Draft
PHC 14

R E V I E W

of the

ACCELERATED HEALTH PROGRAMME

and

OTHER SELECTED PRIMARY HEALTH CARE ACTIVITIES

in

P A K I S T A N

10 November - 6 December, 1984

Report of the Joint

GOVERNMENT OF PAKISTAN/WHO/UNICEF/US-AID/CIDA REVIEW TEAM

AHP/PHC PAKISTAN REVIEW
10 NOV - 6 DEC 1984

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1. SUMMARY REPORT: Main Achievements, Problems and Recommendations

Introduction

The purpose of the review was to assess the progress of the Accelerated Health Programme (AHP) in Pakistan and to evaluate other selected aspects of Primary Health Care (PHC). The review team was composed of 24 nationals and 16 internationals from 10 countries including members from UNICEF, US-AID, CIDA and WHO. Members of the team had special expertise in immunization, control of diarrhoeal diseases (CDD), rural health services, TBA training, training of health manpower, health planning, nutrition, health education, cold chain and logistics.

Methodology

One week was spent in Islamabad studying federal aspects of the various programmes under review. The team then, divided in groups to visit the four provinces and Azad Jammu and Kashmir. The team visited 11 districts and carried out surveys in 270 clusters. In these areas almost 14,000 homes were visited, 2,004 mothers were interviewed, 3,838 children were surveyed for their immunization status, and 26,723 children for diarrhoeal diseases morbidity and mortality. The teams also assessed the progress of the TBA training programme, and in less depth additional aspects of primary health care, including maternal and child health, breast feeding practices, nutrition, and water and sanitation.

The team reviewed the health delivery system at federal, provincial, district and health centre levels. This review covered all provincial headquarters, 11 district headquarters, 21 hospitals, 14 rural health centres, 26 basic health units, 10 dispensaries and 15 MCH centres. A large number of health officials were interviewed at all levels. One hundred eighty TBAs and 188 community leaders were interviewed.

On completion of provincial reviews, the teams compiled and analysed the data and discussed their major findings with provincial health authorities. In the last week the teams regrouped in Islamabad to further analyse the data, identify achievements and problem areas, formulate recommendations, and draft the final report.

Main Achievements of AHP

Before the AHP began in January 1983, immunization coverage in Pakistan was only about 2%. There was no organized programme for CDD, and no effective effort was being made to train TBAs.

On the basis of this review, we believe that the achievements of AHP in less than 2 years are remarkable.

The most striking achievements are:

1) The high level of commitment to AHP at both federal and provincial levels as is evident by the allocation of substantial funds and the provision of the required supplies.
2) Immunization coverage has risen rapidly, particularly in Punjab where over 80% of children are now fully immunized. This very high coverage rate can be attributed largely to the fine outreach effort and to highly motivated, dedicated and effective workers. Nearly 70% of the immunized children in the cluster surveys were immunized by outreach teams. The success in Punjab was so great that 98% of children had been reached at least once. In a global perspective, considering the problems that are faced, this achievement in Punjab is truly remarkable. The achievement in NWFP is nearly as great and in the other provinces is also commendable.
3) The review team was particularly impressed by the high quality of the cold chain. Equally impressive was the logistic system

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resulting in no shortage of vaccine or other supplies and little wastage. Since AHP began, the programme has not once been interrupted because of vaccine shortage or other logistical problems.

4) The CDD programme has also made notable progress. There is now a high level of awareness of the importance of treatment with ORS. ORS is being produced and procured in large amounts and distributed widely, and 4,800 health staff have been trained in the use of ORS, largely in specially established training centres.

5) The TBA training programme has its achievements, too. A large number of training centres have been established in less than 2 years and about 15,000 TBAs have already been trained.

Although there have been many achievements under AHP, some important problems remain, that need to be dealt with urgently to ensure continued success.

PROBLEM	RECOMMENDATIONS	STEPS TO BE TAKEN
1. At Federal level there is a shortage of managerial and technical staff and planning is not integrated in the managerial process. Furthermore, there is no regular evaluation and feedback system.	(a) Vacant posts in the MOH should be filled and more technical posts created. (b) The planning process should start with district plans to be built up into divisional, provincial and national plans with full participation of implementors at each level. (c) A national and provincial evaluation system, including creation of evaluation teams, should be established. Regular feedback of results of evaluations should be sent from federal and provincial levels to field workers.	
2. Some provinces will not be able to achieve all the targets of AHP by June 1985.	The AHP should be extended for 12 months in provinces that are unlikely to achieve the targets by June 1985.	- Resources should be allocated to match the remaining task.
3. (a) The static EPI units are greatly under-utilized, particularly in the rural areas. (b) The success of the accelerated EPI has been largely dependent on outreach activities and mobile teams.	(a) Full integration of EPI with existing health facility services should progressively be achieved. (b) The target population to be covered by each fixed EPI unit, outreach team and mobile team should be precisely defined. (c) Provision should be made to continue outreach activities and mobile teams as long as necessary to maintain immunization coverage.	- Federal/provincial health departments should issue a directive re-emphasizing the role of health staff in EPI activities. - Provincial Secretaries/DHSs should organize a workshop to promote immediate implementation of the directive and similar meetings should be held at district level . - Medical officers and paramedical staff should be reoriented and, where necessary, retrained for EPI.

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		- Each health institution should define its catchment area and target population, list its villages and their leaders, and develop a strategy for full coverage. - Defined target populations for outreach and mobile teams should be covered by scheduled regular visits. - The area covered by EPI services should be extended by introducing outreach activities at all health facilities.
4. Immunization coverage of children below one year of age is still low.	Immunization of children <u>early</u> in the first year of life should be emphasized immediately.	- The earliest age of immunization should be lowered from 3 months to 2 months in accordance with WHO recommendations and health staff should be reoriented to this new emphasis.
5. Immunization coverage with TT is low throughout the country and neonatal tetanus remains a major cause of infant mortality.	(a) Women of child-bearing age should be identified and vaccinated by outreach/ mobile teams enlisting, whenever possible, the support of LHVs, TBAs and community leaders. (b) TT immunization must be provided routinely to any women of child bearing age attending a health facility. (c) Pregnant women must receive TT immunization on first contact.	Federal and provincial health departments should issue a directive regarding the special emphasis on TT vaccination.
6. School health services are weak or non-existent and currently do not deliver immunizations.	All school-entrants and female school-leavers should be appropriately immunized as a first step towards establishing a comprehensive school health programme.	- BCG, Polio and DT immunization should be given at entry into school and TT immunization provided to all female students in 10th grade, by arrangement with the nearest health facility.

7. The immunization coverage in Baluchistan is very low.	A special workshop should be held to discuss managerial and operational problems, district by district, and to reformulate the plan of action for the province, in particular assigning responsibility to DHOs for district immunization coverage.	- Revision of the plan of action to be carried out in collaboration with the federal EPI unit, the provincial health departments and WHO.
8. Diarrhoeal disease control activities are primarily related to case management, in particular oral rehydration therapy.	The plan of operations for CDD should be revised to achieve implementation of a more comprehensive programme of CDD activities.	- The national ORS Technical Committee should be renamed to reflect the change in emphasis and in collaboration with WHO/UNICEF, should revise the plan of action to include additional CDD strategies (by March 1985).
9. At federal level and in most provinces, there are no full-time staff for CDD programme management.	(a) The vacant UNICEF-funded post for a national CDD programme manager should be filled urgently. (b) Provincial CDD programme managers should be designated to coordinate and strengthen CDD activities. (c) Additional support and technical staff should be available at federal and provincial levels, in particular to coordinate training and evaluation activities.	- A small number of staff should be promptly assigned to full-time CDD duties (by January 1985). - The national and provincial programme managers and other selected persons should participate in a WHO CDD supervisory skills training course (January 1985).
10. Inappropriate antidiarrhoeal drugs are freely available through commercial pharmacies. This has a negative impact on government attempts to rationalize diarrhoea case management.	Consideration should be given to de-registration or sales restriction of potentially dangerous drugs and drugs of no proven benefit. Distribution through government channels should be stopped.	- The National ORS Technical Committee should meet to examine possible action in this regard.
11. Even if AHP targets are reached, less than 20% of all TBAs would be trained.	(a) The national commitment to TBA training should be strengthened. (b) Training of TBAs should be further accelerated and continued beyong June 1985.	- TBA training targets should be increased and a national plan developed with appropriate staffing.

12. There is no evaluation plan for the TBA training programme.	A system should be designed for evaluating the impact of TBA training on delivery practices and, ultimately, on neonatal and maternal mortality, particularly mortality due to neonatal tetanus.	- Surveys should be designed and carried out to evaluate changes in delivery practices.
13. (a) The existing health structure lacks sufficient epidemiological and statistical units at all levels. There are few skilled personnel designated to collect, compile and analyse disease data. (b) The present disease reporting system is entirely inadequate for planning, management and epidemiological purposes. (c) Data is not analysed or utilized at the level of collection nor fully used at any level in the health system.	(a) An epidemiology unit should be set up at federal and provincial levels and manned by trained personnel. (b) Adequate information systems should be developed. (c) Disease reporting should be revised, simplified and emphasized. (d) Reporting should be mainly limited to diseases for which action can be taken on the basis of the reported data. (e) Medical officers should be required to record diagnoses accurately and held responsible for reporting. (f) Analysis of surveillance data should be done locally. (g) A surveillance bulletin should be published regularly for feedback.	- A chief epidemiologist and technical staff should be appointed. - A working group should consider the following points and formulate a plan of action. . diseases to be reported . frequency of reporting . data tabulation and analysis . mechanism for feedback. - Special consideration should be given to the needs of EPI (age and immunization status) and diarrhoeal diseases and ORS usage. - All materials should be carefully field-tested and revised before being adopted.
14. The current disease surveillance system provides no way to measure the impact of programmes like EPI and CDD.	(a) Sentinel sites should be set up in selected hospitals and health centres to report EPI target diseases and diarrhoea on a frequent basis. (b) Periodic epidemiologic surveys should be carried out to complement the sentinel system especially for polio, neonatal tetanus, measles and diarrhoea.	- Select a reasonably representative sample of health facilities with good potential for complete and accurate reporting using standardized forms. - Train and regularly supervise staff.

14. MCH services are weak throughout the country because: . no formal plan of action exists . the ADG (MCH) post is vacant. . MCH services are fragmented . recommendations of previous studies have not been implemented.	a) A plan of action should be prepared bearing in mind the recommendations of the previous studies. b) A suitably qualified person should be appointed to the vacant federal post.	
15. A large percentage of pre-school children, reportedly up to 60%, are malnourished.	a) Children at risk for malnutrition should be identified early using growth monitoring. b) A protocol for early intervention should be developed emphasizing nutrition education.	- Weighing and plotting on a growth chart should be a routine part of any visit of a child to a health centre. - Staff should be trained in growth monitoring and early nutritional intervention.
16. Funding for intensive health education for EPI/ CDD is only assured up to the end of the AHP.	a) The health education tools which have been demonstrated to be successful should be maintained at an effective level. b) Provision must be made for health education in the budget in all health programmes.	- Evaluation of the effectiveness of various health education approaches should be conducted.
17. Due recognition is not always given to motivated and effective health workers.	a) The government should consider some form of recognition to those who have contributed to the success of AHP in all provinces.	

INTRODUCTION

At the request of the Government of Pakistan, a joint Government/ WHO/UNICEF/US-AID/CIDA evaluation team reviewed the Accelerated Health Programme (AHP) and selected aspects of the Primary Health Care Programme (PHC). At the time of the Review (10 Nov. to 6 Dec. 1984), the AHP was in its third and final year. The review team consisted of 16 international and 24 national members (Annex. 1).

3. METHODOLOGY

The methodology of the Review was as follows:

- A preliminary visit by the team leader to Pakistan was made to help organize the exercise, prepare the questionnaires and materials, and plan the field surveys.
- Investigations were carried out at federal, provincial and district levels of policies, plans, procedures, records and reports of the AHP, of the EPI and of other sections of the Ministry of Health whose activities are related to AHP and PHC.
- Field surveys were done in the four provinces and Azad Jammu & Kashmir (AJK) using the standard WHO/EPI/CDD cluster survey methodology. Within each province a 2 stage cluster sample was selected. In the first stage the districts were selected following stratification by reported immunization coverage and then the clusters were randomly selected from urban and rural areas; the EPI clusters consisted of 7 children each in the age groups 12-23 months and 2-4 years (24-59 months), and CDD clusters of 100 children each in the group below 5 years (59 months).

  Investigations also were performed in the four provinces and AJK of a spectrum of health facilities, traditional birth attendants (TBAs), village leaders, and community health workers (CHWs).

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4. GENERAL INFORMATION

4.1 Geography and Climate

The Islamic Republic of Pakistan borders Iran, Afghanistan, the Peoples Republic of China, and India. The total area is 796,095 sq. km. (Table 4.1). Pakistan comprises six major physical divisions: the northern mountains; the western off-shoots of the Himalayas, the Baluchistan Plateau, the Potwar Plateau and the Salt Range, the upper and lower Indus plains; and the Thal Desert. Several big rivers flow from the northern mountains, the most important being the five rivers of the Punjab and the Indus River. The climate of Pakistan is diverse. Temperatures vary from 4°C in winter to 45°C in summer. Much of the country is arid.

4.2 Communication and Transport

There are postal and cable services throughout the country. Telecommunication systems are well developed only in the urban areas. In 1981 there was 1 television per 99 persons and 1 radio per 53 persons. Electrification of rural villages is a national priority. Some areas are well served, but many are not. Major cities and towns with populations of 10,000 or more are all connected by good roads and a railway network. In the Punjab, most rural villages can be reached by unpaved roads. In other areas access is more difficult. The major cities are linked by air services.

4.3 Population

The population of Pakistan by the 1981 Census was 84,253,000. Approximately 28% live in urban areas. The overall population density is 106 persons per sq. km. Large cities include Karachi (5,103,000), Lahore (2,922,000) and Faisalabad (1,092,000).

Table 4.1. GROWTH, DENSITY AND DISTRIBUTION OF POPULATION

Province	Area (Sq.K.ms)	Population (In Thousand)		Population Density		Urban Population (Percentage)		Annual Growth Rate (Percentage)	Household Size	
		1972	1981	1972	1981	1972	1981	1972-81	1972	1981
PAKISTAN	796,095 (100)	65,309 (100)	84,253 (100)	82	106	25.4	28.3	3.1	6.4	6.7
N.W.F.P	74,521 (9.4)	8,388 (12.8)	11,061 (13.1)	113	148	14.3	15.0	3.3	6.1	6.8
FATA	27,220 (3.4)	2,491 (3.8)	2,199 (2.6)	92	81	0.5	-	(-) 1.5	-	8.3
PUNJAB	205,344 (25.8)	37,610 (57.6)	47,292 (56.1)	183	230	24.4	27.5	2.7	6.4	6.4
SIND	140,914 (17.7)	14,156 (21.7)	19,029 (22.6)	100	135	40.4	43.3	3.6	6.2	7.0
BALUCHISTAN	347,190 (43.6)	2,429 (3.7)	4,332 (5.1)	7	12	16.5	15.6	7.1	6.3	7.3
ISLAMABAD	906 (0.1)	235 (0.4)	340 (0.4)	259	376	32.6	60.0	4.5	6.5	6.7

4.4 Literacy

The official national language of Pakistan is Urdu. There are also local languages: Baluchi, Punjabi, Sindhi and Pushto. English is spoken by many persons in all provinces, particularly those in health professions. The literacy rate is low, particularly in rural areas (17%) and among women (16%).

4.5 Vital Statistics and Health Indicators

Trends in vital statistics and health indicators are shown in table 4.2.

Table 4.2. VITAL STATISTICS AND HEALTH INDICATORS, PAKISTAN

Vital Statistics	Rates	
Crude Birth Rate (per 1000 pop)	43 (1978)	41 (1981)
Crude Death Rate (per 1000 pop)	14 (1978)	12 (1983)
Infant mortality Rate (per 1000 live births)	105 (1978)	100 (1983)
Mortality rate 1-4 yrs (per 1000 live births)	12 (1965)	10 (1983)
Maternal mortality rate (per 1000 live births)	N.A.	6-8 (1983)
Newborns with birth-weight less than 2,500 grams	30% (1977)	
Children under 5 years below reference value of weight for age	40% (1977)	
Households having ready access to safe water supply	Total	38%
	Urban	77%
	Rural	22%

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5. ORGANIZATION AND ADMINISTRATION

5.1 Ministry of Health

5.1.1. The Federal Ministry of Health, Special Education and Social Welfare (MOH) in cooperation with the Ministry of Planning & Development (P&D) and the Ministry of Finance (MOF) is responsible for health policy-making. Othe federal government organizations also are involved with various aspects of health, as well as local governments, including municipal corporations.

5.1.2. Organizational charts for the health services at the federal, provinc and district levels are presented in Annexes 2 and 3. The Federal MOH has recently been divided into two wings, one dealing with administrative aspects of health and the other concerned with technical aspects. All technical offices report directly to the Director-General (DG). The followi offices are concerned with one or more primary health care components:

(a) Deputy Director General (DDG), Public Health - administrative aspects of the malaria control programme, medical education and other aspects of public health.

(b) DDG , Medical - liaison with WHO and UNICEF.

(c) DDG , Development - involved with the TBAs Training Project, MCH and other development programmes

(d) Nursing Adviser

(e) DDG , Basic Health Services - coordinating US-AID supported Primary Health Care Project to expand PHC activities through a system of integrated rural health complexes (IRHC).

(f) DDG , PSDM - Procurement, supplies, drugs and management.

(g) DDG , Drug Control/Pharmacy - registration and price regulation of drugs

Autonomous bodies include the National Institute of Health, Islamabad. The EPI and ORT components of the AHP are located at NIH.

5.1.3. Functions and Relationships

The functions of the MOH include policy making, coordination of provincial health functions, national health planning, international and bilateral relationships in the health field, health services for governmen

employees, establishment of post-graduate medical centres and professional educational standards, drug control, mental health services, communicable disease control, and health statistics.

5.2 Coordination of Primary Health Care Components

The line offices concerned with variuos primary health care components report directly to the Director-General. The individual DDGs meet as needed and consult with other offices as required. At one time the Accelerated Health Programme (AHP) had a federal coordinating group composed of the Health Minister, P&D, MOF, and provincial Directors of Health Services (DHS) which functioned in the planning phase to prepare the initial planning document.

5.3 Provincial Health Departments

Provincial Health Departments are responsible for health services in the urban and rural areas, administration of medical education, training of paramedics, communicable disease control and school health. With minor differences, the organization at the provincial level follow the federal pattern.

The Director Health Services (DHS) reports directly to the Secretary Health, and is the key person for implementation of the health services in the province, both curative as well as preventive. The DHS is responsible for administering the budget and supervising all health programmes including the primary health care programme in the province. He is assisted by the Deputy Directors of Health Services (DDHS) at the provincial and divisional levels. Assistant Directors of Health Services (ADHS) are attached to DDHS in some provinces.

5.4 District and Peripheral Level

The district health office is headed by the District Health Officer (DHO) who is concerned with public health and reports to the provincial DHS. The district headquarters hospital is headed by a

medical superintendent (MS) who reports directly to the provincial DHS. Government health services include tehsil hospitals, Rural Health Centres (RHCs), Basic Health Units (BHUs), dispensaries, subcentres and MCH centres. The DHO also is responsible for specific programmes such as malaria control and AHP. Municipal health services are controlled by municipal authorities. Population welfare planning is the responsibility of a district population officer who reports to the Population Welfare Division.

6. BUDGET & FINANCING

Health sector allocations have shown a progressive increase over the years for both capital and recurrent budgets. Capital budget allocations increased from Rs. 717 million in 1979-80 to Rs. 1,705 million in 1983-84 and recurrent budget allocations from Rs. 745 million to Rs. 1,577 million; an increase of slightly more than two-fold in both budgets in the last 5 years. The utilization rate of both capital and development budgets was high, ranging from 84% to over 100% over the last five years (Table 6.1). During the last three years, the distribution of the capital health budget between the provinces and federal Health Division, including federally administrative areas was nearly equal.

Rural health and preventive programmes are given high priority and received 33% to 49% of the capital budget in the last four years. The per capita allocation for the health sector from public funds has shown an upward trend in all provinces on a comparison of 1982-83 with 1983-84; from Rs. 5-13 in 1982-83 to Rs. 9-14.7 in 1983-84.

Special allocations have been made for the AHP for the period 1982-85 amounting to approximately Rs. 713 million.

Further details are given in Annex. 4.

