government positions for the DTU staff, and have existing government health personnel assigned to these posts. Thus, no additional salary costs are associated with creation of the DTUs. As the project will train existing staff at the ORT corners, there will be no additional salary costs associated with ORT activities at

other health facilities. However, financial support will be required for the provision of the continuing education workshops, for the operation and replacement costs of the DTU vehicle, and for the purchase of supplies and maintenance and replacement of equipment.

In 1990 rupees, the estimated annual on-going recurrent costs for a DTU is Rs. 635,443, 86% of which is associated with provision of continuing education workshops. The remaining costs associated primarily with the provision of ORT to hospital patients (Rs. 85,518) is well below the threshold (Rs. 470,000) established by the Child Survival Project Paper below which the GOP would realize cost savings from a shift from IV to ORT treatment of hospital patients with diarrhea.

The estimated recurrent costs of ORT corners are substantially lower: for a DHQ or Tehsil hospital - Rs. 9,460, for a RHC - Rs. 5,440, and for a DTU - Rs. 4,080. However, these costs are not trivial in light of the fact that RHCs are allocated no more than Rs. 100,000, and BHUs may be allocated as little as Rs. 10,000, for medicines.¹¹ The project can attempt to lower the recurrent costs of these corners through assessment during the pre-assessment visit of the actual equipment and furnishings needs of rural facilities which may be lower than the quantities used for planning and project budgeting purposes.

The adequacy of recurrent financing for ORT packets will be linked to a great extent to the adequacy of financing for the NIH (which currently provides ORS packets), and the adequacy of financing for all medicines (as provincial medical stores can purchase ORS from the NIH or private sector firms). The recent government decision to ban anti-diarrheals, and the decision of at least the NWFP to utilize the funds saved for the purchase of ORS are promising developments.

B. Recommendations

1. Nutrition

- Teaching mothers about appropriate feeding practices.

Efforts to teach mothers about appropriate feeding of their children should be strengthened. Teaching should be done primarily by LHVs or other female health workers. Messages should focus on the needs of individual children, giving priority to (i) early initiation of breastfeeding (starting immediately after birth) (ii) frequent breastfeeding of infants to increase milk supply, (iii) if artificial milk or formula are used, giving them with a cup or a spoon, (iv) introducing appropriate weaning foods at 4-6 months of age, and (v) giving the child extra food for 2 weeks after diarrhea stops.

- Follow up of malnourished children.

Efforts should be made to improve regular follow up of malnourished children, especially those with grade II malnutrition. This will require improved communication and rapport with mothers as well as a search for ways to facilitate their attendance for follow up visits, e.g., by reducing waiting time or visiting when the DTU is not fully occupied with sick children.

If possible, children with grade III malnutrition should be admitted for rehabilitation in nutrition rehabilitation units.

¹¹ Current levels of financing for medicines at rural facilities is generally reported as inadequate. The GOP is undertaking measures to increase the efficiency of use of funds for drug purchases. However, it is unclear if these measures will be adequate to ensure the continual provision of essential drugs at rural facilities.

Table VIII-1

TABLE VIII-1: ESTIMATED INVESTMENT AND ANNUAL DTU AND
ORT CORNER OPERATING COSTS (1990 Rs.)

TYPE OF UNIT >	DTU	DHQ & TEHSIL HOSPITALS	RHC	BHU
NUMBER				
Planned Over LOP 1/	18	480	390	2000
Number in mid-1986		600	488	2500
RECURRENT COSTS PER FACILITY				
Continuing Education	486,000			
TA/DA 2/	60,000			
Vehicle				
POL, Maintenance	40,000			
Depreciation	31,658			
Supplies 3/	11,860	5,500	3,000	2,000
Equipment - Repair & Depreciation 4/	5,925	3,960	2,440	2,080
Sub-total				
Rs.	635,443	9,460	5,440	4,080
US\$	\$30,259	\$450	\$259	\$194
RECURRENT COSTS FOR ALL FACILITIES				
By Facility Type				
Rs.	11,437,965	4,540,800	2,123,776	8,160,000
US\$	\$544,665	\$216,229	\$101,132	\$388,571
All Facilities				
Rs.	26,262,541			
US\$	\$1,250,597			

Notes:

- 1/ The CSP PP indicates that the project will establish ORT corners at 80% of all public sector health facilities. Estimates above are of 80% of facilities in 1986.
- 2/ TA/DA is for outside facilitators to contribute to the continuing education programs to be run by the DTUs.
- 3/ Estimates of supplies required by DTUs and ORT corners are based on consultant estimates of use of expendable supplies and ORT.
- 4/ Estimates of the depreciation allowance for equipment are based on the assumption that on average DTU equipment will need to be replaced within 7 years. The value of equipment supplied by the project to each facility is: DTU - Rs. 41,575, DHQ/Tehsil Hospitals - Rs. 27,735, RHC - Rs. 17,060, BHU - Rs. 14,572 (Source: Rawal Associates).
- 5/ USAID has provided vehicles (US\$ 15,075) for each DTU. These will be turned over to the GOP at the EOP and are expected to provide useful services for up to 10 years.

- DHOs should be trained to monitor and supervise diarrhea treatment activities in health facilities. This will require both supervisory/management skills and a basic knowledge of case management methods.
- LHV's should be trained to play a greater role in case management at health facilities. Emphasis should be given to strengthening their skills in teaching mothers about ORT, home management of diarrhea, and especially about appropriate feeding during and after diarrhea. LHV's working in DTUs should play an important role in training activities.
- The potential value of orienting private practitioners about appropriate case management for diarrhea using short (half-day) courses should be explored. This approach should be compared with other possible methods, such as newsletters or videos. If courses are held, they may cover other aspects of several child health topics, e.g. CDD, nutrition, ARI. A decision to extend training to all private practitioners should be made only after the cost benefit of the above approaches are considered.

4. Management of Expanded CDD Activities

a. Program Monitoring and Supervision

Primary responsibility for management and supervision of CDD activities in district health facilities must be clearly assigned to the District Health Officer (DHO). This should be expedited for all facilities in which training to strengthen diarrhea case management has been completed. The DTUs should, however, continue to strengthen the staff in district health facilities through training activities coordinated by the DHO. Mechanisms must be developed to carefully coordinate the joint efforts of DTUs and the district health system, which are administratively separate. The supportive role of the DTU must be developed and recognized as both appropriate and necessary if improved case management is to be established and sustained in district health facilities.

The following monitoring and supervisory procedures are recommended for the ORTUs:

- Supervisory visits should be frequent and regular.
- Case management practices should be evaluated by observation and discussion with the staff to ensure that treatment guidelines are understood and reliably followed. Supervisory checklists should be used for this purpose.
- During some visits the DTU physician should accompany the DHO staff to assist in monitoring case management practices. Other supervisory tasks concerning health personnel, facility maintenance, supply of ORS and required drugs, and reporting of cases treated should be done by the DHO staff.
- If necessary, basic equipment for managerial activities should be provided for the DHO on a selective basis.

b. Personnel and Equipment

Additional staff (physicians) should be deputed to the DHO's office to monitor and supervise expanded CDD activities. As other curative and preventive activities are established in health facilities (ARI, infant nutrition) the duties of these staff may be expanded to provide integrated monitoring and supervision of these areas.

In rural health centers which may see only three or four cases of diarrhea per day, the standard "package" of equipment provided for each ORTU should be reviewed with the goal of providing only as much equipment as needed by each facility.

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c. Health information system.

Recommendations on data collection and analysis are as follows:

- The present ORTU data register should be used during the first few months after an ORTU opens and when new medical officers are assigned to the unit (serving as a job-aid).
- For the longer term, only data should be collected that is essential for management and monitoring of disease trends. This would include: name of the center, date, patient number, patient name, age (months), sex, weight (grams). Type of diarrhea (acute watery, bloody, persistent), degree of dehydration (none, some, severe), nutritional status (Gomez I,II,III), and outcome (rehydrated, admitted, died, drop-outs).
- Data regarding reported practices by the mother (feeding, fluids and prior treatment) should not be routinely obtained as they are unlikely to be very reliable. Trends in such behaviors should be monitored using a standard method (e.g. in depth interviews of a randomly selected sample of mothers). More accurate evaluations would require studies in the community.
- Data should be analyzed to provide yearly summaries for each type of diarrheal incidence, sex, age distribution, seasonality, nutritional status, outcome. Data from all ORTUs should be summarized and feedback provided to those from which it came.

5. Research

The following areas require additional research:

- Behavioral research to clarify major determinants of prevalent breastfeeding patterns, especially failure to continue breastfeeding, and the widespread belief that milk supply is insufficient and that supplementation with artificial milk is required.
- Definition of risk factors for post diarrhea distension, if this continues to be a major problem after the banning of antimotility drugs.
- Description of patterns of use of ORS purchased by mothers in the community. This should focus on when ORS is used, how it is prepared, and how much is given.
- Formative research to develop messages to promote more appropriate infant feeding practices.
- Research to identify practical approaches that would improve the follow up of malnourished children
- Studies on the content of medication used by traditional/non licenced healers/dispensers. Definition of an approach to reduce use of opiates (if widely used).

C. Financial Sustainability

- To assure a smooth transition for the recurrent costs of the DTUs, the Federal and Provincial governments should begin now including the rs. costs of the CDD activities in its recurrent budget so that when the project finishes in 1993, there are no gaps in financing, or lost of momentum.

Consideration should be given to requiring that the teaching hospitals to provide recurrent financing for the units on a graduated basis. Given that the recurrent costs of DTUs are lower than the cost of treatment of hospital patients with IV solutions, the key issue with respect to the financial sustainability of the units will be the turning over of financial responsibility for these units to the GOP.

The mid-term evaluation of the CSP should determine whether project efforts have progressed far enough to move DTU physicians from project to government positions, and if so to recommend a strategy and timetable for doing so. This shift should be undertaken before the end of the project to enable those assigned the government posts (if not the physicians employed by the project) time to learn their roles and responsibilities.

- Since the principal recurrent costs of ORT corners will be for the replacement of ORT equipment/supplies and the resupply of ORS packets. An assessment should be made of the estimated long run requirements for ORS from DTUs and ORT corners, and the cost of meeting these requirements from either the NIH or private sources. The assessment should identify whether there currently is sufficient provision of government funds for ORS.
- Provinces should be encouraged to follow the example of NWFP and reallocate funds expended for anti-diarrheals for the purchase of ORS, to assist in financing any gap between current and required expenditure.

CHAPTER IX

CHILD SURVIVAL PROJECT

A. Summary Description and Current Status

The goal of the CSP is to reduce infant and child mortality rates by at least 25 percent by 1994 and sustain these rates. The strategy is to focus on CDD, EPI, ARI and nutrition through a concentrated array of interventions emphasizing, training, but also management, planning, monitoring and communication/social marketing. The project will be developed in two phases over six years with a USAID contribution of US\$ 62 million. The GOP will contribute an additional US\$ 23 million. The contract has been awarded to Management Sciences for Health and the collaborating organizations. As of June 1990, three of the five expatriate team members are already in place and operational elements for implementation will be in place and functioning prior to end of FY 1990.

B. Support for Other CS Interventions

The relationship of the new CSP Project to the terminating PHC Project as it concerns EPI, CDD, Training, Community Involvement, Communications HIS, Monitoring and Supervision, has already been discussed in the previous chapters. The following findings and recommendations deal with: ARI, Maternal Health, Teaching Pediatrics to Medical Students, and Improvement of Health Systems.

1. Findings

a. Acute Respiratory Infection (ARI)

Acute respiratory infections are a major cause of infant mortality. Their importance equals that of diarrheal diseases. Taken together, these two problems account for about 60 percent of infant mortality in most developing countries. Most ARI deaths are due to pneumonia, which is caused largely by antibiotic-sensitive bacteria (*S. Pneumonia*, *H. Influenza*). Early recognition of pneumonia and treatment with an appropriate antibiotic can be highly effective in reducing deaths from ARI. Techniques have recently been developed for detecting pneumonia, based upon counting the respiratory rate and observing chest indrawing in coughing children. These techniques can be used by trained health personnel in peripheral facilities, thus making early detection and treatment of pneumonia a practical strategy for reducing ARI-related mortality.

b. Maternal Health

Improved maternal health is an established objective in Pakistan. This includes provision of pre-natal, delivery and post-natal care in the community and at health centers by TBAs, dais, LHVs and other health workers. Maternal health activities have direct importance for improved child survival through:

- Improvement in maternal well being; for e.g., improved maternal nutrition reduces the incidence of low birth weight which is an important risk factor for infant mortality;
- Activities directly related to infant health; for e.g. ante-natal immunization with tetanus toxoid and ante-natal or immediate post-natal promotion of early and exclusive breast feeding.
- The National Health Policy and Seventh Five-Year Plan calls for Family Planning Services to be offered in PHC facilities as well as MCH clinics. This important decision still needs to be implemented in all four Provinces.

c. Childhood Malnutrition

The high prevalence of malnutrition in infants and young children in Pakistan is well recognized. This results mostly from widespread severe deficiencies in feeding practices which are:

- The frequent, inappropriate use of formula and animal milk, given with a feeding bottle, for infants 0-6 months of age; and
- The continued use of feeding bottles, and very late introduction of nutritious solid foods after six months of age.
- Until the nutritional state of children is improved, by improving routine feeding of the healthy child, the impact of CDD (and to some extent ARI) interventions on mortality will be limited.

Although nutritional management of diarrheal diseases and respiratory infections is important and can reduce their contribution to under-nutrition, these will remain important causes of mortality until normal feeding practices are improved. Thus, efforts to directly address the root causes of childhood malnutrition are essential. Improved feeding requires multiple approaches to teaching mothers appropriate feeding practices, and to identifying and giving special help to infants already malnourished.

d. Teaching Pediatrics to Medical Students

The importance of strengthened teaching of pediatrics to medical students has already been emphasized for diarrheal diseases. However, this applies to all pediatric topics, and especially to those related to child survival. Adequate teaching of pediatrics has not been possible, however, because the time allocated to pediatrics is too little (about 4 percent of the entire medical school curriculum) and the subject is not taken seriously by students because it is not a major component of the qualifying examinations. Until these constraints are removed, it will be impossible to teach students adequately and any efforts to improve child survival will be of limited efficacy and costly to implement (because it will require retraining of inadequately trained physicians).

It is essential, therefore, that pediatrics be made a major examination subject with substantially increased teaching time. The pediatric curricular should also be revised to give priority to child survival topics and to emphasize the development of skills required for patient management. It is encouraging that this is now a stated policy of the government; every effort should be made to implement this policy with a minimum of delay.

e. Public Health System

- **Health Information System (Including the Monitoring Information System)**

There is a consensus and universal recognition at all levels that the current information system is too cumbersome. In addition, information collected is not often used at district, divisional, provincial levels for planning, management, and evaluation purposes.

One positive step which should be noted, expanded and/or integrated into a larger health information system is the Monitoring Information System (MIS) developed under the PHCP with more than 300 Centers participating, especially in the Sindh and NWFP. Evaluation showed that: 1) the longer the system was in place the more likely that drug supply of essential medicines increased, and 2) utilization of PHC facilities increased with better drug supply. (Tables 1 through 4 in Annex G document the progress between 1989 and 1990.)

- **Planning - Manpower and Infrastructure**

The GOP undertakes a variety of planning exercises: Five-Year plans, ADP's for development budget, EPI/CDD plans. However, there appears to be little connection between investment planning, program priorities and likely recurrent budget (trade-offs between expansion and quality of service). Provincial health offices have a statistical officer, but there is no well developed planning capability. Annual program plans of divisional chiefs for the most part are not regularly reviewed in light of recurrent resources.

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- **Pharmaceuticals**

The team on its visits found that there were insufficient drugs at peripheral health institutions. Expensive name brands sometimes replaced acceptable generic drugs and lower cost substitutes. ORS packets were distributed both through medical stores and EPI systems, but they did not always make it to peripheral facilities. This problem has been addressed in part under the PHC within its Monitoring Information System (MIS) program under which the percentage of key medicines available at health facilities participating in the MIS program increased substantially between 1989 and 1990. (The MIS reporting form allows the reporting peripheral health facility to highlight major problems such as lack of medicine to provincial decision makers.)

- f. **Private Sector**

Though the team was not able to review the private sector activities in detail, it was felt important to share its observations in this area even though it was limited by time and scope. We feel it is important since the private sector has such a valuable potential to assist in future Child Survival activities.

We observed that there is an active private commercial sector in Pakistan for the marketing of health care products and for producing messages for mass communication. These skills can be utilized and managed if the government sector is properly orientated and trained. There does not exist sufficient means of ensuring adequate coordination between the public and the private sector.

In addition, there is general skepticism of the quality of products produced in the private sector as well as its motives. Understanding of the quality standards is weak and the standards are not reinforced or adhered to. Regulation for the private sector is either none existent or not enforced. Make stronger problem with private sector in PHC was that advertising companies had no technical expertise and didn't know where to go get it.

Non-Governmental Organization (NGOs) play an important role in the delivery of health services in selected areas of Pakistan (largely in the urban areas). However, they have operated largely independently of the PHC project and their resources have not been fully utilized.

There are multiple cadres of private practitioners operating in both the urban and rural areas. Urban areas include largely the private clinician while the rural areas are dominated by after-hour private practice by government employees and traditional practitioners. The private practitioner fills an important niche in the delivery of health services and provides up to 80 percent of the health care in some areas. The quality of services varies greatly as well as the fees charged to the patients. Government-supported training has generally reached the government employees that are practicing after hours but other cadre have not benefited from these in-service training programs. A Health Partnership should be the goal of the public/private activities. Both have important roles to play.

2. Recommendations

a. Acute Respiratory Infections

- Pakistan should develop and adopt a national plan for developing or implementing an ARI control program.
- Health workers should be trained in detection and management of ARI, especially pneumonia.
- Behavioral research is required to develop practical approaches to improving maternal awareness of the signs of serious ARI and promoting early health seeking from trained health workers.
- The implementation, supervision and monitoring of ARI control should be conducted both administratively and at the health facility level with that of CDD, nutrition and EPI.

b. Maternal Child Health

- Efforts to strengthen maternal health activities should be continued at the community level and in health facilities.
- Health workers should be specifically trained to use ante-natal visits to promote appropriate nutrition and assure that tetanus vaccine has been given. Ante-natal, delivery and post-natal visits should also be used to promote early and exclusive breast feeding and to assist mothers in solving problems encountered during attempted breast feeding.
- Family Planning Services should be added at PHC as soon as feasible with training of MOs and Paramedics (LHVs and FHTs) as needed.

c. Nutrition

- A national program should be developed to improve infant feeding practices with the objective of greatly reducing the incidence of protein/calorie malnutrition in infants and young children.
- Plans should be developed to:
 - Effectively promote exclusive breastfeeding for the first six months of life;
 - Discourage the use of artificial milk in infants below 6 months of age, and of feeding bottles at any age;
 - Achieve routine introduction of nutritious weaning foods in adequate amount starting at six months of age, while continuing breast feeding;
 - Formative research should be supported to assist the development of effective messages on improved feeding practices;
 - Health workers should be trained in teaching mothers appropriate feeding practices, and key opportunities for such training should be identified and exploited, such as (a) during antenatal visits and at birth (to promote early and exclusive breast feeding), and (b) during health facility visits (to encourage feeding practices appropriate for the child's age);
 - Nutritional status of children should be monitored at all health facility visits and appropriate advice in feeding and follow ups given, as required; and
 - Children identified as having grade II or III malnutrition should receive special attention, growth monitoring and follow ups.

d. Teaching Pediatrics to Medical Students

- Efforts to greatly strengthen the teaching of pediatrics to medical students should be developed and implemented with the highest priority. This will require that more time be allocated for this subject and that pediatrics be made a major examination subject.
- The above changes should also involve a revision of the pediatric curriculum and teaching methods with priority being given to the following objectives:
 - The teaching of child survival topics, such as CDD, ARI, Nutrition and EPI;
 - Emphasizing strategies to control major causes of childhood morbidity and mortality;
 - Assuming that students develop essential clinical and communications skills;

- Preparing students to manage and prevent prevalent childhood diseases under circumstances encountered at basic health facilities.

e. Improvement in Public Health System

- The PHCP evaluation team strongly supports the proposal of the CS project team to take a comprehensive approach for revision of the HIS.
- To the extent that long-run sustainability of CS activities depends on successful operation of public health system more emphasis over LOP should be given to strengthening health sector planning (long and short-term) – particularly at provincial level. Focus is recommended at the provincial level as that is where decisions about level and allocation of funds is made.
- High priority should be given to (i) conducting an assessment of the systems for purchase and distribution of medical commodities for core CS interventions (EPI/CDD/ARI), including an assessment of the overall pharmaceutical and medical supply system; and (ii) a companion study to determine whether adequate financial resources are available for the provision of essential medicines to peripheral units assuming better management of the system, and adherence to proposed formularies.

f. Private Sector

- The GOP with assistance from the CS Project should invest in workshops and conferences to encourage public private collaboration. It should invest in skill building of appropriate government staff in the area of management and supervision of private sector contracting. Involvement and/or consultation of the private sector on appropriate subjects and committees should be encouraged.
- NGOs should be encouraged to participate fully in health care delivery as appropriate to their skills and expertise. They should be involved in major health care discussions and participate in coordinating bodies as appropriate. The GOP via the CSP should include NGOs in their training and health care delivery activities. Incentives should be explored to encourage greater support to NGOs by the general public. The Phase II idea of a NGO council could be explored by the MOH assisted by the CSP in order to involve NGOs more effectively in CS activities. NGOs should be encouraged to increase their activities in the rural underserved areas.
- The government in cooperation with the CSP should encourage the full participation of private practitioners in child survival activities. This would include in-service training activities as well as targeted communication and marketing activities to this group. The project should work with professional organizations which include private practitioners (such as the Pakistan Medical Association) to tap into this channel of influence.
- Quality control is essential for the delivery of services as well as the production of health products. The CSP should work with the government to ensure that proper quality assurance procedures are developed and that there are sufficient means for verification of these standards for private sector production of products. Good Manufacturing Practices (GMP) should be followed on each item.
- Marketing should be encouraged in order to improve access and availability of products in the private sector. Various alternative models/organizations for this partnerships with the private sector should be explored to ensure maximum use of these strategies.
- The CSP should continue to seek new and innovative ways to utilize the private sector in carrying out its activities.

ANNEX A

ATTACHMENT I

USAID/PAKISTAN PRIMARY HEALTH CARE PROJECT

SCOPE OF WORK - FINAL EVALUATION

ANNEX A

ATTACHMENT I

USAID/PAKISTAN PRIMARY HEALTH CARE PROJECT

SCOPE OF WORK – FINAL EVALUATION

I. Activity to be Evaluated

Project Title: Primary Health Care
Project Number: 391-0475
USAID Funding: \$30 million (grant)
LOP Dates: FY82-FY90
PACD: 9/30/90

II. Purpose of the Evaluation

This evaluation will be summative in that it will attempt to measure the effect of (1) the Primary Health Care Project (PHC) in terms of increased coverage and quality of rural health services and (2) of project assistance for two components of the Accelerated Health Program: Expanded Program for Immunization (EPI) and Control of Diarrhoeal Diseases (CDD). This evaluation will also be formative: it will identify successful approaches used in the PHC Project which should be continued in the new Child Survival Project, approaches which should be modified to be more effective, and activities which did not work and should therefore not become a part of the new project.

