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CHILD SURVIVAL STRATEGY STATEMENT  
FOR  
PAKISTAN

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## I. INTRODUCTION

Child Survival is a term coined by UNICEF to dramatize the plight of the children of the world. Child Survival activities involve applying preventive health technologies, services and behaviors to improve dramatically the survival and development of children. Since the knowledge and tools exist (vaccines, oral rehydration salts and breast feeding), why do almost half a million babies die in Pakistan each year before their first birthday? Lack of resources and concern are part of the problem, but lack of focus is equally important. The GOP has shown that it can focus and produce results in the Expanded Program of Immunization (EPI). Can a more total focus on the health problems of children and mothers produce a significant reduction in morbidity and mortality? USAID believes it can.

This paper follows the structure of the Mission's April 1987 Country Development Strategy Statement. An analysis of the health sector as it applies to child survival in Section II is followed by the identification of problem areas for USAID consideration in Section III. Section IV gives specific objectives for these problems, the strategy for achieving these objectives and the Mission's proposed programs. Section V discusses Mission staffing requirements and the paper ends with the outline of a long term plan for child survival.

## II. ANALYSIS

### A. Health Status of Children

Given the lack of reliable health data, estimates of infant mortality in Pakistan are impressionistic and vary from 90 infant deaths per 1,000 live births to over 120. The World Bank estimate for 1984 is 116 and UNICEF estimates are similar. Pakistan's National Institute for Population Studies uses a current infant mortality rate (IMR) of slightly over 100. Some health officials believe that recent immunizations may have lowered the IMR to 90. On the other hand, a recent study by the Planning Commission arrived at a calculation of 124. For this strategy statement the 1987 IMR is presumed to be 104, the 1-4 year old mortality 56 and total under five mortality of 160 per 1,000 live births.

Whatever the correct figure, Pakistan's infant and child mortality rate is much higher than it need be, and higher than rates in many neighboring, less developed countries, as shown in the following 1984 World Bank estimates:

	<u>Infant Mortality</u>	<u>Under 5 morta- lity/1000 live births</u>	<u>% decrease in under 5 mortality since 1965</u>
Pakistan	116	180	26%
India	90	134	45%
China	36	44	67%
Sri Lanka	37	45	48%
Bangladesh	124	196	21%

A UNICEF estimate of the main causes of infant and child mortality in Pakistan, drawn from various official reports and estimates, is given below.

Diarrheal Diseases <sup>1</sup>	313,400
Measles <sup>2</sup>	35,510
Neonatal Tetanus <sup>2</sup>	109,490
Diphtheria <sup>2</sup>	14,570
T.B., Polio, Pertussis <sup>2</sup>	12,216
Acute Respiratory Infection <sup>3</sup>	80,000
Others (including accidents & congenital abnormalities) <sup>4</sup>	<u>124,614</u>
Total	689,800

The World Bank estimates for 1984 are 496,000 infant deaths and 338,000 child deaths for total under five deaths of 834,000.

Although the estimates vary widely, there is general agreement that the four major killers of children are neonatal tetanus, dehydration due to diarrhea, measles, and acute respiratory infections.

Past surveys had suggested that neonatal tetanus incidence in Pakistan is amongst the highest in the world, on the level of over 100,000 neonatal deaths annually. In response, and with the encouragement of USAID and UNICEF, the GOP planned a tetanus toxoid acceleration campaign to increase coverage of married women of reproductive age from the 1985 level of about six percent to 80 percent by 1989. A March 1987 disease survey conducted by the National Institute of Health (NIH), however, suggests that there are fewer neonatal tetanus deaths than was earlier believed. Analysis of these new data will determine if adjustments are required to the GOP's plan.

Most estimates suggest 30 to 45 percent of total infant and child deaths are caused by diarrheal diseases. A GOP Planning and Development Division diarrhea survey concluded that total deaths per year were well over 300,000. Another GOP estimate is 228,000. Whatever the current figure, if only half could be prevented by a strengthened ORT program, infant mortality could be reduced by at least 15%. Recent estimates of measles deaths are approximately 35,000 per year. Measles received little attention early in the EPI program; however recent efforts have substantially increased measles immunization coverage. Acute respiratory infections remain a major child killer but little has been done in this area. UNICEF is considering some new initiatives.