TABLE 6.1. RECURRENT AND CAPITAL HEALTH BUDGET,1979-84

[Rs. Millions]

BUDGET	YEAR	Total Allocation	TOTAL HEALTH		Health Allocation as % of total Govt. allocation	Health Expenditure as % of Health Allocation
			Allocation	Expenditure		
RECURRENT	1979-80	30,000	745	727	2.5	97
	1980-81	36,270	794	763	2.2	97
	1981-82	48,100	962	962	2.0	100
	1982-83	64,400	1,299	1231	2.1	95
	1983-84	NA	1,577	NA	NA	NA
CAPITAL	1979-80	22,333	717	737	5.3	100
	1980-81	27,000	942	795	3.6	84
	1981-82	29,000	1,076	1,037	3.7	96
	1982-83	33,000	1,256	1,150	3.5	92
	1983-84	30,000	1,705	1,666	5.2	98

7. HEALTH MANPOWER AND HEALTH ESTABLISHMENTS

7.1. Health Manpower

7.1.1 Manpower Distribution

The manpower distribution by province, category and population is shown in Table 7.1 below:

TABLE 7.1. DISTRIBUTION OF HEALTH MANPOWER BY PROVINCE, 1983

Country/ Province	Doctors	Nurses	Para-medics	Dais/ CHWs	Popu-lation per Doctor	Popula-tion per Nurse	Population per paramed-ic/TBA/CHW
Pakistan	19,944	7,978	39,565	16,200	4,224	10,559	1,511
Punjab	10,200	3,352	19,332	8,600	4,965	15,108	1,813
Sind	6,304	2,482	11,940	4,380	3,211	8,156	1,240
Bal'Tan	849	554	1,889	760	5,413	8,295	1,734
NWFP	2,312	1,524	5,196	1,200	5,025	7,623	1,816
F.A.T.A.	121	36	680	435	19,182	64,472	2,081
Azad Kashmir	158	30	978	825	13,291	69,999	1,158

SOURCE: Planning Commission, Government of Pakistan, Islamabad (June 1983)

7.1.2 Staffing of facilities

The staffing norms for different facilities are fairly explicit.

(a) Dispensary: small outpatient facility usually staffed by one doctor or, in his absence, by a paramedic.

(b) Basic Health Unit (BHU): A primary health care post staffed by two paramedics (one male and one female) and doctors in some places

(c) Rural Health Centre (RHC): A primary health and medical care establishment that serves as a referral centre for the BHUs; it is staffed by one or two male and one lady doctor, two supervisory medical technicians and two medical technicians delivering health care.

(d) MCH Centre: Provides MCH care and is staffed by a lady health visitor (LHV) or by a lady doctor in some places.

(e) District Hospital: From 30-300 beds and staffed accordingly. Some specialized services are provided.

(f) Teaching Hospital: A large hospital ranging from 300-1600 beds affiliated with a medical college.

7.1.3 The manpower trends for the whole country are shown in the Table

7.2 and indicate an emphasis on increasing the number of paramedics. The figures show the cumulative output for the preceding 5 years. Trends by province are shown in Annex. 5.

TABLE 7.2: HEALTH MANPOWER TRENDS, 1970-1989

Categories	1966-1970	1974-1978	1979-83	Estimated 1985-1989
Doctors & Dentists	3,561	9,362	10,203	21,000
Nurses	1,681	4,311	4,246	5,000
Paramedics/ Auxillaries	4,653	9,756	13,576	38,000

SOURCE: Sixth Five Year Plan: 1983-88

The current survey found that 18.7% of medical posts and 12.5% of paramedical posts in health facilities were vacant.

7.2 Health Establishments

7.2.1 Health facilities by province, category and population are given in the table 7.3.

TABLE 7.3: DISTRIBUTION OF HEALTH FACILITIES BY PROVINCE, 1983

Country/ Province	Hospital beds	RHC	BHU	MCH/Sub-centres/ dispensaries	Population per Hospital	Population per RHC	Population per BHU/MCH/ Subcentres/ Dispensary
Pakistan	50,813	355	1,715	4,660	1,658	237,332	13,216
Punjab	24,729	190	1,107	2,177	2,048	186,594	15,422
Sind	16,448	76	41	1,061	1,231	159,821	18,387
Bal'Tan	2,594	28	123	393	1,772	131,314	8,907
NWFP	5,101	49	376	568	2,277	189,681	12,307
FATA	1,068	5	32	178	2,173	464,200	11,052
AJK	873	7	36	283	2,405	300,000	6,604

SOURCE: Planning Commission, Government of Pakistan, Islamabad

7.2.2 Health Facility Trends

Table 7.4 shows the additional facilities made available during the previous 5 years in 1970, 1978 and 1983. The trend shows a reduction in the output of hospital beds and an increasing output of PHC facilities. The trends by province are shown in Annex 6.

TABLE 7.4: HEALTH FACILITY TRENDS, 1970-1983

Facilities	1966-70	1974-78	1979-83
Hospital beds	4,300	14,308	5,308
Rural Health Centres	14	81	206
BHUs, SCs,Disp., MCH	250	1,183	1,617

SOURCE: Sixth Five Year Plan, 1983-1988

8. HEALTH PLANNING AND PROGRAMME MANAGEMENT

8.1 Decentralization

Overall planning and policy is formulated by the MOH, while implementation of health programmes is a provincial concern. Annex 7 presents an overview of planning, supervision and monitoring for all the components of primary health care. Planning authority also exists at provincial level and to a lesser extent at district level, but not at health facility level.

There is weak linkage between the federal health planning authorities and the implementors at provincial level, in that provincial managers rarely participate in the federal planning process.

8.2 Delegation of power

Allocation of responsibility and delegation of power is similar in all provinces except for minor differences in Sind and Baluchistan. All budget allocation and personnel arrangements above basic pay scale 5 are dealt with at provincial level. Powers given to DHOs are at times limited by DHS, however, the DHO plays an important role in the delivery of both preventive and curative services. The medical officer at RHC or BHU has limited administrative power over other health centre personnel.

8.3 Supervision

Supervision of health services in the provinces rests with the provincial health departments and the DHS who supervise the DHOs, Medical Superintendents, and also other vertical programmes like Malaria Control and the EPI.

The DHO supervises all primary health care personnel and facilities in his district. He is often overworked and has limited support staff for carrying out his duties effectively. The DHO's supervisory duties are many and usually related to health centre activities. However, there is la of a standard supervisory procedure/checklist. One was drafted at federal level, but not adopted by the provinces.

The Review team found that schedules for supervisory visits were available in just over 40% of health centres, and brief comments from supervisory visits were recorded and filed in half of the cases. Field

supervision of CHWs by health centre staff is minimal.

8.4 Job Descriptions

The current Review found that in only 26% of facilities were written job descriptions available. This is unsatisfactory because it creates confusion regarding duties and responsibilities.

9. PRIMARY HEALTH CARE

9.1 Policy

The Government of Pakistan has no formal definition of primary health care but adheres to the definition formulated at Alma Ata.

9.2 Objectives and Strategies

The broad objectives and strategies of the health sector can be found in the five year plans.

9.2.1 The Fifth Plan for the period 1978-83 contained the following objectives: (a) to provide modern health coverage within 2-4 miles for the whole population; (b) to reduce the crude death rate (CDR) from 14.0 to 10.2 per 1,000 population; (c) to reduce infant mortality from 105 to 79 per 1,000 live births; and (d) to increase life expectancy from 54 to 60 years for men, and from 53 to 59 years for women.

The broad strategy to achieve these objectives included the following elements: (a) a shift in manpower utilization from a doctor-oriented system to a three-tier system of doctors, auxiliaries and CHWs; (b) a better balance of facilities between urban and rural areas; (c) integration of special programmes; (d) a shift in emphasis from curative to preventive measures and associated community development; (e) a rapid expansion in the output of paramedical and auxiliary staff, and a consolidation of higher medical education; (f) development of medical specialists and paramedicals; and (g) improved linkages between health and other sectors. Specific quantitative targets were also given in the Fifth Plan.

The targets set in the Fifth Plan for mortality reduction and expansion of physical facilities were not achieved. Due to budget cuts, the funds allocated were only about 50% of the estimated cost. The functioning health units were found to be underutilized, especially in the areas of MCH and laboratory services.

9.2.2. The Sixth Plan has introduced major policy shifts. Greater emphasis has been placed on preventive services, and the total proposed capital outlay for the health sector is nearly three times the expenditure of the Fifth Plan. The new Plan has the following objectives: (a) to reduce the crude death rate from the present 12 to about 10 per thousand; (b) to reduce the infant mortality from 100 to 60 per thousand live births; (c) to increas life expectancy from 54-55 years to over 60 years; (d) to reduce the incidence of the communicable diseases from the present 30% to a negligible level; (e) to protect all children and newborns against six EPI target diseases; (f) to eliminate third degree malnutrition among children; (g) to provide assistance during childbirth to every mother by trained birth attendants; and (h) to prevent, as far as possible, occurence of disabiliti and provide care to the disabled.. The Sixth Plan policy shifts include emphasis on preventive care and consolidation of existing facilities in contrast to expansion.

Targets of the Sixth Plan are: (a) to protect 24 million children by immunization; (b) to protect 8 million children against complications and mortality of diarrhoea through oral rehydration salts; (c) to protect 1.25 million children suffering from third degree malnutrition; (d) to provide help during pregnancy and child-birth to all mothers through the training of 45,000 TBAs backed by lady health visitors (LHVs) and lady doctors; (e) to rehabilitate 100,000 disabled and prevent disabilities; and (f) to make PHC available to nearly all and referral care where needed.

The Sixth Plan envisions a systematic link between the village community and the tertiary hospital. A BHU will serve from 5,000 - 10,000 population and will provide antenatal care, child care, immunizations, diarrhoeal diseases, malaria control, child spacing, mental health and school health services. Outreach services by trained TBAs will be provided. Five to ten BHUs will be linked to a rural health centre (RHC), to form an integrated rural health complex (IRHC). Expansion of these IRHCs to cover the country is implied. To expand this system greater emphasis and increa

medical technicians will be required.

numbers of Dispensaries and MCH centres will be upgraded to BHUs to almost double the existing number.

9.3 Accelerated Health Programme (AHP)

In 1982 the Government introduced the AHP which included the following components:

- Control of diarrhoea mortality by rehydration with ORS;
- Training of TBAs;
- Immunization of children 0-5 years against the EPI diseases.

The targets are:

- To train 30,000 TBAs and prevent 10% of neonatal deaths.
- To immunize 15 million children 0-5 years against six preventable diseases of childhood and reduce morbidity due to these diseases by 80%.
- To immunize 7 million pregnant ladies with two doses of T.T.
- To distribute 25 million ORS packets through all health outlets and reduce deaths due to diarrhoea by 20%.

AHP is perceived as a separate entity with its own budget and has the highest priority of the health programmes. It has additional staff in the form of project managers and vaccinators.

Topic: A.H.P

PROBLEMS	RECOMMENDATIONS	STEPS TO BE TAKEN
1. At federal level there is a shortage of managerial and technical staff and planning is not integrated in the managerial process. Furthermore, there is no regular evaluation and feedback system.	(a) Vacant posts in the MOH should be filled and more technical posts created. (b) The planning process should start with district plans to be built up into divisional, provincial and national plans with full participation of implementors at each level. (c) A national and provincial evaluation system, including creation of evaluation teams, should be sent from federal and provincial levels to field workers.	
2. Some provinces will not be able to achieve all the targets of AHP by June, 1985.	The AHP should be extended for 12 months in provinces that are unlikely to achieve the targets by June, 1985.	-Resources should be allocated to match the remaining task.
3. AHP is not functionally integrated at health centre level and its components may collapse if no plan for integration is considered in time.	Integrate functionally with other components of PHC at health centre level in a phased manner.	-AHP be integrated with MCH services at health centre level. -Vertical staff of EPI to be absorbed in the regular health system and allocated to the health centre level. —Committee headed by National Coordinator EPI/ORS, to be represented by BHS, MCH and Nutrition. Pilot areas to identify specific problems/ solutions of integration.
4. Responsibilities and duties at DHO level are more than the powers and support staff allocated. This is one of the principle reasons for weak supervision of PHC components. 5. Operational planning, programming and evaluation at district level is inadequate.	Authority should be comparable with responsibility and supportive staff made available corresponding to the functions. This will also strengthen the operational planning and evaluation.	- The minimum staff requirement are four supportive officers: 1 for preventive health services, 1 for administration, 1 for management and information 1 for the guidence and supervision of health outlets.

6. Paramedics are essential for PHC activities at health outlet level.	Develop a career structure based on experience and further training	- Develop grades for different levels of health outlets by the Provincial DHS.
7. The availability of transport and POL are minimal at RHC level.	Transport and POL funds to be made available at all RHCs. Responsibility lies at the provincial level.	- Arrangements to be made for procuring and maintaining transport for the existing RHCs. Transport be an in-built part for project proposal for future. RHCs.

10. EXPANDED PROGRAMME ON IMMUNIZATION

10.1 History

The Government of Pakistan launched a country-wide Expanded Programme on Immunization (EPI) in 1979 as part of the Fifth Five Year Plan. By 1982, however, it became apparent that the objectives could not be achieved and that the programme could only cover urban areas. Only 2% of children were fully immunized. To cover the backlog of unimmunized children 0-5 years the EPI was accelerated as a part of the AHP.

10.2 Organization

The National Coordinator EPI 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 is the operational leader of the federal EPI cell. He is responsible for programme planning and evaluation, procurement and supply of vaccines, cold chain equipment, transport, immunization equipment, health education through mass media, coordination with the provincial EPI managers, collaboration with the WHO/EPI Senior Adviser and training of mid-level managers (Annex 8). Immunization data obtained from the provinces are compiled and analysed by this unit.

There are 54 positions sanctioned for the federal EPI cell at Islamabad; 23 positions including an operations officer have not yet been filled. There is no national epidemiologist attached to the programme, but presently a WHO epidemiologist is filling this gap.

10.3 Objectives

According to the initial plan of action, the minimum annual coverage target for fully immunized children for 1982 was set at 50% and for 1983 at 60%. However, under the Accelerated EPI, for the 24-months period commencing from January 1983 the target for children 0-5 years was raised to 100% (15 million children). In addition a target was set to immunize 7 million pregnant women with two doses of TT. Separate targets for

infants or children below 1 or 2 years of age were not set. Another goal was to reduce the mortality and morbidity of the target diseases by 54% by 1983 and 90% by 1990. According to the estimates of the Planning Commission, full implementation of AHP would reduce by 20% the morbidity of children under 5 years. The annual immunization targets after termination of the AHP will be 4 million newborns and 4 million pregnant women.

10.4 Target Age-group

The target age-group presently is children under 5 years. Upon completion of the AHP in June 1985, the programme will concentrate on immunization of children under 1 year of age. Although no school immunization programme exists, the schedule calls for one dose each of OPV and DPT/DT at 5 years and one dose of BCG at 10 years of age, as boosters. Instructions have been issued by the Ministry of Health to all provincial health departments to extend the TT target group from pregnant women alone to all women of child-bearing age (15-45 years).

10.5 Strategy

10.5.1 Fixed Centres are located in existing health facilities in thickly populated areas and serve the population within a 5 km radius. These centres, which have doubled in number since 1981 from 546 to 1166, offer immunization 6 days per week.

10.5.2 Outreach teams serve the population within a radius of 5-8 km of a fixed centre. The teams are composed of 2-4 vaccinators, some with motorcycles and bicycles. Outreach teams now number 1187 and many have been established in the last year.

10.5.3 Mobile teams are used in some provinces to cover the most distant populations. The teams are composed of 4-6 vaccinators who work exclusively for EPI. They can operate without resupply for a period of 3-4 days. Local leaders provide accommodation . Scheduled visits to predetermined sites are preceded by an advance party to ensure maximum community participation. There are 71 mobile teams operating

since July 1983. Table 10.3 shows the number and type of immunization centres by province. Annex 8B shows the no. of immun. performed in last years.

TABLE 10.1. DISTRIBUTION OF IMMUNIZATION UNITS BY PROVINCE, 1984

Services	Punjab	Sind	NWFP	B'Tan	AJK	Total
Fixed	383	302	334	60	87	1,166*
Outreach teams	866	200	91	25	5	1,187
Mobile Teams	-	39	3	26	3	71
TOTAL	1,249	541	428	111	95	2,424

* 469 perform only immunization.

10.5.4. Other groups delivering immunizations include the TB control programme (BCG only), District Councils, local bodies and social welfare departments and the Army. All these groups receive vaccine from the EPI and report total doses given. Vaccinations are provided by the many groups helping the Afghan refugees, semi-government organizations, NGOs and to a minimal extent private practitioners.

10.6 Immunization Schedule and echniques

The immunization schedule, doses and routes as practiced now are shown in Tables 10.2 and 10.3 below.

TABLE 10.2: IMMUNIZATION SCHEDULE

Age group	Vaccine	Doses	Interval
3-23 months	DPT	3	1-3 months
2-5 years .	DT	2	1-3 months
9 months-2 yrs	Measles	1	"
3 months-5 yrs	Polio	3	1-3 months
Newborn babies and upto 15 yrs	BCG	1	-
Booster I	Polio,DPT/DT	1	18 months
II	Polio,DPT/DT	1	5 years
III	BCG	1	10 years
Women (15-45 yrs)	TT	2	1 month

TABLE 10.3. VACCINE DOSES AND ROUTES OF IMMUNIZATION

Vaccine	Dose	Route of Administration
Polio	3 drops	Oral
DPT	½ ml	Intramuscular in lateral thigh
DT	½ ml	-do-
TT	½ ml	Intramuscular
Measles	½ ml	Subcutaneous on left arm
BCG (newborns to 3 months)	1/20 ml	Intradermally on upper right arm
(3 months to 15 yrs)	1/10 ml	-do-

10.7 Policy on Contra-indications

Following the EMRO Intercountry Meeting on EPI held at Lahore in May 1984, EPI-Pakistan has adopted the simplified recommendations on vaccination contraindications for immediate implementation. The only contra-indication to vaccination is severe illness requiring hospitalization. Measles vaccination is now given at 9 months of age rather than 7 months of age regardless of previous easles infection. TT immunization should be given to women of child-bearing age on first contact.

10.8 Training

Six senior officers were trained in EPI planning and management courses outside of Pakistan and 42 more were trained in a similar course at Murree in September 1978. Training materials were locally prepared to facilitate uptake by participants. The subject material included training in the cold chain, vaccination services, vaccine equipment and health education. The course duration varied from 5-7 days and included 2-3 days of field exercises.

TABLE 10.4: EPI TRAINING COURSES, 1978-84

Type of courses	No. of courses	No. trained
Senior level planning & management	1	42
Midlevel management	12	332
Cold Chain Repair	2	46
Peripheral level vaccination (for vaccinators)	175	8,250*
Total	190	8,670

*including 1,046 supervisory staff

WHO and UNICEF have financed training costs. EPI training material has been incorporated in the courses of other health programmes and has been used in the curricula of the public health nursing schools and medical technician training schools.

10.9 Evaluation

At federal level there is a supervisory and evaluation team consisting of 2 supervisors and 4 assistant supervisors. However, their activities are limited. At provincial and district levels, DHOs and field supervisory medical officers (FSMOs) perform supervisory and evaluation functions and cross-check vaccination reports. Some coverage surveys have been carried out (Annex 9). Some operational research has also been carried out (Annex 10)

10.10 Field Observations at health facilities

In one third of the health centres visited, the staff were not familiar with the national immunization schedule. Only one third of the centres had immunization targets. And very few centres compared the immunizations performed with the number of newborns. Twenty-eight percent of the health centre staff could clearly describe the operational strategy for achieving immunization targets and 48% of the centres monitored performance by geographic area and modified their strategy accordingly. Just over half of the centres checked the immunization status of cases of the target diseases and a similar proportion effectively followed-up defaulters. Stated contraindications to immunizations were diarrhoea, fever, cough, or "weak child".

Immunization session procedures were evaluated mostly without observation . Age screening was done correctly in almost 2/3rd of the cases and 2/3rd of the mothers were adequately informed by the vaccinators about the purpose of immunization, possibility of side-effects, need for subsequent visits and safe keeping of the immunization cards. In only 30% of facilities were the immunizatior

sessions integrated with other MCH activities. Most immunizations cards were filled correctly. In 2/3rd of centres the immunization technique was satisfactory and sterile syringes and needles were used. However, in 30% of the centres there were insufficient syringes and needles. Very few centres had local volunteers to assist.