A. The evaluation will have the following purposes

1. Given the level of resources available, measure the success of the project in achieving improved coverage and quality of rural health services with focus on the three main components of the project:
 - Management of rural health services
 - Training of Health Technicians
 - The Accelerated Health Program, particularly the use of PHC funds for CDD and EPI
2. Identify (a) successful approaches and lessons learned in the Primary Health Care Project which can be applied to implementation of the Child Survival Project, (b) approaches which should be applied with modifications and (c) approaches which were not successful and should be discontinued.
3. Make specific recommendations for a smooth phase-over from activities funded under the Primary Health Care Project to funding and management under the Child Survival Project. These include management information and personnel systems; training of mid-level health workers and physicians; nutrition assistance; and institutional areas such as roles and linkages of various federal and provincial bodies involved in the health delivery system and communications programs. Specifically, the evaluation should review interaction and coordination between national and provincial governments and between the provincial health departments and the medical schools.
4. Identify areas or issues which need further analysis during Phase I of the Child Survival Project (including activities to be developed for Phase II of the Project) such as:
 - priorities for project-funded research and policy analysis
 - approaches to private sector and community involvement in Child Survival
 - institutional and management issues to assist PHC programs besides "the twin engines" of

- Child Survival, that is nutrition, maternal health, and control of tuberculosis and acute respiratory infections, and
- Improved management of pharmaceutical systems for essential drugs such as ORS, vaccines and antibiotics.

The evaluation will include a review of data and information from the national immunization and control of diarrheal diseases programs, the Basic Health Services, the PRITECH project, and the Primary Health Care (PHC) Project. The GOP's Accelerated Health Program, which has three major components- the national immunization program, the oral rehydration therapy program and the training of traditional birth attendants - has received GOP funding since 1982. USAID, through the addition of Child Survival funds to the PHC Project, has continued to assist the Expanded Program for Immunization and the national Control of Diarrhoeal Diseases Program. These two national programs are central to the US\$62 million Child Survival Project (391-0496).

III. Rationale for Changes In Project Outputs

As described below, measurement of the project outputs stated in the Project Paper will not be used in this final evaluation because (1) assumptions used in the Project Paper did not hold true, i.e. reliability and validity of baseline data, and use of disease reporting systems in the health sector, and (2) changes in government policy and priorities required changes in project priorities and strategies.

The Project Paper called for a final impact evaluation to assess the success of the Project in achieving its goal and purpose and in meeting its targeted outputs. The impact was to be measured by comparing results from a baseline survey in selected sites of the country with surveys conducted in the same sites in the middle and at the end of the project. The objectively verifiable indicators called for reduction in rates of infant mortality, moderate to severe malnutrition, and deaths due to diarrheal diseases. These measurements are not possible without good vital events registration and disease reporting systems. Creating such systems in Pakistan required far more resources than were available in the PHC Project. The baseline survey conducted for the project required four months of project staff time spent exclusively on the survey. Despite the time dedicated to the survey, there were problems with data quality and a sample that was not representative nationally or provincially. The mid-term evaluation team recommended that GOP/USAID not carry out any further surveys. Instead the team recommended more concentration on disease surveillance and management information systems.

Consequently, the final evaluation team will not be able to answer whether the project achieved its goal of improving the health status of the rural population. However, the Ministry of Planning and Development estimates infant mortality rates have fallen at least 20 percent due to the successful immunization program.

The team will also not be able to assess the success of the project in meeting targeted outputs in the PP at the purpose level since the provincial health departments are no longer promoting an Integrated Rural Health Complex. The Integrated Rural Health Complex consisted of one Rural Health Center (RHC), staffed by physicians, with four satellite Basic Health Units (BHUs) staffed by medical technicians. With the large numbers of physicians being graduated, doctors are being posted at each Basic Health Unit so the BHUs no longer rely on supplies and supervision from the RHCs.

Finally, the outputs on community health workers (CHWs) called for in the PP were also changed. The sixth Five Year Development Plan made no provision for CHWs. Medical (now Health) Technicians were not encouraged by the provincial health departments, therefore, to train and supervise CHWs. One pilot project was undertaken through the PHC Project, with PRICOR assistance, to test a training and supervision model for CHWs.

The Ministry of Health has reviewed the Statement of Work and agrees with the objectives of this evaluation.

IV. Background

Over the last five years, there has been a growing concern in the Government of Pakistan that the social

sectors have been neglected. Poor performance in the social sectors is reflected in an estimated infant mortality rate of 100/1000 births, a rate which is almost double that of other Asian countries at similar levels of economic development, in high fertility rates estimated at 6.7, and female literacy rates of around 20 percent. A recently published report on the 1985 National Nutrition Survey found that 15 percent of children under 5 years of age in Pakistan are acutely malnourished. These rates are on the same order as those found in the national 1976 Micronutrient Survey. Despite severe budget constraints, the elected government is now preparing an ambitious health and population policy to improve health and welfare of the population. Many of the initiatives, especially on the financial side, are new and important and will involve donor funding.

Pakistan was named by AID as a Child Survival Emphasis country in 1987 because of the potential in Pakistan to reduce the high infant and child mortality rates. While the complex Child Survival Project was being designed, the Mission added US\$10 million to the Primary Health Care Project and redirected the Primary Health Care Project to target assistance to the life-threatening health problems of infants and young children.

The purpose of the 30 million dollar Primary Health Care Project remained the same. It is to improve the coverage and quality of rural health services in Pakistan. With project support, the provincial health departments have introduced some management systems in rural health facilities, developed the training program for mid-level health workers called Health Technicians (HTs) and implemented the Expanded Program of Immunization (EPI) and Control of Diarrhoeal Diseases Program (CDD).

A. Emphasis on Improved Access to Services

In the social policy environment of the early eighties, the Mission designed the Primary Health Care Project with modest objectives which built on the previous Basic Health Services Project's efforts to train mid-level health workers. In the early stages, both the GOP and Mission emphasis was on improving the access of the rural population to health care. During the last decade, the GOP has made significant progress in improving coverage of health services. GOP has built over 2,500 rural health facilities, graduated 25,000 physicians and trained 30,000 traditional birth attendants. With PHC project support, the GOP has built and equipped 13 Health Technician Training Centers around the country and deployed 2,300 health technicians.

Because of the management priorities required to achieve this output, the term "Primary Health Care Program" seemed synonymous with a program to construct and staff RHCs/BHUs. The objective to build a low cost, broad-based health system with a philosophy of community self-reliance to provide essential primary care seemed secondary. Services such as immunization, malaria, tuberculosis and diarrheal disease control, which were considered "Primary Health Care", according to the UNICEF/WHO 1978 Alma Ata Declaration, were run as centralized programs with separate management structures. Each program, including the PHC Program of the Basic Health Services Cell, distributes, for example, commodities and its own reporting forms to the rural health centers, often requesting similar or the same information.

The emphasis on access to health services, did result in an increase in the doctor to population ratio from 3,320 in 1981 to 2,900 in 1988. With strong political and management support, the national immunization program increased vaccination coverage rates of the 12-23 month old population remarkably from 5 percent in 1982 to approximately 80 percent today.

Other qualitative and coverage aspects of the primary health care system, however, did not improve. There are severe shortages of health auxiliaries, particularly female health workers and nurses. There is one nurse for about 10,000 people. Disease reporting systems are outdated, inefficient and are not used for determining priorities. The curative bias of medical education relegates preventive medicine and health education activities to a low status with low remuneration. In addition, many facilities run out of life-saving drugs. Essential drug lists include some ineffective drugs which use resources that could be applied to procuring larger quantities of vital drugs. Sustained community outreach programs seem to flourish only if there are committed public health professionals involved in them. These professionals are the ones who have either overcome cultural or financial constraints in the peripheral facilities e.g. IRHCs Havelian and Pithoro), or who work in programs of NGOs, such as Aga Khan Foundation, where there are substantial resources for supervision and travel.

B. Strategies to Improve Quality of Health Services

The GOP is taking steps to address some of these shortcomings in strategies for coverage of target populations and in the quality of health care provided by the Government. With PHC Project assistance, the curriculum of the HT Training program has been revised to help HTs build community health skills particularly for priority services. Enrollment of females in the HT training program has more than doubled. The new national health policy promotes the concept of a national drug formulary, a paid village health worker program, and some health financing schemes.

A mid-term evaluation of the project was held in November 1985. The team's overall conclusion was that formal training alone (which was a central focus of the project) could not overcome the financial and qualitative obstacles to realizing the potential of the Basic Health Services for an impact on the nation's health. The team identified several management issues which were affecting the delivery of priority services. Among these issues are: health professional's poor understanding of each other's roles; poor supervision systems; poor empirical evidence (i.e. information and research systems) upon which to base strategies and decisions; and poor career and incentive structures for community medicine and health.

The evaluation team also discussed the high recurrent costs of the Basic Health Services strategy. At the time of the mid-term evaluation, the MOH did not have staff who could conduct a rigorous analysis of recurrent costs. Since the recommendations to undertake an analysis of recurrent costs could not be implemented under the Primary Health Care Project, the Mission used the mid-term evaluation to focus the Primary Health Care Project on improving the quality of priority services listed in the Sixth Five Year Plan: immunization; nutrition; control of diarrheal diseases; malaria; acute respiratory infections and tuberculosis. Because of the complexity of improving maternal services and the PHC project's limited staff resources, services for obstetric emergencies, prenatal care and family planning in the rural health services were not actively assisted. The US \$10 million for Child Survival was applied particularly to the immunization and control of diarrheal diseases programs. A PRITECH buy-in was executed to strengthen the training and communications components of CDD.

The completion date of the project has been extended twice. The first extension was to add the Child Survival component and to complete the construction component of the assistance for HT training which had been delayed while land titles were obtained (and in some cases sites were changed). The second extension was granted to complete project support for the local production of tetanus toxoid vaccine and to continue child survival activities until the new Child Survival Project made it through the GOP approval process.

V. Statement of work

A. Objectives

1. To assess the success of the PHC Project in achieving its purpose and outputs particularly for the three main components: management, training of health professionals; and the Accelerated Health Program.
2. To identify lessons learned and successful approaches in the Primary Health Care Project, including the Diarrhoea Training Unit (DTU) effort, which should be applied to the Child Survival Project, approaches which should be used with modifications, and approaches which should not be used in the Child Survival Project.
3. To recommend mechanisms to ensure a smooth transition from PHC Project assistance to Child Survival Project assistance for components identified as critical to the Child Survival Project.
4. To determine program issues and policy areas requiring analysis under the Child Survival Project.
5. Specifically, the evaluation team will focus their investigation on the questions listed below in order

of priority for each section. In responding to the questions, the evaluators must ensure that the final report clearly distinguishes between their findings (the empirical evidence), their conclusions (their interpretation of the evidence and judgment based on the interpretation) and their recommendations (which should be actionable and based on their judgment). Recommendations should be supported by empirical evidence and judgment based on the interpretation of this evidence.

B. Questions needing answers

1. Overall Issues

a. Sustainability

(i) Institutional

What will be the role of the national and provincial government in policy research and formulation and in implementation of the various components of the Child Survival Project? Given this role, what are the staffing levels required for federal and provincial Basic Health Services Cells; for NIH; and for training programs in the medical colleges? Is there a role for current PHC staff (management analysts, training specialists, physicians, and LHVs) under the Child Survival Project?

Some of these institutional questions need to be addressed thoroughly in connection with evaluation of the DTU program (see section 4 (v)).

b. Financial

Based on the PHC project's difficulties in analyzing and testing ways to manage recurrent costs, how should the GOP (through the Child Survival Project) approach the question of sustainability and recurrent costs at the national and provincial levels? How should the project address the question of sufficient GOP funding for components of the Child Survival Project?

(i) Private Sector

What can be learned from the PHC project's experiments involving the private sector in ORS marketing and communication programs? How can private sector initiatives for appropriate Child Survival activities, such as ORS or iodized salt production and marketing and mass media communications be implemented effectively?

(ii) Indicators for Evaluation

How can we improve measurements of the Child Survival Project's impact? Measurements of decrease in mortality and morbidity require reliable and valid baseline data, which is not available, and surveillance and monitoring information which is available only on a very limited scale. How can specific needs for additional information best be met (disease reporting and management information systems, surveillance systems, national or local surveys, operations research, qualitative research, medical anthropology, etc)? Of these data-generation processes, which are the priorities?

(iii) Community Involvement

What levels of community participation exist in the current GOP health system? What are the next steps to improve participation?

2. Management Component

a. Initially the PHC Project design was comprehensive in scope. Assistance was to be used to strengthen all aspects of the rural PHC system. Subsequently, almost half of project assistance was targeted to selected child survival programs since both AID and GOP felt there were few visible

outcomes from this nonfocused assistance. The provincial health departments, on the other hand, have been integrating their vertical programs, such as EPI, CDD, malaria, TB etc. for a more comprehensive approach to Primary Health Care. Given the level of AID/GOP resources, what have been and/or are likely to be results of shifting from a comprehensive PHC approach to one which targets child survival services?

- b. Assistance to improve management of rural health services is time-consuming and labor-intensive. Yet, improved management cannot be ignored if better quality services are to be sustained. What is the most important assistance AID should give under the Child Survival Project for strengthening management of selected services?
- c. Based on a review of the PHC Project's in-country management and training activities, what should be the minimum type and number of such in-service training programs to be institutionalized? Where should such training programs be institutionalized? Should in-service training continue to be central to the Child Survival Project?
- d. What has been the role of the Federal and Provincial Steering Committees and the Interprovincial Coordinating Council (now Directors of Health Services meetings)? Is it effective? Which Coordinating bodies should continue to function?
- e. Based on the PHC experience with monitoring and follow-up of the PHC project sites and the DTU sites, what would be the most effective monitoring and follow-up systems? Where should these be institutionalized? How could these systems be assessed periodically? What system of feedback should be established?

3. Training Component

- a. What are the lessons learned from PHC Project experience with the recruitment, training, deployment and retention of female health workers (particularly HTs and CHWs)? How can female recruitment be accelerated?
- b. What lessons were learned from experience in construction and furnishing of the 13 HT schools? What were the cost-benefits of using AID resources for this activity?
- c. How can the experience from the pilot project in Mansehra District on training and supervising CHWs and the early project experience with village health committees and volunteer CHWs be applied to the GOP plans to recruit, train and deploy two paid village health workers in every village?
- d. See also 2 (iii)
- e. See also 5 (ii)
- f. How can training programs conducted by the provinces with PHC funds, but minimum PHCP technical input be monitored/assessed? How can mechanisms be developed for assessing and financing such efforts while meeting USAID's requirements, i.e. expense reports, receipts, quality, etc.?

4. Expanded Program for Immunization (EPI) Component

a. Vaccine Production

What is the cost benefit of PHC Project assistance to vaccine production at NIH? Given HPN's level of resources, AID assistance for this activity must end as planned on 30/9/1990. How might some activities, such as training virologists, quality control, and improving marketing of vaccines (which could improve sustainability of the program) be assisted without involving USAID?.

b. Monitoring and Surveillance

The results of the EPI are monitored and evaluated using population coverage figures. Should AID assistance, under the Child Survival Project, require in addition a measure of reduction in incidence of vaccine-preventable diseases? If so, how could the NIH/WHO surveillance system be strengthened to accomplish this?

c. Training

See also 5 (iid) and 3(vi)

d. Commodities

Based upon PHC Project experience, how should the Child Survival Project continue to supply large numbers of disposable needles and syringes and vehicles/motorcycles as were provided by the PHC Project? Is a needs assessment required?

5. Control of Diarrheal Diseases

a. Case Management

To what extent does case management in the Diarrhea Training Units (DTUs) and facilities assisted by the DTUs follow the DTU policy and WHO/PHC Guidelines? Does case management of diarrhea patients seem to have improved as a result of the DTU effort: In the major DTUs? in the health facilities assisted by the DTUs? If no, why not? If yes, how?

b. Training

(i) What are the lessons learned from the DTU training effort in terms of formal training of physicians during DTU workshops and on-the-job-training of physicians and paramedics in health facilities?

(ii) Do the pre and post training assessments of health facilities contribute to improved case management? If yes, how? If no, why not? Should pre and post training facility assessment be continued as is, modified or should it be discontinued?

(iii) What has been the impact of training in terms of (a) case management of diarrhea patients in health facilities, (b) knowledge and skills of health workers in the management of diarrhea patients, (c) knowledge and skills of parents after they have been to health facilities assisted by the DTUs?

(iv) What has been the result of training of peripheral health workers conducted by the provinces using PHC funds and WHO course material? What are the pros and cons of conducting joint EPI/CDD sessions?

c. Monitoring and Follow-up

What would be an effective system of monitoring case management and providing constructive feedback to physicians, health workers, and administrators? Who should be responsible for developing and implementing such systems? In what manner and by whom should feedback be given to health facility staff and to provincial health administrators?

d. See also 2 (v)

e. Sustainability

- (i) What has been the role of provincial health officials in the DTU effort? To what extent have project staff and health officials collaborated, particularly in the planning session during training and field work? How could roles and responsibilities be defined and allocated to increase the probability that the DTU effort will be sustainable after the end of the project?
- (ii) What should be the roles and responsibilities of the DTUs and of the provincial health departments in : selection of trainees; pre training assessment of the health facility to be assisted; DTU training workshop and follow-up; on-the-job training staff assisted by DTUs? How could these roles and responsibilities be institutionalized within the provincial health departments and DTUs to ensure sustainability?
- (iii) How can the Diarrhoea Training Units (DTUs) effort be sustained in terms of manpower and required collaboration between the DTUs and the provincial government in monitoring and follow-up?
- (iv) Are the ORT equipment and minor construction funded by the PHC project required? How can the provinces absorb the costs to make this effort sustainable?
- (v) Are project DTU physicians, LHVs and vehicles needed for the successful accomplishment of the DTU effort? Are there alternatives which should be considered in order to increase the probability that the DTU approach will be sustainable?

VI. Methods and Procedures

This evaluation will not be suitable for 8A firms because the Mission requires a team of senior individuals with a long-term perspective and proven experience in international health. The priorities of the Primary Health Care Project, which began as a five year project, have been redirected and the project extended twice to become an eight year project. The recommendations from this final evaluation will be used to make implementation of the ambitious Child Survival Project as efficient and effective as possible.

The evaluation should begin o/a 4 March and finish o/a 4 April. The team is authorized to work a 6 day work week. It is important that the team begin the first week of March to avoid field work during the holy month of fasting (Ramazan). After Ramazan, the weather becomes difficult for travel on a tight schedule since it is extremely hot. The monsoon season begins by the end of June. The extension of one team member for an additional week to complete the report would be desirable.

One month prior to coming to Pakistan, members of the team should receive and be asked to critically review: the PHC Project Paper, the PHC mid-term evaluation report, the PHC Project Brochure, and the Child Survival Project Paper. Individual members of the team should also study appropriate consultants' reports, such as those prepared by PRITECH, and published curricula and other documents and registers developed by the Basic Health Services Cell and the National Institute of Health. The Minutes of the meetings of the Interprovincial PHC Steering /Directors Committee and the reports and data from the PHC project monitoring system should also be analyzed. Based on these documents and the expertise of team members, the team will draft a proposed evaluation strategy, which should further delineate questions and specify methods for collecting and analyzing information.

Team members should meet in Washington o/a March 1 for 2-3 days to complete the proposed strategy. In AID/W the team should also attend a briefing on health sector assistance to Pakistan with ANE/TR/HPN and S&T/Health and present a summary of the proposed evaluation strategy.

During the first week in Pakistan, the team will meet with GOP and AID officers and representatives of donor agencies in Islamabad to review and modify the team's proposed evaluation strategy. The Mission estimates that this review period and finalization of methods for collecting information in the field will take approximately three days.

The team will then divide up to make field site visits to all four provinces. The field visits will take approximately three weeks. Pakistani field staff will be available as interpreters and to arrange field trips.

Team members should write reports during the field visits to the provinces as they gather information. Thus, during the last three to five days, team members will work together in Islamabad to consolidate reports from the provinces and to write findings and recommendations to be presented to the GOP and the USAID/Pakistan Mission Evaluation Committee. The report should clearly state each question, methodology used to answer the question, findings related to question, and recommendation based on findings. Recommendations should also state the assumptions used.

VII. Team Composition

The evaluation will be conducted by a joint GOP/AID team. As called for in the Project Paper, the major donors in the health sector (with in-country offices), i.e. WHO and UNICEF will be invited to include a member on the team. One member, probably the team leader, should be from AID/W.

A. AID will require the following team members

1. Team Leader

This person should have extensive experience with AID evaluations and should have a strong public health background. The team leader must have strong leadership and negotiating skills and excellent writing skills.

2. Public Health Physician/Epidemiologist

The Physician should have extensive experience in delivery of health services in developing countries, particularly of primary health care. This experience is important to evaluate the management and Child Survival components of the project with respect to quality of services and priorities. The physician should also have training or experience in epidemiology. The outdated health information systems in Pakistan must be strengthened for adequate monitoring of the progress of the Child Survival Project. The PHC project must be evaluated accordingly.

3. Communications/Training Specialist

This expert should have extensive experience with communications/social marketing and training in the health sector in developing countries, preferably Asia and the Middle East. In addition to technical skills related to training and communications, this individual should have experience in assessing institutional capabilities and with institution building/development.

4. Health Economist

With importance being placed on health financing issues, the evaluation requires an economist who can review the limited economic analysis of project-assisted activities in the health sector and make practical recommendations for the Child Survival Project. The Health Economist should also have skills to undertake a type of cost benefit analyses for some of the activities in the PHC Project which were not directly related to MOH Child Survival Programs. These include the Health Technicians' training program, management training for physicians, and vaccine production.

5. Pediatrician with Public Health Experience

Because of the focus on case management, particularly of diarrheal diseases, one of the team members should be a pediatrician with experience in treatment of diarrhea. This individual should also have experience with training of physicians and paramedics.

6. **FSN Public Health Physician**

In addition to an expatriate team of five, the Mission suggests that a newly-recruited FSN public health physician in the O/HPN, USAID/Pakistan serve as a team member. Since the team will have to be split up to visit the provinces, we propose that a public health physician should be on each of the provincial teams.

7. **GOP Participation**

For GOP participation, we are requesting a representative from the Health Office, Ministry of Planning and Development and at least one representative from the Federal Ministry of Health and/or National Institute of Health (who was not associated with the project).