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Note: No estimate is made for deaths caused by malnutrition although it is an underlying contributor to a great majority of child deaths, in particular those due to diarrhea and measles.

1. Planning & Development Division Diarrhoea Survey (1984)
2. Foster, S. Report of a mission to Pakistan, USAID, Islamabad (1986).
3. Computed from ARI Annual progress report, WHO, Islamabad (1985)
4. By subtraction.

While all health professionals agree that malnutrition is a major contributor to childhood mortality, there is little objective data since Pakistan has no national growth monitoring or nutrition evaluation program. According to the 1976/77 micro-nutrient survey, 7% of under fives were severely malnourished, 10% moderately severely malnourished, 43% mildly malnourished and only 40% satisfactorily nourished. Since food supplies appear to be adequate, much childhood malnutrition may be due to repeated infections and lack of understanding about the nutritional needs of mothers and of children. In northern Pakistan, iodine deficiency is implicated in over 20,000 neonatal deaths and stillbirths annually as well as substantial physical and mental handicapping.

Child spacing affects child survival. An analysis of data from the Pakistan Fertility Survey showed infant mortality to be over 200 with a birth interval of under 18 months whereas it was only 75 with a birth interval of three years.

#### B. Medical Personnel

The Pakistan ratio of population to physicians, 3,500 per doctor, is lower than that in all low income countries in Asia except China and India. Pakistan has no shortage of doctors.

In fact, there is heavy unemployment in the medical profession. The World Bank estimates a surplus of 11,700 by 1993. In response to these pressures, the GOP has increased public sector positions for doctors from 5,000 in 1983 to 14,000. Total seats in Pakistan's 17 medical colleges have been reduced from 4,200 to 3,365. By contrast, a 30% deficit of health technicians, a 37% deficit of nurses and a 42% of lady health visitors are anticipated by 1993. The latter shortage will be of particular significance since male workers are culturally constrained from communicating with the mothers and young women who are the key to child survival.

It is common practice that government doctors are transferred frequently. They are also shifted back and forth between clinical and public health or administrative jobs. The clinical jobs are preferred because they provide scope for private practice. Training a cadre of public health managers is difficult because doctors usually do not remain in these positions.

#### C. Government Expenditures

The figures on expenditures on health as a percentage of total central government expenditure indicate the low priority historically given to health:

Pakistan	(1972)	1.1
Pakistan	(1983)	1.0
India	(1983)	2.4
Sri Lanka	(1983)	5.1
Bangladesh	(1972)	5.0
Thailand	(1983)	5.1

Although still low in comparison to other countries, social sector spending has recently risen significantly. The Prime Minister's 5-point development plan continues this positive trend. For example development expenditures for health in the first three years of the current plan exceeded the total spent in the entire previous Five Year Plan and have grown from 3.7% to 5.5% of the total development budget. Recurring health expenditures have increased 23% per year over the last three years and now represent almost 3% of total budget. Also, expenditures for preventive programs during the first three years of the current plan total rupees 1,124 million (\$66 million), 60% higher than during the entire previous Plan. The Accelerated Health Program, which included the successful EPI program, ORT and dai (traditional mid-wife) training, was accorded high priority by the GOP and funded primarily from domestic resources. Some observers attribute the growing emphasis on health and education to the return of civilian government and a growing concern that poor health and education are a constraint on development.

#### D. Health Structure

The system is designed as a pyramid with the Federal Ministry of Health at the top, the four Provincial Health Departments next, the 69 District Medical Officers next, followed by the Tehsil (or Town Council), then the Rural Health Center (RHC), and finally the Basic Health Unit (BHU). The Prime Minister's five point development plan calls for each Union Council, the lowest level of government administration, to have an RHC or BHU. Currently about 2/3 of union councils have an RHC or BHU. To provide the remaining 1/3 with a health facility by 1990, the GOP is developing a major rural health infrastructure expansion project, which will also upgrade rural health centers to 25-bed rural hospitals and add dental unit, X-ray and ambulance services.