10.11 Survey Results

The districts surveyed are shown in table 10.5. The survey methodology has been outlined previously.

The date and/or history of immunization was accepted as evidence of immunization except for BCG where a scar was used. A fully immunized 12-23 months old child was defined as a child having DPT-3, Polio-3, BCG and measles. Based on programme policy, children with previous natural measles were not offered measles vaccine and for the purposes of the survey, were considered to be immunized. In the 2-4 year age group full immunization was defined as DT-2, Polio-2 and BCG.

On average, 50 houses were visited per cluster in urban and rural areas requiring an average time of 240 minutes in urban and 315 minutes in rural areas.

Tables 10.6 and 10.7 show the results of these surveys. Analysis of these tables shows that most of the children in the 12-23 months age group had vaccination cards, ranging from 94% in rural Punjab to 30% in rural Baluchistan. The same pattern was observed for children in the 2-4 year age group.

The programme has reached a large majority of children as is evident by the high percentage of first dose DPT/polio both in urban and rural areas, especially in Punjab and NWFP. The percentage of fully immunized children 12-23 months varied from 82% in rural Punjab to 8% in rural Baluchistan. The coverage in both age groups was generally higher in urban areas, except for Punjab. The drop out rates in the 12-23 months age group were lowest in rural Punjab (15%) and highest

TABLE 10.5

DISTRICTS AND POPULATION SURVEYED

Province	District Selected	Population (1981)			% of Total Population of province
		Urban	Rural	Total	
Punjab	Multan T.T. Singh Okara	1,556,000	5,108,000	6,664,000	14%
Sind	Karachi Jacobabad	5,957,000	409,000	6,366,000	33%
N.W.F.P	Peshawar Mardan	1,062,000	2,607,000	3,669,000	33%
Baluchistan	Pishin Gwadar	372,000	115,000	487,000	11%
A.J.K.	Muzaffarabad Kotli	831,000		831,000	42%
Total				18,017,000	21%

Table: 10.6

RESULTS OF IMMUNIZATION COVERAGE SURVEY[a], PAKISTAN, NOVEMBER, 1984

12-23 MONTHS AGE GROUP

Percentages

PROVINCE	Survey Rural/ Urban	No. of Children examined	Immuni-zation record available	D.P.T			POLIO			MEASLES	BCG (Scar)	Fully Immunized	Fully Immunized under 1 [b]	Drop out Rate	T.T	
				1	2	3	1	2	3						1	2
PUNJAB	Urban	218	91	97	89	79	91	89	79	88	85	74	40	26	48	48
	Rural	215	94	98	94	87	98	94	88	88	93	82	43	15	37	37
SIND	Urban	212	42	65	52	40	65	52	40	50	60	39	18	38	6	4
	Rural	210	75	82	45	23	81	45	23	72	24	21	14	72	1	1
NWFP	Urban	213	76	86	74	67	86	74	67	81	83	65	47	22	8	8
	Rural	215	89	96	78	56	96	78	56	95	93	56	26	42	4	4
BALUCH-ISTAN	Urban	214	42	58	44	32	59	44	32	48	36	25	46	45	1	1
	Rural	211	30	35	28	21	35	28	20	32	8	8	0	38	0	0
A.J. KASHMIR	Urban + Rural	210	78	76	52	41	75	49	41	42	42	30	16	46	8	7

a : All coverages expressed as percentages of children surveyed.

b: Proportion of fully immunized children who completed immunization before reaching one year of age.

Table: 10.7

RESULTS OF IMMUNIZATION COVERAGE SURVEY[a], PAKISTAN, NOVEMBER,1984

2 - 4 YEARS AGE GROUP

PROVINCE	Survey Rural/ Urban	No. of children examined	Immunization Record available	D.T		POLIO		Measles	BCG (Scar)	Fully Immunized	Drop out rate
				1	2	1	2				
PUNJAB	Urban	216	92	95	87	95	87	-	91	84	13
	Rural	218	96	97	93	97	93	-	92	91	4
SIND	Urban	210	36	71	59	72	59	34	58	51	18
	Rural	210	74	84	50	84	48	69	42	45	40
N.W.F.P	Urban	215	68	92	71	92	71	71	89	69	23
	Rural	211	81	94	70	94	70	87	88	64	26
BALUCHISTAN	Urban	218	42	63	49	63	49	36	47	23	23
	Rural	212	34	37	29	37	29	22	28	19	21
A.J.KASHMIR	Urban + Rural	210	73	77	55	76	55	22	52	49	28

a: All coverages expressed as percentages of children surveyed.

in rural Sind (72%). These differences may be based on different strategies.

The survey showed that 5% of children received measles immunization before 9 months of age and another 5% did not receive vaccine because of a history of disease (Table 10.8). The EPI policy before June 1984 was to offer measles vaccine at 7 months of age and not to offer it to children with a past history of measles. The new policy sets the minimum age of measles immunization at 9 months regardless of history of diseases.

TABLE 10.8: CHILDREN RECEIVING MEASLES VACCINATION BEFORE 9 MONTHS OF AGE OR NOT VACCINEATED DUE TO PREVIOUS MEASLES INFECTION

PROVINCE	Survey	Total children examined	Measles given under 9 months of age		Measles not given due to previous history of Disease	
			NO	%	No	%
PUNJAB	U	218	27	12	31	14
	R	215	33	15	21	10
SIND	U	212	7	3	5	2
	R	210	3	1	0	0
NWFP	U	213	7	3	13	6
	R	215	3	1	1	1
BALUCHIS-TAN	U	214	4	2	13	6
	R	211	3	1	5	2
AJK	U/R	210	4	2	0	0
ALL		1918	91	5	89	5

The proportion of DPT-1 immunization based on history alone ranged from 5% in rural Punjab to 36% in rural Sind (Annex 11).

Because many of the children were reached for the first time in recent months, the drop out rate is obscured by immunizations under completion. The proportion of partially immunized who were in the process of immunization was highest in rural NWFP (70%) and lowest in rural Baluchistan (6%) [Table 10.9].

The ability of the programme to reach children before their first birthday was poor.based on the percentage of fully immunized children who finished their course of immunization before reaching the age of one year. This rate ranged from 47% for urban NWFP to 0% for rural Baluchistan. In the Punjab it averaged 42%, Sind and AJK 16%. Urbal Baluchistan was 41%.

Vaccination coverage of pregnant women was very low except in Punjab which covered 48% of this target group. In all other provinces the coverage was less than 10% and was only one percent in rural Sind and urban Baluchistan and nil in rural Baluchistan.

In a country where neonatal tetanus is common, the importanc of tetanus toxoid administration is obvious.

The majority of immunizations were carried out by outreach and mobile team especially in rural areas (Table 10.10).

TABLE 10.9

PERCENTAGES OF PARTIALLY IMMUNIZED CHILDREN WHOSE NEXT SCHEDULED DOSE WAS NOT DUE AT THE TIME OF THE SURVEY

Province	12-23 Months		2-4 Years	
	Urban	Rural	Urban	Rural
Punjab	50	35	33	33
Sind	28	21	16	56
N.W.F.P	28	70	36	46
Baluchistan	18	10	28	6
A.J.K	-	18	-	19
Total	28	32	25	28

TABLE 10.10. PERCENTAGES OF TOTAL IMMUNIZATIONS CARRIED OUT BY MOBILE/OUTREACH TEAMS IN PROVINCES OF PAKISTAN

PROVINCE	Source of Immunization in rural areas			
	Mobile/Outreach	Health Cent.	Hosp.	Private
Punjab	94	4	2	-
NWFP	46	36	18	-
Sind	63	14	16	7
Baluchistan	84	5	11	-
Azad Kashmir	45	36	19	-

Reasons for failure to complete the course of immunization are detailed in Annex 13.

Of the 3838 children surveyed, 42% were partially or not immunized. The main reasons were:

- lack of information (47%)
- Obstacles (48%) - vaccination team did not arrive or family problems
- lack of motivation (5%)

10.12 Major Achievements

- High public awareness has been achieved in less than 2 years, partly due to an intensive mass media campaign.
- A high proportion of the target age group, 98% in Punjab, has been reached at least once.
- Immunization coverage has risen dramatically in a short period and over 8.6million children have been fully immunized.

Subject: E.P.I

PROBLEMS	RECOMMENDATIONS	STEPS TO BE TAKEN
1. (a) The static EPI units are greatly under-utilized, particularly in the rural areas.	(a) Full integration of EPI with existing health facility services should progressively be achieved.	-Federal/Provincial health departments should issue a directive re-emphasizing the role of health staff in EPI activities.
(b) The success of the accelerated EPI has been largely dependent on outreach activities and mobile teams.	(b) The target population to be covered by each fixed EPI unit, outreach team and mobile team should be precisely defined.	-Provincial Secretaries/DHSs should organize a workshop to promote immediate implementation of the directive and similar meetings should be held at district level.
	(c) Provision should be made to continue outreach activities and mobile teams as long as necessary to maintain immunization coverage.	-Medical officers and paramedical staff should be reoriented and, where necessary, retrained for EPI. -Each health institution should define its catchment area and target population, list its villages and their leaders, and develop a strategy for full coverage. -Defined target populations for outreach and mobile team should be covered by scheduled regular visits. -The area covered by EPI services should be at all health facilities.

2. Immunization coverage of children below one year of age is still low.	Immunization of children early in the first year of life should be emphasized immediately..	-The earliest age of immunization should be lowered from 3 months to 2 months in accordance with WHO recommendations and health staff should be reoriented to this new emphasis.
3. Immunization coverage with TT is low throughout the country and neonatal tetanus remains a major cause of infant mortality.	(a) Women of child-bearing age should be identified and vaccinated by outreach/mobile teams enlisting, whenever possible, the support of LHVs,TBAs and community leaders. (b) TT immunization must be provided routinely to any women of child bearing age attending a health facility. (c) Pregnant women must receive TT immunization on first contact.	Federal and provincial health departments should issue a directive regarding the special emphasis on TT vaccination.
4. School health services are weak or non-existent and currently do not deliver immunizations.	All school-entrants and female school-leavers should be appropriately immunized as a first step towards establishing a comprehensive school health programme.	-BCG, polio and DT immunization provided to all female students in 10th grade, by arrangement with the nearest health facility.
5. The immunization coverage in Baluchistan is very low.	A special workshop should be held to discuss managerial and operational problems, district by district, and to reformulate the plan of action for the province, in particular assigning responsibility to DHOs for district immunization coverage.	-Revision of the plan of action to be carried out in collaboration with the federal EPI unit, the provincial health departments and WHO.

6. Medical and paramedical staff do not feel responsible for EPI and other preventive services.	(a) Staff should be appropriately reoriented and retrained to ensure their active involvement in EPI. (b) In preparation for full integration health staff should progressively adopt responsibility for immunization carried out in health facilities. (c) EPI and other preventive health programmes should be included in all institution medical and paramedical training.	- Necessary training courses should be organized. - Supervision of immunization activities and monthly vaccination returns should be made the responsibility of the medical officer in-charge at all health facilities. - PMDC should be directed by the MOH to adequately cover EPI in the curriculum of medical colleges. - A similar directive covering paramedical training should be issued by BHS, MCH.
7. Most EPI activity is carried out in the absence of targets at the service delivery level. In all provinces, excluding Punjab, existing targets are based on 1981 census projections.	(a) Vaccination coverage should routinely be compared with expected numbers of live births. Action to register births should be initiated using all available mechanisms (EPI, other health staff, TBAs, CHWs, Union Councils and village chawkidars)	Village registers for births and vaccinations performed should be iontroduced and their use evaluated.
8. The national policy contra-indications to immunization (adopted following Lahore meeting) is not yet fully implemented.	Accelerated implementation of the recently revised policy on contra-indications to immunization.	-Provincial DHS to issue directive for immediate compliance. The Pakistan Medical Association should be requested to issue a statement on this matter.
9. An effective and comprehensive mechanism for ongoing evaluation is absent and coverage surveys are infrequently conducted.	a) Provincial evaluation teams should conduct coverage surveys in each district with sufficient frequency to detect operational problems. b) A central/interprovincial coverage survey should be carried out annually. c) A national/international review should be carried out in 1987.	-Provincial EPI to develop Plan of Action.

11. VACCINE, COLD CHAIN, TRANSPORT, AND SUPPLY

11.1 Estimation of Vaccine Requirements

EPI vaccine requirements are estimated based on population and targeted coverage. There has been no shortage of any EPI vaccines during the last 3 years.

11.2 Supply Source and Procurement of Vaccines

All vaccines, except some polio vaccine, are imported.

Since August 1982 OPV has been produced by the NIH in collaboration with Connaught Laboratories. The plant is capable of producing 4 million doses per month. Due to some technical problems, however, 25% of the requirements have been imported. The cost of EPI vaccines in 1983 is shown in Table 11.1

TABLE 11.1.

COST OF EPI VACCINES PROCURED FROM UNICEF, 1983

Vaccine	Amount (US$)
DPT	104,000
DT	44,250
Measles	;92,000
BCG	225,000
TT	30,000
Total	395,250

The amount paid to UNICEF for vaccine in 1984 (until October) was $702,000. Vaccines are supplied only by Connaught, Berne-Suisse, Merieux and BCG Laboratory, Tokyo.

11.3 EPI Central Store

All imported vaccines arrive at Islamabad Airport. An EPI

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staff member is present at the airport to receive the consignment and facilitate the customs clearance. The EPI Central Store is located at the NIH. Vaccines are stored in 4 built-on-site cold rooms, total volume 68 m³, and in 12 Electrolux deep freezers. Two automatic stand-by generators are connected. At the time of the review, cold rooms, refrigerators and generators were in working order and good condition.

Two of the cold rooms have automatic temperature recorders; the others and the refrigerators are monitored manually. There is no alarm system. No expired vaccine was found in the Central Store. Cold chain monitors were in use and all indicators were on "0".

TABLE 11.2

PRESENT STOCK OF THE VACCINES IN THE EPI CENTRAL STORE

Vaccine	Doses
TT	4,040,400
BCG	196,220
DPT	10,414,400
DT	1,793,720
Measles	3,291,560
Polio	4,202,600

11.4 Repair and Maintenance

The minor maintenance of the cold rooms, refrigerators and generators is performed by 3 EPI mechanics. Major repairs are done by outside contractors. There are adequate basic tools for repairing cooling systems, but no stock of spare-parts is kept by the national EPI WHO provides some refrigerator spare-parts. None of the EPI staff repair technicians or store room staff at this level have participated in any EPI training courses.

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Annexes 14-16 show equipment, supplies, and transport provided and distributed to the provinces during 1981 to 1984.

11.5 Distribution of Vaccines

Vaccines are distributed through 4 provincial stores located as shown in Table 11.3.

TABLE 11.3

PROVINCIAL STORES AND COLD STORAGE EQUIPMENT

Province	Location	Storage Equipment
Punjab	Punjab Health Directorate, Lahore	1 cold room (+4°C) 31 refrigerators and freezers
Sind	EPI Headquarter, Nazimabad, Karachi	2 cold rooms (+4°C and -20°C)
NWFP	EPI Headquarter, medical store, Peshawar	2 cold rooms(+4°C and -20°C) 5 refrigerators and freezers
BALUCHISTAN	EPI Headquarter, College for Repairing Medical Equipment, Brewary Area, Quetta.	2 cold rooms (not in working condition) 18 refrigerators and freezers.

AJK collects the vaccines from NIH.. Vaccines are sent to to Sind and Baluchistan by air and the other provinces collect their vaccines from central stores by vans in cold boxes.

11.6 Provincial Stores and Cold Rooms

The walk-in cold rooms in Sind were assembled in 1983 in a large store room together with other EPI equipment. The indoor temperature of the store room at the time of the visit was 38°C versus the outside temperature of 16°C because of the heat produced by the cooling units and lack of ventilation. Therefore, vaccines may be exposed during summer to high temperatures (over 48°C) during loading and unloading. The store room should be divided by erecting a wall

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and 2 powerful ventilators installed.

In Punjab the cold rooms and refrigerators were all in very good condition and an elaborate and excellent vaccine maintained.

In Baluchistan 2 newly assembled cold rooms were out of order due to unidentified electrical problems. There was no voltage stablizer in use. Some frozen DPT vaccine was found in refrigerators at different levels of the cold chain because the night-time ambient temperature falls below freezing.

In NWFP the store room containing the cold rooms and the refrigerators was well ventilated and in good condition and the stock registary was well maintained. Frozen DT was found in 1 health facility.

TABLE 11.4

PRESENT STOCK OF VACCINES IN PROVINCIAL STORES, IN DOSES OCTOBER, 1984

Province	DPT	DT	TT	BCG	Measles	Polio
Punjab	1,566,500	252,040	122,020	95,196	177,600	578,310
Sind	193,780	309,340	128,240	216,700	476,770	589,200
NWFP	136,400	328,500	60,000	80,600	571,800	166,800
Baluchis-tan	20,580	43,060	11,200	4,860	18,400	40,880

Stock registrs showed that since January 1983 there has been no shortage of the EPI vaccines or other EPI supplies in the provincial stores.

Table 11.5 shows the number, condition and other information about cold rooms and indicates that the system requires improvement. Further details of the cold chain are given in Annex 17.

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TABLE 11.5

COLD ROOMS, PAKISTAN, 1984

Province	Number Of Cold Rooms						Number Of Cold Rooms Connected to:					
	Working		Not yet Installed		Not Working		Automatic Temp.Reco-Rd System		Alarm System		Stand by Generator	
	4°C	-20°C	4°C	-20°C	4°C	-20°C	Yes	No	Yes	No	Yes	No
Federal	2	2					2	2		4	2	2
Sind	1	1	2					4		4	2*	2
Baluchistan					1	1		2		2		2
Punjab	1	1	2	1			1	4		4	2+2*	
N.W.F.P	2	1	3	3							2+6*	

* Purchased, not yet installed.

11.7 Divisional, District, Health Centre level Cold chain

Divisional and District stores in all the provinces are equipped and organized like the provincial stores, but there is a lack of trained staff and more difficulty in stock handling.

Approximately 50 health facilities were visited. Observations are summarized in Table 11.6.

TABLE 11.6

COLD CHAIN FIELD OBSERVATIONS, HEALTH CENTRE LEVELS

		Punjab	Sind	NWFP	B/tan	JAK
Percent of health centres with at least 1 refrigerator		100	94	100	100	100
Percent of the health centres with at least 1 refrigerator in working condition		100	100	90	50	100
Percent of the refrigerators equipped with a thermometer		95	100	84	40	80
Refrigerators (temperature in °C)	Range	2 to 10	3 to 9	-4 to 8	-4 to 5	-3 to 7
	Average	5.6	6.2	3.8	3.3	3.2
Percent of the health centres where at least 1 vial of expired vaccine was found		4	0	0	0	40
Percent of the health centres where vaccine registery was maintained		100	97	90	60	100
Percent of the health centres where no icepack was kept in the refrigerator		25	26	5	70	2

In health centres, vaccine monitors were not in use, spare parts were not kept, but vaccine stock appeared to be adequate.

It was observed that a number of kerosene refrigerators were out of order in Baluchistan.

11.8 Achievements

- The EPI cold chain system appears to be effective and efficient
- Polio vaccine is produced at NIH and the first batch of locally produced measles vaccine is expected, making them self-sufficient.
- Sufficient cold chain equipment has been provided to support EPI activities until 1987. There are 13 cold rooms in good working condition and 11 to be installed .

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- A high proportion of fixed EPI activities in the 3 provinces visited by team members have at least one refrigerator in good working condition and most of the district stores had spare refrigerators.
- At no time in the last 3 years was the programme interrupted due to shortage of vaccine.