VIII. **Reporting Requirements**

A. Format of the report. The evaluation team should prepare a written report containing the following sections:

1. Basic Project Identification Data Sheet.
2. Executive Summary. Three pages, single spaced.
3. Body of the Report The report should include a description of the country context in which the project was developed and carried out, and provide information (evidence and analysis) on which the conclusions and recommendations are based. The length of the body of the report should be no more than about 40 pages. Details can be included in the appendices;
4. The report should end with a full statement of conclusions and recommendations. Conclusions should be short and succinct, with the topic identified by a short sub-heading related to the questions posed in the Statement of Work. Recommendations should correspond to the conclusions; whenever possible, the recommendations should specify who, or what agency, should take the recommended actions;
5. Appendices: These should include at a minimum the following:
 - a. The evaluation Scope of Work;
 - b. The pertinent Logical Framework(s), together with a brief summary of the current status/attainment of original or modified inputs and outputs (if these are not already indicated in the body of the report);
 - c. A description of the methodology used in the evaluation (e.g., the research approach or design, the types of indicators used to measure change, how external factors were treated in the analysis). Evaluators may offer methodological recommendations for future evaluations;
 - d. A bibliography of documents consulted.

Other appendices may include more details on special topics, and a list of agencies consulted.

Draft of the A.I.D. evaluation abstract (see A.I.D. Evaluation Summary Parts I and II).

B. **Presentation of Report**

The team should plan to present their findings and recommendations to the Mission at least two to three days before their departure and to the GOP at least two days before their departure.

C. Submission of Report

A final draft of the report should be presented to the Director General of Health, Ministry of Health, the Executive Director, National Institute of Health, and the USAID/Mission upon completion of the presentation of the evaluation team's findings to the GOP and the USAID Mission. The team leader must complete the final draft before departure from Pakistan.

ANNEX B

MINUTES OF EVALUATION TEAM'S DEBRIEFING WITH
FEDERAL AND PROVINCIAL HEALTH OFFICIALS
AND LIST OF PARTICIPANTS
JUNE 19, 1990

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ANNEX B

INTRODUCTION

Evaluation Team's Debriefing to Federal and Provincial Public Health Officials and Comments on Debriefing by Participants – June 19, 1990.

On Tuesday June 19th the Evaluation Team debriefed to Federal and Provincial Public Health Officials on its evaluation of the Primary Health Care Project (1982-1990), and highlighted the lessons learned and its recommendations for the future, including the new Child Survival project which started in the summer of 1990. The Meeting was held at the Shalimar Hotel and chaired by Professor/Doctor Ali Mohammad Ansari, Director General of Health, MOH.

The one and a half hour debriefing held was followed by a lively one hour question and answer period from the participants of the meeting. All the participants were then invited to a luncheon hosted by the PHCP.

In presenting this Minute it was decided to include:

- Section A – the text of the overhead slides (pages B-1 to B-19), and
- Section B – highlights from the comments of the participants at the meeting (pages B-19 to B-23).

Following the debriefing the Evaluation team met to consider the comments of the participants at the debriefing, and a number of the suggestions (not already in the report) were included.

Section A: Evaluation Team's Debriefing

I.

OBJECTIVES OF PRIMARY HEALTH CARE (PHC)

EVALUATION

1. TO ASSESS THE SUCCESS OF THE PHC PROJECT IN ACHIEVING ITS PURPOSE AND OUTPUTS PARTICULARLY FOR THE THREE MAIN COMPONENTS:
 - MANAGEMENT
 - TRAINING OF HEALTH PROFESSIONALS
 - ACCELERATED HEALTH PROGRAM: FOCUSING ON EPI AND CDD
2. TO IDENTIFY LESSONS LEARNED AND SUCCESSFUL APPROACHES IN THE PRIMARY HEALTH CARE PROJECT INCLUDING THE DIARRHOEA TRAINING UNIT.
3. TO RECOMMEND MECHANISMS TO ENSURE A SMOOTH TRANSITION FROM THE PHC PROJECT ASSISTANCE TO CHILD SURVIVAL PROJECT (CSP).
4. TO DETERMINE PROGRAM ISSUES AND POLICY AREAS REQUIRING ANALYSIS UNDER THE CHILD SURVIVAL PROJECT.

Slide 1

II. PHC PROJECT OUTPUTS
(points for discussion)

MANAGEMENT TRAINING

- 2898 MEDICAL OFFICERS TRAINED IN
MANAGEMENT OF RURAL CENTRESS
- DEVELOPMENT OF TREATMENT GUIDELINES FOR
PREVALENT LIFE THREATENING DISEASES
- DEVELOPMENT OF:
MANAGEMENT SYSTEM FOR BASIC HEALTH SERVI
AUTOMATED INFORMATION SYSTEM

Slide 2

HEALTH TECHNICIAN TRAINING PROGRAM

- 13 HEALTH TECHNICIAN TRAINING SHOOL
IN FOUR PROVINCES
- 2300 HEALTH TECHNICIANS TRAINED
(40 % FEMALES)
- HEALTH TECHNICIAN TRAINING CURICULUM
(ENGLISH, URDU, SINDHI)

Slide 3

IV. SYSTEMS ISSUES

CONSIDER

- Utilization of public facilities is low:

50% of OPD capacity
32% of IP capacity

- Many reasons for low utilization:

Poor location of facilities
Insufficient supply of drugs
Other elements of low quality

THUS

- To the extent that CSP interventions are directly provided by public facilities – ORT and ARI

OR are supervised by fixed facility personnel – EPI

Concern with improvement of the overall functioning of the health system is vital to ensure that CSP efforts to strengthen CS programs will be successful in achieving their desired health outcomes

Slide 8

EVALUATION AND INFORMATION SYSTEMS

- NEED TO ESTABLISH BASELINE INFORMATION ON INFANT AND CHILD MORTALITY
- USE OF IMR FOR PROJECT EVALUATION PROBLEMATIC MORE RELIANCE ON PROJECT-SPECIFIC OUTCOME AND PROCESS INDICATORS
- 'OVERHAUL' OF HEALTH INFORMATION SYSTEM NEEDED
- LONG TERM TRAINING IN HEALTH STATISTICS AND EPIDEMIOLOGY.

Slide 9

DRUG SUPPLY

- o EVALUATION OF SUPPLY SYSTEMS FOR VACCINES, ORS, AND ESSENTIAL DRUGS NEEDED
- o ADEQUACY OF BUDGETARY RESOURCES FOR ESSENTIAL DRUGS SHOULD BE EVALUATED
- o STUDY OF ALTERNATIVE MECHANISMS FOR INCREASING FINANCIAL RESOURCES FOR ESSENTIAL DRUGS

Slide 10

PLANNING RECOMMENDATIONS

- o SHORT TO LONG TERM PLANNING AT PROVINCIAL DOH NEEDS STRENGTHENING
- o PLANNING OF CSP ACTIVITIES SHOULD BE DONE IN CLOSE COLLABORATION WITH PROVINCIAL DOH
- o LONG TERM TRAINING IN HEALTH PLANNING, ADMINISTRATION, HEALTH ECONOMICS/FINANCE

Slide 11

FINANCING

- o FINANCING IS A SYSTEM ISSUE
- o HEALTH FINANCING STUDY SHOULD INCLUDE ANALYSIS OF PROBLEMS AND POSSIBLE OPTIONS FOR PUBLIC SECTOR INSTITUTIONS/PROGRAMS
- o ON-GOING INVESTMENT AND RECURRENT COSTS OF CS INTERVENTIONS SHOULD BE ESTIMATED

Slide 12

V. **MANAGEMENT COMPONENT**
(Findings and Recommendations)
(points for discussion)

Overview - Project Management

Decentralization of responsibility for the running of PHC activities

Encouraging medical officers (MOs) and paramedics to serve in rural areas

Clarifying responsibilities of MOs in rural health facilities (RHCs/BHUs)

Training of medical officers in basic management skills

Performance incentives for health technicians and other paramedics

Encouraging and supervising male and female health technicians in field work and outreach programs

Quality of PHC services adversely affected by MOs not following standard guidelines

Role of federal and provincial coordinating committees important

Reinforcing donor coordination

Slide 13

VI. **TRAINING/COMMUNITY INVOLVEMENT CHW/HEALTH EDUCATION COMMUNICATION**
(points for discussion)

TRAINING

**COMMUNITY INVOLVEMENT
CHW**

**HEALTH EDUCATION
COMMUNICATION**

Slide 14

TRAINING ACHIEVEMENT/FINDING

- 13 HEALTH TECHNICIAN SCHOOLS ESTABLISHED
- TRAINING METHODOLOGY AND TRAINING PLAN ARE SOUND
- RECURRENT FINANCING REQUIREMENTS OF HT SCHOOLS ARE BY AND LARGE BEING MET
- MAJOR IMPROVEMENTS IN NUMBER OF FEMALE STUDENTS INNOVATIVE MEANS DEVELOPED TO RECRUIT FOR POSITIONS
- OPERATION MANUAL FOR HT SCHOOLS DEVELOPED
- CONTINUED NEED FOR IN-SERVICE TRAINING OF STAFF

Slide 15

TRAINING CHALLENGES

- INSUFFICIENT NUMBER OF TEACHING STAFF
- MANY HT CLASS SIZES ARE TOO LARGE
- STAFF NOT FAMILIAR WITH APPROPRIATE TEACHING METHODOLOGIES
- FIELD PLACEMENTS NEEDS BETTER SUPERVISION
- NEED TO ENSURE CONTINUATION OF TRAINING SPECIALIST
- BARRIERS STILL REMAIN FOR FEMALE RECRUITMENT
- CONDITIONS OF FINAL JOB NEED TO BE IMPROVED

Slide 16

TRAINING RECOMMENDATIONS

- CONTINUE SUPPORT FOR IN-SERVICE TRAINING
- HT SCHOOLS TRANSFERED TO BUILDINGS DEPT. ASAP
- TRAINING SPECIALIST POSITIONS NEED TO BE FILLED
- HT STIPEND SHOULD EQUAL BASIC MONTHLY SALARY
- COMPREHENSIVE TRAINING PLANS SHOULD BE DEVELOPE
- RECRUITMENT FOR FEMALES NEEDS CONTINUED SPECIAL ATTENTION

Slide 17

COMMUNITY INVOLVEMENT/CHW FINDINGS/ACHIEVEMENTS

- NEED FOR INCREASED FOCUS ON THE COMMUNITY
- LEVEL OF COMMUNITY INVOLVEMENT HAS BEEN LOW
- GOOD TRAINING MATERIALS HAVE BEEN DEVELOPED FOR CHWs
- SOME FIELD EXPERIENCE EXISTS WITH CHWs
- EFFORT REQUIRED FOR CHW SYSTEM HAS BEEN UNDER ESTIMATED

Slide 18

COMMUNITY INVOLVMENT/CHW CHALLENGES

- NEED FOR GREATER UNDERSTANDING OF
COMMUNITY'S PERSPECTIVE
- NEED FOR COMPREHENSIVE PLAN FOR CHW SCHEME
- NEED TO LOOK AT FINANCIAL SUSTAINABILITY OF CHW
- NEED TO INCORPORATE LESSONS LEARNED
FROM OTHER EXPERIENCES

Slide 19

COMMUNITY INVOLVEMENT/CH RECOMMENDATIONS

- MORE APPLIED RESEARCH ON COMMUNITY ISSUES
- REVIEW LESSONS LEARNED
FROM OTHER EXPERIENCES IN CHWs
- DEVELOP COMPREHENSIVE PLAN FOR CHWs

Slide 20

HEALTH EDUCATION/COMMUNICATION ACHIEVEMENTS/FINDINGS

- EXISTING FELT NEED FOR MORE EDUCATION/
COMMUNICATION
- IMPRESSIVE ACHIEVEMENTS MADE IN CDD AND EPI
- NATIONAL CONFERENCES IMPORTANT IN SUPPORT
FOR ACTIVITIES
- COMMUNICATION WORKING GROUP IS ASSISTING
IN COORDINATION

Slide 21

HEALTH EDUCATION/COMMUNICATION CHALLENGES

- NEED TO UPDATE COMMUNICATION PLAN
- LACK OF STAFF/MATERIALS TO CARRY OUT PROGRAM
- LACK OF INCENTIVES FOR STAFF
- NEED FOR EVALUATION/MONITORING OF MESSAGE IMPACT
- NEED TO EXPAND TRANSLATION INTO LOCAL LANGUAGES
- NEED TO STRENGTHEN DIVISION AND DISTRICT HE UNITS

Slide 22

MAJOR AREAS FOR FUTURE CDD ACTION

- NUTRITIONAL MANAGEMENT OF DIARRHOEA
- TRAINING OF DOCTORS AND PARAMEDICS
- MANAGEMENT OF EXPANDED CDD ACTIVITIES
- TEACHING OF MEDICAL STUDENTS ABOUT DIARRHOEAL DISEASES

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NUTRITIONAL MANAGEMENT OF DIARRHOEA

- ESTABLISH FEEDING AS ROUTINE TREATMENT OF DIARRHOEA CASES IN ALL FACILITIES
- STRENGTHEN TEACHING OF MOTHERS ABOUT FEEDING DURING AND AFTER DIARRHOEA
- DEVELOP AND IMPLEMENT GUIDELINES FOR MANAGEMENT OF PERSISTENT DIARRHOEA
- DEVELOP AND IMPLEMENT GUIDELINES FOR MANAGEMENT OF SEVERE MALNUTRITION

Slide 29

TRAINING OF DOCTORS AND PARAMEDICS

- SUSTAIN DTUs FOR TREATMENT, TRAINING AND RESEARCH
- ASSIST ALL HEALTH FACILITIES DOWN TO LEVEL OF RHC
- TRAIN MORE STAFF AT DISTRICT HOSPITALS; IMPROVE THEIR CAPACITY TO MANAGE DIFFICULT CASES
- TRAIN PROVINCIAL/ DISTRICT HEALTH OFFICERS IN CDD SUPERVISORY SKILLS
- STRENGTHEN TRAINING OF LHVs, ESPECIALLY ON TEACHING OF MOTHERS
- EXPLORE VALUE OF ORIENTING PRACTITIONERS ABOUT CASE MANAGEMENT

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MANAGEMENT OF EXPANDED CDD ACTIVITIES

- PROVINCIAL/DISTRICT HEALTH SYSTEM SHOULD BE RESPONSIBLE FOR SUPERVISION/SUPPORT OF ORT UNITS/CORNERS
- DEPUTE PHYSICIANS TO PROVINCIAL/DISTRICT HEALTH SYSTEM TO SUPERVISE CDD ACTIVITIES
- COORDINATE DTU TRAINING ACTIVITIES WITH PROVINCIAL/ DISTRICT CDD PRIORITIES
- INTEGRATE CDD, ARI, NUTRITION AND EPI ACTIVITIES IN HEALTH FACILITIES

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TEACHING OF MEDICAL STUDENTS ABOUT DIARRHOEAL DISEASES

- STRENGTHEN AND INCREASE TEACHING ABOUT MANAGEMENT AND PREVENTION OF DIARRHOEA
- EMPHASIZE NATIONAL DIARRHOEA CONTROL STRATEGIES; USE WHO TEACHING MATERIALS
- USE DTUs TO TEACH REQUIRED CLINICAL SKILLS TO ALL STUDENTS

Slide 32

IX. FOLLOW-ON TO PRIMARY HEALTH CARE PROJECT (points for discussion)

CHILD SURVIVAL PROGRAM

US \$62 Million Grant

SECTOR GOAL:

REDUCTION OF THE INFANT AND CHILD MORTALITY RATES BY AT LEAST 25% OVER 6 YEAR LIFE OF THE PROJECT, AND OBTAIN A SUSTAINED REDUCTION OF THOSE RATES.

PROJECT PURPOSE:

TO EXPAND AND INSTITUTIONALIZE CHILD SURVIVAL PROGRAMS WITH SPECIAL EMPHASIS ON DECREASING MORTALITY DUE TO DIARRHOEAL DISEASES, VACCINE PREVENTABLE DISEASES AND ACUTE RESPIRATORY INFECTIONS.

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CHILD SURVIVAL PROGRAM

U.S. Contribution	\$62 million grant
GOP Contribution	\$23 million

TARGETED PROGRAMS

Expanded Program on Immunization
Control of Diarrhoeal Diseases
Control of Acute Respiratory Infections
Control of Iodine Deficiency Disorders
Promotion of Breastfeeding and other Nutrition Intervention

ASSISTANCE TO PROGRAM COMPONENTS

Program Planning and Management
Training
Health Information Systems
Research and Policy Studies
Communications and Marketing

HEALTH FINANCING

PRIVATE SECTOR INVOLVEMENT

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X. OTHER CHILD SURVIVAL INTERVENTIONS (points of discussion)

ACUTE RESPIRATORY INFECTIONS

- DEVELOP/ADOPT NATIONAL PLAN FOR ARI MANAGEMENT
- TRAIN HEALTH WORKERS IN CASE DETECTION AND MANAGEMENT
- IMPROVE MATERNAL AWARENESS OF ARI AND APPROPRIATE HELP SEEKING
- COORDINATE IMPLEMENTATION WITH CDD, NUTRITION AND EPI

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NUTRITION

- IMPROVED NUTRITION REQUIRED FOR REDUCTION IN MORTALITY FROM DIARRHOEA (AND ARI)

- DEVELOP PLAN TO IMPROVE INFANT FEEDING PRACTICES:
 - EXCLUSIVE BREASTFEEDING 0-6 MONTHS
 - SUPPLEMENTARY FEEDING AFTER 6 MONTHS

- DEVELOP PLAN TO DETECT/MANAGE MALNUTRITION

- MONITOR CHILDREN AT HEALTH FACILITIES FOR NUTRITIONAL STATUS/ FEEDING PRACTICE. PROVIDE ADVICE, TREATMENT, FOLLOW-UP AS REQUIRED

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TEACHING OF PAEDIATRICS TO MEDICAL STUDENTS

- PAEDIATRICS MUST BE A MAJOR EXAMINATION SUBJECT WITH GREATLY INCREASED TEACHING TIME

- PAEDIATRICS TEACHING SHOULD:
 1. GIVE PRIORITY TO CHILD SURVIVAL TOPICS:
CDD, ARI, NUTRITION, EPI
 2. EMPHASIZE NATIONAL DISEASE CONTROL STRATEGIES
 3. ASSURE STUDENTS HAVE ESSENTIAL CLINICAL AND COMMUNICATION SKILLS
 4. PREPARE STUDENTS TO MANAGE CASES AT BASIC HEALTH FACILITIES

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PRIVATE SECTOR FINDINGS

- ACTIVE PRIVATE COMMERCIAL SECTOR IN PAKISTAN
- SKEPTICISM OF QUALITY OF PRODUCTS PRODUCED BY PRIVATE SECTOR
- NGOS AND PRIVATE PRACTITIONER PLAY AN IMPORTANT ROLE IN HEALTH SERVICE DELIVERY

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PRIVATE SECTOR FUTURE CHALLENGES/RECOMMENDATION

- DEVELOP A HEALTHY PARTNERSHIP BETWEEN PUBLIC/ PRIVATE
- IMPROVE SKILLS IN MANAGING THE PRIVATE SECTOR
- INCREASE THE INVOLVEMENT OF THE PRIVATE PRACTITIONER/ NGO
- DEVELOP ADEQUATE QUALITY ASSURANCE PROCEDURES AS WELL AS MEANS TO VERIFY COMPLIANCE

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SECTION B

COMMENTS FROM PARTICIPANTS ON THE
EVALUATION TEAM'S DEBRIEFING, 6/19/90

Dr. Siraj-ul-Haq, Chief, Planning Commission (Health)

- Organizers of this kind of meeting should also invite other donor agencies like the World Bank, ODA etc., to share views and findings.
- Reliable indicators are needed. We must develop some indicators for evaluation and monitoring
- Unless we improve the nutritional status of mothers, child survival will remain a myth. Link this program with "Safe Motherhood" Program.
- System issues need more research on how to improve system.
- Success in health sector has led to high growth rate, therefore containing growth should be a normal feature of health.
- Child Survival cannot be considered in isolation
- Functional education to mothers needs to be given.
- Child Spacing - should be regular function of each health personnel to contain family size.
- We need radical changes to improve system.

Dr. Sajjan Memon, Director Health Services, Sindh.

- Nutrition services for children are not available in hospitals. The admitted children face a great problem.
- PMDC should enlarge scope of members. Director Health Services of the provinces should be included. This will make the courses more relevant.

Professor Ashfaq Ahmen, Professor of Pediatrics, Khyber Medical College, Peshawar

- Goals of PHC were defined at the beginning of the project - has the project come close?
- The graph on EPI funding, shown during presentation, was alarming. Do we have firm commitment from GOP to sustain EPI?
- How can we involve the community in health programs? I think the first thing community will ask for will be water and drainage.

Dr. Tariq Bhutta, Professor of Pediatrics, Nishtar Medical College, Multan.

- We have no baseline data, therefore, Dr. Ashfaq's question cannot be answered. What are planners doing about baseline data?
- Recently there have been two epidemics. 52 cases of Polio were observed and 88 Cases of past measles complications in the last 3 months. Thus EPI figures of 78% coverage are unacceptable.

General Burney, Ex-Executive Director, NIH.

- Poor financing situation and management issues (now taken care of) - impact on vaccine production.
- Three diseases should not be causing problems: Measles, Polio, Neonatal Tetanus.
- Self sufficiency in vaccine production a dream. Must have costing strategy (asking DG to do this)
- Must look after unit costs

TT - 40¢ for one dose in USA
UNICEF - 40¢ for 20 doses

Dr. Rafiq

- We must involve pharmaceutical companies in our programs, otherwise dangerous drugs will continue to be sold.
- We must have control on milk formula companies.

Dr. Shaukat Raza, Professor of Pediatrics, King Edward Medical College, Lahore.

- Need to know more about background of PHC & CSP. How does CSP differ from PHC?
- How does Child Survival fit into the government program? What kind of format will this program take?
- In 1978 in Lahore, in a conference we recommended that every Tehsil should have a MCH Committee. This committee can play a decentralized surveillance role. I would recommend this again.
- Strongly support MCH training for in-service personnel.
- Try and make a training kit of modules to provide in-service training to MOs, and to medical students on Child Survival subjects.

Dr. Mazahir Ali Hashmi, Director General Health, Punjab.

- There are too many training programs for MO's and paramedics, which keeps them away from their place of work. Training needs consolidation and integration.

Dr. Abdul Ghafoor, Executive Director, NIH.

- Vaccine production costs is higher than what has been provided to NIH, but we have to strengthen ourselves.

Dr. Waheed Qureshi, Professor of Pediatrics, Lahore General Hospital.

- There are basic flaws in undergraduate medical education. PMDC must go into fine details of curriculum and update 50 year old system. Rather than developing training kits, more efficient way is to redesign undergraduate curriculum according to our needs.
- Pediatrics and community medicine must be a core subject.

Dr. Sardar Ali, Director of Health Services, NWFP.

- We do not have formal institution for training in health education.

Colonel M. Akram Khan, National Manager EPI/CDD, NIH.