##### 1. Federal-Provincial Relationship

The provision of government health services is decentralized, i.e. the provinces plan and manage the hospitals, RHCs and BHUs according to their own development priorities. However, many federal programs influence or directly affect the ability of the provinces to manage their facilities. For example, the Expanded Program of Immunization, a federal program managed by the NIH, relies on the provinces for the maintenance of the cold chain and program staffing. Where responsibilities are shared, lines of command become confused and Federal-Provincial relationships often suffer.

The funding mechanism may exacerbate the friction. Revenues are collected federally but for most social services dispersed provincially. Development funds are transferred from the central government to the provinces according to a formula based principally on population. Once received, these annual development plan (ADP) monies can be spent by the provinces as they see fit, consistent with federally approved plans. Non-ADP funding is used to finance provincial recurrent costs. This rational system has one drawback. Because the ADP money is set by a formula, any other money coming into the system (e.g. from AID) must be absorbed within the overall ADP ceiling. The grant would not be

additional to the ADP allocation, and its acceptance would imply a reduction in other on-going ADP-funded programs. Accordingly, there is little incentive for provinces to seek funding for new and innovative projects. GOP allows occasional exceptions; all UNICEF projects, for example, are outside and additive to ADP. So are some AID grants.

## 2. Curative vs. Preventive Services

Pakistan's stated policy is to balance the provision of curative and preventive services. In practice, the balance has been tipped heavily in favor of curative services, as reflected in the design, construction and staffing of hospitals, RHCs and BHUs. There are almost no outreach elements in the rural health expansion program. Construction of new facilities has been exceedingly rapid and has taken the major portion of all new development funds; future plans are to continue this pattern. The program calls for a doctor in every BHU, three doctors in every RHC, and at least five in every hospital. So the cost of maintaining the system will be high and drain funding from more cost effective preventive programs. Even the curative function for which the program is designed will be inadequately fulfilled since the majority of patients do not come to the government facilities for treatment. BHUs with a staff of five average 5-15 patients per day; RHCs with a staff of 16 average 40-50 patients/day. A 1982-83 survey by the Federal Bureau of Statistics indicated that only 16% of patients reporting illness sought medical care in government facilities, which are therefore grossly underused. The others went to private clinics or physicians, chemists, compounders, or traditional healers. It is estimated that 70 percent of medical care expenditures are made in the private sector. Any comprehensive health strategy must consider the predominant role of the private sector. Government policy favors facilitating development of the private sector in health.

## 3. Organizational Structure

The management of health services for all but the largest hospitals in each district is the responsibility of the District Health Officer (DHO). Yet the DHO has insufficient authority over budget, staff, location of facilities, or types of programs to make decisions or take necessary actions, and district health services suffer accordingly. The district hospital is run by a medical superintendent (MS). Both report directly to the Director of Health Services (DHS) in each Province so there is little coordination among district facilities.

Another organizational problem is that while BHUs theoretically report to and refer patients to the RHC, in fact the BHU doctor reports directly to the DHO and generally refers to the district hospital. The RHC functions as a big (and very expensive) BHU. Outreach teams for various programs also relate in various ways to the BHU, RHC and District Headquarters.

These organizational problems at the district level have their counterparts at the provincial level. Because all district decisions are referred to the provincial level, the Director of Health

services is overwhelmed, has too many people reporting to him and little time for other than routine work.

#### 4. Information System

There is no effective health information system available to provincial and federal decision makers. With the exception of immunization coverage which has a separate, vertical system supported by WHO and UNICEF, little information is available about deaths and morbidity, even at government facilities, age distribution of patients, types of services provided, or any outreach activities. Virtually the only data available are crude utilization figures from government health facilities. The weakness of the information system may be explained in part by the fact that planning and management of resources are not conducted in a manner requiring good information. There is no forum for using good data, so they are not demanded. There is, however, a growing concern about the weakness of the information system.