PROBLEMS	RECOMMENDATIONS	STEPS TO BE TAKEN
1. The EPI cold chain is extensive and relatively new. Despite its present excellent condition, problems can be anticipated in coming years	Advance preparation for anticipated problems should be made, as reflected in the following, specific recommendations.	-Appointment of WHO cold chain expert to coordinate activities.
2. Adequate numbers of cold chain equipment are available to run the EPI Programme until June,1988. However, no stocks of spareparts have been provided.	To ensure the effectiveness of the cold chain, adequate spare-parts should be provided.	-Provide funds for purchasing spare-parts. -Prepare a list of essential spare-parts. -Procure spare-parts through re-imbursable procurement. -Distribute spare-parts to Provinces
3. a) Despite training of 18 repair technicians, only 4 are working for EPI	Ensure a total of 24 adequately trained and equipped repair technicians working for EPI.	-Obtain 12 tool kits. -Prepare translation of repair technician modules into Urdu. -Conduct a 14 days EPI technician course. -Existing technicians should be included in retraining, where appropriate.
b) Trained EPI storekeepers exist, but not up to the expected standard.	Give additional training to these people to ensure an upgraded performance.	-Conduct training course in logistics and cold chain.
c) There will be a 24 cold rooms in operation by the end of June,1985. No cold room technicians have been trained.	Train 5-10 technicians for cold room repair.	-Conduct on the job training course.
4. Frozen DPT vaccine were found in some Provinces.	Freeze-watch devices should be added to the cold chain system.	-Obtain adequate supply of freeze watch devices. -Distribute them to provinces. -Train staff to use freeze watch.
5. The temperature recording of cold rooms is not optimal. Most of the cold rooms are not equipped with thermographs or the devices do not function properly.	Provide automatic temperature recorders and alarm systems for the cold rooms.	-Provide 19 temperature recorders and 21 alarm systems and install them.
6. Cold chain monitors are in use, but not yet down to the periphery of the cold chain.	Monitors should be used throughout the cold chain and staff should be trained to fill, analyse, interpret and report on them.	-Prepare a simple statement, in appropriate language, on cold chain monitor usage and interpretation.

12. CONTROL OF DIARRHOEAL DISEASES (CDD)

12.1 Objectives and Targets

The stated objective of the CDD component of the AHP is to reduce mortality due to diarrhoea in children under 5 years. A 20% reduction in mortality in this age group by 1985 is the specified target.

12.2 Strategies

(a) Promotion of appropriate case management

- Early therapy with fluids available in the home, appropriate use of ORS at all health facilities, and availability of I/V back-up, where necessary.
- Improving and maintaining nutritional status.
- Appropriate treatment of complications.

(b) Epidemiological surveillance and epidemic control.

Current activities are almost entirely related to ORS production, distribution and promotion, and training in diarrhoea case management.

The programme is guided at national level by a technical steering committee which includes representatives of NIH, MOH, provincial health departments, senior paediatricians and other agencies. The Executive Director, NIH, is the National Programme Coordinator, however, there is no full-time National CDD Manager, nor other full-time CDD staff at any level.

12.3 Training

According to the programme document, staff at all levels should be trained in ORT. The numbers of staff already trained are presented in Table 12.1.

In 1980 the Eastern Mediterranean Regional Training Centre for Diarrhoeal Diseases was established in the Mayo Hospital, Lahore. This centre trains doctors from throughout the country who should act as trainers for workshops in their own areas. Similar training is

TABLE 12.1. NATIONAL HEALTH STAFF TRAINED IN CDD/ORT ACTIVITIES, 1982-84

Type of Training	Training Centre or location	Staff trained by category Doctors	Paramedical
Senior Programme Management	Lahore	9[a]	
Diarrhoea case management/ ORT	Lahore[b]	800	650
	Rawalpindi	317	
	Other Punjab Centres	134	1127
	Karachi	40	50
	Peshawar	20	180
	Various[c]		2500
	TOTAL	1311	4507

a. Pakistani senior health administrators included in an international course.

b. WHO/EMRO Regional CDD Training Centre.

c. One-day training on ORT incorporated into World Food Programme training for LHVs.

carried out in Rawalpindi, Karachi and Peshawar. In Punjab Province, training centres providing 4-day courses in ORT for government doctors and private physicians have also been established in the medical colleges at Rawalpindi, Faisalabad, Bahawalpur and Multan. Four additional centres at divisional or district level train paramedicals in 2-day courses. During the training held at all of these centres, half of the time is devoted to practical experience in case management. An outline of the 4-day course is included as Annex 18. Although considerable training has already been carried out, some provinces lack a planned training programme for systematic coverage of all health staff.

Cyclostyled notes have been distributed at the training courses mentioned above, but are not widely available. An informative booklet entitled "Infantile Diarrhoea" summarizes the essentials of diarrhoea and its management and outlines the CDD Programme. UNICEF has funded the printing of 10,000 copies of this booklet along with 5,000 copies of a wall chart - "Coping with Diarrhoea". Both of these materials are aimed primarily at doctors. No simplified training materials or reference guides for paramedical staff are widely available.

12.4 ORS production, distribution and usage

Oral rehydration salts of the WHO recommended formula are produced by the NIH. Aluminium foil sachets for preparation of ½ litre of solution and polythene packs for 9 litres are produced. Production capacity for ½ litre packets is around 5 million/year, however, due to machinery problems no more than 1/3 of this quantity has been produced in any year since production commenced. Production costs amount to Rs. 0.6 per ½ litre packet. The government also purchases 1 litre packets from the commercial sector at a cost of just over Rs. 1/packet. Production, purchase and distribution of ORS by

the NIH since 1981-82 is summarized in Table 12.2.

ORS are distributed free of charge through the Government health services. All government health facilities are providing ORS in 1984, and in some areas EPI outreach teams and CHWs are distributing ORS.

Commercial production of ORS is carried out by at least 5 companies making a composition according to the WHO formula and at least 2 companies making non-recommended formulations. Total annual production of the recommended formula in the commercial sector is estimated to be the equivalent of 10-12 million one litre packets. Twice this quantity could be produced with existing facilities. The market price is 2-3 rupees per litre packet. Packet sizes are for 250 ml, 500 ml and 1 litre of solution A comprehensive review of ORS production and distribution potential has been carried out in 1984 as part of 2 US AID/Pritech missions.

Few data are available on ORS usage at household level. In the Baseline Health Survey of the PHC Programme, October 1983-April 1984, it was found that 40% of mothers knew of ORS and 80% of these had used it at least once. However, of children with diarrhoea in the preceding one month, only 10% had been treated with ORS. By contrast the nationwide study conducted by the Planning Division, MOH in the second half of 1983 found ORT usage rates in the previous 2 weeks ranging from 19% in urban areas of NWF Province to 65% in urban areas of Sind(Annex 19).

12.5 Diarrhoea Morbidity and Mortality

Data collected through the routine surveillance system are of minimal value in evaluating the extent of the diarrhoeal disease problem in Pakistan because few cases are reported. Health facility in-patients statistics indicate that, typically, between 4% and 9% of all hospital admissions are due to diarrhoeal diseases. Data from Mayo Hospital, Lahore and Rawalpindi Hospital show that 50% of paediatric admissions are due to diarrhoea.

Several large surveys have been conducted which estimated diarrhoea incidence, mortality and treatment rates. One study found 0-4 years

Table 12.2 PRODUCTION PROCUREMENT & SUPPLY OF ORS & NIMKOL

		QUANTITY (MILLIONS)	
PERIOD	SOURCE	PRODUCTION/PROCUREMENT	SUPPLY
	NIH (Nimkol)		
1981/82.	-½ ltr packets	0.44	0.57
1982/83.	-½ ltr packets	0.87	0.71
	-9 ltr packets	0.03	0.084
	Local Market		
	Star Lab.Lahore (ORS) 1 ltr.	5.00	5.00
1983/84	NIH (Nimkol)		
	½ ltr packets	1.64	1.40
	9 ltr packets	0.06	0.24
	Local Market		
	Lahore Chemicals (ORS) 1 ltr	5.00	5.00
	Through UNICEF 1 ltr	3.00	3.00
1984/85	NIH (Nimkol)		
	-½ ltr packets	0.16	0.451
	Local Market		
	-Lahore Chemicals (ORS) 1 ltr	5.00 *	5.00
		21.20	21.455

* being produced and supplied.

diarrhoea incidence rates in a 2-week period ranging from 21% in NWFP in winter to 62% in Sind province in summer and suggested a national average figure of around 10-12 episodes per child per year (Annex 19).Annua iarrhoea-associated mortality rates ranged from 10 to 31 deaths per 1,000 children 0-4 years. With some exceptions rates were compatible with those found in the Baseline PHC Survey. Diarrhoea deaths are estimated to account for 35-50% of hospital deaths in children and household survey estimates suggest diarrhoea is associated with one third of all 0-4 years deaths.

12.6 Programme Promotion

The use of ORS has been promoted through a health education campaign, launched in June 1983, that includes TV spots and talks, radio spots (twice daily) and talks and weekly newspaper advertisements. In some provinces ORS is promoted by EPI outreach teams as well as through religious and comm' ıity leaders. The effectiveness of this promotion has not been formally evaluated. Posters (50,000 copies) have recently been printed along with 5,000 flipcharts for CHWs to use in ORT promotion. These materials were funded by US-AID which has also funded two consultant team visits in 1984, one partially, and one fully, concerned with evaluating ORT promotion activities and potential.

12.7 Field observations and survey findings

In most health facilities visited, ORT is available as an integrated part of MCH care and in all but a few ORS was available in adequate supply. Assessment of health staff knowledge of ORT was based almost entirely on discussion as few cases of diarrhoea were present. Staff in 80% of centres visited knew how to assess dehydration, prepare and administer ORS and explain diarrhoea treatment to mothers. Only half of the centres treated children in the facility and reassessed progress after 4-6 hours. Intravenous fluid was said to be used only for severe dehydration or severe vomiting.

ORS samples that were examined were found to be discoloured, brown

or moist in 25% of health centres. This appeared to be the result of poor packaging rather than inadequate storage.

In many instances antibiotics, antidiarrhoeals and antiemetic drugs are used along with ORS. Antidiarrhoeals are available in most government facilities, drug stores and dispensaries and are frequently prescribed for children. The National Formulary of Pakistan, 1981, lists at least 50 registered proprietary name preparations containing antidiarrhoeals of no proven therapeutic value in most diarrhoea cases.

At the home level, in NWFP where the questions on diarrhoea treatment were included in the interview with mothers, half of respondents claimed to use ORS. A similar proportion used home fluids and 59% claimed that other treatments were used. The categories of treatment were not mutually exclusive.

The results of the diarrhoea morbidity, mortality and treatment survey conducted during the current review are summarised in Tables 12.3 and 12.4. The proportion of children having diarrhoea in the 2 weeks preceding the survey ranged from 6 - 22%. The ORS usage rates for these diarrhoea episodes also varied widely with a mean rate just under 50%. Only in Punjab and NWFP provinces did the survey produce plausible mortality rates. Even in the provinces where mortality rates were poorly estimated by the survey, diarrhoea was documented as a major contributing factor and, overall, one-third of all deaths were recorded as diarrhoea-associated. The majority of diarrhoea cases were recorded among children in their first 2 years of life with the bulk of mortality occurring in infants. In infants tetanus was the most commonly cited cause of death.

12.8 Achievements

- 12 ORT training centres have been established, including the WHO Regional Training Centre, Lahore
- 1,311 doctors and about 4,500 paramedical staff have been trained.

- Over 15 million ORS packets have been produced or procured, and distributed in the past 2 years

- An intensive health education campaign has greatly increased public awareness of ORS. More than half of the mothers interviewed in the current survey said they had used ORS.

Table 12.3

RESULTS OF DIARRHOEAL DISEASE MORBIDITY, MORTALITY AND TREATMENT SURVEY NOVEMBER, 1984.

Province	Urban/ Rural	Total Children 0-5 yrs surveyed	Number of children with diarrhoea in past 2 weeks	2-week diarrhoea prevalence rate %	b	ORS usage rate a %	b	All causes mortality. Number of deaths	Rate %	b	Diarrhoea-associated mortality. Number of deaths.	Rate %	b	Proportion of all deaths that are diarrhoea-associated %	b
PUNJAB	U	3005	653	21.7	± 2.9	68.3	± 9.5	110	36.6	± 11.4	48	16.0	± 6.4	43.6	± 11.1
	R	2877	523	18.2	± 2.8	64.8	± 9.1	97	33.6	± 10.9	26	9.0	± 3.5	26.8	± 7.4
SIND	U	3000	184	6.1	± 1.1	47.3	±13.5	24	8.0	±4.6	9	3.0	± 2.6	37.5	± 23.3
	R	3000	217	7.2	± 2.1	18.0	± 2.1	46	15.3	±5.7	27	9.0	± 4.9	58.7	± 16.8
N.W.F.P.	U	2943	480	16.3	± 3.3	55.6	± 7.3	110	37.4	±12.0	38	12.9	± 7.7	34.5	± 13.4
	R	2950	290	9.8	± 1.4	54.1	±10.9	134	45.4	± 12.0	20	6.8	± 3.3	14.9	± 5.9
BALUCHISTAN	U	2993	342	11.4	± 3.4	24.8	±11.4	14	4.7	± 3.9	8	2.7	± 3.5	57.1	± 40.9
	R	2955	478	16.2	± 2.5	27.8	± 9.0	9	3.1	± 3.1	3	1.0	± 1.5	33.3	± 33.7
AZAD JAMMU KASHMIR.	Both	3000	457	15.2	± 2.6	49.7	± 2.6	10	3.3	± 2.8	7	2.3	± 2.1	70.0	± 32.8
TOTAL:	U	11941	1659	13.9		53.6		258	21.6		103	8.6		39.9	
	R	14782 c	1965	13.3		45.5		296	20.0		83	5.6		28.0	
	T	26723	3624	13.6		49.3		554	20.7		186	7.0		33.6	

a. Proportion of diarrhoea episodes in past 2 weeks treated with ORS.
b. Confidence intervals expressed as ± 2x standard error for cluster sample.
c. A.J.K. included.

Table 12.4 AGE DISTRIBUTION OF CHILDREN SURVEYED, DIARRHOEA CASES, ALL DEATHS AND DIARRHOEA-ASSOCIATED DEATHS.

Age (Years)	Children Surveyed N=26,723	Diarrhoea Cases N=3,624	All Deaths N= 553	Diarrhoea-associated deaths N= 186
< 1	16.6	26.2	70.5	61.1
2	18.9	28.6	10.8	15.1
3.	17.7	19.4	8.8	14.8
4	19.9	14.5	5.5	5.9
5	26.8	11.4	4.4	3.2

SUBJECT: CDD

PROBLEM	RECOMMENDATIONS	STEPS TO BE TAKEN
1. Diarrhoeal disease control activities are primarily related to case management, in particular, oral rehydration therapy	The plan of operations for CDD should be revised to achieve implementation of a more comprehensive programme of CDD activities	- The National ORS technical committee should be renamed to reflect the change in emphasis and, in collaboration with WHO/UNICEF, should revise the plan of action to include additional CDD strategies (by March 1985).
2. At central level and in most provinces there are no full-time staff for CDD programme management.	(a) The vacant UNICEF-funded post for a National CDD Manager should be filled urgently (b) Provincial CDD Managers should be designated to coordinate and strengthen activities. (c) Additional support and technical staff should be available at central and provincial levels, in particular, to coordinate training and evaluation activities	- A small number of staff should be promptly assigned to full-time CDD duties (by January 1985) - The national and provincial programme managers and other selected persons should participate in a WHO CDD supervisory skills training course (January 1985)
3. Some recommendations of the national ORS technical committee have not been implemented	The DDG Drug Control/Pharmacy and DDG Public Health should be invited to join the committee to strengthen its operation	- Formal minutes and recommendations of regular committee meetings should be prepared and followed up by the National CDD Manager, when appointed
4. Despite the wide availability of ORS, many health staff are unfamiliar with its correct usage	The current commendable efforts in diarrhoea case management training should be extended systematically to cover all health staff	- Existing ORT training centres (and newly established centres where indicated) should increase the frequency of courses. Sub-centres should be established at divisional level, whenever practical. The emphasis on practical experience in ORT should be maintained (May-July 1985 and annually).

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PROBLEM	RECOMMENDATION	STEPS TO BE TAKEN
		- Peripheral health facility staff should be trained in two-day divisional or district workshops (including practical ORT experience) conducted by persons trained at established ORT training centres. Resources should be made available for such workshops (May-July 1985).
5. There is a lack of diagnostic and standardized treatment guides, par-ticularly, simplified materials for paramedical staff	All health facilities should be provided with durable wall charts outlining the assessment of dehydration and the management of diarrhoea	- Existing reference documents should be used to prepare one simple wall chart (e.g. an adaptation of the WHO CDD treatment chart) and this should be translated into local languages, field tested and printed in sufficient copies to provide 1-3 per facility (by May 1985) - Such a chart, for use primarily by paramedical staff, should not mention aetiological agents or drug therapy. - International assistance should be sought to ensure rapid funding of this activity - The National ORS Technical committee should meet to examine possible actions in this regard.
6. Inappropriate drug therapy		
(a) Inappropriate antidiarrhoeal drugs are freely available through commercial pharmacies. This has a negative impact on government attempts to rationalize diarrhoea case management	(a) consideration should be given to de-registration or sales restriction of poten-tially dangerous drugs or those of no proven benefit. Distribution of these through Government channels should be stopped	
(b) Inappropriate drug therapy (antibiotics, antiemetics and antidiarrhoeals) is still widely practiced, even in health facili-ties where ORS is used	(b) Training of health staff in use of ORT must be accompanied by re-education concern-ing drug therapy in diarrhoea (c) Efforts already being made to re-educate private practitioners should be continued	

PROBLEMS	RECOMMENDATIONS	STEPS TO BE TAKEN
7. ORS problems: (a) Packets are available for 250,500 and 1000 ml of water (b) Various compositions are available, some inappropriate (c) Packet quality is not always sufficient to ensure reasonable shelf-life	All manufacturers should be required: (a) to produce packets for one litre to enable effective promotion through a single message (b) to produce ORS only in accordance with the WHO recommended formula (c) to utilize appropriate packaging materials	The DDG Drugs may be requested to take action on these matters
8. Health education in CDD has largely focus ed on ORS promotion	While correct use of ORS remains the priority concern, stress should also be given to communicating: (a) the signs and dangers of dehydration (b) the importance of early fluid therapy including home fluids (c) the importance of continued feeding especially breast milk (d) prevention of diarrhoea	

13. TRADITIONAL BIRTH ATTENDANTS

13.1 Background

Each year more than 3,500,000 children are born in Pakistan. Virtually all these births occur at home and the majority are attended by TBAs (Dais). These TBAs provide little pre or post-natal care. Previous surveys conducted by the government disclosed a maternal mortality rate of 6-8/1,000 live births. Because of the high maternal mortality rate and the incidence of neonatal tetanus strengthening TBA training is a goal of the AHP.

13.2 TBA training

Before 1982, TBA training was offered to any married woman over age 20 and the training course took one year to complete. As the problem of maternal mortality became more apparent, the governmen held a conference in Karachi to discuss plans and strategies to accelerate training in an efficient way. A new curriculum was prepared and evaluation methods were discussed. Following the conference, the accelerated training programme was begun. At present students are selected from practicing dais without age limit. The curriculum takes 3 months to complete, stipends and UNICEF TBA kits are provided to all trainees.

Despite the accelerated efforts only 15,000 trainees have completed the course. This number does not meet the target of the AHP. It is clear that further acceleration and or simplification is needed in the TBA training scheme. A pilot, mobile team teaching course lasting 2 weeks has been introduced in Sind.

13.3 Curriculum

The present TBA curriculum was revised in late 1982. Because many TBAs are illiterate, lessons using lectures and demonstrations

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make up the training methodology. Little "hands-on" and practical experience is possible because courses are conducted in training centres away from the villages. Although the course is designed to allow supervised deliveries, circumstances seldom allow this to take place. Most training is conducted by LHVs at the Rural Health Centres.

The curriculum shown in Table 13.1 is taught in 2 sessions weekly, a total of 31 hours over 3 months. In addition to normal labour and delivery, the course also contains information on the early diagnosis of complications. Other topics pertinent to PHC including EPI, neonatal tetanus prevention and detection and oral rehydration therapy are addressed. Family planning information is presented, but TBAs are not expected to play a role in family planning activities.

13.4 TBAs in Practice

At the completion of the TBA course, graduates are given a UNICEF TBA kit. (Table 13.2). Neither trained nor untrained TBAs at present are linked to the local health centre in any way. This hinders the development of strong referral patterns and makes the resupply of TBA kits a problem. The ORS packets in the TBA kits presently are for 500 cc reconstitution. This should be changed to the world wide 1 litre standard. Evaluation mechanisms for TBA trainees have not been developed making evaluation of the impact of this programme impossible.

13.5 Field Observations and Survey Results

TBAs are found in almost all villages in Pakistan. In some villages there are more than one. They are the only providers of perinatal care available to _____ women in most villages./ The survey teams interviewed 138 TBAs, most of whom had many years experience (average

.../

18 years). TBAs conducted 80% of the births at the home level survey. Each TBA conducts about 50 deliveries annually and usually receives either gifts or money for her services.