- EPI access is 90% and not 20% as mentioned in the presentation.
- Role of TBAs has been ignored by the evaluation team. 41000 TBAs have been trained and are providing BF and other education.
- We must encourage establishment of local production of disposable syringes and needles.
- Grateful to USAID for 55 million syringes/needles.

Dr. Mushtaq Chaudhry - Deputy Director General of Health.

- The projects must be a part of the health system and should not work in isolation. Must have integration of all the vertical public health programs. They have their own requirements. Unless we integrate them we are bound to fail.

Ismatullah Chaudhary, WHO Operations Officer, Punjab.

- Responded to Bhutta's report of polio and measles cases in the last 2 months. Cases pointed out by Dr. Bhutta have interesting distribution on spot maps. These are coming from geographic clusters which have very low EPI coverage.
- Secondly, due to political reasons vaccinators were sent on leave. New persons recruited are untrained.

Dr. Ghaffar Biloo, Professor of Pediatrics, Dow Medical College, Karachi.

- Neonatal tetanus is still a major problem and this is because of poor TT coverage.
- Health education is weak in all four provinces.
- Malnutrition is a very important problem yet there is no national program for nutrition.
- Female education and child spacing should be paid attention.
- Medical education recommendations are not being practiced.

UNICEF - Dr. Pirrko Heinonen, Chief Health & Nutrition, UNICEF

- Government funding for EPI is our concern. Globally funds are being reduced, and after 1991 we can't be sure of the extent of support.
- CDD - how to reach community, talk about reaching peripheral MOs only.
- Donor coordination needs to be improved so that there is no duplications of efforts.

ANNEX C

**PROGRESS AND STATUS REPORTS
OF THE PHCP
FROM THE PROVINCES:**

- 1. BALUCHISTAN**
- 2. NORTH WEST FRONTIER PROVINCE**
- 3. PUNJAB**
- 4. SINDH**

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PROGRESS REPORT
PRIMARY HEALTH CARE
IN
BALOCHISTAN

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HISTORIC DATA OF THE PROVINCE

Divisions	6
District	20
Sub Divisions	46
Tehsil/Sub. Division	106
Municipal Corporation	1
Town Committees	19
Union Councils	361
Area	347,190 Sq. K.M.
Population	5.2 million
Urban Area	16%
Rural Areas	85%
Population Density per Sq. K.M.	12.5 persons
Annual Growth Rate % age (1981/72)	7.1

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HISTORY OF BASIC HEALTH SERVICES CELL

The Basic Health Services Cell was established in 1978 to train the medical technicians and post them in integrated Rural Health Centers and attach basic health units, accordingly one female and one male medical technician. Schools were established at Quetta. Attached is a list reflecting the number of trained and passed candidates.

As per plan at least 100 male and 75 female health technicians were supposed to be deployed in Rural Health Centers and different Basic Health Units of the province by the end of 1988. and now there are 99 male and 75 female HTs on job. The females come from Punjab rather than from Balochistan. Because they leave the service just after completion of bond service, there is always a shortage of female staff.

The training is of one and one-half years duration. According to the revised curriculum at both new schools, there is a capacity for 25 males and 25 females. Six seats per school have been allocated for Inservice paramedical staff (vaccinator, dispensers etc.) from 1990. They will also get training of one and one-half years with fresh students.

PRIMARY HEALTH CARE PROJECTS TARGET AND ACHIEVEMENT FOR BALOCHISTAN PROVINCE

1. Revision of HT Curriculum

Balochistan has fully participated in the revision of curriculum. After revision of HT curriculum three orientation workshops were conducted to orient inservice MTs who were already trained under the old curriculum. During these workshops 96 male and female MTs and teaching staffs were oriented (annexure 1).

2. Rural Health Center Manual

Balochistan has contributed to the development of RHC manual by reviewing the first draft for RHC manual. Also a workshop was arranged at Quetta in which 27 participants were invited including DDs, DHOs, and MOs. Nineteen participants attended the workshop on July 2, 1989. Participants had thoroughly reviewed and discussed the draft.

Recently two officials DD and DHO have participated in the workshop to finalize the draft of RHC manual.

3. New Permanent HT Schools

Two HT schools at Quetta and Khuzdar are under construction by USAID assistance through a PHC project. The land for schools has been given by the government of Balochistan. These schools have teaching and residential facilities for 25 male and 25 female students with one residence for Program Training Officer and two residences for Tutors. Value of construction is Rs. 26.49 million for both schools. The current position of schools is as stated below by the Project Engineer of USAID Islamabad.

4. HT School Quetta

Construction work has been completed except:

- USAID has paid gas company for the connection, the gas company is expected to complete the connection soon.

5. Health Technician School - Khuzdar

At both sites, the contractor will carry out disinfection of water supply lines/tanks after power supply is available.

6. Commodities for Schools

Kitchen utensils, lab equipments, some furniture and machinery for office use were received and stored properly.

7. Vehicles

Three vehicles were received and are being used for the implementation of project activities: a Toyota Jeep for Project Director Basic Health Services Cell and two Isuzu Troopers, one for each male and female school.

Also, four motor cycles have been received for the tutors, of which two have been handed over to the two tutors of male HT school Quetta for the supervision of students. POL is being provided by the Health Department.

8. Manpower Training - In country

a. CHW training

To provide better health care to the people, community involvement plays an important role. To promote community involvement 400 CHWs were trained. CHW kits have been provided by the PHC project to train CHWs for work in the community.

b. MTs Trained

A total of 128 male HTs and 101 FHTs have been trained. Balochistan has trained a higher percentage of females than other provinces, although most of them are from Punjab rather than Balochistan. Historically, the percentage of young women from Balochistan has been very small. This year with the help of PHC project staff we recruited 14 local girls who were interviewed and selected. (Annexure 2 and 3).

c. In-service Training (Management Training Course)

A total of 466 doctors have been trained since 1984 through workshops on health information system, drug supply, monitoring system in PHC and management.

d. US/Third Country Short-Term Training

Two Health Officials have gone to short-term training from PHC project from Balochistan.

5. Establishment of Operational Integral Rural Health Complex

The Project was unable to fully implement the concept of integrated rural health complexes. Therefore, there are no integrated rural health complexes in Balochistan. The health information system, inventory control and monitoring system at six IRHCs were not implemented as the Project could barely implement the system in four IRHCs.

6. Monitoring System

A monitoring system was implemented on a trial basis at five sites and has been expanded to an additional 19 sites.

7. Computer

To implement health information system in a better way, a computer has been installed at provincial health directorate by PHC project.

8. Permanent Position of Training Specialist and Management Analysts

The PHC project has been providing a training specialist to monitor the training at the end of the project until June 1990. The Government of Balochistan has approved the post of training specialist and management analyst since 1987. This has not been announced yet by the Public Service Commission.

TABLE 1
ENROLLMENT OF STUDENTS AT MALE
HT SCHOOL - QUETTA

BATCH	FROM	TO	# OF AD- MISSION	QUALIFIED
1st	1-3-79 (inservice)	26-07-80	24	24
2nd	20-11-80	10-08-82	24	15
3rd	11-10-82	17-07-84	24	16
4th	15-09-84	14-04-86	24	24
5th	17-05-86	03-12-87	24	24
6th	30-05-88	30-11-89	25	20
7th	11-04-90		28	

TABLE 3**TRAINING**

	NAME OF WORKSHOP	# OF	TOTAL	PRTCPTS
			PRTCPTS	PRTCPTS
1.	Orientation workshop for inservice MTs	3		106
2.	Orientation workshop for Supervisors	1		38
3.	Implementation workshop on revised curriculum	2		40
4.	Training workshops for inservice Mts on: <ul style="list-style-type: none">■ CHW program■ Immunization■ Malaria■ Nutrition and ORS■ Establishment of out- reach activities	5		122
			290X	50X
5.	Meetings regarding implementation of project activities	5		56
	TOTAL		16	362

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TABLE 5
MANAGEMENT

NAME OF WORKSHOP	# OF WORKSHOPS	TOTAL PRTCPTS.
1. Health Information System	6	100
2. Drug Supply System	6	107
3. Management Training	3	76
4. Monitoring Training	6	65
5. DDs Monitoring Orientation	5	25
6. MOs Training in PHC Monitoring System	1	33
7. RHC Manual Reviews Workshop	1	27
8. Orientation in PHC Monitoring System	1	33
TOTAL	29	466

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**TABLE 6
WORKSHOP - BALOCHISTAN
MANAGEMENT**

WORKSHOP	DATE	LOCATION PRTCPTS	# OF
1. Implementation wkshop on health information system	29-11-84	Quetta	16
2. -do-	06-01-85	-do-	22
3. -do-	04-04-85	Murad Jamali	10
4. -do-	06-05-85	Loralai	10
5. -do-	01-11-85	Quetta	23
6. -do-	23-02-86	-do-	19
7. Implementation wkshop on Drug Supply System	07-01-85	-do-	22
8. -do-	21-03-85	-do-	23
9. -do-	23-04-85	Murad Jamali	10
10. -do-	07-05-85	Loralai	10
11. -do-	02-11-85	Quetta	23
12. -do-	28-03-86	-do-	19
13. Management Training wkshop	28-10-84	-do-	25
14. -do-	19-07-86	-do-	21
15. -do-	15-08-87	-do-	30
16. Monitoring workshop	02-02-88	Pishin	7
17. -do-	04-02-88	Dhadar	6
18. -do-	12-07-88	Quetta	7
19. -do-	02-08-88	Pishin	10
20. -do-	06-08-88	Mach	15
21. -do-	23-07-89	Turbat	20
22. MO training in PHC Monitoring System	01-10-89	Quetta	33
23. DDs Training in PHC Monitoring System	05-02-89	Khuzdar	4
24. -do-	12-02-89	Turbat	4
25. -do-	18-02-89	Sibi	3
26. -do-	25-02-89	Quetta	3
27. -do-	27-05-89	-do-	11
28. Rural Manual Review wkshop	02-07-89	-do-	27
29. Orientation in PHC Monitoring System	03-10-89	-do-	33
TOTAL			466

PROGRESS REPORT OF NWFP PROVINCE

ON

**PRIMARY HEALTH CARE PROJECT
ACTIVITIES**

(1982 - 1990)

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I. STEERING COMMITTEE MEETINGS

A steering Committee has been formed which meets from time to time in order to suggest guidelines for implementation and review the progress of the PHC Project. These meetings are organized under the Chairmanship of Secretary of Health with members from the Provincial Health Department, and P&D/Finance. In NWFP four very important meetings of the committee have been held.

II. ADVISORY COMMITTEE MEETINGS

An Advisory Committee has been organized in NWFP to assist in the operation of Health Technicians (HT) Training Schools and implementation of the revised curriculum. So far, six meetings of the Committee have been held. The meetings are a useful tool in suggesting and implementing recommendations for various problems of the HT training schools. The revised curriculum has been implemented in all six schools (three project sites and three nonprojects) for which 600 books have been provided to the schools. About 1064 MHTs have been qualified in NWFP from March 1981 to December 1989, of which there were 874 males and 190 females.

III. CONSTRUCTION AND OPERATION OF PERMANENT HEALTH TECHNICIANS TRAINING SCHOOLS

In NWFP, three schools (in Peshawar, Abbottabad and D.I.Khan) have been constructed, furnished, and equipped by the PHC Project. All three schools have been taken over by the Provincial Health Department from USAID and students have been shifted into the new buildings. The formal opening ceremonies of the schools have been planned. The budget for Peshawar/Abbottabad schools has been sanctioned and permanent staff have been posted at these schools. Temporary staff arrangements have been made for D.I. Khan school. The budget for this school will be sanctioned from July 1990.

IV. IMPLEMENTATION OF MANAGEMENT SYSTEMS IMPROVEMENTS

The management systems improvements which include the revised OPD/Abstract registers and bin-cards system have been implemented in 93 sites (23 RHC's, 54 BHU's, 10 Dispensaries and 6 Civil Hospitals). The desired target has been achieved.

V. IN-SERVICE TRAINING OF MOs AND PARAMEDICS

1. Management Component:

Conducted 45 workshops in which 869 health workers have been trained. The details are:

<u>Title of Workshop</u>	<u>Number of Workshops Conducted</u>	<u>Number of Participants Trained</u>
■ Management systems improvements implementation workshops.	17	298
■ Medical Officers management training workshops.	10	233
■ Monitoring system orientations.	18	338
TOTAL	45	869

2. Training Component:

Conducted 50 workshops and meetings in which 1,739 participants have been trained. The details are:

WORKSHOPS CONDUCTED

■ Orientation workshops on revised curriculum	= 17
■ Training Workshops for in-service Health Technicians, Tutors and CHWs' Health Committee members	= 24
■ Training workshops for CHWs' pilot project Mansehra	= 03
■ Provincial Advisory Group Meetings	= 06
TOTAL	= 50

PARTICIPANTS TRAINED.

■ Male	= 1479
■ Female	= <u>260</u>
TOTAL	= 1739

VI. PHC MONITORING SYSTEM

The PHC monitoring system which includes the standard treatment guidelines, and monitoring reports for priority diseases has been implemented in 52 sites. The details are given below:

<u>DISTRICT</u>	<u>IMPLEMENTATION SITES</u>					
	<u>RHC's</u>	<u>BHU'S</u>	<u>Civil</u>	<u>Dispensaries</u>	<u>Hospitals</u>	<u>Total</u>
Peshawar	8	-	-	-	-	8
Charsadda	2	-	-	-	-	2
Mansehra	8	-	-	-	-	8
Malakand	-	<u>18</u>		<u>10</u>	<u>6</u>	<u>34</u>
Total	<u>18</u>	<u>18</u>		<u>10</u>	<u>6</u>	<u>52</u>

The center's monthly reports are submitted by DHOs to BHS Cell which are sent to the National Cell for computerization. The Computer printouts/analysis of these reports are reviewed with centers staff and District/ Divisional Supervisors. To use the PHC monitoring system computer reports as management information, workshops for the District/Divisional supervisors have been held in Peshawar, Malakand, Mansehra. Supervision and the supply of essential drugs to the monitoring sites specifically chloroquine, cotrimoxazole, and ORS has been improved. The implementation of the system will be gradually expanded to the other rural health facilities also.

VII. R.H.C. MANUAL

Collected and compiled data for the preparation of RHC manual. Conducted the first workshop to review the draft of RHC manual prepared by the PHC Project.

VIII. COMPUTERIZATION OF THE PROVINCIAL HEALTH DEPARTMENT

Computer at the BHS Cell has been installed by the PHC Project. The staff are being trained to work on the computer. They have already started the use of computer for the printing of letters and progress reports. The reports of the Planning, Progress, personnel, and budget sections will be gradually computerized. Also the reports of PHC monitoring system will be computerized at the Provincial level.

IX. COMMUNITY HEALTH WORKERS TRAINING PROGRAM, MANSEHRA

Under this program, started in November 1988, paid CHWs have been trained by PRICOR in 37 Union Councils of Mansehra Tehsil. 58 CHW's including 15 females completed their one-year training on November 30, 1989. The program was very useful and had a better impact on the utilization of rural health facilities by the referral of CHW's, who made home visits, held community meetings, collected information on births and deaths and submitted it to DHO.

This pilot project was implemented with the idea that it will serve as a model for similar future programs in the other areas of Pakistan. The experiences have been documented by the PHC Project. The main difficulty is to provide employment for these trained CHW's. Prospects in the Health policy and 7th five year plan will be considered when the opportunities arise.

X. REGI RESEARCH STUDY IN NWFP

PRICOR has carried out a research study in the model BHU at Regi, District Peshawar. The center has a model pit-hole latrine, ORT corner, laboratory and trained staff, along with other usual facilities. The PHC

Project staff assisted in the CHW's training, establishment of ORT corner, and implementation of the revised OPD/Abstract registers, and bin-cards system. PRICOR organized a workshop and conducted a survey. The recommended improvements have been implemented.

XI. DTU's TRAINING PROGRAM

Through the two DTU's in NWFP, 19 workshops have been conducted and 155 health workers have been trained. They have established 53 ORT corners. The details are given below:

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	WORKSHOPS CONDUCTED	PARTICIPANTS TRAINED
Doctor training workshops.	14	95
Nurse training workshops.	03	20
General Practitioner training workshop.	01	16
Evaluation workshop.	01	24
Total	19	155

Total facilities assisted/ORT corners established = 53

XII. EPI

Assisted in EPI Training programs, supply of cold chain equipment, syringes and transport.

XIII. SUPPORT FOR BHS CELL

One Management Analyst and one Training Specialist have been assigned to BHS Cell NWFP, by the PHC Project. They have assisted the Provincial Health Department in the following activities:

- Resource persons for the Advisory and steering Committee meetings.
- Organization of working group meetings to develop the recommendations.
- Orientation workshops on the revised HT curriculum, management system improvements, and PHC monitoring system.
- Implementation of the revised HT curriculum, management systems improvements, and PHC monitoring system.
- Female Health Technicians students recruitment campaigns.
- Community Health Workers Training programs.
- RHC manual review workshop, and training workshops for in-services MOs, Paramedics etc.

They are working in conjunction with Project Director, Planning and Statistical Officers of the BHS Cell. Permanent arrangements for these positions are likely to be made.

S U M M A R Y

- STEERING COMMITTEE MEETINGS HELD	=	4
- ADVISORY COMMITTEE MEETINGS HELD	=	6
- HT SCHOOLS CONSTRUCTED	=	3
- MANAGEMENT SYSTEMS IMPLEMENTATION SITES	=	93

- PHC MONITORING SYSTEM IMPLEMENTATION SITES. = 52
- MANAGEMENT WORKSHOPS CONDUCTED/ PARTICIPANTS TRAINED = 45/869
- TRAINING WORKSHOPS CONDUCTED/ PARTICIPANTS TRAINED. = 50/1739
- COLLECTED/COMPILED DATA FOR RHC MANUAL AND CONDUCTED THE FIRST REVIEW WORKSHOP.
- COMPUTER HAS BEEN INSTALLED AT BHS CELL. THE STAFF ARE BEING TRAINED TO WORK ON IT.
- 58 PAID CHW'S WERE TRAINED BY PRICOR.
- PRICOR CARRIED OUT A RESEARCH STUDY IN BHU REGI.
- DTU'S TRAINED 155 HEALTH WORKERS AND ESTABLISHED 53 ORT CORNERS.
- MANAGEMENT ANALYST AND TRAINING SPECIALIST ASSISTED IN IMPLEMENTATION OF PHC PROJECT ACTIVITIES.

RECOMMENDATIONS

1. Focus on targeted child survival areas like EPI, CDD, ARI, and Nutrition, etc.
2. Sustain the assistance for EPI with more emphasis to improve TT coverage.
3. Expand the CDD program and establish ORT corners in BHU's, as well as dispensaries.
4. Training for MO's and paramedics in case management of targeted child survival areas.
5. Expand implementation of the monitoring system (standard treatment guidelines and monitoring reports) gradually to all rural health facilities.
6. Orientation of all the District and Divisional supervisors in the monitoring system.
7. Training for DHO's and ADHO's in supervision.
8. Management systems studies on the registers, supervision, and distribution of drugs/supplies etc.
9. Development of an effective computerized health information system to improve monitoring and evaluation.
10. Jobs description for the staff of the rural health facilities.
11. Operations manual for the rural health facilities.
12. Training curriculum for the community health workers.
13. Standardized inservice training for M.O's, ADHO's DHO's, and establishing training academy in the Provinces.
14. The position of Management Analyst, Training Specialist and DTUs staff are important.
15. Both the Provincial Steering Committee and Inter-Provincial meetings of the Directors Health Services are important.

NWFP

HEALTH FACILITIES

RHC	=	70
BHU's	=	610
HOSPITALS	=	151
DISPENSARIES.	=	533
MCH CENTERS.	=	141
OTHER.	=	<u>87</u>
TOTAL	=	1592

**ENROLLMENT IN CURRENT BATCH
OF HEALTH TECHNICIANS
TRAINING SCHOOLS**

PESHAWAR	=	47	(All female fresh)
ABBOTTABAD	=	50	(All female fresh)
D.I. KHAN	=	36	(All female fresh)
SWAT	=	61	(All male 36 fresh and 25 Inservice)
LANDIKOTAL	=	10	(All male Inservice)
PARACHINAR	=	<u>10</u>	(All male Inservice)
TOTAL		<u>214</u>	(81 Male and 133 Female)

COMMUNITY HEALTH WORKERS TRAINING

About 300 volunteer Community health workers in 100 villages have been trained by Inservice HT of Project sites RHC's and BHU's.

KITS DISTRIBUTED

334 (114 for Health Technicians and 220 for CHW's) have been distributed to carry out PHC activities in the community.

PROGRESS REPORT OF PUNJAB PROVINCE

ON

PRIMARY HEALTH CARE PROJECT
ACTIVITIES

(1982 - 1990)

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PUNJAB HEALTH DEPARTMENT

PROVINCIAL PROFILE

-	Area	=	205346 Sq. Km.
-	Population	=	60,308,760 (60 million)
	Urban (27.5%)	=	16,584,910 (16.8%)
	Rural (72.5%)	=	43,723,850 (43.72%)
-	Population	=	294 per Sq. Km
-	Male/Female Rate	=	111/100
-	Crude Birth Rate	=	40 per 100 (2.4 mm Birth 1990)
-	Population Growth Rate	=	2.75% (Punjab)
-	Infant Mortality Growth Rate		
	▪ 1978	=	105
	▪ 1981	=	100
	▪ 1984	=	83
	▪ 1987	=	78

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**Year Wise Development and Non Developmental
Funds Sanctioned For HHealth Department**

Year	Development	Non-Development	Total
1975-76	150,000,000	154,759,000	304,759,000
1976-77	166,590,000	172,069,000	338,659,000
1977-78	163,669,000	218,154,000	381,823,000
1978-79	213,700,000	249,954,000	463,654,000
1979-80	290,200,000	309,897,000	600,097,000
1980-81	320,750,000	363,832,000	684,582,000
1981-82	321,800,000	417,427,000	839,227,000
1982-83	372,200,000	568,233,000	940,433,000
1983-84	488,900,000	773,135,000	1,262,035,000
1984-85	488,900,000	964,137,000	1,453,037,000
1985-86	680,000,000	1,251,379,000	1,931,379,000
1986-87	1,099,510,000	1,503,260,000	2,602,770,000
1987-88	1,428,200,000	1,724,876,000	3,153,076,000
1988-89	1,268,200,000	1,831,866,000	3,099,866,000
1989-90	1,300,000,000	2,039,647,500	3,339,647,500

18% of Provincial ADP

Health Institutions

	Number			Beds		
	Urban	Rural	Total	Urban	Rural	Total
Hospitals	197	28	225	21080	820	21900
Dispensaries	651	853	1504	177	1763	1640
Rural Health Centers	78	203	281	672	1608	2280
Basic Health Units		1987	1987			
Sub Health Centers		534	534			
MCH Centers	335	101	436			
TB Centers	51	51				
Tibbi Dispensaries	86	86				
Total	1398	3609	5007	21929	4191	26120

On average one health facility is available for 12-13 thousand population.