The majority of TBAs are untrained. About half of those surveyed had had an apportunity for further training. Those who received training usually modified their delivery practices. Less than 1/3 or TBAs were associated in any way with health centres, although many referred difficult deliveries to local health facilities. TBAs advised antenatal care to the few mothers who contacted them during pregnancy.

The TBA training programme is unquestionably the weakest element in the AHP. Unlike the EPI which has a single planning commission 1 (PC1) document, for TBA training there are 5. Each province has its own programme, budget, targets and strategy. Although goals were set at the federal level no staffing was provided to help coordinate TBA training.

A national strategy for TBA training has not been put on paper. No mechanism for evaluation of current efforts is formulated at present. For this programme to achieve any level of success a national plan will need to be drawn up and federal coordinator with a staff and budget will be necessary. These steps will reaffirm the commitment of Pakistan to safe birth practices.

The plan (PC1) submitted by the Sind in 1982 is an innovative scheme for training more TBAs in a shorter time. The outcome of the Sind programme should be evaluated in a scientific manner and implemented elsewhere if it is successful.

13.6 Achievements

- A full TBA training curriculum has been developed
- A pilot 2 week training programme using mobile teams is being evaluated.
- 15,000 TBAs have been trained so far under AHP.

TABLE 13.1 T.B.A CURRICULUM SUMMARY

Sessions	Topics
1	Introduction
2	Diagnosis of pregnancy
3	Female reproductive system
4	Dietary needs of pregnancy
5	Personal hygiene
6	Tetanus diagnosis and prevention
7	General obstetric examination
8	Discomforts of pregnancy
9	Abnormal pregnancies
10	Preparation for home delivery
11	Dai kit contents, use and care and discussion
12	Labour diagnosis, management and delivery of baby and care of the new-born.
13	Importance of breast feeding, technique.
14	The puerperium.
15	Dieting advice to new mothers.
16	Infant feeding, especially breast feeding and weaning.
17	Complication labour, treatment and referral.
18	Motivation for immunization against the six EPI target diseases.
19	Diarrhoea, causes, symtoms and management with ORT.
20	Live birth reporting
21	Child spacing.

TABLE 13.2 T.B.A KIT

Plastic sheet	3 meters
Covered sauce pan with collapsable handle	1
Soap box with soap	1
Hand towel	2
Pair of scissors	1
Nail brush	1
Thread	1 roll
Kidney tray	1
Nail cutter	1
1 liter measure of water for ORS	1
ORS packets	50 packets
Iron and folic acid tab	1000
Ergot tabs	100
Stove	1

Problems	Recommendations	Steps to be taken
1. Even if AHP targets are reached, less than 20% of all TBAs would be trained.	(a) The national commitment to TBA training should be strengthened. (b) Training of TBAs should be further accelerated and continued beyond June 1985.	TBA training targets should be increased and a national plan developed with appropriate staffing.
2. There is no evaluation plan for the TBA training programme.	A system should be designed for evaluating the impact of TBA training on delivery practices and, ultimately, on neonatal and maternal mortality, particularly mortality due to neonatal tetanus.	Surveys should be designed and carried out to evaluate changes in delivery practices.
3. The length of the TBA training course is an impediment to training large numbers of TBAs with currently available resources	The TBA training curriculum should be reconsidered by the appropriate authorities at federal and provincial levels.	Reduce the course time, keep the work practical, and continue to focus on the prevention of neo-natal tetanus.
4. Most TBAs live too far from training centres for a fixed centre training strategy alone to reach all those who need training.	Alternative training strategies, including outreach and mobile teams, should be considered.	Current and new approaches to TBA training, particularly the 2 week mobile team strategy in Sind, should be evaluated.
5. Many TBAs even trained TBAs, at present are not linked to health facilities.	TBAs should be encouraged to visit health facilities for further learning, referral of patients and replenishment of supplies.	Community leaders and village head men should be approached to promote linkage of TBAs with health centres.

14. SURVEILLANCE

14.1 General

The coordination of surveillance activities and routine disease reporting at the federal level is the responsibility of the Bio-statistics section of the Public Health Department in the Health Division of MOH. This section compiles notifiable disease data submitted quarterly and Abstract Register reports submitted annually by the provinces. The Annual Report of the Director-General Health includes this surveillance data. Reports from the provinces generally are delayed about 2 months and the Annual Reports are delayed upto 2 years. The Abstract Register which is filled monthly at health facility level consists of a long list of diseases and conditions which has not been revised for 40 years. It is currently being revised. This report is sent to DHOs and then to higher levels annually. Until 1982, an EPI Monthly Newsletter was published. No formal mechanism of feedback of surveillance data exists currently.

14.2 Reporting of Notifiable Diseases

All government health facilities are asked to report notifiable communicable diseases. Data is tabulated at district level, compiled at divisional and provincial levels and ultimately with variable delays is forwarded to the Bio-statistics Section. Analysis and use of disease surveillance data is very limited.

Until recently 18 diseases were on the list of notifiable communicable diseases, including the EPI target diseases and dysentery. In 1982-83 it was agreed to reduce the list to 14 diseases. The revised reporting list is being implemented. The age groups (0-5, 5-15, 15+) are reported but not immunization status. Malaria surveillance is carried out through a separate surveillance system. The EPI also has tried to set up an independent system, but so far few reports have been received.

It is difficult to assess the true frequency of the notifiable diseases because the degree of under-reporting is unknown. The notifiab

diseases most frequency reported through the routine reporting system are ranked below:

TABLE 14.1. MOST FREQUENTLY REPORTED NOTIFIABLE DISEASES, PAK. 1983

Rank	Diseases	No. of cases
1	Dysentery	221,979
2	Tuberculosis	115,748
3	Pertussis	51,446
4	Enteric fever	50,316
5	Measles	19,077
6	Mumps	16,091
7	Influenza	14,351
8	Tetanus (Non-neonatal)	3,693
9	Sprue	2,241

Because deaths are not recorded regularly, it is difficult to assess the relative importance of different causes of mortality. Shown below are survey data from 1971 and 1974 for causes of infant deaths.

Table 14.2 ANALYSIS OF CAUSES OF INFANT DEATHS

Sl. No.	Name of Disease	Pakistan	Urban areas	Rural areas
All causes		100·00	100·00	100·00
1.	Infective and parasitic diseases	59·68	67·09	58·05
2.	Congenital anomalies, birth-injury, difficult labour and causes of pre-natal mortality.	20·13	15·53	21·35
3.	Malaria	8·69	7·41	8·97
4.	Tuberculosis of all forms	3·08	0·00	3·75
5.	Bacillary dysentery and amoebiasis	2·06	2·55	1·90
6.	Accidents, poisoning and violence	0·47	0·88	0·37
7.	Diseases of heart and circulatory system	0·31	0·00	0·37
8.	Peptic ulcer, appendicitis, intestinal obstruction and hernia.	0·31	0·00	0·37
9.	Unknown causes	5·30	6·53	5·24

Source: Statistical Division, Population Growth Survey, 1971, Karachi 1974.

A survey in 1978 showed that the overall 0-4 year annual mortality rate was 80 per 1,000. Respiratory and diarrhoeal diseases were responsible for more than half of the deaths and the 6 EPI target diseases were responsible for a third.

14.3 EPI target diseases

The EPI target diseases are included in the routine reporting system (Table 14.3). Better data, however, came from a survey conducted in 1978 prior to the expansion of immunization services (Table 14.

TABLE 14.3. INCIDENCE OF THE SIX EPI TARGET DISEASES AND DYSENTERY BY YEAR, 1979-83, PAKISTAN

Disease	1979		1980		1981		1982*		1983*	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	D	C	D
Pertussis	22043	2	26410	17	31413	4	50932	2	51446	3
Measles	16715	83	16751	81	18454	33	18374	11	19077	37
Diphtheria	4901	79	2773	132	953	65	671	30	1179	10
T.B.	98011	500	137557	765	107562	601	113662	539	115748	638
Tetanus (Both)	NA	NA	1653	74	2204	154	1618	202	3693	111
NNTet.	NA	NA	1085	93	642	146	907	220	219	46
Polio	2024	42	1108	35	460	27	581	10	587	3
Dysentery	198465	178	248053	350	265487	93	239857	147	221979	73

SOURCE: Annual Reports of the Director-General Health

*Provisional figures

TABLE 14.4: ANNUAL INCIDENCE RATES, MORTALITY RATES AND CASE FATALITY RATES DUE TO THE EPI TARGET DISEASES IN CHILDREN BELOW 15 YEARS* PAKISTAN - 1978

Diseases	Incidence Rate/ 100,000	Mortality Rate/ 100,000	CFR (%)
Measles	2888	59	2
Poliomyelitis	65	18	28
Pertussis	758	18	2
Diphtheria	42	34	83
Tetanus (both)	140	138	92
NNT	53	49	97
Tuberculosis	4800	670	-

SOURCE: Country-wide cluster surveys, July 1978.

* Total. Population below 15 years: 34,195,000

Other noteworthy EPI disease surveys have been carried out. A baseline study was conducted in June-July 1978, in collaboration with WHO and UNICEF and an EPI disease survey in Punjab in 1984. This latter study is the best recent information of the incidence of the EPI target diseases.

14.4 Diarrhoeal Diseases Surveillance

The Abstract Register includes cholera, amoebic dysentery, bacillary dysentery and diarrhoea. Reported figures do not, however, allow calculation of usable incidence rates and would not be sensitive to changing trends as only a small, unknown and probably variable proportion of cases are reported.

Several studies have estimated diarrhoea morbidity and mortality. Results of these studies have been presented in Section 12.

14.5 Reporting from laboratories

Most notifiable communicable diseases are diagnosed clinically. Laboratory confirmation is seldom attempted except for blood smears for malaria. The best equipped and most proficient clinical laboratories are at the NIH where tissue culture, viral serology and modern bacteriology are available. This resource reportedly is not used regularly to support vaccine efficacy studies, outbreak investigations or other activities related to the AHP

14.6 Field Observations

Examination of the disease surveillance and reporting system at health centre, district and provincial level confirmed its inadequacy as an epidemiological or managerial tool.

Although the Abstract Register was generally found to be filled and available at each level, and was forwarded on time, much of the data was incomplete, inaccurate or irrelevant. Few health staff interviewed used the information available, although at 4 health facilities staff did claim to do so.

Imprecise diagnosis by medical officers and delegation of the reporting to personnel not trained in this area result in many cases being recorded under non-specific categories such as "P.U.O.".

DPT and polio immunizations performed were recorded by first, second and third dose in 60% of centres visited, but in only one

facility did staff calculate coverage of the target population.

Examination of changes in the distribution of diarrhoea cases in the 4 reporting categories (cholera, amoebic and bacillary dysentery and diarrhoea) suggested changes in reporting practices, rather than epidemiological trends.

14.7 Achievements

- Despite its major deficiencies, the Abstract Register is filled monthly at health centres and is eventually compiled annually at district and higher levels.
- A working group is attempting to redesign the disease reporting system including the Abstract Register.
- The list of notifiable diseases has been revised.
- Although not yet widely used, an EPI target diseases tally sheet has been distributed to health facilities for monthly recording of cases by age and vaccination status.
- Some excellent morbidity and mortality surveys have been conducted.

PROBLEMS	RECOMMENDATIONS	STEPS TO BE TAKEN
(a) The existing health structure lacks sufficient epidemiological and statistical units at all levels. There are few skilled personnel designated to collect, compile and analyse disease data. (b) The present disease reporting system is entirely inadequate for planning, management and epidemiological purposes. (c) Data is not analysed or utilized at the level of collection nor fully used at any level in the health system.	(a) An epidemiology unit should be set up at federal and provincial levels and manned by trained personnel (b) Adequate information system should be developed. (c) Disease reporting should be revised simplified and emphasized. (d) Reporting should be mainly limited to diseases for which action can be taken on the basis of the reported data. (e) Medical officers should be required to record diagnoses accurately and held responsible for reporting. (f) Analysis of surveillance data should be done locally. (g) A surveillance bulletin should be published regularly for feedback.	Chief epidemiologist and technical staff should be appointed A working group should consider the following points and formulate a plan of action. - diseases to be reported - frequency of reporting - data tabulation and analysis - mechanism for feedback. - Special consideration should be given to the needs of EPI (age and immunization status) and diarrhoeal diseases and ORS usage. - All materials should be carefully field-tested and revised before being adopted.
The current disease surveillance system provides no way to measure the impact of programmes like EPI and CDD.	(a) Sentinel sites should be set up in selected hospitals and health centres to report EPI target diseases and diarrhoea on a frequent basis. (b) Periodic epidemiologic surveys should be carried out to complement the sentinel system especially for polio, neonatal tetanus, measles and diarrhoea.	- Select a reasonably representative sample of health facilities with good potential for complete and accurate reporting using standardized forms. - Train and regularly supervise staff.

.../

15. OTHER SELECTED ASPECTS OF PHC

15.1 M.C.H.

15.1.1. Introduction

The problems related to pregnancy, childbirth, lactation and care of children under five years fall within MCH programme. The task exceeds the capacity of the existing network of MCH outlets and staff. This weak network must address major problems including a maternal mortality rate of 6-8 /1000 livebirths and a mortality rate among children under five years.

15.1.2 Organization

Within the MOH there is a small MCH unit manned by a senior public health nurse and a medical doctor. The position of Assistant Director-General for MCH has been vacant for several years. The functions of this unit include policy making, planning, and coordination. Because of the rudimentary structure of the MCH unit and the absence of technical staff, these important functions cannot be effectively carried out.

At provincial level, the MCH units are part of provincial health directorates and headed by a senior lady doctor (Inspectress Health Services - IHS). She is responsible for planning, programming, and supervision of MCH services within her province. She is supported by an assistance inspectress for health services (AIHS) at divisional level. At district level there is no supervisory structure except in NWFP, where an AIHS has been posted at district level. The District MCH services are guided by the DHOs in all provinces.

15.1.3 Outlets and services

MCH services in the public sector are only partly integrated with primary health care. Services are carried out by the LHVs working in MCH centres, BHUs, RHCs, teaching hospitals, tehsil hospitals and district hospitals (Table 15.1). MCH services are underutilized for a number of complex reasons.

TABLE 15.1. MCH FACILITIES, PAKISTAN, 1984

Facility	No.
MCH centres	856
BHUs	1,715
RHCs	374
Tehsil hospitals	140
District hospitals	70
Teaching hospitals	21
TOTAL	3,176

Ideal staffing patterns at MCH centres include one LHV, one trained TBA, 3-4 TBAs in training, and in some facilities also lady doctors.

The major activities in the MCH centres include:

- Antenatal care
- Deliveries
- Postnatal care
- Child health clinic
- Health education, including nutritional education
- Oral rehydration therapy

15.1.4 Field observations and survey results

Information on maternal and child health programmes was gathered on several levels; federal, district, MCH centre and village levels. Interviews were conducted in MCH centres and RHCs.

MCH services are weak throughout Pakistan. No organized plan exists for the delivery of MCH programmes. More than 2/3 of mothers had not been seen by qualified health workers during their pregnancy; many more urban than rural women received antenatal care.

There is no systematic effort to detect high-risk women. The blood pressure was checked in only 60% of antenatal visits to MCH centres. Hemoglobin was estimated in 40% of women while less than one third had their urine tested for albumin. Pregnant women were seldom weighed or measured for height. Foetal position was generally assessed in women at 28 weeks of gestation.

The incidence of low birth weight babies (<2500 gms) is estimated to be 10% in higher socio-economic groups and about 25% in lower socio-economic strata. Poor maternal nutrition and high prevalence of anaemia are contributing factors.

Most children attending MCH facilities come for curative care. Screening, however, is not properly done, weighing and monitoring using growth charts is not practiced. Nutritional status is assessed by clinical observation only.

Breast-feeding is widely practiced in both urban and rural areas; 80% of women breast-feed their babies at least one year. However, it was observed that in urban areas bottle-feeding was increasing commonly and this is of concern. Weaning foods were introduced by the age of six months in half the surveyed children. The quality of the weaning diet, however, was poor.

The literacy rate was found to be 70% and 90% among urban and rural mothers respectively. This high illiteracy rate is an obstacle to health education about proper child feeding and child health practices.

15.2 Family Planning

The family planning programme was started 20 years ago. The programme is the responsibility of the Ministry of Planning and Development under the Population Welfare Division at the federal level.

Family planning is provided through a separate system of family welfare centres numbering 1,168 throughout the country. These centres also provide some maternal and child care (upto 5 years), health education, contribute to AHP.

15.3 Nutrition

15.3.1 Introduction

Nutrition problems in Pakistan are common. The Review team did not specifically address nutritional concerns. However, in the village and health centre visits, some information was collected.

15.3.2 Previous studies

Prior nutrition surveys (West Pakistan Nutrition Survey, 1965, Micro-nutrient survey, 1976-77) plus other small studies have revealed the seriousness of the nutrition problem in Pakistan. Protein-energy deficiency, vitamin A, iron and riboflavin deficiencies were commonly found among the most vulnerable groups of the population, children 0-5 years, pregnant women and nursing mothers.

Protein-energy malnutrition is the major nutritional problem. According to the micro-nutrient survey about 60% of preschool children suffer from various degrees of malnutrition. There is almost universal growth retardation among children, and anaemia is wide spread.

15.3.3 Programmes

The government wishes to reduce the prevalence of nutrition problems. To address these difficulties, the following programmes are being implemented.

- Joint Nutrition Support Programme (JNSP)

The project is supported by WHO and UNICEF. This Programme has recently been approved by the Steering Committee of JNSP and will be implemented in early 1985.

- Supplementary feeding programmes

This effort is supported by the World Food Programme. Wheat, skimmed milk and oil are distributed to those at risk for serious nutritional problems. There are a total of 3000 outlets and 350,000 beneficiaries.

15.3.4 Nutrition Training

Under this programme about 230 medical personnel and 3000 LHVs have been trained.

15.3.5 Field observations and survey findings

The teams found few instances where growth charts were used in routine child care. Weighing and measuring were almost never done. LHVs do conduct sessions on food value and preparation. In reviewing the WFP, the storage of wheat, oil and powdered milk was not always optimal and the

wheat quality in some areas was poor. Children at risk for malnutritic are seldom identified early and treatment and follow-up care is spotty.

15.4 School Health

School health services in Pakistan do not exist. Some programmes have been started on an experimental basis:

- There are two mobile school health clinics operating in rural Islamabad. The team consists of one physician and one paramedical staff. They conduct physical examinations of primary school childre and refer ill children to health facilities.

- The National Institute of Psychology has developed a cumulative record card for school children. It includes the health status of the child. This is being tried out in a few schools.

A school health project costing Rs. 3.05 million is being planned:

- to provide water cooler purifiers to 184 schools located in both urban and rural Islamabad areas where the Federal Government prima schools function.

- to construct 122 toilet blocks in schools of the rural areas where they do not already exist.

15.5 Health Education

15.5.1. Federal level

A Pakistan National Health Education Plan has been prepared in collaboration with WHO. The main objective are:

- Integration of health education into health services at the local level and expansion of health education units up to district level.

- Training of workers to carry out health education activities.

- Improved use of mass media to educate the public in health matters.

- Production and distribution of training materials.

- Research projects on health knowledge, attitudes and practices.

A professionally trained health education adviser and two health educators with basic qualifications are employed at the federal level.

The responsibilities of the Health Education Adviser are:

- Formulation of national health education policies.

- Planning, implementation and coordination of health education services.

- Coordinating assistance of international agencies for the development of health education programmes.

- Strengthening the health education programme of provinces through guidance, material, financial support, and coordination.
- Using mass media for public health education.
- Acting as a health education information centre both at national and international level.
- Produc ing health education training and extension materials.
- Carrying out baseline research.

15.5.2 Provincial level

Each province has a health education unit.and 12 divisional health education units are being set up. The MOH assisted the provinces in the formulation and implementation of the provincial plans of action for health education. Assistance was also given in formulation of health education schemes at divisional level in order to extend health education to the grass root level.

Of 16 medical colleges, 5 have health education units incorporated under the Community Medicine Departments. The posts of health educators have been created in Public Health Nursing Schools. Health education and PHC principles are included in training programmes of medical students, nursing students, LHVs, medical technicians and school teachers. Allama Iqbal Open University, Mass Literacy Council and numerous private organizations also have organized courses in health education. Public information personnel have participated in health education conferences.

15.5.3 Budget

The budget for health education is shown in Table 15.2..