- The 12 teaching hospitals have all the specialties.
- 26 DHQ hospital have 9011 specialties.

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- 56 Tehsil Hospitals are 40-60 beds where 3 specialties are being provided.
- RHCs had 4-8 bed now govt. is upgrading RHCs to provide 20 beds, six nurses, ambulance, x-ray, dental unit and telephone facility.
- BHUs are also being up graded as Medical Officer is posted as In charge instead of paramedic and 2 maternity beds are being provided
- About 70% population is within the radius of 2 km. while nearly 85% area within a radius of 5 km. form the health facilities/institutions.

Patient Care

Punjab Health Department is daily serving about 168,500 patients through its out door services

- 12 teaching hospitals serve 16500
- 25 District Hospitals serve 8700
- 58 Tehsil Hospital serve 9100
- 281 RHCs serve about 2400.

Remaining are served by BHUs, dispensaries and other institutions.

BUDGET PUNJAB HEALTH DEPARTMENT

YEAR	EPI	CDD/ORS	TBA
1979-80	272,000		
1980-81	296,000		
1981-82	311,000		
1982-83	84,902,932	974,384	6,387,858
1983-84	50,595,990	4,177,000	5,222,868
1984-85	54,958,000	1,170,000	2,890,000
1985-86	35,000,000	1,000,000	2,000,000
1986-87	38,651,910	2,000,000	2,700,000
1987-88	40,871,260	2,000,000	1,000,000
1988-89	43,988,121	1,000,000	1,000,000
1989-90	45,764,230	1,000,000	3,045,880

- Vaccines, syringes/needles, equipment transport and ORS is being provided by federal EPI-CDD (Ministry of health) NIH Islamabad from federal budget (about 15 crores yearly)
- WHO is providing mainly the technical assistance, manpower training, monitoring and evaluation for the programme since 1977.
- UNICEF assists federal EPI cell in purchasing vaccines and equipment on reimbursable basis. It is funding some training and vaccine cost partially since 1987 on wards (2 cold rooms, 2 refrigerated fans, 50 deep freezers, 100 IL refrigerators, 4 million syringes and needles have been provided to Punjab so far).
- USAID has also started participating since 1988, 63 Suzuki jeeps, 1496 vaccine carriers and 1.4 million syringes have been provided.

Manpower Training and Development

Manpower training is regular function of health department for medical and para medical.

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Type of Institution

No. of Institution

Medical

1. Postgraduation Medical Colleges
2. Graduate Medical Colleges
3. Nursing College
4. Dental Colleges
5. Management training institute for Doctors

2
7
1
1
1

Para Medical

1. Public health Nursing Schools
2. Nursing School
3. Dental Technicians School
4. Medical Technicians School
5. Asian Bank
6. Sanitary Inspector Class (CCM)
7. Dispensers Training School in DHQ hospitals

2
12
1
12
5
1
25

**Expanded Programme on Immunization Punjab
Year Wise Vaccination Report**

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
BCG	20758	311020	307165	353654	670497	721832	3016392	4995946	1659545	2327030	2047263	2071867	2047903
POLIO													
0									20317	103313	178497	230543	342615
I	43858	85895	159836	273220	554430	694599	4902318	4239773	173307	2539846	2131063	207903	2267325
II	10984	62616	73161	155055	235701	382728	3268139	3447977	1577526	2162037	2010582	1886384	2036468
III	6946	44365	496127	89525	103321	167623	1537662	5200294	1472463	2032072	1967353	17877879	1905684
DPT													
I	30530	95655	139015	141688	286755	331153	1733680	1806701	1529466	2356656	2129119	2079903	2267825
II	8214	55439	72079	95060	131210	213787	1161723	1714104	12699672	215230	2009926	1886384	2036468
III	3213	38195	48300	60373	78231	138387	636493	1933713	1154746	2034289	1967033	17878779	1905684
MEASLES													
I	3288	23											
TT													
I	3288	23003	198182	34152	126859	188187	149734	206490	215831	1098528	765847	1093815	1358066

Expanded Program on Immunization

EPI, started as Pilot Project from 1976, was officially launched from 1979. Considering its low progress, govt. launched an accelerated health program from Jan 1983 to June 1985, aimed at 3 components:

- Immunization of 8.8 million children (under 5 years) 2.2 million pregnant women
- Control of diarrhea through distribution of 8 million packets yearly
- Training of 81000 TBAs (one for each village).

Accelerated EPI coverage had risen from 3% (1982) to more than 80% (1984) during AHP mass health education, advance registration of target children, provision of service at door step of people through precisely planned outreach system, were the factors for success of this dramatic achievement.

EPI was, integrated into regular Health services from July 1985, onwards.

The target of EPI coverage achieved over the year are as under:

	79-80	1982	1983	1984	1985	1986	1987	1988	1989	1990
Coverage	20	40	50	60	70	80	90	85	85	90
Target (12-23 mths)										
Actual	0.98	0.5	26	82	84	82	85	87	88	
Coverage (12-23 mth) < 1 year			20	34	24	55	65	66	72	
Pregnant Women	0.1	0.6	4	11	21	20	34	36	47	

Control of Diarrheal Diseases - ORT

- CDD-ORT started as a second component of accelerated health programme. ORS was distributed (8 million packets yearly) to all families having children under five years.
- Eight peripheral training centers for training of doctors & paramedicals in ORT were established which trained 4851 doctors and paramedicals from 1983 to 1986.
- Health Education, regarding the use of ORS was given to the parents through mass media, outreach teams, and health facilities staff.
- Two DTUs were established in Mayo Hospital and General Hospital in March, 1989 which trained 106 doctors so far and established 38 ORT corners in two division of Lahore and Gujranawala.
- Another two DTUS have been established in RGH Hospital Rawalpindi and Nishtar Medical College Multan in October 1989, each has trained 18 doctors and has established 12 ORT Corners each in Rawalpindi and Multan division.
- Another two DTUs will be established in Faisalabad and Bahawal Pur during this year for coverage of their respective divisions.
- Use of anti-diarrheal medication has been discouraged in Health institutions, while distribution of ORS through teams and health education is continued.

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CDD - PUNJAB

1. DTUs ORTs

<u>NAME</u>	<u>NO.OF COURSE</u>	<u>PARTI- CIPANTS</u>	<u>FACILITIES COVERED</u>	<u>ORT FUNC- TION</u>
Mayo Hopt. Lahore	7	52	38	18
Lahore General Hop.	7	54	40	20
Rwp. General Hosp.	3	20	12	6
Nishtar Hosp. Multan	2	12	5	6

2. 1990 PLAN

- DTUs to be established at:
 - o Faisalabad for Faisalabad division
 - o Bahawalpur for Bahawalpur division
- Trainings:
 - o Mayo Hospital - Sargodha Division Gujrat
 - o Lahore General Hospital - Rawalpindi division
 - o Multan - for Multan division.

3. ORS

- ORS distribution to facilities to continue
- Research on ORS utilization by parents
- Punjab government to allocate funds for purchase of ORS
- Instead of liquid antidiarrheal ORS will be purchased by suboffice
- Education of ORT by teams/media to continue.

TBAs TRAINING

The 3rd component of accelerated health programme is the training of traditional birth attendants.

One of the main reasons for high maternal and infant mortality was the unhygienic practices of TBAs. Nearly 90% deliveries are conducted in houses, mostly by untrained TBAs. Target was to provide at least one trained TBA in each village (through training of existing TBAs). The methodology adopted was that 3 TBAs from adjoining 3 villages were enrolled and trained in each RHC/BHU and MCH for a period of 13 months (conducting 2 training sessions each week) by LHV/FMTs, reoriented as trainers. A stipend of RS. 260/- per month is paid during training of 3 months. The training targets and achievement from 1983 to 1987 are as under:

<u>PERIOD</u>	<u>TARGET</u>	<u>ACHIEVEMENT</u>
1983-85	8100	8355
1985-86	3051	2860
1986-87	2700	2529

TBAs MOBILE STRATEGY

All the TBAs from the adjoining villages around RHCs, BHUs, MCH were trained by 1987, TBAs from distant villages were not coming forward for training as the strategies became dysfunctional.

A mobile strategy was therefore adopted. One vehicle for TBAs training has been provided in each District from October 1987. Each District runs 3 courses at a time in 3 different centers, each for 3 months with intake of 10 TBAs in each center. Vehicle collects 10 TBAs from their village in the morning, bring them to the center for training and then drops them back (twice a week). Thus at a time 3 centers are functional in each district and 30 TBAs are trained in each 3 months course. This has also enhanced the training capacity. Therefore, the target has also increased as shown in the table below:

YEAR	GOVT.	TARGET UNICEF	TOTAL	ACHIEVEMENT (Actual Trained)
1987-88	2700	1000	3700	3339
1988-89	2700	1000	3700	1678 Due to lack of govt. funds
1989-90	2700	1000	3700	667 up to Dec. 1989

Total 19428 TBAs have completed their trainings and more than 60% villages have now at least one trained TBA. 11700 TBA have also been provided a Dai Kit. 2000 more kits are being distributed now.

WORLD FOOD PROGRAM
PROGRAM FOR SUPPLEMENTARY FEEDING

PRE SCHOOL CHILDREN

PREGNANT WOMEN

LACTATING WOMEN

STARTED IN 1976:EXTENDED TWICE:END DEC.'89
THIRD EXPANSION: 1ST JULY 1990

OBJECTIVES

- TO COMBAT MALNUTRITION
- TO REDUCE INFANT AND MATERNAL MORTALITY
- TO PROVIDE INCENTIVE FOR PEOPLE TO VISIT GOVERNMENT HEALTH FACILITY.

FOOD COMMODITIES SUPPLIES

PERIOD	FOOD COMMODITY	QUANTITY (M/TONS)	COST (US MM)
1976-79	1. WHEAT	41727	25.27
	2. DRIED SKIMMED MILK	9396	
	3. OIL	3552	
1982-85	1. WHEAT	43033	29.14
	2. DRIED SKIMMED MILK	14746	
	3. OIL	4303	
1985-87	1. WHEAT	48400	32.95
	2. DRIED SKIMMED MILK	12900	
	3. OIL	8100	

TOTAL NUMBER OF WORLD FOOD PROGRAMME OUTLET IN PUNJAB 748

PROGRESS REPORT OF SINDH PROVINCE

ON

PRIMARY HEALTH CARE PROJECT
ACTIVITIES

(1982 - 1990)

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1. Program Management

1.1. Steering Committee Meeting

Steering Committee Meeting started in a view to develop and approve plan of action for primary health care project, to over see the implementation of plans and ensure that all components of PHC project are being implemented according to health policy of federal government - so far five meetings have been held under the chairmanship of Secretary health - with members of provincial health department planning and development department and finance department with an out come of, approval of draft rules of business, sites selection for three HT schools approved for construction by USAID, selection of five more RHCs to main their IRHC complex, approval of job description of HT and standardization of HT pay scales.

1.2. Advisory Committee Meetings

During the fourth federal advisory committee meeting, it was suggested that a provincial advisory committee be arranged to help in implementing the revised curriculum of HT. So far four meetings have been conducted with an outcome of, development of schedules for implementation and monitoring of the revised curriculum, decision of policy and procedures of HT examination on revised curriculum, identifying roles and responsibilities of BHS, DDHS, DHO, Civil Surgeons, MO of RHC and BHU with regard to implementation of curriculum.

1.3. Management and Training Components, Activities and Achievements

In order to improve the managerial skills of the health personnel at all levels in health system, series of management training, system implementation. (HIS drug supplies), integrated training for the management and delivery of PHC services - monitoring system - and RHC manual, workshops were held with outcome of trained manpower, concept of CRP, revise OPD and Abstract Register, development of monitoring system, inventory contact, Essential drug list and drug distribution system.

These activities have been implemented and expanded after further improvements initiating from August 1987 at two sites (two district) to June 1989 at 134 sites (in four district) with flow of PHC monitoring reports from BHUs -> RHCs -> DHO

-> BHS Cell Sindh to NBHS cell Islamabad with feedback data on computer prints to -> BHS Cell Sindh -> DDHS -> DHO -> and facilities. Sindh government has received computer from PHC project which is installed in Health Directorate, five personnel have attended the computer the computer course at NBHSC, Islamabad and soon monitoring reports will be computerized and feedback will be made to DDHS, DHO, RHC facility.

These activities has resulted in improvement of, quality of health services being provided at RHC/BHU in focusing attention on six priority area, managerial skills, of holding regular meeting with staff and supervisor to ensure adequate supplies of drugs and solution of other problems - recording and reporting (HIS) procedures, of statistical information for purpose of monitoring the effectiveness and impact of the program, strategies and services to the community through out reach activities by the technical staff of RHC/BHU.

Details of monitoring sites and management training of personnel, see on annexure 2.

1.4. Rural Health Services Manual Draft

After observing that RHCs/BHUs are not functioning at an effective level due to unclear procedures and case management and job description in rural setting with limited diagnostic and treatment activities.

In PHC Project drafted/developed RHC manual for MOs to improve the structure a five days workshops for reviewing content/format of this manual has been organized in which 27 participants, represented from Provincial health directorate, divisional, district, RHC and BHU level has participated.

2. Health Technician and Community Health Workers Trained

- a. **Health Technicians Training In Sindh**
In province of Sindh 277 HTs (201 male, 76 females) students have been trained in four batches and fifth batch of 78 students (45 male, 33 female) is under training out of 277 HTs, 237 are serving in Rural health facilities.
- b. **Training of Community Health Workers**
Under this program 1081 (977 male, 104 female) volunteered CHW have been trained from 1983 to April 1990 at five sites for IRHCs. Out of that 348 male and 46 female CHWs were oriented and trained for initiation of outreach work in community on EPI, ORT and Nutrition education during 1985 at these IRHC sites. The training and supervision work is being continued through DHO, MO and Inservice HT of RHC and BHUs -all CHW have been provided with HT kits, which are being regularly replenished through local health facilities this has resulted in better impact on the utilization of health facilities by referral system and developed confidence of the community in them as health providers.
- c. **Training Component**
 - Implementation of supervision of revised curriculum
 - Three HT schools (Hyderabad, Mirpurkhas & Sukkur) after construction, have been completely furnished with furniture/fixtures, lab equipments, AV aids, kitchen and other items regarded for recreational activities of the students, handed over by USAID to health department, government of Sindh on 26th June 1989, and they have been operational.

Regular budget staff according to requirement of all three schools have been sanctioned by government of Sindh.

Current batch of 45 males and 33 female students have been admitted in all three schools, they have completed the second semester in February 1990 and started the third semester from March 1990 with stipend of Rs. 225/-. Effort is being made to unify the rate of stipend with other provinces from Rs. 225/- to Rs. 830/-.

Series of training workshops in operation and implementation on revised curriculum to health officials and inservice Health Technicians has been conducted in order to orient and familiarize with revised curriculum, details of training workshops of health personnel is on annexure 2.

3. **Program Operation**
Provincial experience in relation to enhanced preference for CHWs and HTs after provision of motor cycles to kits.
 - a. Senior health technicians have been provided with motor cycles in 10 IRHCs with this mobility support they are performing their supervisory duties in the field more effectively that is supervision of inservice HT work in community and in the BHUs and help supervising the under training HT students posted in RHC/BHU and community.
 - b. **Health Technicians Kits**
The provision of HT kits has developed confidence of the community in HT as health providers, and made able to treat minor ailments/injuries at the door steps of the community.
4. **Research and Evaluation**
Provisional BHSC staff coordinated in studies conducted by NBHS cell in study of implementation and utilization of standard treatment guidelines in PHC project - use of solo shot syringes in EPI - and in survey of CDD.
5. **Accelerated Standard Program of Immunization**
PHC project assisted in EPI training program cold chain equipment - training to CCT in repair and maintenance of refrigerator, syringes in transport, so far 400 MOs and 89 supervisor EPI, 1011 vaccinators and 1034 other paramedics have been trained, details of trained staff category have see annexure 2.

6. DTUs Activities of/Program

By two DTUs in Sindh, 88 health personnel of 54 health facilities have been trained 11 workshops, each of five days. So far 54 ORT corners have been established - out of them 17 facilities has received logistic - details on annexure 3.

7. Support for BHS Cell

PHC - project created a post each of management analyst and training specialist, which have assisted the provincial health departments in the following activities; they are working in coordination with PD BHS Cells - the government of Sindh have created the position of management analyst and Medical Officer (as training specialist) from July 1987, according to PHC project policy.

Management Analyst Involved in Following Activities:

1. Management training workshop
2. System implementation
3. Integrated training for the Management and delivery of PHC services
4. PHC monitoring system
5. Rural Health Services Manual

Training Specialist Involved in Following activities:

1. Female health technicians recruitment campaign
2. Orientation workshops on the revised HT curriculum.
3. Implementation of the revised HT curriculum
4. Training of community health workers program.

Summary

- Steering Committee Meetings held	5
- Advisory Committee Meeting held	4
- Health Technician School Constructed	3
- Total HT Trained	277
- Current student under training	78
- Community Health WORKers trained	1081
- Management training workshops conducted and participants trained	7/98
- System orientation workshops and participants trained	10/375
- Integrated training in management and delivery of PHC services	1/35
- PHC monitoring system orientation - workshops and participants trained	17/458
- RHS manual review workshops and participants	1/27
- Orientation of HT revised curriculum, workshops and participants trained	6/174
- EPI and CDD training workshops and participants trained	74/2717
- PHC monitoring implementation sites	134
- DTUs workshops and participants trained	11/88
- DTUs logistic received in health facilities	17
- Motorcycles provided for senior HTs	10

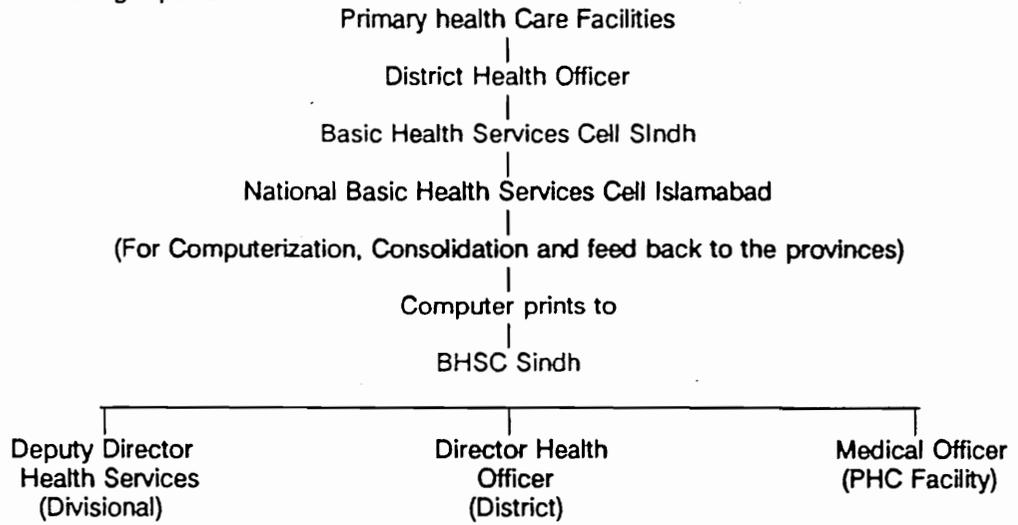
ANNEXURE 1

PHC Monitoring Information Sites

District wise details are as under

S.No.	District	RHC	BHU	Total
1.	Tharparkar	13	20	33
2.	Thatta	07	25	32
3.	Khairpur	10	34	44
4.	Sukkur	06	19	25
TOTAL		36	98	134

Flow of PHC monitoring reports



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ANNEXURE 2

VARIOUS IN-SERVICE TRAINING OF MOS AND PARAMEDICS

S.No.	Type of Training	Batches	Duration	Total	Officers/Officials	No. of Sites
1.	Management Training Workshops	7	7-14 days	98	DHS/ADHS/DHOs/ PTOs/ ADMOs/WMOs/ MOs/Tutors	
2.	System Implementation Workshop					
	a. Health Info. System (Module I + II)	5	2 days	150	MOs/WMOs/HTs/	5 IRHCs Other Paramedics
	b. Drug supply system (Module I + II + III)	5	3 days	225	MOs/WMOs/HTs/ Other Paramedics	5 IRHCs
3.	Integrated Training in Management and Delivery of PHC Services	1	12 days	35	WMOs (12)+MOs (23)	34
4.	PHC - Monitoring System Orientation					
	a. Phase - I	No Training				2 RHCs
	b. Phase - II	3	2 days	42	ADHOs-4/MOs-31/ WMOs-4/SHTs	9 RHCS
	c. Phase - III Supervisors	1	3 days	17	DDHSs-2/ADHOs-3/PRIN-2	188
	Medical Officers	5	3 days		DHOs-4/ADHOs-3/FSMOs WMOs-9/MOs-179	110
	d. Phase - IV	8	2 days	211	WMOs-11/MOs-200	1346
5.	RHS - Manuals Review Workshop	1	5 days	27	DDHS/ADHS/PTOs/DHOs/ PD-Priority Prgms./ WMOs/MOs	
6.	Orientation on HT Revised Curriculum	3	38		DHS/DDHS/CS/DHOs/ADHOs/3 Principals/Sub.Specialist	
7.	Orientation of HT revised Curriculum	3		136	Inservice HTs	
8.	Administrative Training on Operation of HT School	3	1 day	15	PTOs/Tutors/Assistants/ Senior Clerk	1
9.	RHC Manual - Content/ Format review	1	5 days	27	DDHS/ADHS/DHO/MO/HT	1
10.	Accelerated EPI Trainings					
	a. EPI & CDD - 1985	6	5 days	294	MOs/WMOs	6
	b. EPI - 1986	12	3-15 days	439	MOs/WMOs-100/Paramedics/ Volunteers	3
	c. EPI & CDD - 1987			967	LHVs-88/Disp.-448/M.Sup-87/ MHT-87/FHT-30/BCG Tech.-28/ Vaccinator-83/Other-116	13
	d. EPI - 1988	20	5 days	701	Vaccinators	17
	e. EPI - 1988	3	5 days	116	DSV-16/TSV-73/Vaccinator-27	3
	f. Communication and Technical Skill training on EPI for urban acceleration program	8	15 days	200	Federal Vaccinators	8

ANNEXURE 3

WORKSHOPS HELD BY DTUS IN SINDH

<u>Name of DTUS</u>	<u># of 5 Day Workshops</u>	<u># of Participants</u>	<u># of Health Facilities</u>	<u>*# of Participants</u>
Civil Hospital Karachi	06	52	28	12
NICH Karachi	<u>04</u>	<u>36</u>	<u>25</u>	<u>05</u>
Total	11	88	54	17

*Logistic received

Categories of facility training by DTUs in Sindh

Category of facility	CHK	NICH	Total
Teaching Hospital	03	00	03
Major Hospitals	13	01	14
District Hospitals	00	09	09
Taluka Hospitals	11	12	23
Rural Health Centers	01	03	04
Public Health Schools	<u>01</u>	<u>00</u>	<u>01</u>
Total	29	25	54

ANNEX D
TRAINING

7. The GOP should continue to seek innovative ways to increase the participation of females in the health system. This will require widespread announcements of training opportunities in the general population through mass media (especially radio). This should be followed-up by contacting key community leaders to generate support and interest for female participation in the programs. High schools should be visited to obtain lists of recent female graduates and house-to-house contacts of these graduates should be made to encourage participation.
 - a. Training institutions must have adequate facilities for female students. This includes school wardens, sufficiently trained female tutors, and teaching materials in the local language.
 - b. The GOP should continue to follow the policy of admission of matriculation without science for female students.
8. As recruitment and retention in the long-term will depend on the conditions of the job in the field, the GOP should ensure the provision of adequate supervision, feedback, drug supply, in-service training, etc. to female workers as well as to males. Recognition of the work by the females in the field should also be provided. Finally, incentives should be given to existing health workers (FHTs, LHV's, Dais) to also take the HT courses or other appropriate training to upgrade their skills.
9. A proper training program should be developed for School Medical Officers by Provincial governments in cooperating with the Federal Government in such topics as CDD/EPI, nutrition, ARI, Health Education, and other communicable diseases. Provision should be made for adequate follow-up by the supervisory officer.
10. Incentives should be given to students in the HT courses reaching top ranks in their class - e.g., the top three positions. This should also apply for efficient Tutors.
11. Provincial governments should review their budget line items for HT schools with a view to increasing them to fully meet funding requirement given actual numbers of students in attendance.