TABLE 15.2 FUNDING FOR HEALTH EDUCATION AND SOURCES

Source of Fund	Purpose	Amount	Period
Government	Health education in anti-smoking	Rs.2.5 Millions	1981-82
		Rs.2.5 "	1982-83
		Rs.2.5 "	1983-84
		Rs.2.5 "	1984-85
	Health education in A.H.P	Rs.1.807 "	1982-83
		Rs.3.172 "	1983-84
		Rs.7.968 "	1984-85
WHO	For short term consultant, procurement of supplies, training and research.	US$ 110.000	1982-83
		US$ 32.000	1984-85
UNICEF	Advisory services and materials	No specification	
CIDA	For the promotion of health education for EPI	Canadian $ 1/2 Million	
US-AID	For health education in Primary Health Care	US$ 100.00	

15.5.4 Health education materials

A large amount of audiovisual and health education training material has been produced (Table 15.3).

TABLE 15.3 HEALTH EDUCATION MATERIALS

Sector	Type of Materials	Distributed to
Health departments on federal and provincial level.	Films,Video cassettes Slide sets,cassette presentations.	Public
	Flipcharts, booklets Pamphelets, calenders.	Health workers Public
UNICEF	Films,Video cassetes Written materials, slides	Public and health workers
Public Health Education Society.	Written Materials, Press cuttings	Health workers Public
MCH - Population Division Family Welfare Council	Written Materials Teaching aids	Public Health workers
Health Publication Limited Med. Centres	Written Materials Booklets	Health workers
Agha Khan Health Board Training extension materials	Public Health Education materials: Posters, pamphlets, stickers, baloons.	Public
Allama Iqbal Open University Nirabi Kitaba	Video Cassettes, Flipcharts, booklets.	Health workers

15.5.5 Evaluation

A mechanism for evaluating health education has not yet been developed. A country review in collaboration with UNICEF is planned for December 1984.

15.6 Community participation

Community participation and involvement in health occurs mainly at the district level. The main body that influences this PHC activity is the District Council. It encourages the communities on the development of BHUs and the identification of TBAs and CHWs to be trained. This body also matches a grant for rural roads, water supply and electricity according to the community contribution. There are no significant differences in the way that these bodies are set up or function among the provinces. In Punjab and NWFP the local councils have control over the development budget for the construction of BHUs.

During the evaluation of health centres, it was found that in many cases a development committee existed in the area, and,,in most instances, the health centre staff participated in these committees. A separate community health committee was functioning in only one third of the villages.and health centre staff was not participating. Health centre activities such as immunization sessions, are scheduled in consultation with community leaders in only one third of centres. The main support of the communities to the health centres is the donation of land for BHUs.

In the cluster survey at each village, the village leader or headman was interviewed, and information on community organization and leadership was collected. In the majority of Pakistan villages a clear organizational structure exists. Health matters were considered by only 40% of the community bodies and health workers were seldom involved in deliberations. Governing groups were active and met at least monthly.in most villages. Although these groups deal with emergencies, separate health "sub-committee, were very rare and existed only in urban areas. The power of the community groups is enhanced by their ability to mobilise financial resources and this was true in 40% of the villages. The same percentage also allocated funds. In Punjab, community groups most frequently raise and spend community money.

15.7 Essential drugs

The need for further rationalization of the nation's drug policy is reflected in the Sixth Five Year Plan (1983-88), Chapter 19, paragraphs 88 and 89. A high level committee has completed a report on this subject as a first step in implementing drug formularies for each level of the health services. At primary health care level the WHO recommended list of essential drugs is to be used as the basis for determining the drugs available. Lists have been prepared for use at RHC and BHU, but as yet this plan has not been implemented. The Punjab government is also in the process of developing an essential drugs list A WHO team has just completed a review of this area of health policy in Pakistan. The national formulary of drugs contains 7,700 proprietary lines of which 5,700 are manufactured in Pakistan by just over 200 pharmaceutical companies.

In 1971 a policy of generic name drug prescribing was introduced. It's failure is attributed in large part to the medical profession's reaction to being constrained to prescribe cheaper drugs possibly of inferior quality. It is not thought that such a scheme will be accepted until quality control can be guaranteed.

Drugs are supplied through the federal and provincial governments' central drug depots. Funds are also available at all levels down to the district (DHO) for purchase of drugs.

Budgeted expenditure for drugs at the federal level alone increased from 40 million rupees in 1981-82 to 72 million in 1983-84. Drugs distributed through the public sector are estimated to represent only 10-15% of all drugs consumed in the country. In the 1982-83 financial year 1,390 million rupees worth of drugs and medicines were imported into Pakistan.

15.8 Achievements

- Breast-feeding is widely practiced in both urban and rural areas.

- About half of urban and rural mothers are aware of the importance of immunization. 75% of those aware of the importance of immunization received this information from health staff and outreach teams. TV/ radio and mass media also played an important role.

- Surveys and studies have been carried out to define the magnitude of the nutrition problem.

- The supplementary feeding programme has been implemented since 1977 (World Food Programme).

- Training of medical and para-medical personnel in nutrition at federal/provincial level is being carried out. Presently trained:

Medical officer/officials	- 230
Lady health visitors	- 2,000

- National Health Education Plan was developed in collaboration with the WHO in 1978. Since that time it has been in increasing stages of implementation.

- Health education units at federal and provincial levels have been established. Divisional units are being set up.

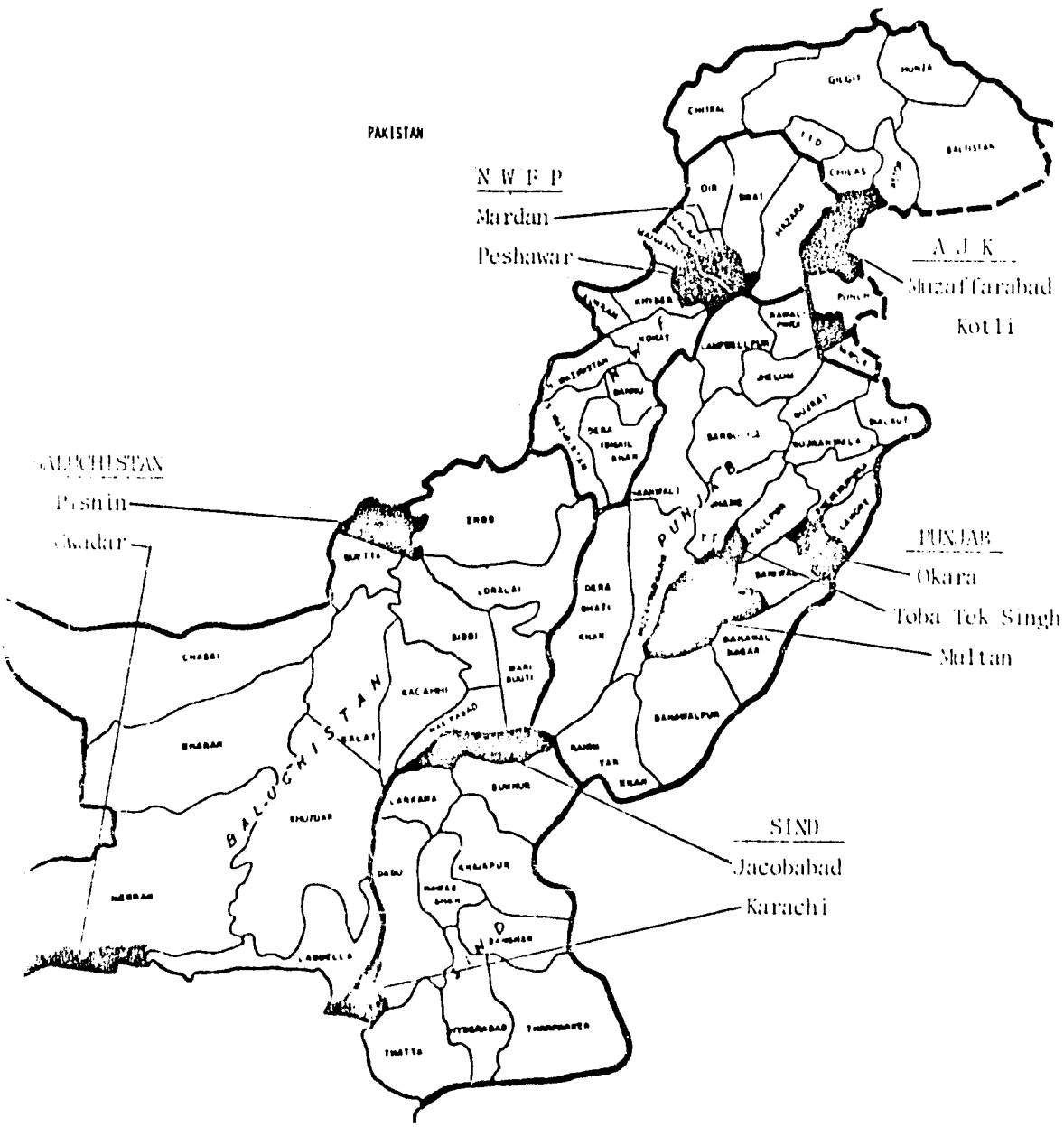
- Continuing health education training has been integrated into different health manpower training programmes.

- Since the beginning of the AHP full use has been made of mass media for health education. Many training and extension materials have been produced.

Subject: OTHER SELECTED ASPECTS OF PHC

PROBLEMS	RECOMMENDATIONS	STEPS TO BE TAKEN
1. MCH services are weak throughout the country because: • no formal plan of action exists. • the ADG (MCH) post is vacant. • MCH services are fragmented • recommendations of previous studies have not been implemented.	a) A plan of action should be prepared bearing in mind the recommendations of the previous studies. b) A suitably qualified person should be appointed to the vacant federal post.	
2. A large percentage of pre-school children, reportedly up to 60%, are malnourished.	a) Children at risk for malnutrition should be identified early using growith minitoring. b) A protocol for early intervention should be developed emphazizing nutrition education.	-Weighing and plotting on a growth chart should be a routine part of any visit of a child to a health centre. -Staff should be trained in growth monitoring and early nutirional intervention.
3. Funding for intensive health education for EPI/ CDD is only assured upto the end of the AHP.	a) The health education tools which have been demonstrated to be successful should be maintained at an effective level. b) Provision must be made for health education in the budget in all health programmes.	-Evaluation of the effectiveness of various health education approaches should be conducted.
4. Intersectoral collaboration and community involvement at the health centre are minimal, resulting in under-utlization of existing health facilities.	Local governments should be mobilized to guide the union councils for involving government functionaries, including medical officers and paramedical staff, in scheduled meetings for intersectoral collaboration in health and secur community participation.	Health departments should ensure that medical officers involve members of the union councils, pesh Imams, members Zakat and Ushar Committees for an effective community participation.
No essential drugs list has been implemented at any level.	Support US-AID efforts for the preparation of an essential drugs list and create an essential drugs list at provincial level for use by health outlets up to RHC.	Appoint provincial committees for the development of an essential drugs list. Ensure the provision of the list and supply only essential drugs to the health outlets upto RHC.

Figure 1 DISTRICTS COVERED BY THE REVIEW



GLOSSARY OF ABBREVIATIONS AND TERMS

ADG	Assistant Director General
ADHO	Assistant District Health Officer
ADP	Annual Development Plan
AHP	Accelerated Health Programme
BHS	Basic Health Services
BHU	Basic Health Unit
CHW	Community Health Worker
CIDA	Canada International Development Agency
DAI	Mid-wife with some training
DG	Director General
DDG	Deputy Director General
DHQ	District Headquarter Hospital
DHS	Director Health Services
DDHS	Deputy Director Health Services
DHO	District Health Officer
Dispensary	A Health unit with less than 10 beds or only for outdoor patients.
DPT	Diphtheria-Pertussis-Tetanus
EPI	Expanded Programme on Immunization
IRDP	Integrated Rural Development Project
IRHC	Integrated Rural Health Complex
LHV	Lady Health Visitor (Public Health Nurse)
MCP	Malaria Control Programme
MO	Medical Officer
MT	Medical Technician (Paramedical trained in curative and preventive care)
MLHW	Mid-Level Health Worker
MCH CENTRE	Maternal-Child Health Centre headed by LHV
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy

PHC	Primary Health Care
P & D	Planning and Development
RHC	Rural Health Centre
SHD	Secretary Health Department
TBA	Traditional Birth Attendent
THQ	Tehsil Headquarter
Taluka/Tehsil	Sub Division/Sub District
Union Council	Group of 7 to 10 villages which is an electoral unit
Union Committee	Urban electoral unit
UNICEF	United Nations Children's Emergency Fund
US AID	United State Agency for International Development
WFP	World Food Programme
WHO	World Health Organization

TEAM MEMBERS & RESOURCE PERSONS

NATIONAL MEMBERS

Sl. NO.	NAME	DESIGNATION
1.	Maj.Gen.Mohammad Ilyas Burney	Executive Director/National Coordinator EPI/ORS, N.I.H. Islamabad.
2.	Dr. Mushtaq Ahmad Chaudhary	Deputy-Director General Health (Basic Health Services), Ministry of Health, Special Education & Social Welfare.
3.	Col. Mohammad Akram Khan	National Project Manager (AHP-EPI), National Institute of Health, Islamabad.
4	Dr. Nisar Ahmad Siddiqui	Deputy Secretary (Technical), Health Department, Government of Sind, Karachi.
5.	Dr. Bashir-ul-Haq	Deputy Chief, Health Section, Planning & Development Division, Islamabad.
6.	Dr. Mohammad Saleem	D.D.H.S., Sargodha, (Punjab).
7.	Dr. Taj Mohammad	Principal, Paramedical School, Swat.(NWFP)
8.	Dr. Abdul Majid Kansi	Deputy Director Health Services (Basic Health Services), Quetta, Baluchistan
9	Dr. Moti-ur-Rehman	Principal,Scientific Officer - Nutrition, National Institute of Health, Islamabad
10	Dr. Manzoor Ahmad Chaudhary	Deputy Director Health Services, Multan (PUNJAB)
11.	Dr. Abdul Rashid Qureshi	Principal, School of Medical Technology, NIH, Islamabad
12.	Mr. Abdul Sattar Chaudhary	Health Education Adviser, Ministry of Health, Special Education & Social Welfare, Health Division, Islamabad. (PUNJAB)
13.	Dr. Mrs. Hamida Rahim	Principal, Public Health Nursing School, Peshawar. (NWFP)
14.	Dr. Sanaullah Qureshi	Deputy Director Health Services, Hyderabad. (SIND)
15.	Dr. Sajjad Barkat Qureshi	Senior Medical Officer, Civil Hospital Quetta. (BALUCHISTAN)
16.	Dr. Malik Manzoor Ahmad	Medical Superintendent, Clinical Research Division, National Institute of Health, Islamabad. (PUNJAB)
17.	Dr. Sheikh Mohammad Akhtar	Chief, Malaria Control Programme, Sind. Karachi (SIND)
18.	Dr. Mohammad Ali Sheikh	Deputy Director Health Services, Gujranwala Division, Gujranwala (PUNJAB)
19.	Dr. Abdul Rauf Soomro	Project Director, TBAs, Health Department, Government of Sind, Karachi. (SIND)
20.	Dr. Mehmood Alam	Assistant Director (EPI), (NWFP) Peshawar
21.	Dr. Ghulam Sarwar	Project Director, Afghan Refugees, Govt. of (NWFP) Peshawar.
22.	Dr Khurshid Ahmad	Deputy Director Health Services, Gujranwala (PUNJAB)
23.	Dr.Asghar Ali Shah	Chief, Malaria Programme, Azad Jammu & Kashmir, Muzaffarabad.

ANNEX 1 Contd

INTERNATIONAL MEMBERS

Sl. No.	NAME	DESIGNATION
1.	Dr. Awad Mohamad Ahmad	Director, Medani Teaching Hospital, Sudan
2.	Dr. S. M. Bashar	Short-term Consultant, EMRO
3.	Mr. Lars Bergstrom	Cold Chain Short-term Consultant, WHO Headquarters, Geneva
4.	Dr. M. Chamsa	Department of Communicable Diseases, Ministry of Health, Tehran.
5.	Dr. Cornelia E. Davis*	Chief, Health, Population & Nutrition USAID Mission, Islamabad.
6.	Mr. M. Haghgou	Cold Chain STC, WHO/EMRO
7.	Dr. Mostafa Hammamy	Under-Secretary, Basic Health Services Ministry of Health, Cairo, Egypt.
8.	Ms. M. Hammuren	Technical Officer, WHO HQs, Geneva.
9.	Mr. J. Lambert	Project Officer (Nutrition), UNICEF, Islamabad.
10.	Dr. Brian Lauer (RAPPORTEUR)	Assistant Professor (Paediatrics), Health Science Center, Colorado, USA
11.	Mr. Neil Mussell*	First Secretary (Development), CIDA, Canadian Embassy, Islamabad
12.	Dr. David Pratt	Medical Officer EPI, WHO/HQs, Geneva
13.	Dr. Ehsan Shafa (COORDINATOR)	Medical Officer EPI, WHO-HQs, Geneva
14.	Dr. J. Tulloch	Medical Officer CDD, WHO/HQs, Geneva
15.	Dr. M. Voniatis	Department of Medical & Public Health Services, Ministry of Health, Nicosia, Cyprus.
16.	Miss Jinney Sewell**	Assistant Health, Health Population, US-AID, Islamabad
17.	Dr Omer Sulaiman Mohammad**	Regional Adviser (EPI), WHO/EMRO, Alexandria, Egypt.
18.	Dr Witjaksono Hardjotanojo	WHO Epidemiologist (EPI), Islamabad

* Participated during the first week.

** Participated during the last week.

AHP/PHC - PAKISTAN REVIEW
10 NOV TO 06 DEC 1984
TEAM COMPOSITION FOR FIELD SURVEY

ANNEX 1 contd

PROVINCE	NATIONALS		INTERNATIONALS
PUNJAB	Dr Bashir-ul-Haq	(F)	Dr Brian Lauer*
	Dr Abdul Rashid Qureshi	(F)	Dr Mostafa Hammamy
	Dr Abdul Majid Kansi	(B)	Dr Mrs S. M. Bashar
	Dr Asghar Ali Shah	(A)	
	Dr Malik Manzoor Ahmad	(F)	
	Dr Sheikh Mohammad Akhtar	(S)	
SIND	Dr Hamida Rahim	(N)	Dr David Pratt*
	Dr Moti-ur-Rehman	(F)	Miss Marianne Hamunen
			Dr Witjaksono Hardjotanojo
	Dr Khurshid Ahmad	(P)	
	Dr Sajjad Barkat Qureshi	(B)	
NWFP	Mr Abdul Sattar Chaudhary	(F)	Dr Jim Tulloch*
	Dr Mohammad Saleem	(P)	Mr Julian N. Lambert
			Dr Ehsan Shafa
	Dr Abdul Rauf Soomro	(S)	
	Dr Mohammad Ali Sheikh	(P)	
BALUCHISTAN	Dr Manzoor A. Chaudhary	(P)	Dr M. Chamsa*
	Dr Nisar Ahmad Siddiqui	(S)	Dr Awad Mohamed Ahmed
	Dr Mehmood Alam	(N)	
	Dr Sanaullah Qureshi	(S)	
AJK	Dr Taj Mohammad	(N)	Dr M. Voniatis*
	Dr Ghulam Sarwar	(N)	
	Dr A.H. Usmani	(P)	
FEDERAL	Dr Shamsul Hasan		Dr Cornelia E. Davis*
	Maj. Gen. M. I. Burney		Mr Neil Mussel
	-		Mr Lars Bergstrom =to visit all Provinces
	Col Mohammad Akram Khan		Mr Mojtaba Haghgou=to visit all Provinces
	Dr Mushtaq Ahmad Chaudhary		
	-		

Note: P = from Punjab
S = from Sind
N = from NWFP
B = from Baluchistan
A = from Azad Jammun & Kashmir
F = Federal
* = Rapporteurs

GP

RESOURCE PERSONS

ANNEX 1 contd

CENTRAL GOVERNMENT ISLAMABAD:

1. Maj. Gen. M.I.Burney,
Executive Director/National Co-ordinator,EPI,NIH,Islamabad.

2. Dr.Sirajul Haque Mahmood,
Sr.Chief,(Health Section) Planning Division,Islamabad

3. Dr.Shams-ul-Hasan,Dy.Director General (Health,
Ministry of Health,Special Education & Social Welfare, Islamabad.

4. Dr. S.Kuno Agha,Dy. Director General (Health),
Ministry of Health,Special Education, Social Welfare, Islamabad.

5. Col. Mohammad Akram Khan, National Project Manager, EPI,
National Institute of Health, Islamabad.

6. Dr. Abdul Ghafoor,
Chief,Public Health Division, National Institute of Health,Islamabad.

7. Mr. I.A.Lari,
Chief, B.P.D., National Institute of Health, Islamabad.

8. Mr. Nazir Sheikh,
Statistician,Ministry of Health,Health Division,Islamabad.

9. Dr. Abdul Aziz, Dy. Director General(Health),
Ministry of Health, Special Education,Social Welfare, Islamabad.

10. Prof. A. Waheed Qureshi, Professor of Paediatric,
Rawalpindi General Hospital, Rawalpindi.

11. Dr. Shamim Afzal,
Director General,Population Welfare, Islamabad.

12. Dr. Mushtaq Ahmad Khan,
Deputy Chief, Planning Division, Islamabad.

13. Dr. Zaheer Jan, Drug Controller, Health Division, Islamabad.

14. Dr. Sarfaraz Ali, Senior Scientific Officer, Quality Control,
B.P.D., National Institute of Health, Islamabad.

SIND RESOURCE PERSONS:

1. Dr. M.Sajjan Memon,
Director Health Services, Sind,

2. Dr. Muhammad Umar Baloch,
Project Director EPI/Sind, Karachi.

3. Dr. A.Rauf Soomro,
Project Director (Traditional Birth Attendants)

4. Dr. M.R.Chaudhary,
Provincial Chief (Malaria)

5. Dr. Nisar Ahmad Siddiqui,
Project Director (ORS), Karachi.

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ANNEX 1 contd

BALUCHISTAN

1. Dr. Akbar Khan
   Director Health Services
2. Dr. Musa Baloch
   Project Director (AHP)
3. Dr. Samaullah Malik
   Deputy Director Health Services
4. Dr. Zahoor Ahmad Khan
   Deputy Director Health Services

   Dr. Mohammad Aslam Butt
   Project Director, BIAD

N.W.F.P.