II. COMMUNITY INVOLVEMENT/COMMUNITY HEALTH WORKER (CHW)

A. Findings

There is an urgent need to look more carefully at health issues in Pakistan from the community and caretaker's perspective. To date, most of the systems have been designed from the health provider's point of view. We found that there is a general lack of adequate data on the dynamics of the community and its members regarding their health behaviors and practices. Community involvement is essential for well-targeted communication and research programs. This involvement is also needed to assure effective interventions (which will have an impact on the major interventions under the CSP).

The level of community involvement/participation has been generally low in Pakistan. Though there are examples of community involvement (income generation schemes, discussions of health issues at Union Councils, etc.) these activities are isolated and not widespread.

The unit of organization for health is predominately the extended family and the community plays a minor role. The team found that there was general support for more long-term community-based activities. Currently, most health care assistance is provided by outside paramedical workers who visit the area generally on a monthly basis. This type of assistance is adequate to achieve short-term targets but longer-term goals require more involvement.

To improve community participation, it will first be necessary to determine what level of involvement by the community is desired. Possible areas include participation through 1) financing of health care; 2) selection and support of CHWs; 3) feedback on services at the BHU and RHC through audience research; ethnographics research for better disease control programs; and/or 4) organized community activities on such topics as sanitation and health education. Each of these options have different implications for follow-up activities. The degree of involvement sought will determine the size and amount of resources necessary to achieve these goals.

The GOP has endorsed the training of Community Health Workers as a means to involve the community more in the health program. It is specifically highlighted in the GOP's National Health Policy. There has been up to 6,000 workers trained to date. In addition, the PHC project has developed a training manual based on their experience in the HT Training Schools. Through a pilot project in Mansehra, the GOP has practical experience using this material for one year training with review workshops on each unit, taught in the previous month's training period.

In general, there is a felt need for a community-based health worker. The lack of community participation, lack of access to health facilities and gaps of roughly a month between visits of outreach workers, all point to the need for more available, appropriate health services.

A community-based worker has distinct advantages over facility-based outreach workers. They are from the community and can easily access its members. They are easily available for care/consultation as needed by the community. If chosen correctly, they are leaders in their community and can motivate the community to take an active role in their health activities.

The GOP has trained over 41,000 TBAs. As they have an established role in the community, they could play a very substantial role in the CHW program.

Lessons from the experience to date in Pakistan indicate that the effort required to successfully operate and maintain a CHW system has been under estimated in the past. Workers have been trained but there has been limited or no supervision, resupply of drug/kits, or positions for CHWs following their training. The majority of CHW training has been carried out in small numbers with limited training materials. Few efforts have been sustained without donor or NGO involvement.

The CHW program must be carefully planned. Both in terms of program organization and financing. There must be a clear understanding of such items as: level of qualifications of CHWs; selection; training; supervision; resupply of kits; record-keeping; salary payments; SOW; in-service training; coordination with other health staff; and incentives.

B. Recommendations for Community Involvement and CHW Program

1. The CSP should seek to understand the term "community involvement" better by supporting community-based studies to generate data on the dynamics of the community and its members' perspective on health-related issues.
2. Before the GOP launches a major CHW program, a detailed plan should be completed which would cover the various aspects of the program, including adequate recurrent financing. Only after this review and careful planning, should the CHW scheme be deployed.
3. The project should seek to determine what level of community involvement is desired which would be beneficial and sustainable for child survival activities. Follow-up activities should be based on these findings. The use of graduate students to carry out some of these studies should be explored.
4. The CSP should assist the GOP in reviewing lessons "learned" from other experiences with CHWs including other country's programs.

III. HEALTH EDUCATION/COMMUNICATION

Health education/communication will be critical to the success of the child survival efforts. The team noted that there exists a general recognition that more health education/communication is needed at all levels in Pakistan.

The general awareness of the public towards CDD and EPI are significant achievements of the educational and communications efforts to date including radio and television. The annual National Conferences on Health Education and Information on Health have been very important in generating awareness and support for these activities but do not produce Action Plans with targets. These meetings involved not only the health community but also the finance and planning ministries. There is also a National Communication Working Group which is assisting in the planning and coordination of activities.

Health education/communication is an area which requires extensive strengthening. There is an urgent need for trained staff and materials to carry out these activities. For a country of 107 million people, we were informed that only 33 health educators at present work at the Federal, Provincial and Division level. That is one health educator for approximately 3.2 million population. There is currently no university or graduate level training in health education offered in Pakistan. Therefore, most health educators have no specialized training in health education.

Most district units do not have any health education staff. Those that are posted have few supplies or any budget to work effectively. Other health staff have not been adequately trained in health education techniques and therefore there are many missed opportunities between health workers and mothers.

Little or no incentives exist for staff working in health education. The team interviewed several who said that they would be leaving because there was no career ladder for them as well as the lack of adequate equipment, supplies and budget.

The diversity of cultures and languages in Pakistan indicates the need to translate materials into the local language and customs. More translation work should be undertaken.

Communication messages are effective if they reach the desired population with simple, actionable messages. In order to determine whether this is indeed happening, a system must be in place to monitor and evaluate the communication work. This involves such techniques as small surveys, KAP studies, focus groups, etc. To date, little has been done to evaluate the impact of the communication activities carried out. It should be stressed that this monitoring is not only needed for summative work but is necessary in the design and redesign of the materials.

The majority of the work in communication has been carried out in the CDD component under the PRITECH project. They have developed among other items an ORT logo; Standard ORS packet label; ORT leaflets for low literacy mothers; Posters with the Pakistan's National Diarrhea Treatment Policy; and an ORT pictorial chart and fold out leaflet to be used by health workers.

In addition PRITECH has collaborated with Radio Pakistan in six radio spots, and a five minute program of questions and answers of top pediatricians called "Ask the Doctor". In Television, they have collaborated with an ad agency to produce four television spots on ORT.

This work demonstrates that the skills exist to develop and produce effective communication messages. Though there have been some difficulties in establishing funding mechanisms and relationships with the private sector which have delayed or postponed activities, this work with the private sector is encouraging. As the private sector has a developed capability to design and produce messages, their resources should be utilized in the future.

Recommendations for Health Education/Communication

1. At the Federal level, the Health Education Plan of Action is in the process of revision. The CS Project should participate in its development and finalization and encourage a comprehensive communication strategy. At provincial and division levels such plans generally do not exist. Training and Technical assistance should be given to assist these units in developing appropriate plans and budgets.
2. A regular professional track in health education needs to be established so that trained professionals will be more widely available for these activities. There is currently no college or graduate training in health education being offered in Pakistan. Therefore, most health educators have no specialized training in health education. Some have participated in ad hoc workshops but these are limited by scope and timing.
3. Adequate financial resources need to be provided by the MOH and provinces for the translation of communication materials into local languages and cultures. Also transmission and high quality print materials with research (audience tested) messages is needed. Health education staff must have equipment, production and incentives, to carry out their activities.
4. Health education staff must have equipment minimal materials, and incentives to carry out their activities. Without such support, staff are rendered largely ineffective.
5. The private sector has a developed capability to design and produce communication messages. Their resources should be utilized where ever possible to assist in these activities.

ANNEX E
EXPANDED PROGRAM OF IMMUNIZATIONS (EPI)

14/5

A. EXCERPTS FROM AN AGREEMENT BETWEEN WHO, UNICEF AND USAID TO SUPPORT PAKISTAN'S EPI PROGRAM (1986-1988)

WHO

WHO will continue to provide the services of the staff mentioned above. Assistance will also include the supply of cold chain monitors, teaching aids, and materials, as shown below (all figures in US Dollars).

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>TOTAL</u>
Staff Salaries	126,000	126,000	126,000	378,000
Supplies and equipment	50,000	50,000	50,000	150,000
Fellowships & Training	27,500	27,500	27,500	82,500
Research	21,500	21,500	21,500	64,500
Miscellaneous	<u>15,000</u>	<u>15,000</u>	<u>15,000</u>	<u>45,000</u>
TOTAL	240,000	240,000	240,000	720,000

UNICEF

UNICEF will provide the following assistance expressed in US Dollars, subject to certain conditions (see below).

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>TOTAL</u>
Cold Chain Equipment	730,000	885,000	495,000	2,110,000
Vehicles	223,100	223,200	-	446,300
Freight (15%)	132,650	167,250	74,500	374,400
Training	<u>75,000</u>	<u>75,000</u>	<u>75,000</u>	<u>225,000</u>
TOTAL	1,160,750	1,350,450	664,000	3,155,200

Following an agreement with NIH, UNICEF will provide vehicles (not motorcycles or bicycles) for Azad Kashmir, Northern Areas, and FATA. Support for training will be for cold chain technicians and approximately 75 percent of the cost of the training of peripheral workers.

N.B. No allowance is made for inflation.

USAID

AID will provide the following assistance expressed in US dollars, subject to the same conditions as for UNICEF.

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>TOTAL</u>
Vehicles	785,300	994,200	287,300	2,066,800
Training	<u>155,030</u>	<u>174,420</u>	<u>103,750</u>	<u>433,200</u>
TOTAL	940,330	1,168,620	391,050	2,500,000

USAID will meet the cost of all the vehicles required for Punjab, Sind, Baluchistan and NWFP, and all the bicycles and motorcycles for the entire country (see Appendix 3).

N.B. The supply of vehicles by both UNICEF and USAID will be dependent on the following conditions: title is transferred to the government at port of entry (a detailed agreement contract is given in Appendix 4), and that adequate provision is made by the provinces to meet the costs of drivers' salary, TA:DA, POL and maintenance. An estimate of the costs of the above is given in Appendix 5.

B. EXCERPTS FROM UNICEF'S EVALUATION OF ITS EPI PROGRAM IN PAKISTAN

UNICEF has provided annually vaccines for the Programme on reimbursable basis for total amount of 2 million US\$ as well as from its own resources for amount of 1.2 million US\$ during 1988/1989 to ascertain the availability of vaccines at all times. The cost of Polio vaccine has been covered by Rotary International. The Programme continues to use disposable syringes and needles for outreach and mobile teams, while the major donor for this is USAID, UNICEF has assisted the programme with 150,000 US\$ during 1989 and 300,000 US\$ 1990.

The cold chain was mainly acquired during the early 80s making it necessary to replace old equipment which has outlived its economic use, the programme has also established additional Centres during 1988-90, UNICEF provided cold chain equipment for amount of US\$ 1.8 million during 1988/1989, the estimated cost for 1990 is US\$ 3.7 million. During 1989 major emphasis was put on urban acceleration in Sindh, where new Centres were established for municipal corporation, semi-govt. organizations and NGOs, the cost incurred by UNICEF totals 800,000 US\$. At present there are 2166 fixed centres, 4107 outreach teams and 223 mobile units in Pakistan.

Tetanus Toxoid coverage for pregnant mothers has increased from 27 in 1987 to 32 at the end of 1989. Part of the increase can be accounted for female vaccinators in NWFP and Sind. A KAP study on Tetanus Toxoid conducted by IACAP in Sind reveals that one of the major constraints for tetanus toxoid immunization is lack of knowledge about tetanus followed by cultural constraints due to the fact that vaccinators are male in most of the areas. Alarminglly the incidence of prenatal Tetanus is still high and new strategies and additional efforts needs to be included. Use of TBAs as motivators has been found effective in pilot areas, therefore the importance of TT vaccination will receive more emphasis in the new TBAs Training curriculum. TBAs role will include motivating the mothers as well as reporting both the pregnant women and newborn children to the EPI teams.

Information, Education and Communication for EPI faced several constraints during 1988-89 but some of these have been solved and the programme is now using mass media (radio and TV), production is a joint effort of NIH Communication Cell and UNICEF, USAID is providing funds for airtime. Inter-personnel communication was found to be the most effective type of communication by Feb 1988 AHP evaluation. However, the vaccinator training curriculum has not been given enough time and importance for equipping the vaccinators with necessary skills and materials. Health Department Sindh with the assistance from UNICEF employed and trained 200 female vaccinators, for their training additional communication module has been developed and evaluation shows that the vaccinators have been able to absorb the information and are using it when communicating with mothers. The communication module is at present for review and is planned to be used for refresher training of male vaccinators. Social mobilization for reaching UCI and for other programme objectives has received increasing emphasis during 1990, workshops have been conducted in the provinces to ensure commitment and assistance from non-medical personnel like political leaders, NGOs, teachers, and religious leaders.

C. UNICEF FINANCIAL ASSISTANCE FOR EPI IN PAKISTAN (1988-1992)

UNICEF Financial Assistance

EPI

<u>MAJOR ACTIVITY</u>	<u>ACTUAL</u>		<u>PLANNED</u>		<u>1992</u>	<u>TOTAL</u>
	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>		
Training	46	280	200	100	100	
Cold Chain Equipment	290	648	2700	280	380	
Vaccines (Excl. Polio)	660	643	1200	-	-	
IEC	35	133	100	50	50	
Monitoring & Evaluation	27	32	30	20	20	
Programme Support	0	0	200	150	50	
Vaccines (Polio)	1000	1000	931	1,000	1,000	
TOTAL	2,058	2,736	5,161	1,600	1,600	
% AGAINST TOTAL	92.2	85.1				

In addition to the General Resource, Supplementary funds are sought as follows:

Supplementary Funding Requirements (in 000s US\$)

<u>MAJOR ACTIVITY</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>TOTAL</u>
Training	-	100	100	200
Cold Chain Equipment	200	650	750	1600
Vaccines (Excl. Polio)	400	300	300	1000
IEC	-	50	50	100
TOTAL	600	1100	1200	2900

UNICEF reported that actual expenditures for EPI were:

1986 -	265,800
1987 -	2,494,600

ANNEX F
VACCINE PRODUCTION AT NIH

ANNEX F

VACCINE PRODUCTION AT NIH

Table #1, Section A, Findings; Section B, Recommendations; and Section C, Footnotes which follow support the conclusions and recommendations contained in the body of the report. (Chapter VII). Section C contains the "Assumptions" for Table #1, and the explanatory notes regarding "Maintenance" requirements.

TABLE 1
NIH UNIT COSTS, GOVERNMENT PRICES, AND UNICEF PRICES
FOR HDC RABIES, MEASLES, OPV, AND TT VACCINES

Name of Vaccine	Production Capacity	Pakistan Requirement	Unit Cost	Govt. Price	UNICEF Price
HDC Rabies	50,000	400,000	404.00	200.00	N/A
Measles	8.0 million	5.0 million	2.90	2.50	2.90
OPV	16.0 million	24.0 million	3.00	0.75	2.42
TT	18.0 million	Variable ¹	8.38	N/A	0.44

Source: NIH, Islamabad and CIDA estimates.

A. Findings

While installation of a larger production facility for TT vaccine suggests that the unit costs of production will be competitive with international prices, the long-term requirements of Pakistan for TT vaccine will probably not exceed six million plus wastage (married women of CBA and the armed forces). It has been assumed that the remaining 8-10 million doses can be sold internationally.

The vaccine production unit is faced with financial problems other than the inappropriate domestic and international pricing policy of the MOH. First, budgetary allocations to the NIH have not met requests since 1987/8, and preference has not been given to maintaining the budget for the vaccine production unit. The shortage of funds in 1989 has led to the closure of the OPV production plant due to lack of replacement of equipment parts that were allowing contamination of output. HDC rabies production has halted for lack of funds to replace a leaky roof. In addition, provincial medical stores purchase HDC rabies vaccine on credit, and for 1989/90 NIH is owed Rs. 6 million.

While the 7th Plan Policy documents and current Director General for Health indicate that self-sufficiency in the production of vaccines is a goal for the GOP, the time has come when serious analysis is required in order to determine organizational and management changes, and budgetary support required to make this policy a reality. Since the initiation of vaccine production in 1968, donor assistance for vaccine production has been undertaken in an ad hoc fashion and without analysis of the long run economic desirability and financial feasibility. As a consequence, the sustainability of a multi vaccine production capacity in Pakistan is seriously in question.

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B. Recommendations

Regarding vaccine production the following actions are recommended:

1. The NIH with USAID and/or other donor funding should undertake a study of the financial requirements (budgetary and quantity/pricing) of the vaccine production unit under various scenarios given its, i) current production capacity for all vaccines, and ii) expansion of capacity. The study should include evaluation of the overall requirement for Pakistan. The study should make specific recommendations regarding capital investment, allocation of an initial and subsequent annual working capital, production levels and pricing policy with a goal to achieve self financing within a 3 - 5 year period.
2. Further managerial and budgetary autonomy should be granted the vaccine/ORS production unit. Decisions which should be left up to the management of the unit (under review by a Board) include the employment of personnel, setting of wages and benefits, development of a career structure, and determination of prices through negotiation with government and other potential buyers.
3. Based on the results of the study, the GOP should determine what scenario for vaccine production/procurement they will follow for the medium and long run. Such study should include an analysis of which vaccine should be produced in order to make optional use of available facility, staff and funds for the essential immunizing agents. Based on this decision, determination should be made of what additional assistance (if any) for vaccine or vaccine production will be required from donors beyond the current five year plan period and associated PCI for EPI, and Articles of Understanding (1988-1992 draft).
4. The GOP should ensure that a fully functioning, competent National Control Authority (NCA) independent of the production units at any level is established to ascertain the safety and efficacy of the vaccines in accordance with WHO requirements.

C. Footnotes

1) ASSUMPTIONS

- a. 5 dose course of TT for all MCBAs (married women of Childbearing Age)
- b. MCBA population = 25 million
- c. 4.5 million women pregnant at any one time (Primipara and subsequent pregnancies)
- d. Thus to bring the immunization status to a maintenance level the following is required:

20 million MCBAs x 5 doses	= 100 million doses
2 million primipara x 2 doses	= 4 million doses
Subsequent pregnancies x 1	= 3 million doses
Armed Forces	= 1.5 million doses
Subtotal	= 108.5 million doses

2) MAINTENANCE REQUIREMENTS

- a. Annual increase (assuming a birth rate of 3.2%) would be 800,000 MCBAs per year. = a requirement of 4 million doses per year + armed forces requirement of 1.5 million doses. Therefore, the annual maintenance requirement after the initial requirement would be 5.5 million plus wastage.
- b. The MOH sets prices for the sale of all pharmaceutical products in Pakistan, hence its role in setting prices for vaccine produced by the NIH. This body has argued that the cost of donated recurrent inputs should not be included in the price to be paid for the vaccine as these components were donated. This point of view does not include consideration of the reality that production facilities must have working capital with which to order supplies and stock essential equipment.

ANNEX G
PHARMACEUTICALS - AVAILABILITY

TABLE 1
 MONITORING SYSTEM SHOWING DRUG SUPPLY IMPROVEMENT
 COMPARE TREND FROM '89 - '90
 PERCENTAGE OF TIME WITHOUT DRUGS
 JANUARY-APRIL 1989

DRUG	# of records	time without
COTRIMOXAZOLE TABLETS		
PAKISTAN	644	27.7%
BALUCHISTAN	20	31.3%
N.W.F.P.	163	94.5%
PUNJAB	70	12.0%
SINDH	391	2.4%
COTRIMOXAZOLE SYRUP		
PAKISTAN	635	35.7%
BALUCHISTAN	19	40.3%
N.W.F.P.	163	94.1%
PUNJAB	65	32.8%
SINDH	388	11.5%
BENZYL PENICILLIN		
PAKISTAN	469	33.7%
BALUCHISTAN	17	44.1%
N.W.F.P.	138	82.8%
PUNJAB	58	39.2%
SINDH	256	5.2%
GENTAMYCIN		
PAKISTAN	451	71.4%
BALUCHISTAN	17	94.1%
N.W.F.P.	138	92.0%
PUNJAB	55	76.3%
SINDH	241	56.9%
DISTILLED WATER		
PAKISTAN	645	9.0%
BALUCHISTAN	20	14.8%
N.W.F.P.	164	30.4%
PUNJAB	70	.9%
SINDH	391	1.1%
CHLOROQUINE TABLETS		
PAKISTAN	467	37.1%
BALUCHISTAN	16	46.8%
N.W.F.P.	143	88.3%
PUNJAB	53	43.2%
SINDH	255	6.6%
PRIMAQUINE		
PAKISTAN	617	68.1%
BALUCHISTAN	20	100.0%
N.W.F.P.	162	86.4%
PUNJAB	66	29.4%
SINDH	369	65.2%

TABLE 2
 MONITORING SYSTEM SHOWING DRUG SUPPLY IMPROVEMENT
 COMPARE TREND FROM '89 - '90
 PERCENTAGE OF TIME WITHOUT DRUGS
 JANUARY-APRIL 1989

ORS		# of records	time without
	PAKISTAN	642	23.5%
	BALUCHISTAN	20	41.6%
	N.W.F.P.	163	79.7%
	PUNJAB	70	10.3%
	SINDH	389	1.4%
RINGERS LACTATE		# of records	time without
	PAKISTAN	610	63.2%
	BALUCHISTAN	19	42.9%
	N.W.F.P.	164	100.0%
	PUNJAB	61	73.3%
	SINDH	374	47.6%
INH		# of records	time without
	PAKISTAN	584	35.7%
	BALUCHISTAN	20	35.0%
	N.W.F.P.	117	77.7%
	PUNJAB	70	18.1%
	SINDH	377	25.9%
STREPTOMYCIN		# of records	time without
	PAKISTAN	591	20.1%
	BALUCHISTAN	20	16.5%
	N.W.F.P.	119	68.3%
	PUNJAB	22	20.2%
	SINDH	381	4.1%
THIOACETAZONE		# of records	time without
	PAKISTAN	575	54.1%
	BALUCHISTAN	20	43.8%
	N.W.F.P.	119	83.1%
	PUNJAB	64	57.9%
	SINDH	372	44.7%
ETHAMBUTOL		# of records	time without
	PAKISTAN	583	43.2%
	BALUCHISTAN	20	70.0%
	N.W.F.P.	119	86.1%
	PUNJAB	66	21.2%
	SINDH	378	32.2%

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TABLE 3
 MONITORING SYSTEM SHOWING DRUG SUPPLY IMPROVEMENT
 COMPARE TREND FROM '89 - '90
 PERCENTAGE OF TIME WITHOUT DRUGS
 JANUARY-APRIL 1990

DRUG	# of records	time without
COTRIMOXAZOLE TABLETS		
PAKISTAN	623	19.7%
BALUCHISTAN	12	54.4%
N.W.F.P.	182	47.2%
PUNJAB	94	22.4%
SINDH	335	3.5%
COTRIMOXAZOLE SYRUP		
PAKISTAN	614	18.5%
BALUCHISTAN	12	28.3%
N.W.F.P.	183	22.1%
PUNJAB	85	54.0%
SINDH	334	7.1%
BENZYL PENICILLIN		
PAKISTAN	612	19.7%
BALUCHISTAN	8	62.5%
N.W.F.P.	183	22.5%
PUNJAB	87	74.7%
SINDH	334	2.8%
GENTAMYCIN		
PAKISTAN	597	49.8%
BALUCHISTAN	7	100.0%
N.W.F.P.	---	---
PUNJAB	84	90.4%
SINDH	324	15.8%
DISTILLED WATER		
PAKISTAN	629	4.1%
BALUCHISTAN	10	25.3%
N.W.F.P.	183	10.0%
PUNJAB	99	3.0%
SINDH	337	.6%
CHLOROQUINE TABLETS		
PAKISTAN	611	24.0%
BALUCHISTAN	11	35.1%
N.W.F.P.	183	23.7%
PUNJAB	84	80.6%
SINDH	333	9.5%
PRIMAQUINE		
PAKISTAN	579	61.6%
BALUCHISTAN	8	100.0%
N.W.F.P.	182	84.0%
PUNJAB	84	73.8%
SINDH	305	47.8%

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TABLE 4
 MONITORING SYSTEM SHOWING DRUG SUPPLY IMPROVEMENT
 COMPARE TREND FROM '89 - '90
 PERCENTAGE OF TIME WITHOUT DRUGS
 JANUARY-APRIL 1990

DRUG		# of records	time without
ORS	PAKISTAN	623	12.5%
	BALUCHISTAN	10	50.0%
	N.W.F.P.	183	15.8%
	PUNJAB	95	30.6%
	SINDH	335	4.5%
RINGERS LACTATE		# of records	time without
	PAKISTAN	300	59.2%
	BALUCHISTAN	9	77.7%
	N.W.F.P.	183	100.0%
	PUNJAB	83	92.7%
SINDH	305	25.1%	
INH		# of records	time without
	PAKISTAN	542	43.0%
	BALUCHISTAN	9	27.2%
	N.W.F.P.	144	90.2%
	PUNJAB	88	37.5%
SINDH	301	22.7%	
STREPTOMYCIN		# of records	time without
	PAKISTAN	569	28.4%
	BALUCHISTAN	12	16.6%
	N.W.F.P.	144	54.8%
	PUNJAB	65	64.9%
SINDH	328	7.9%	
THIOACETAZONE		# of records	time without
	PAKISTAN	524	56.7%
	BALUCHISTAN	9	44.4%
	N.W.F.P.	144	95.1%
	PUNJAB	82	58.5%
SINDH	289	37.5%	
ETHAMBUTOL		# of records	time without
	PAKISTAN	562	44.1%
	BALUCHISTAN	11	36.3%
	N.W.F.P.	144	85.8%
	PUNJAB	85	51.8%
SINDH	322	23.6%	

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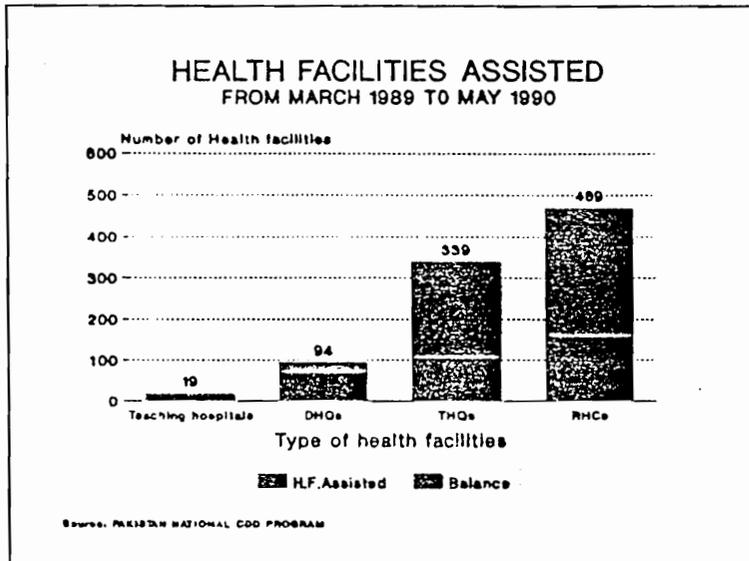
ANNEX H
CONTROL OF DIARRHEAL DISEASES

ANNEX H

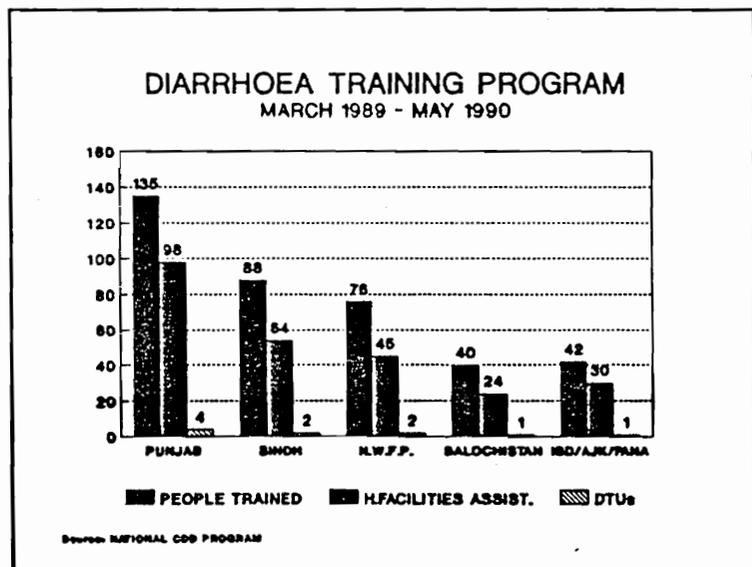
I. PROGRAM ACHIEVEMENTS

A. Training of Health Personnel and Opening of Assisted ORTUs

Since the beginning of the project, 37% of the targeted 921 health centers have been assisted. 381 persons have been trained in the 10 DTUs which are operational in the five Provinces at present (Graphs 1 & 2).



Graph 1



Graph 2

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B. ORS Awareness and Use Rates

High rates of awareness of ORS have been achieved: 88% of the population in Pakistan knows about ORS, according to the 1988 national evaluation conducted in the Provinces (Graph 3). ORS packages have been widely distributed by the EPI health workers, which explains the high percentage of the population which reports having already used them. However, ORS use rates remain significantly lower in the home, ranging from 20-34% as indicated in three community based surveys done in the country¹.

CDD - PAKISTAN												
NATIONWIDE SURVEYS ON KAP ON ORT PRACTICES												
(1984 -- 1988)												
PROVINCE	Awareness on ORT			Have ORB at home			Ever used ORB			Correctly Prepare ORB		
	1984	1987	1988	1984	1987	1988	1984	1987	1988	1984	1987	1988
PUNJAB	NA	83%	87%	NA	73%	79%	74%	75%	87%	NA	70%	87%
SIND	NA	84%	85%	NA	41%	88%	44%	47%	72%	NA	54%	88%
NWFP/FATA	NA	80%	95%	NA	40%	49%	39%	80%	90%	NA	54%	78%
BALUCHISTAN	NA	58%	84%	NA	11%	88%	27%	32%	88%	NA	35%	88%
A.J.K.	NA	75%	95%	NA	38%	82%	42%	52%	94%	NA	59%	98%
PAKISTAN	NA	73%	88%	NA	43%	71%	59%	55%	83%	NA	49%	84%

Graph 3

II. SOME CHARACTERISTICS OF DIARRHOEAL DISEASES IN PAKISTAN.

A. Number of Cases & Type of Diarrhoea

There is a marked seasonal variation for diarrhoeal diseases in Pakistan with an important peak from May to June in most regions. A second peak (September to December), less marked, is reported in some areas.

Up to 50% of the patients seen in health centers come because of diarrhoea. The load of diarrhoea patients is especially important during the high season. In general, patients are seen in the out-patient department and referred to the ORTU if clinical signs of dehydration are present. Cases with severe dehydration or complications due to other problems are admitted. Therefore, cases seen in ORTUs reflect mostly dehydrated diarrhea cases, often with some degree of malnutrition but no other complication; in some instances, non-dehydrated cases and severe cases are also seen in the ORTU.

1. National Nutrition Survey, 1985-1987 (n=5560).
2. 60 clusters community survey conducted in Sindh (n= 5234), 1989.
3. Anthropological study conducted in 3 villages in Punjab December 1988, (n=180)

The usual three types of diarrhoea, acute watery, persistent, and dysentery, are seen in most ORTUs. The prevalence of each type of diarrhoea is difficult to estimate because case definitions are not always standard.

For example, "persistent diarrhoea" (duration >14 days) may be recorded as "chronic diarrhoea" (often defined as an episode of longer duration).

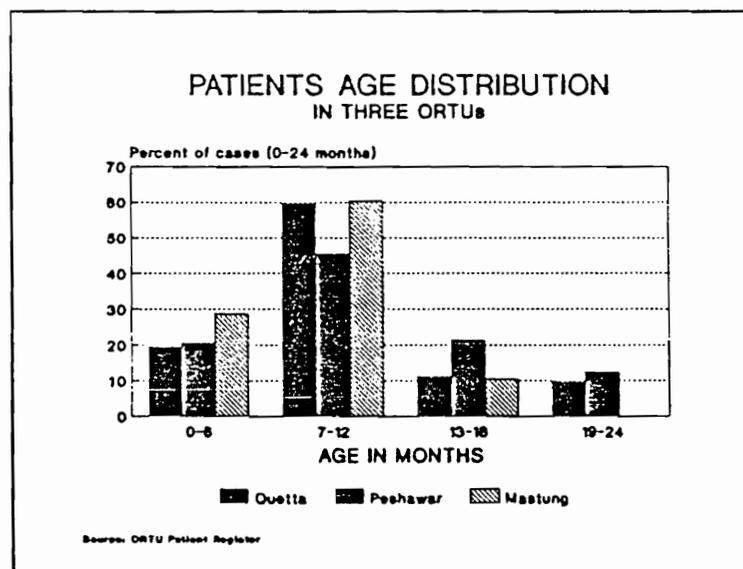
Post diarrhoeal abdominal distension (PDD) is seen with an unusual frequency in paediatric wards in Pakistan (up to 20% of hospitalized cases in some health facilities). The clinical profile of PDD cases and potential risk factors for the disease are under study. Several studies have indicated an important role for antimotility drugs, especially loperamide. The reporting of cases is also organized in many centers in the country.

B. Case Fatality Rate

The case fatality rate for diarrhea among the under five years of age is high, ranging from 14-17 % for hospitalized cases during the last three months of 1989, according to the sentinel surveillance report from 7 hospitals. The high case fatality rate may be partly explained by the high prevalence of severe malnutrition and PDD among the diarrhea cases admitted in health facilities.

C. Age Distribution

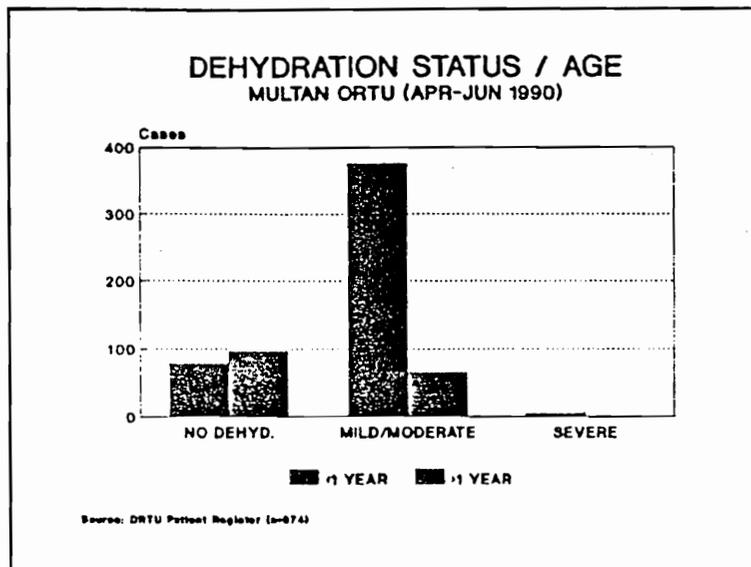
Most children seen in ORTUs are under two years of age. Children 12 months of age and younger constitute up to 80% of patients attending the ORTUs. Furthermore, half of the cases attending the ORTUs are between 7 and 12 months of age. Assuming that the distribution of cases in ORTUs reflects the incidence of diarrhoea for children under two years of age in the community, the peak of cases 7-12 months of age could be attributed to the very poor feeding practices in this age group (Graph 4).



Graph 4

The fact that children under one year of age constitute 85% of cases presenting at some ORTUs with some degree of dehydration, and only 43% of cases presenting with no dehydration may be an indication that home case management of diarrhoea is less effective in this age group (Graph 5).

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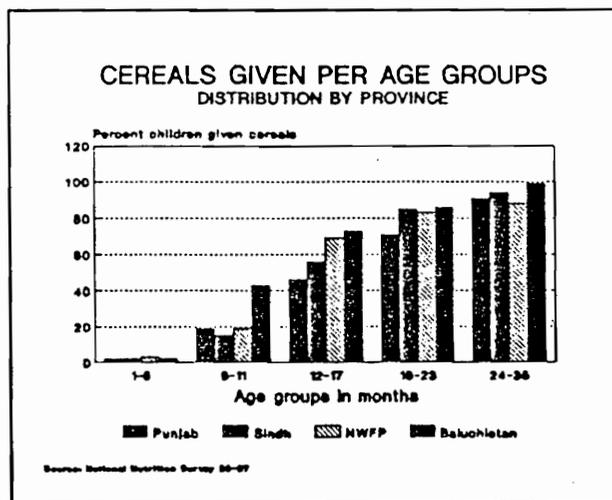


Graph 5

III. NUTRITION

A. Feeding Practices for Children under five years of age

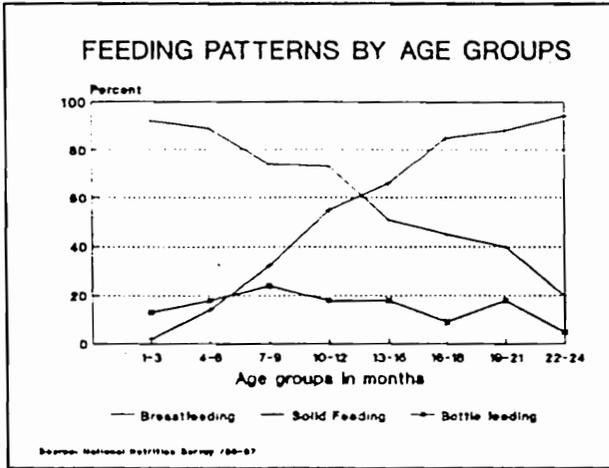
The data collected in ORTUs and the results from different surveys conducted in Pakistan (1) show a consistent pattern in feeding practices for young children. There seems to be little variation in weaning practices from one Province to another (Graph 9).



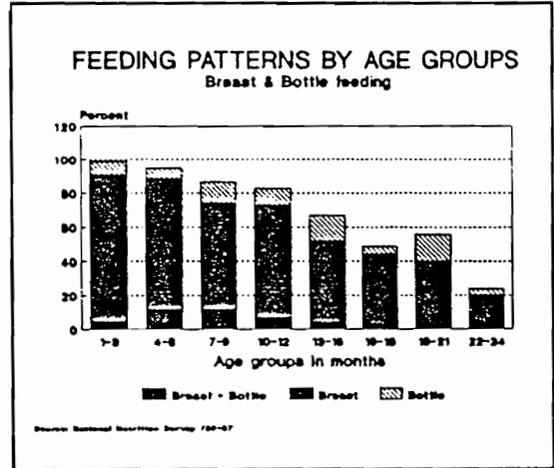
Graph 9

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1. The majority of infants (90%) are started on breastmilk but breastfeeding is initiated late (the third day after birth), which is detrimental for lactation. There is a drop in the prevalence of breastfeeding: at 13-15 months of age, only half of the children are still breastfed (Graphs 6 & 7).
2. An average of 20% of children are bottlefed (exclusive and mixed) between 0-21 months (Graphs 6 & 7).

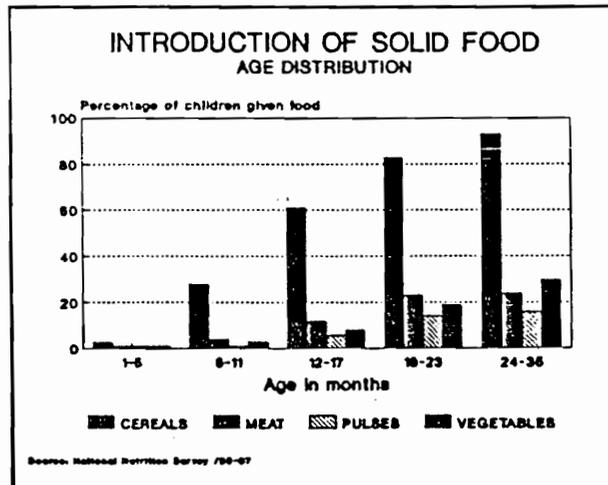


Graph 6



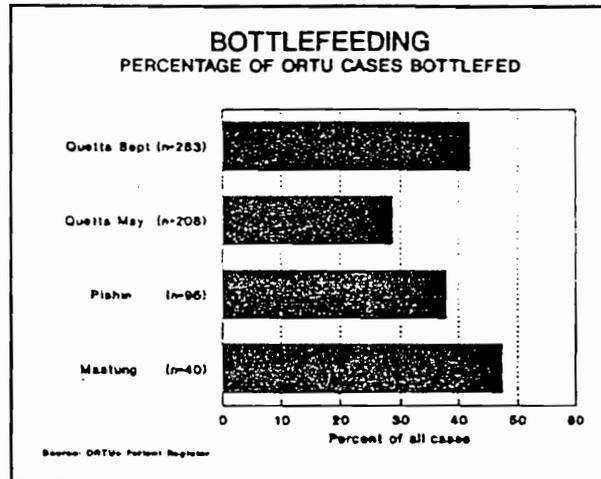
Graph 7

3. Supplementary foods are introduced very late: According to the National Nutritional Survey, only 60% of children aged 12 to 17 months are given solid feeding. Some children may still not be fed solid foods at 24 months of age (Graph 8).
4. Weaning foods consist mostly of cereals. Pulses and vegetables are introduced later. At 24 months, only 20% of the children are given solid foods other than cereals (Graph 8).



Graph 8

5. Data collected from ORTU patient registers confirm these findings, and suggest that cases seen in ORTUs may be more exposed to poor feeding practices: 30-48% of ORTU cases are bottlefed, and less than half are given solid foods, even though 70-80% of this population is 7 months and older (Graph 10).

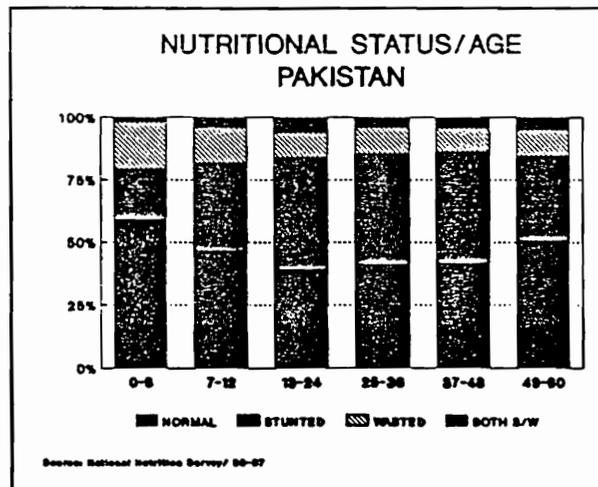


Graph 10

B. Prevalence of Malnutrition

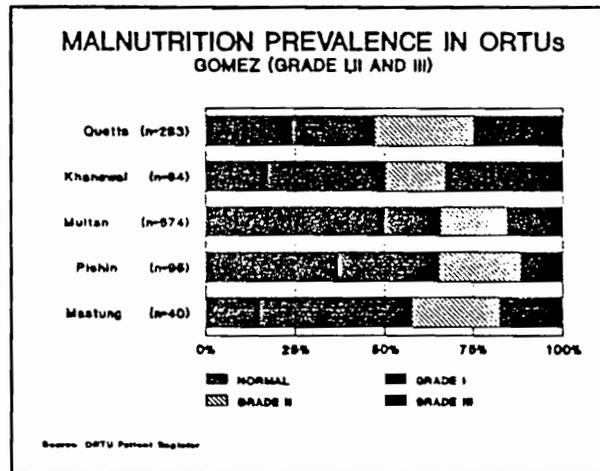
The nutritional status of children in Pakistan reflects the prevalence of low birth weight and the inadequacy of the feeding practices starting early in life: Insufficient breastfeeding, frequent use of bottle feeding and late introduction of solid feeding (after 12 months).

1. Malnutrition prevalence is high in all age groups, as indicated in the National Nutrition Survey Report: 51.5% of children under five year of age are under 80% of weight/age standards, 9.8% are under 60% of weight standards for their age. Wasting affects children very early in life (first few months), and malnutrition prevalence rises after 7 months (Graph 11).



Graph 11

2. When using the weight/age at entry, 60-80% of patients seen in ORTUs are malnourished (Gomez classification, Grades I,II and III) (Graph 12).