1. Dr. Ali Sher
   Director Health Services
2. Sahibzada Imtiaz
   Commissioner, Planning & Development
3. Dr. Mohammad Ayaz Khan
   Provincial Chief (AHP/EPI)
4. Dr. Mohammad Nisar
   Deputy Director Health Services
5. Prof. Ashfaq Ahmad Khan
   Child Specialist, Khyber Teaching Hospital
6. Dr. Mrs. Kamil
   Inspectress Helath Services
7. Dr. Hamida Rahim
   Principal, Public Health Nursing School
8. Dr. Mahmood Alam
   Assistant Director (AHP/EPI)

PUNJAB

1. Dr. Elahi Bux Soomro
   Director Health Services
2. Dr. Mohammad Ayub Sulariya
   Additional Secretary, Health Department
3. Dr. Ghulam Sarwar Mirza
   Deputy Secretary (Technical)
4. Dr. Hafiz Mahmood
   Project Director (AHP)
5. Prof. Dr. Shaukat Raza Khan
   Professor of Paediatrics, Kind Edward
   Medical College, Lahore
6. Prof. Dr. Fehmida Jalil
   Professor of Paediatrics, Mayo Hospital
   Lahore

AZAD JAMMUN & KASHMIR

1. Dr. Abul Wafa Khan
   Deputy Director Health Services
2. Dr. Khawaja Mohammad Shafi
   Programme Manager (AHP/EPI)

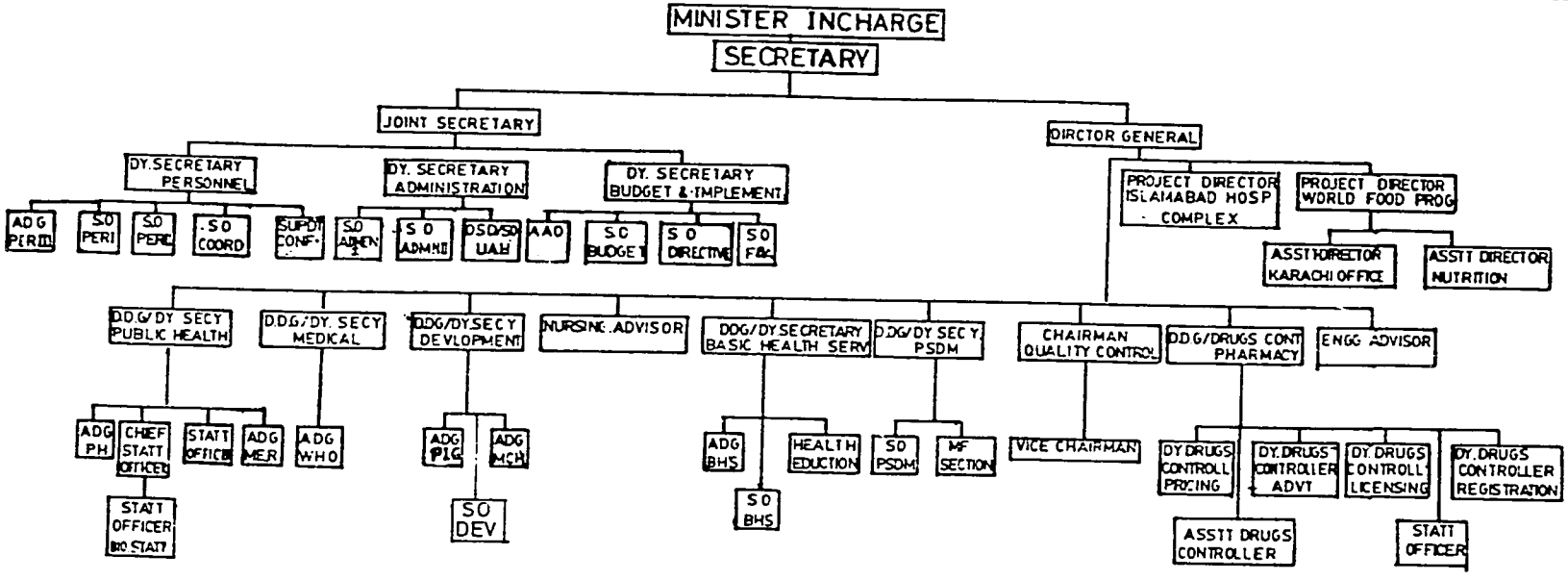
UNICEF

1. Mr. Carl Schonmeyr
   Country Representative
2. Mr. Pravit Sarabanchong
   Deputy Representative
3. Mr. David Mason
   Chief, Information & Communications
4. Mr John W. Peacock, Resident Programme Officer, SIND
5. Mr Edward S. Trainer, Resident Programme Officer, PUNJAB
6. Mr Peter Bannister, Resident Programme Officer, NWFP
7. Mr Franco Sguera, Resident Programme Officer, BALUCHISTAN

W.H.O.

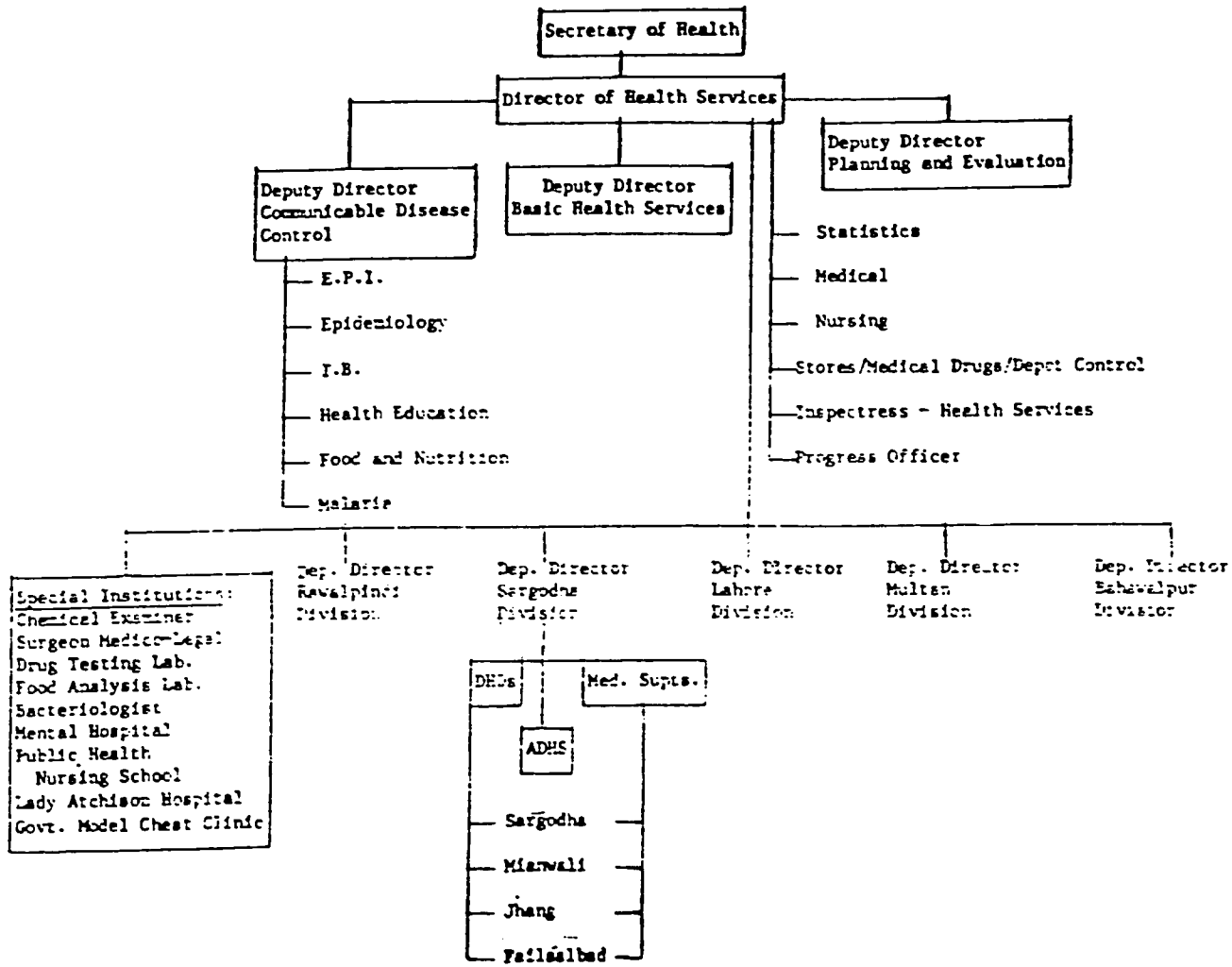
1. Dr. Fahim A. Khan
   National Representative & Programme Coordinator
2. Dr. Witjaksono Hardjotanojo
   WHO Epidemiologist
3. Mr. Mohammad Ismatullah Chaudhary
   WHO Operations Officer (PUNJAB)
4. Mr. Mohammad Hanif Lang
   WHO Operations Officer (NWFP)
5. Miss Fauzia Sultana Rehman
   WHO Operations Officer (SIND)
6. Mr. Noor Mohammad Khan
   WHO Operations Officer (BALUCHISTAN)

ORGANISATIONAL CHART OF M/O HEALTH, SPL.EDUCATION AND SOCIAL WELFARE (HEALTH DIV.) ISLAMABAD



Annex - 2

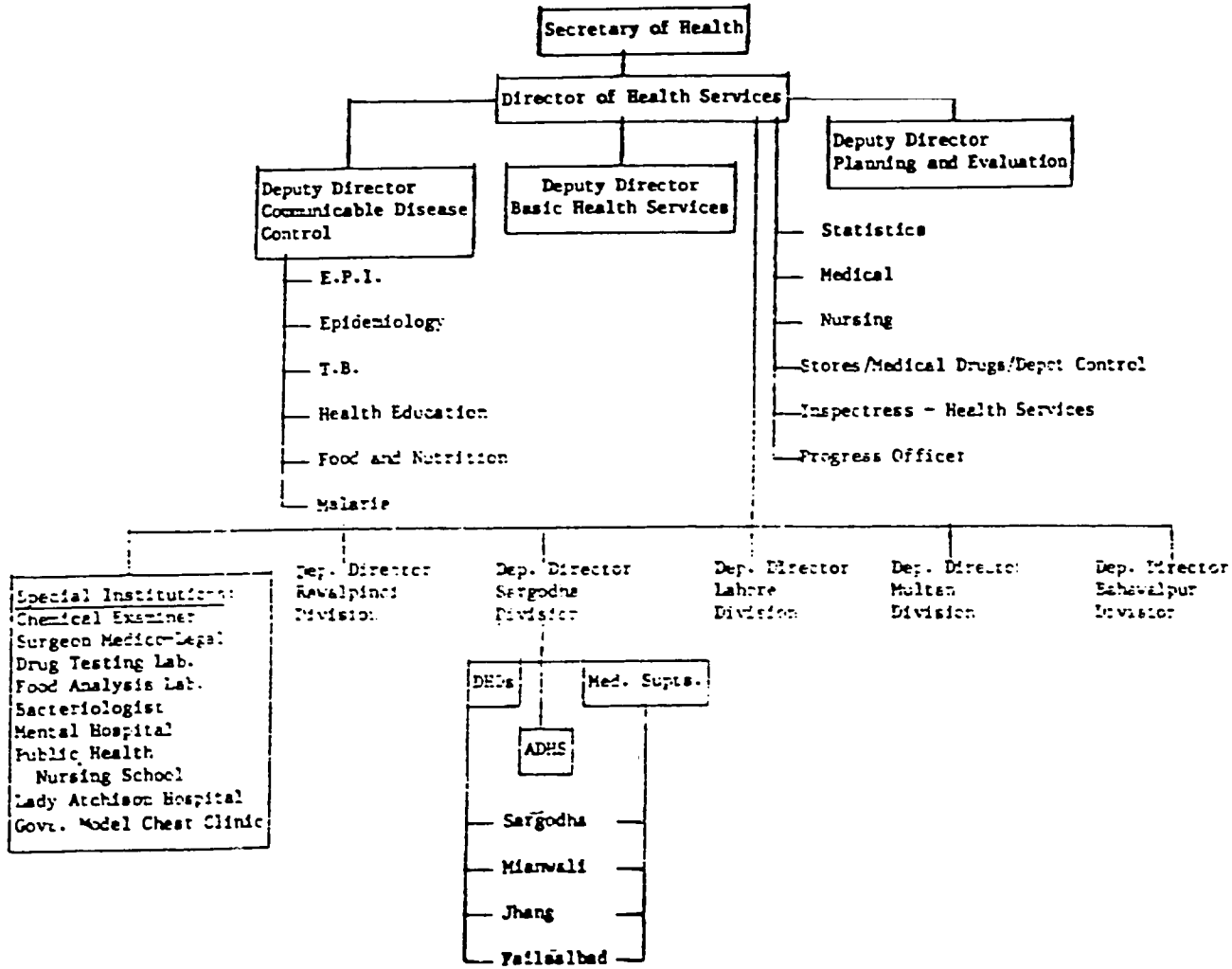
Chart .. Pakistan Health Sector: Organizational Structure of Provincial Health Departments. /1



1/ This applies to the Punjab. Organization of other provincial health departments varies slightly.

Annex - 3

Chart ... Pakistan Health Sector: Organizational Structure of Provincial Health Departments. /1



1/ This applies to the Punjab. Organisation of other provincial health departments varies slightly.

ANNEX 4

SUMMARY OF BUDGET ALLOCATIONS

DISTRIBUTION OF DEVELOPMENT BUDGET ALLOCATION BY SUB-SECTORS (MILLION RS.)

Institution/Programme	1980-81	1981-82	1982-83	1983-84
Rural Health Programme	285.8	271.1	253.3	318
Hospitals Beds	246.6	345.6	338.5	604
Medical Education	245.1	304.4	272.5	168
Preventive Programme	124.2	89.7	320.2	515
Research	11.9	21.5	27.5	9
Miscellaneous	28.9	44.9	43.7	91
Total	942.5	1076.3	1255.8	1705

DISTRIBUTION OF DEVELOPMENT BUDGET BY PROVINCE

Province	Total Allocation (Million Rupees)			Per capita allocation (Rupees)	
	1982-83	1983-84	1984-85	1982-83	1983-84
Federal	656	887	724	-	-
Punjab	330	489	489	7	10
Sind	101	124	173	5.3	9
N.W.F.P	148	162	162	13	14.7
Baluchistan	21	43	46	5	10.7

BUDGET ALLOCATION FOR HEALTH SECTOR BY PROVINCE AS PERCENTAGE OF TOTAL BUDGET

Province/ Area	Recurrent		Development (Capital)	
	1980-81	1983-84	1980-81	1983-84
Punjab	6.2	7.5	12.1	13.2
Sind	1.7	2.6	7.2	8.5
N.W.F.P	3.8	2.9	8.3	11.4
Baluchistan	0.9	1.7	NA	NA
A.J.K	4.0	5.9	7.6	8.9

ALLOCATION FOR AHP (CAPITAL)

Province/ Area	Years		
	1982-83	1983-84	1984-85
Punjab		59.132	43.320
Sind		8.054	24.544
N.W.F.P		8.878	10.578
Baluchistan		5.000	4.301
Health Division		187.000	146.000
Azad Kashmir		2.346	2.700
Northern areas		0.450	0.700
Total	210.000	270.860	232.152

MANPOWER TRENDS BY PROVINCE, PAKISTAN

PROVINCE	DOCTORS		NURSES		PARAMEDICS/DAIS/CHWs/LHVs	
	Numbers/(Population per Doctor)		Numbers/(Population per Nurse)		Numbers/(Population per Health Worker)	
	1983	1988	1983	1988	1983	1988
PUNJAB	10,200 (4,965)	19,235 (2,933)	3,352 (15,109)	5,352 (10,542)	27,932 (4,254)	61,232 (1,917)
SIND	6,304 (3,211)	15,594 (1,446)	2,482 (8,156)	3,932 (5,736)	15,870 (3,192)	29,160 (1,803)
NWFP	2,312 (5,025)	3,932 (3,292)	1,524 (7,623)	2,254 (5,742)	6,396 (5,959)	16,816 (2,137)
BALUCHISTAN	849 (5,413)	1,409 (3,633)	554 (8,296)	1,054 (4,857)	2,649 (4,240)	9,589 (1,095)
AJK	158 (13,291)	358 (6,802)	30 (70,000)	168 (14,494)	1,803 (2,346)	3,483 (1,420)

FACILITIES TRENDS BY PROVINCE, PAKISTAN

PROVINCE	HOSPITALS BEDS		RHCs		BHUs/MCH CENTRES/DISPENSARIES	
	Numbers/(Population per facility)		Numbers/(Population per facility)		Numbers/(Population per facility)	
	1983	1988	1983	1988	1983	1988
PUNJAB	24,729 (2,048)	29,284 (1,927)	190 (186,594)	331 (119,326)	3,284 (15,422)	4,840 (11,658)
SIND	16,448 (1,231)	18,283 (1,233)	76 (159,821)	112 (120,821)	1102 (18,387)	1,729 (13,042)
NWFP	5,101 (2,277)	7,131 (1,802)	49 (109,681)	141 (73,441)	944 (12,307)	1,215 (10,653)
BALUCHISTAN	2,594 (1,772)	4,374 (1,170)	28 (131,314)	55 (74,458)	516 (8,907)	548 (9,341)
AJK	873 (2,405)	1,763 (1,381)	7 (300,000)	38 (64,079)	318 (6,604)	374 (6,511)