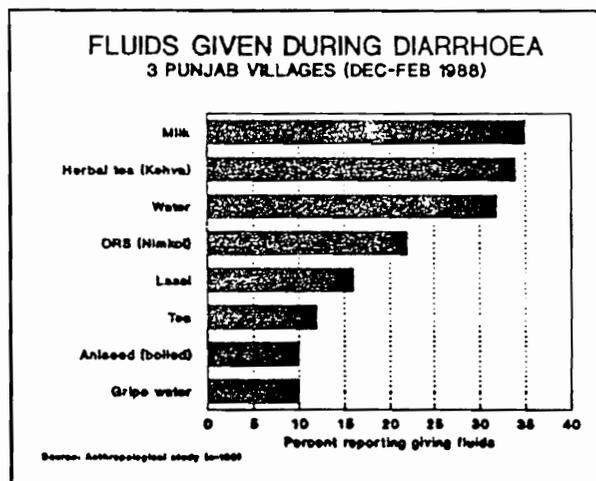


Graph 12

IV. HOME CASE MANAGEMENT OF DIARRHEA

A. Feeding Practices During Diarrhoea

Data from community surveys (1), based on mothers interviews, provide some information about the types of foods and fluids given to children during diarrhoea, and the age distribution for the introduction of the different foods. Most children under one year of age are not given solid foods. At this age, the diet is limited to milk (breastmilk, artificial milk, or both). During diarrhoea, the child's intake may even be restricted to water and herbal teas. ORS is reportedly given in 20-30% of cases. Other fluids (i.e. food based fluids) are not frequently given (5-10%) (Graph 17).



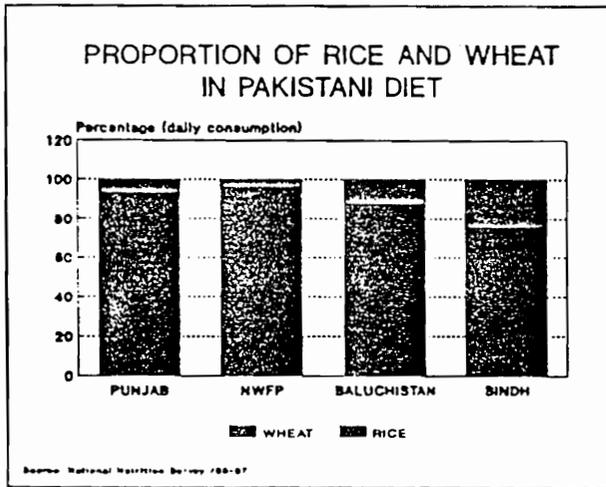
Graph 17

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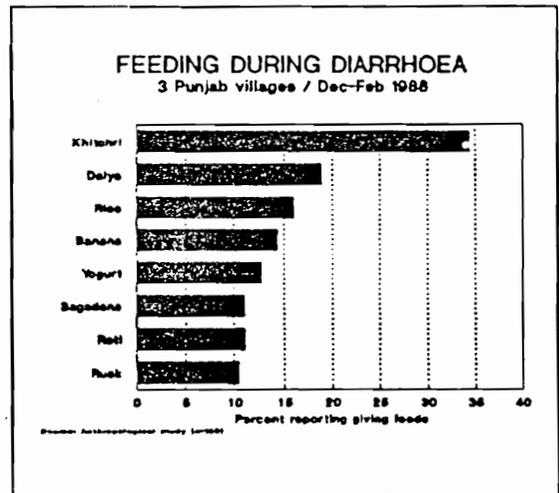
B. National Policy

1. Rice-based foods and fluids (kitchri, rice water) are recommended for case management of children during diarrhoea (CDD National Policy). However, according to the National Nutrition Survey, rice contributes to less than 20% of the daily ration of cereals in the Pakistani diet (Graph 15). During interviews of health personnel in Baluchistan, it was reported that the price of rice far exceeded that of wheat, and that rice may not be available in some low income households.

2. Among the different foods and fluids recommended for home case management of diarrhoea in the National CDD Policy, kitchri is the most frequently reported to be given by mothers (20-30% of households) (1), (Graph 16).



Graph 15



Graph 16

ANNEX I
PRIMARY HEALTH CARE PROJECT EVALUATION

ANNEX I

PRIMARY HEALTH CARE PROJECT EVALUATION

OTHER IMPORTANT RECOMMENDATIONS NOT INCLUDED IN THE BODY OF THE REPORT

I. MANAGEMENT COMPONENT

A. Responsibilities of MOs In Rural Area Health Facilities Unclear

1. Finding

Sometimes new entry doctors at the BHU/RHC lack the concept of being responsible for the health of the catchment area population. They tend to limit their role to treating the sick who call at the health facility. The limited understanding of the role is a serious obstruction in active facilitation/participation of doctors in disease prevention and health promotional activities.

2. Recommendation

An initial period should be spent at one of the doctors' management training institutes by each new entry doctor in the government service. Appropriate training modules should be developed describing roles and responsibilities of the doctors at the Rural Health Centers and Basic Health Units. Similar information should be included as part of the curriculum for the doctors. (Note: A manual for RHCs and BHUs is in final stages of completion and will be available in the summer of 1990.)

B. Quality of PHC Services Adversely Affected by MOs not following Standard Treatment Guidelines

1. Finding

Many doctors are not following the standard treatment guidelines for case management. This problem was carefully studied by the Sindh provinces and a number of practical suggestions for solving this problem developed.

In addition, prescriptions at these peripheral facilities were noted to be often of multiple drug therapy and at times contraindicated for the disease they prescribed.

2. Recommendation

The recommendations of the operational research study done by the Sindh should be considered by all the Provinces and appropriate supervisory and corrective measures taken accordingly.

C. Expensive Drugs Purchased for PHC Facilities when Quality Alternates are Available at Lower Cost

1. Finding

Irrational purchase, supply and distribution of drugs has been noted from the Main Stores Depot (MSD) to the DOs, and they in turn to the RHCs and BHUs. For example, in many cases the DHO office is receiving expensive drugs like Velasef, Tenormin, Tegretol, etc. for which much cheaper alternatives are available. The amount of funds allotted to the DOs each quarter would go much further if less expensive drugs of good quality were made available in response to his orders.

The Pakistan National Formulary for the Government Hospitals already announced by the MOH will be introduced in all public sector hospitals. (See page 9, point 8 of the National Health Plan.) This should help alleviate the problems of procurement and supply of pharmaceutical products in the hospitals.

2. Recommendation

Given the general shortage of funds for purchase of medicines for the PHC facilities, Provincial Health departments, taking into consideration the work of the Pakistan National Formulary, should ask their drug purchase committees or boards advising the MSDs to review their purchase, tendering policies and procedures with a view to correcting this waste of scarce resources.

D. Role of Male and Female Health Technicians and Field Work/Outreach

1. Finding

Many HTs are performing work in the Centers only, or if working in the field, the work is very limited. HTs do not have any clear plans or targets and are also not clear of how to work in the field.

2. Recommendations

Supervisors like FSMOs, DHOs, MOs should assist the HT to plan a quarterly program of field work and should regularly monitor the progress.

II. TRAINING/COMMUNITY HEALTH WORKERS/HEALTH EDUCATION

A. Separate Overlapping Training for Female Health Technicians (FHTs) and Lady Health Visitors (LHVs)

1. Finding

While there is considerable overlap in the training and duties of the FHTs and LHVs they have different programmes and duration of training. FHTs have 18 months and LHVs 24 months with emphasis on midwifery. The duties are almost the same and these workers (FHTs and LHVs) can perform as alternates in practical activities in a health facility.

2. Recommendation

The two training programmes should be combined so that all of the knowledge meant for both the LHV and FHT would be contained in the same course. The combined training course for new students would be for 24 months to allow time for midwifery/child survival/family planning training – with all those completing the training called "Lady Health Visitors".

For FHTs already in service, six months additional training in midwifery, will be needed for FHTs to qualify them for midwifery, and two months training for the LHVs to update them on PHC/CS subjects. Because of the acute shortage of nurses, the upgraded FHTs will be able to fill in for nurses with further training.

B. MOs Training In Monitoring/Record-Keeping Inadequate.

1. Finding

Monitoring/record-keeping responsibilities are not carried out in some health facilities participating in the monitoring program – i.e., the keeping of registers, other reporting forms, as well as bin "inventory" cards. Not all MOs have received training in or are cognizant about these systems. Even in those centers where the health information/monitoring systems are effectively installed, personnel previously trained may no longer be there (transfer, vacation, illness, external training, etc.), and their replacements not informed about the monitoring procedures.

Most of the facilities visited either were uninformed about the monitoring forms or were uninformed. It is estimated that more than one third of MOs are left uninformed or with insufficient knowledge about these registers. In addition some of those who have had the training and are attached to centers utilizing the system are not utilizing them correctly either due to overwork or no follow-up.

2. Recommendation

The MO and his staff should hold weekly meetings to assure proper communication and coordination in carrying out the monitoring functions.

When the Monitoring/Health Information Systems (HIS) training or knowledge is transmitted to a medical officer at a Division/District/Tehsil hospital, RHC, BHU, the MO trained should in turn be instructed to communicate this information to other MOs, and mid level workers at his facility. If the workers trained are transferred or absent for other reasons the monitoring/register information system will be able to continue.

C. No Provision for Training School Medical Officers In Primary Health Care/Child Survival (i.e., EPI, CDD, ARI)

1. Finding

School Medical Officers are often posted with no job description and fixed or general duties. Therefore the attention of these officers to PHC/CS concerns are uncertain and unfocused.

If PHC training is provided, it will supply the knowledge needed for School Medical Officers to reach families through the children they teach on such subjects as – immunization, control of diarrheal diseases, nutrition, malaria treatment. It will also better equip the MOs to teach teachers about PHC/CS topics.

2. Recommendation

A proper training program should be developed for such officers and mid level workers including such topics as ARI, Health education about CDD/EPI and nutrition, other communicable diseases. In addition, provision should be made for adequate follow-up by the supervisory officer.

D. HT Schools —Need for Incentives for HT School Students

1. Finding

There are no incentives for good students, tutors in the school. Curriculum is considered too brief by some HT students. Requests were made for providing more detail on the subject. Request was also made for semester system examinations.

2. Recommendation

Cash incentives or other rewards should be awarded to students reaching top ranks in their class – e.g. the top three positions. Efficient Tutors can be provided further training, or other rewards.

III. EXPANDED PROGRAM ON IMMUNIZATION (EPI)

A. EPI Register is not being Maintained Correctly In Many Places

1. Finding

EPI registers are not being maintained correctly at many health facilities. It is often difficult to interpret when a child received three respective doses of DPT and/or polio.

2. Recommendation

Medical Officers should be made responsible for reviewing the registry periodically. This deficiency should be highlighted during the training of MOs.

B. EPI —Cold Chain Problem

1. Finding

In many of the centers the temperature of the refrigerators were noted to be out of the recommended range of 0 - 8 degrees C. This remains a serious problem for the cold chain.

2. Recommendation

The significance of maintaining proper records about --temperature between 0-8 degrees C, etc., needs renewed extra emphasis as all levels --MOs, para medics including vaccinators.

C. EPI —Sterilization of Reusable Needles and Syringes

1. Finding

At static centers reusable needles and syringes are boiled (needles after each vaccination and syringes after several). The sterilized needles and syringes are used multiple times. Pressure cookers, not now available, would be more effective in achieving the required temperature to kill bacteria and spores. Multiple use of the syringes before sterilization is wrong and needs correction so that both the needle and syringe are resterilized after each vaccination.

2. Recommendation

The Federal and Provincial EPI managers along with interested donors should consider the desirability of equipping all static centers with pressure cookers for sterilization of reusable syringes and needles in order to increase the safety margin in their being used multiple times.

Vaccinators should be reminded that reusable syringes and needles should be sterilized after each vaccination procedure to prevent the danger of infection.

IV. CONTROL OF DIARRHEAL DISEASES (CDD)

A. CDD Training Outrunning Ability to Transfer ORT Knowledge to Other Staff

1. Finding

Doctors trained to set up ORT corners in their facility are not transferring the knowledge to other staff members of the center. Results to date have been best when doctors trained in CDD/ORT received one or two follow-up visits by DTU staff, and assisted/motivated to train others, set up proper ORT corner, etc.

2. Recommendation

Expansion of CDD program should be carefully paced so it does not outrun the capacity of the presently existing DTUs to carry out follow-up visits to those doctors trained and assist in the proper installation and start-up of ORTs in doctor's trained health facility.

V. CHILD SURVIVAL PROJECT (CSP)

A. Antenatal Care and Child Care Practices

1. Finding

It is estimated that 60 percent of infants die in the neonatal period (first four weeks after birth) (Ref: World Bank Report on Population and Health Sector, June 1988). For improving Child Survival it will be essential to improve antenatal care (especially to prevent low birth weight babies, which is a major killer) and child care practices, in addition to EPI, CDD and ARI programmes.

2. Recommendation

Antenatal care program and child care practices component should be added under the Nutrition, Child Spacing component. Active cooperation should also be sought with the "safe motherhood" project being sponsored by WHO and the World Bank.

VI. TRAINING AND COMMUNICATION

A. Child Survival Clinical Training for Medical Students

1. Finding

Less than 2 percent of the curriculum of Medical Students is spent on preventive medicine so that MOs are ill prepared to serve in PHC facilities without additional in-service training.

2. Recommendation

CSP topics and Prescription guidelines should be included within medical education curricula. Practical experience for medical students within DTUs would also be highly desirable.

ANNEX J
REFERENCES – DOCUMENTS CONSULTED

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ANNEX K
LIST OF PERSONS CONTACTED

ANNEX K

LIST OF PERSONS CONTACTED

ISLAMABAD – NATIONAL CAPITAL

Ministry of Health

Professor Doctor Ali Mohammed Ansari - Director General
Dr. M. Zafar Ahmed (*) - Deputy Director General, BHS Cell

Department of Planning and Development

Dr. Siraj ul-Haq - Senior Chief, Health Section
Dr. Asghar Nazeer (*) - Assistant Chief, Health Section

National Institute of Health

Dr. Abdul Ghafoor - Executive Director
Col. Mohammad Akram Khan - National Project Manager, EPI/CDD
Dr. Zafar Ali - Chief, BPD Division
Mr. Ahmed Bashir - Stores Manager, EPI
Major General Burney - USAID Consultant for TT Production
Dr. M. Moti-ur-Rahman Khan (*) - Senior Scientific Officer
Mr. Syad Khalid Mansoor - Finance and Accounts (Development)

Children's Hospital:

Pr. Mushtaq Khan, DTU Director
Dr. Abdul Bari, DTU Physician

PRITECH

Ms. Lucia Ferraz Tabor - Representative
Ms. Linda Sanai - Senior Program Officer
Dr. Susan Welsby - Medical Advisor
Mr. Rashid Khan - Rawal/PRITECH Administrative Officer

BHS Cell/PHC Project Office

Dr. Nancy Limprecht - Information Specialist
Dr. Tara S. Upreti - Training Advisor

UNICEF

Dr. Pirkko Heinonen - Program Officer for Health/Nutrition

USAID/P and USAID/W

Ms. Anne Ames - Chief, Office of HPN
Dr. Heather Goldman - Deputy Chief and Project Officer for PHC/CS, HPN
Mr. Ajaz Ahmad - Program Assistant, HPN
Dr. Arjumand Faisal (*) - Public Health Physician, HPN
Mr. Babar Hussain, Project Management Specialist, HPN
Mr. Ahmed Kassim - Program Assistant, HPN
Ms. Linda Lou Kelly - ANE/TR/HPN - AID/W
Dr. Rushna Ravji - Public Health Physician, HPN

Others

Mr. Iqbal Masud - Economist

BALUCHISTAN PROVINCE

Department of Health, Quetta:

Dr. Mohammed Iqbal Khan - Director, Health Services
Dr. Nosrullah Jan - Deputy Director, Administration
Dr. Abdul Haseeb Sheikh - Deputy Director, CDC (PH)
Dr. Gull Khan - Deputy Director, PHC
Dr. Sanaulah Malik - Deputy Director, BHS Cell
Dr. Zahoor Ahmed Khan - Deputy Director, Quetta Division
Dr. Amir Jogezia - DTU Physician
Dr. Rehana Qazi - Inspectress of Health Services
Dr. Rashid Tareen - Deputy Director, EPI
Dr. Khamaal Khan Mandokhel (*) - Division Director

HT School, Quetta

Dr. Kulshoom Sabir - PTO
Tutors: Ms. Nasim Mir Afzar, Ms. Shagufta Durrani, Mr. Hakim Baloch, Mr. Jamil Ahmad
Students and other staff

DAH DAR DISTRICT

Dr. Lushker Khan - DHO, Kachhi at Dahdar

District HQ Hospital, Dahdar

Dr. Masood Barozai - MS
Dr. Razak - MO

MCH Center, Dahdar

Ms. Rashid Akhtar Baig - LHV/IC
Ms. Samara - LHV/TB Clinic

BHU, Mushkaf

Dr. G. Mustafa O MO/IC
Mr. A. Latif - MT
Ms. Bushera - ex. LHV
Mrs. Rukhsana - Dai

Pishin District

Dr. Capt. Imtiazali - DHO

District HQ Hospital, Pishin

Dr. Mohammed Anwar - MS
Other Staff MO
Dr. Sharifa Bano - WMO
Dr. Hamida Rafique - WMO
Dr. Shamim Younas - WMO
Mr. Mohammad Tahir - Vaccinator
Mr. A Hakim - Vaccinator
Ms. Fareed A. Begum - Lady Vaccinator
4 FHT students from Quetta School

BHU, Karbala

Mr. M. Ashad - MT
4 FHT students from Quetta School

Dispensary, Kuchlak

Dr. Fazal Ahmad - MO/IC
Mrs. Anjum Bushra - LHV
6 FHT students from Quetta School

NORTH WEST FRONTIER PROVINCE

Department of Health, Peshawar

Dr. Sardar Ali - Director of Health Services
Mr. Nasrullah Jan, Addl Secretary Health
Dr. Mohammed Iqbal - Assistant DHS, Divisional Health Directorate
Dr. Irfan Mir, Project Director, BHS Cell
Mr. Abdul Majeed - Planning Officer, BHS Cell
Dr. Hakim Khan (*) - Division Director, Peshawar
Mr. Zamin Gul - Management Analyst
Ms. Naseem Wahab - Training Specialist

FMT School, Abbottabad

Dr. Rifat Nasim Qazi - Principal
Mr. Jalal Uddin - Tutor

RHC, Havelian District, Attottabad

Dr. Juma Khan - MO/IC
Mr. Muhta J. Mohammad - Sr. HT
Mr. Arshad - EPI Technician

Chamba Village, Havelian District, Attottabad

Mr. Haji Rab-Nawaz Khan - Chairman, Health Committee
Mr. Jafar Khan - Member, Health Committee
Mr. Lirgat Khan - Member, Health Committee
Mrs. Farhat - FCHW volunteer

FHT Training School, Hayatabad

Dr. Parveen Azam - Principal
Dr. Saheen Iqbal - PTO

RHC, Charsadda District, Jamalabad

Dr. Zakir Ullah - MO/IC
Dr. Irshad - MO
Mr. Masood-ur-Rahman - Sr. HT
Dr. Pervez Akbar - DHO

Malakand Agency

Dr. Mian Said Wahid - Div. DHS
Mr. Saidu Sharif

Civic Hospital, Thana, Malakand Agency

Dr. Fazli Moula, MO/IC
Dr. Parveen - WMO
Dr. Mohammad Gul Roze Khan - DHO
Dr. Saeed Khan - CDC Officer and ADHO
Dr. Abdur-Rahman - FSMO, EPI

Mr. Bahri-Mand - EPI volunteer

BHU, Malakand Agency, Gunyar
Mr. Maqbool Hussain - HT/IC

RHC, Peshawar District, Khalrbad
Dr. Sahid-Ullah - MO/IC
Dr. Safia Shahid - WMO
Dr. (Major) Mohammad Yaqoob - DHO

PUNJAB PROVINCE

Department of Health, Lahore
Ch. Mohammad Ashraf, Secretary
Dr. Mazahir Ali Hashmi - Director General Health Services
Dr. Mohammad Rafique Chaudhry (*) - DHS, EPI/CDD
Dr. Itikhar Hussain Tirmizi - DHS, CDC
Mr. Ismatullah Chaudhry - Operational Officer, WHO
Dr. Naren-ud-Din Mian - Assistant. DHS, Food and Nutrition, Monitoring and Evaluation Cell
Dr. Hafeez Ahmed - Assistant Director, EPI
Dr. Mubashir Malik - Management Analyst, Sargodha Division
Dr. Abad Ullah - Management Analyst, Rawalpindi Division
Mrs. Mehmooda Tariq - Training Specialist

Management Training Institute, Doctors
Dr. Mohammad Ayub Sulayria - Director

Gujaranwala Divlslon
Dr. Abdul Gharfoor - DHS
Dr. Bashara Rasool - Assistant DHS, Daska, Sialkot District
Mr. Mohammad Nasir - Hlth Educ Officer

Sialkot District
Dr. Mohammad Ishaq, DHO
Dr. Sajjid Ali Tirmizi - ADHO

HT School, Sialkot
Dr. Riaz Bhatti - Principal
Dr. Mohammad Yasin - PTO
Mr. Mohammad Amin - Tutor
Ms. Mubarika - Tutor

BHU, Sahowala, Sialkot
Dr. Faiz Ahmed, MO/IC
Mr. Mohammad Yousaf, MT
Ms. Shahira Kausar, LHV

RHC, Loharan District, Kothl
Dr. Jameel Ahmed - MO/IC
Dr. Khalid Mahmood - MO
Dr. Rahat Parveen - WMO
Mr. Nasreen - LHV

Multan Divlslon
Dr. Mohammad Afzal Hashmi - Director, Health
Dr. Zahid Ali Wasti - Assistant Director, Health

LAHORE

Mayo Hospital:

Pr. Shaukat Raza - DTU Director
Dr. Obaidullah Shakir - DTU Physician

Rawalpindi General Hospital:

Pr. Abdul Waheed - DTU Director
Dr. Mohammad Amin GUL - DTU Physician

Rawalpindi

General Hospital:

Dr. Zafar-Ullah Kundi - DTU Director
Dr. Ejaz Ahmad - DTU Physician

Multan

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Dr. Tariq Iqbal Buttha - Director DTU
Dr. Khalid Iqbal Tahir - DTU Physician
Ms. Mercy Robina Khan - LHV

Civil Hospital:

Dr. MB Malik - ORTU Physician

SINDH

Karachi

N.I.C.H., Jinnah Postgraduate Medical Center:

Pr. Zeenat Isani - DTU Director
Dr. Lutfullah - DTU Physician

Civil Hospital:

Pr. A. Ghaffar Billoo - DTU Director
Sh. Tanveer Ahmed - DTU Physician

NWFP

Peshawar

Lady Reading Hospital:

Pr. Mohammed Imran - DTU Director
Dr. Tajammul Begum - DTU Physician

Hayat Shaheed Teaching Hospital:

Pr. Ashfaq Ahmed Khan - DTU Director
Dr. Wali Mohammed - DTU Physician

Mardan:

Dr. Khurshid Ahmad - ORTU Physician

INTERNATIONAL AGENCIES

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