Annex - 6

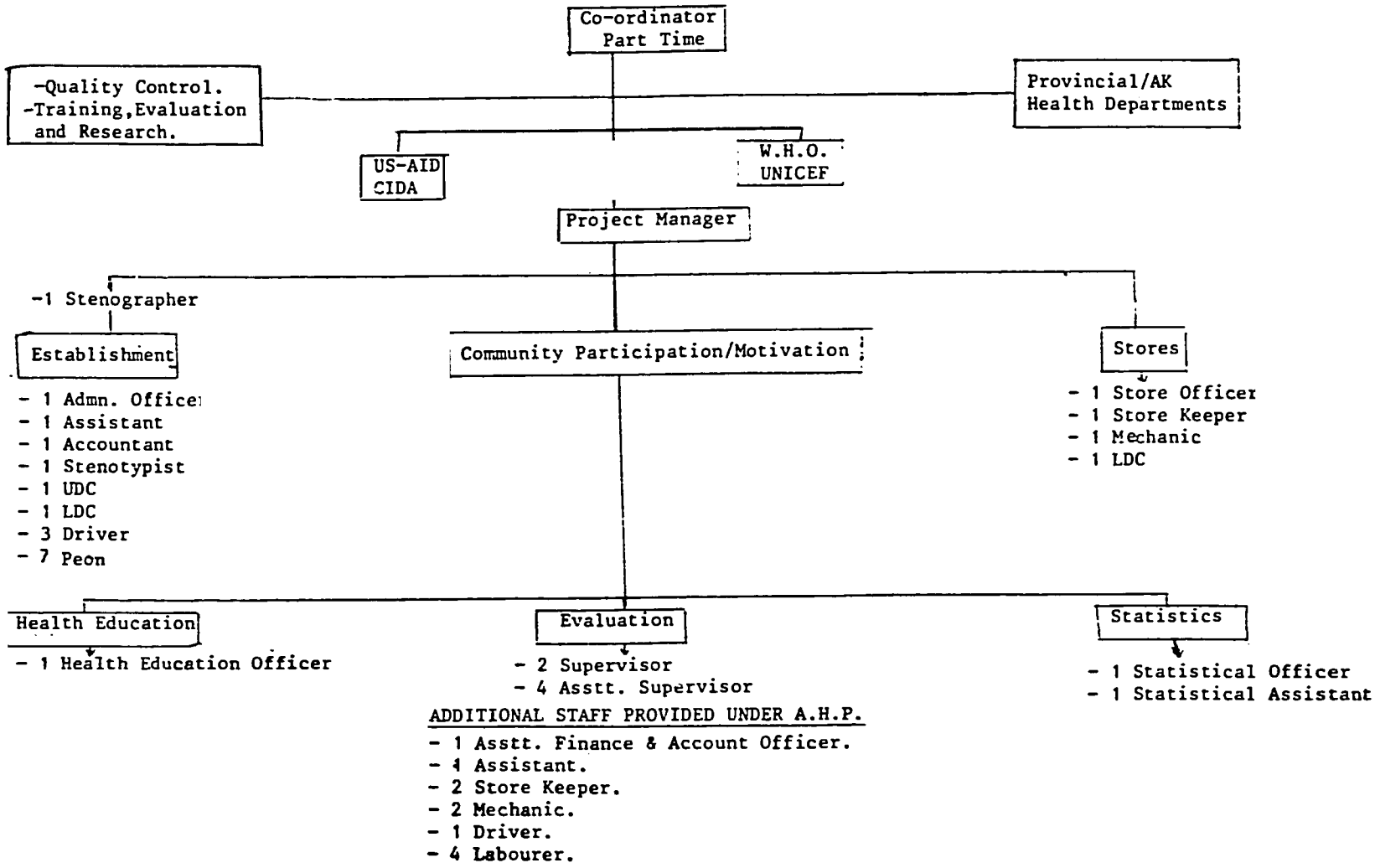
OVERVIEW OF RESPONSIBILITIES PROGRAMME PLANNING AND MANAGEMENT

Management steps	Treatment services	MCH	Immunization	Nutrition	Malaria	Diarrhoea	Sanitation	Tuberculosis
Planning	MOH PHD	MOH PHD	MOH (NIH)	MOH	MOH	MOH	Local Govt. Deptt.	MOH (NIH)
Supervision	PHD	PHD	PHD	PHD	PHD	PHD	Local Bodies	PHD
Programme Monitoring	Provincial DDHS	Prov. DDHS	Provincial DDHS	Provincial DDHS	Prov. DDHS	Prov. DDHS	Medical officers of Health	DDHS/ T.B. Cont. officers
Disease surveillance	DHO	DHO	DHO	DHO	DHO	DHO	-	DHO
Procurement of supplies and equipment	MOH PHD	DHO	DHO	DHO	DHO	DHO	-	DHO
Storage and distribution of drugs and supplies	MSD (Prov)	Prov MSD	NIH Prov. EPI Manager	-	Prov Chief MCP	NIH Prov. Coord. MSD	-	MSD
Evaluation	P & D Div. PHD	P & D Div. PHD	MOH PHD	P & D Div. POH NIH	MOH PHD	PHD	-	MOH PHD

ANNEX 8

ORGANIZATION CHART EPI

FEDERAL LEVEL



ADDITIONAL STAFF PROVIDED UNDER A.H.P.

- 1 Asstt. Finance & Account Officer.
- 1 Assistant.
- 2 Store Keeper.
- 2 Mechanic.
- 1 Driver.
- 4 Labourer.

TABLE 9A IMMUNIZATION PERFORMED IN THE LAST 5 YEARS

	BCG	D P T			Polio			DT		Measles	TT		Number of child	
Year		I	II	III	I	II	III	I	II		I	II	0-23 m	24-59 m
1979	497394	309464	149258	94033	394586	168685	113207	88748	12670	2121	212178	124038	5591486	7875333
1980	672336	289761	165477	107942	552061	286865	162628	242317	113191	59484	81892	37356	5764419	8118900
1981	1151776	471879	237102	137979	1012957	493952	184255	361491	171052	195070	282802	141170	5242700	8370000
1982	1319351	576716	364084	239235	1297788	746664	296018	476610	263580	224821	375041	194121	6120981	8621100
1983	4211637	2224244	1547532	855119	6461088	4128086	1850901	3959664	2655619	1538199	397035	225894	6304610	8879733

Table: 9B IMMUNIZATION PERFORMED 1982-83

% age

Y	PROVINCE	B.C.G	DPT			POLIO			DT		TT		MEASLES
			I	II	III	I	II	III	I	II	I	II	
1	PUNJAB	727033	333016	215026	139220	698891	391017	168704	242063	132109	187246	81486	112610
9	SIND	214709	92767	55181	37105	165395	91262	52138	91164	47190	26595	10702	9585
8	NWFP	292400	116912	77973	56302	347135	229105	64834	97730	65482	154878	100049	86806
2	BALUCHISTAN	23187	10604	4747	2994	25137	9880	5230	14621	6252	2396	717	8353
	A.J.K	62022	23417	11157	3614	61230	25400	5112	31020	12547	3926	1167	7567
	PAKISTAN	319351	576716	364084	239235	1297788	746664	296018	476610	263580	355041	194121	224821
	PUNJAB	3015428	623847	1188503	626410	4901402	3247780	1537580	3136704	2235693	149529	77802	979802
1	SIND	585618	295870	177292	104011	742181	399076	178896	443452	219048	45749	20769	299033
9	NWFP	489977	218241	136433	86993	573443	351164	90483	224502	124814	186655	121469	194683
8	BALUCHISTAN	28089	26072	9870	5909	80406	23184	9571	54553	13815	4101	1545	34785
3	A.J.K	82168	54336	33050	19552	149696	94532	30872	93066	56385	8673	3848	23511
	N.A.	10357	5878	4384	2444	13960	12350	3499	6487	5863	2328	461	6385
	PAKISTAN	4211637	2224244	1549532	855119	6461088	4128086	1850901	3959664	2655619	397035	225854	1538199

Table: 9C IMMUNIZATION PERFORMED BY AGE AND DOSE,1983

% age

AGE GROUP	BCG	DPT			POLIO			DT		TT		MEASLES
		I	II	III	I	II	III	I	II	I	II	
0 - 11 MONTHS	901999	1039749	703739	379938	1094602	885275	377956	7841	12290*	-	-	482816
11- 23 MONTHS	722589	1163117	820040	436273	1258599	799982	436205	28991	91356*	-	-	783327
2 - 4 YEARS	2176260	20209	25157	38151	3822311	3336566	1001682	3797799	577354	-	-	246505
+ 5 YEARS	410789	1169	596	757	285576	206263	35058	125033	95519	197115	125528	25551
PREG. LADIES	-	-	-	-	-	-	-	-	-	199920	100366	-
TOTAL	4211637	2224244	1549532	855119	6461088	4128086	1850901	3959664	2655619	397035	225894	1538199

* DT II in excess of DT I as DT given to children who had received one dose of DPT and had suffered reactions or who had suffered pertussis before being fully potected. In each case second dose of DPT was replaced by DT.

ANNEX 9 Contd.

Table: 9D

EXPANDED PROGRAMME ON IMMUNIZATION, 1984 (UPTO END SEPTEMBER)

AGE GROUP	BCG	DPT			POLIO			DT		TT		MEASLES
		I	II	III	I	II	III	I	II	I	II	
0 - 11 MONTHS	1091688	1125185	937329	861668	1170575	948810	870391	26353	15586	-	-	630924
11- 23 MONTHS	1013894	992336	912137	970953	1013552	939409	985036	54856	24573	-	-	788560
2 - 4 YEARS	3195228	11368	12738	13431	3008767	2937776	3052942	2973608	2886633	-	-	396053
+ 5 YEARS	4524	3	3	10	3195	2677	1207	846	711	-	-	136
PREG. LADIES	1398	-	-	-	-	-	-	-	-	362120	202326	-
TOTAL	5306732	2128892	1862207	1846062	5196089	4828672	4909576	3025663	2927503	362120	208326	1815673

ANNEX- 9 Contd

RESULTS OF IMMUNIZATION COVERAGE SURVEYS 1980 - AUGUST 1984

LOCALITY	DATE	No. of children	Vaccination Card			COVERAGE: PERCENTAGE								Fully Immunized
			+	O	M	BCG	POLIO 1	POLIO 2	POLIO 3	DPT 1	DPT 2	DPT 3	MEASLES	
Lahore	April, 1980	254	43	-	-	46	44	33	24	44	34	26	0	0
Peshawar	May, 1980	210	19	-	-	22	18	12	11	18	12	11	0	0
Karachi M.C.	March 1983	203	39	-	-	54	48	29	18	46	33	18	14	10
Quette City	May, 1983	210	35	39	26	23	34	22	18	33	22	17	25	16
Larkana City	May, 1983	211	75	-	-	61	82	70	52	59	50	44	59	43
Shahdadkot	May, 1983	210	78	-	-	60	83	71	51	58	51	46	61	44
Peshawar	Oct, 1983	217	59	33	8	60	64	55	52	63	54	51	44	40
Thatta	Dec, 1983	217	49	-	-	47	49	44	39	44	41	35	35	33
Rawalpindi	March 84	210	47	41	6	55	61	43	32	58	43	32	26	22
Karachi West	April 84	210	16	-	-	24	19	12	6	19	12	6	10	5
Karachi East	April 84	214	43	-	-	59	57	39	29	57	39	29	21	14
Hyderabad	Aug 1984	211	61	-	-	55	65	57	44	65	57	44	36	27

ANNEX-10 Contd

EPI OPERATIONAL RESEARCH

- Pakistan Data; Epidemiological Survey (MOH), 1978.
- Social Survey - Attitude and behaviour of the population especially mothers,1978
- Mortality from Tetanus Neonatorum in Punjab, 1981.
- Awareness Survey - K.A.P. towards EPI, 1981.
- Notes on Morbidity and Mortality of Diphtheria in Pakistan,1983.
- Missed Opportunities on Immunization,1984.
- Community response towards different approaches to promote EPI in Karachi, 1984.
- Disease Survey - Punjab, 1984.
- Life-span of measles maternal antibodies and determination of optimal age for measles vaccination (started November 1984).

ANNEX 11

PERCENT OF CHILDREN CONSIDERED TO BE IMMUNIZED WITH DPT-1 BASED ON HISTORY ALONE

PROVINCE	Survey	Total children considered to be immunize	Based on history alone	
			Number	%
PUNJAB	U	211	13	6
	R	211	11	5
SIND	U	137	50	36
	R	173	15	9
N.W.F.P	U	183	22	12
	R	206	14	7
BALOCHISTAN	U	69	13	19
	R	73	9	12
AJK	U/R	160	30	19
ALL		1423	177	12

ANNEX 12

REASONS FOR FAILURE TO COMPLETE THE COURSE OF IMMUNIZATION

PROVINCE		TOTAL NO.OF RESPONSES	LACK OF INFORMATION	LACK OF MOTIVATION	OBSTACLES
PUNJAB	U	39	39%	-	71%
	R	38	24%	2%	74%
	T	77	26%	1%	73%
SIND	U	183	74%	7%	19%
	R	124	62%	5%	33%
	T	307	69%	6%	25%
NWFP	U	68	43%	7%	50%
	R	33	58%	18%	24%
	T	101	48%	11%	41%
B'TAN	U	197	61%	4%	35%
	R	266	38%	3%	59%
	T	463	48%	3%	49%
AJK	U	-	-	-	-
	R	188	16%	7%	77%
	T	188	16%	7%	77%
PAKISTAN	U	487	61%	5%	34%
	R	649	36%	5%	59%
	T	1136	47%	5%	48%

U = Urban R = Rural T = Total

PROCUREMENT AND DISTRIBUTION OF VACCINES
1982 - 1984 (in thousands of doses)

Vaccine	Year*	Amount received	Amount distributed					Total amount distributed
			Punjab	Sind	NWFP	Baluch-istan	AJK	
Measles	1982	780	189.63	175	173.8	25	34	597.59
	1983	3960	1385.8	324	257.6	82.5	96.70	2144.60
	1984	3000	747.65	57	50.45	85	109.55	10 49.65
DT	1982	1120	957.9	135.90	262.96	36	102.88	1495.66
	1983	6749.46	3921.74	747.80	693.66	210.44	294	5867.64
	1984	11886.42	8624.82	1296.46	857.70	174	314.1	11267.08
TT	1982	1200	632.72	67	445.48	7	25.12	1177.52
	1983	5960	1381.24	294	810.48	39	68.42	2583.14
	1984	9160	773	280	4.4	20	26	1103.40
DPT	1982	1781.34	1330	293.64	464.86	20	110.1	2218.60
	1983	17148.74	11692.86	1824	1408.6	240	235.12	15490.58
	1984	52192.66	4849.40	480	365.1	60	268.3	6022.80
Polio	1982	1500.10	2119.60	140	1020	90	203.4	3573.50
	1983	14631.48	10984.80	1972.6	1497	324	388	15166.40
	1984	24264.50	15415	2330	3667.06	270	567.1	22249.10
	1982	3300	1514	880	697.6	33	152.8	3277.40
	1983	12320	5656.1	995.2	931	140	194.4	7916.70
	1984	4000	7140	640	1108.2	50	168.1	9106.30

* 1984 figures for January to October only

ANNEX 14 & 15

PROCUREMENT/SUPPLY OF COLD CHAIN EQUIPMENT AHP PERIOD

ITEMS	TOTAL PROCUREMENT	DISTRIBUTION					
		PUNJAB	SIND	NWFP	B/TAN	AK/NA	FED.CEL
Cold Room +4°C	2	2	-	-	-	-	-
Cold Room -20°C	1	1	-	-	-	-	-
Walkin Cold Room +4°C 17 m/3	3	-	-	3	-	-	-
Walkin Cold Room -20°C 17 m/3	3	-	-	3	-	-	-
Deep Freezers 10 cft.	103	96	-	-	-	-	7
Electrolux Chest Freezer 225 ltrs 8 cft.	130	50	30	25	15	5	5
Refrigerators 14 cft	40	40	-	-	-	-	-
Refrigerators 5 cft	2674	1189	550	745	120	50	20
I.L.R. 310 litres.	128	100	-	28	-	-	-
Kerosene Refrigerator 7.4 cft	50	-	-	-	30	20	-
Cold Boxes.	850	350	250	180	35	30	5
Soft Boxes.	200	110	44	30	10	6	-
Colman Boxes.	1000	-	220	700	50	30	-
Vaccine Car er with Ice packs 4.5. litres.	3000	1500	630	600	150	60	60
Generator 20 KVA	9	1	3	3	1	-	1

PROCUREMENT/SUPPLY DISPOSABLE SYRINGES/NEEDLES AHP PERIOD

ITEMS	TOTAL PROCUREMENT	DISTRIBUTION					
		PUNJAB	SIND	NWFP	B/TAN	AK/NA	FED.CEL
Disposable Syringes 1 ml with needles.	7,400,000	3,970,000	1,778,000	1,110,000	370,000	72,000	100,000
Disposable Syringes 2.5 ml with Needles	27,000,000	14,650,000	6,390,000	4,050,000	1,350,000	360,000	200,000
Disposable Needles 26 G x 3/8"	29,600,000	16,280,000	7,112,000	4,440,000	1,480,000	288,000	-
Disposable Needles 24 G x 3/4"	84,000,000	46,200,000	19 380,000	12,600,000	4,200,000	1,620,000	-

Source: National EPI Office,NIH

ANNEX 16

VEHICLES PROCUREMENT FOR EPI PROGRAMME
AHP PERIOD

ITEMS	TOTAL PROCUREMENT	DISTRIBUTION					
		PUNJAB	SIND	NWFP	B'TAN	AK/NA	FED. CEL
Toyota Landcruisers	96	28	16	34	16	2	-
Toyota Hiace 12 seaters	5	5	-	-	-	-	-
Toyota Hiace 3 seaters	7	3	1	1	1	1	-
Mobile Communication Unit LC	7	2	1	1	1	1	1
Delivery Van	4	4	-	-	-	-	-
Suzuki Van	39	22	13	2	1	1	-
Suzuki Jeep Hard Top	50	26	19	2	2	1	-
Motorcycles 125 CC	10	-	-	-	-	-	10
Motorcycles 100 CC	237	24	10	153	-	50	-
Motorcycles 80 CC	1150	780	185	110	50	25	-
Bicycles	8488	6074	1464	940	-	-	10

Source: National EPI Office, NIH

PROFILE OF THE COLD CHAIN IN PROVINCIAL STORES

Province	Source of Power	Storage				Temprature Recording	Vaccine Registry	Spare Parts	Repair Tools	Trained Repair Technician	Stand-by Generator
		Cold rooms									
		+4 °C	-20 °C	Refri-gerat-ors	Free-zers						
Punjab.	Electricity, reliable no fluctuation, Voltage regulators in use	1	0	0	31	manually	well maintained	adquate	adquate	1	20 KVA
Sind	Electricity, reliable no fluctuation,	1	1	0	0					1	To be installed
NWFP	Electricity, reliable no fluctuation, Voltage regulators in use.	2	1	2	3					2	31 KVA
Baluchis-tan.	Electricity, not very reliable, fluctuation no voltage regulator in use, gas widely available.	1	1	6	12					1	To be installed

ANNEX 18

4 DAY COURSE FOR DOCTORS ON TREATMENT AND PREVENTION OF DIARRHOEA- OUTLINE OF ACTIVITIES

Day 1	Registration	2 hrs
	Nature & extent of problem CDD programme objectives and strategies	1 hr
	Symptomatology and complications Patient assessment and monitoring management	1 hr
	Demonstration and practice of patient care	2½ hrs
Day 2	Principles of treatment	1 hr
	Patient care	2½ hrs
	Dietetic management in diarrhoea	1 hr
Day 3	Aetiology and pathophysiology	1 hr
	Patient care	2½ hrs
	Approaches to training paramedical staff	1 hr
Day 4	Prevention of diarrhoea and surveillance	1 hr
	Preparation and administration of ORS, practice demonstration	1 hr
	Patient care	1½ hrs
	Management of diarrhoea - final discussion	1 hr
	Course closure	1 hr
		20½ hrs.

Course participants are expected to follow-up cases treated by them in the patient care sessions between scheduled activities.

0-4 YEARS DIARRHOEA INCIDENCE, TREATMENT AND MORTALITY RATES NATIONWIDE STUDY CONDUCTED BY THE PLANNING DIVISION, MOH, MAY - DECEMBER 1985 (TOTAL SAMPLE SIZE 2631 CHILDREN 0-4 YEARS)

PROVINCE	Urban/ Rural/ Total.	Two-week indidence Rate (%) Summer	Diarrhoea Rate (%) Winter	Proportion episodes received ORT % *	Proportion episodes received home ** remedies %	All cause mortality rate %	Diarrhoea associated mortality rate %	Proportion of all deaths associated with diarrhoea %
PUNJAB	U	49	22	36	43	57.4	26.4	44
	R	47	28	34	34	62.0	15.8	24
	T	47	26	35	37	60.5	19.2	30
SIND	U	62	29	65	13	44.7	31.3	69
	R	55	31	40	25	48.3	14.3	29
	T	58	30	52	19	46.6	23.2	46
NWFP	U	41	21	19	25	53.5	18.9	33
	R	58	28	33	41	53.6	19.6	35
	T	55	27	20	39	53.8	19.5	35
BALUCHISTAN	U	40	23	42	58	40.8	20.8	50
	R	77	21	24	75	50.0	10.4	20
	T	58	25	30	70	53.3	13.9	29
PAKISTAN TOTAL	U	52	29	47	32	52.5	27.5	51
	R	51	31	32	35	56.7	15.8	27
	T	51	30	37	34	55.3	19.7	34

* Treatment with some form of ORS implied.

** Mostly, but not exclusively, fluids.