#### E. Recent Child Survival Developments

By 1983, Pakistan economic development had reached a level at which infant mortality rates of 50 or 60 deaths per 1,000 live births could have been achieved. However, neglect of the social sectors and failure to apply known child survival technologies on a large scale have led to continued embarrassingly high infant mortality, fertility and illiteracy. The following list of child survival achievements in the last year gives some hope that Pakistan can and will strengthen its efforts in the coming years:

- o A March 1987 survey shows 70% immunization coverage of 1-2 year olds, compared to a 1983 baseline of under 5%, and rapidly rising ORS use.
- o GOP has drafted a plan, based on the Prime Minister's 5-Point development program, for a major rural health infrastructure expansion to cost about 375 million dollars with increased emphasis on maternal and child health.
- o The Ministry of Health proposes the establishment of a National Children's Commission, a National Institute for Child Survival and Development, and a National Children's Fund to mobilize new political awareness and public and private sector action programs for child survival and development.
- o The GOP is spending more; over \$35 million on the Accelerated Health Program since 1983, a 23% annual increase in the recurring health budget since 1983/84 and an increase in the health development budget from 3.7% of total budget in 1982-83 to 5.5%.
- o The Punjab multi-purpose health worker scheme has shown that very high rates of immunization coverage can be achieved within provincial health budgets.

- o An NIH instruction that outreach workers should distribute two packets of ORS to all homes with young children, resulted in a quantum increase in ORS accessibility; a March 1987 survey shows 43% of homes with diarrhea cases having ORS packets.
- o NIH is staffing up; a manager for control of diarrheal diseases/ORT has been appointed and WHO advisor requested. CDD/ORT operations officers for each province are also planned.
- o Appointment in March, 1987 of a new Director General of Health who is keen to strengthen primary health care, upgrade the status of pediatrics in medical education, enhance the career structure of doctors, and test the feasibility of a modestly paid village level health worker.
- o GOP seems ready to develop mechanisms for funding Primary Health Care and Child Survival activities of NGOs.
- o GOP has decided to undertake a tetanus toxoid acceleration campaign and has developed three year provincial action plans to reduce neonatal tetanus mortality.
- o There is renewed interest in an iodized oil injections campaign to reduce iodine deficiency disorders and related child morbidity and mortality in Northern Pakistan.
- o GOP, UNICEF, WHO, and USAID have agreed to support an expansion of the EPI program.
- o Several elements of the ORT "big push" are being developed by the NIH, e.g. diarrheal training units, rehydration units, mixing jugs, leaflets, mass media, etc.
- o GOP has asked USAID for an extension of the Primary Health Care Project and the addition of 10 million dollars to support child survival initiatives such as ORT, tetanus toxoid, and control of iodine deficiency disorders.
- o The health technician (formerly medical technician) curriculum has been revised to include a major emphasis on preventive and promotive health including child survival.
- o Under PHC Project, development of medical officer training programs which focus on child survival.
- o The successful launching of the Social Marketing of Contraceptives Project will lead to greater accessibility of contraceptives and possibilities for application of the SMC model to other social sector areas of significance to child survival.

- o The National Development Finance Corporation has been identified as a parastatal government intermediary to mobilize private sector firms to promote health objectives including child survival, such as ORS, iodized salt, soap and hygiene.

F. Child Survival Interventions

The GOP efforts fall into four main areas, which are discussed below:

1. Expanded Program of Immunization

Based in the National Institute of Health (NIH) outside the formal health delivery structure of the MOH, headed by an excellent physician/manager and given major political and financial support by the Ministries of Finance, and Planning and Development, the EPI program has received international recognition for making major strides since 1983 in immunizing the children of Pakistan.

Following the accepted vertical, independent WHO model, EPI places heavy emphasis on training, supervision and assessment. EPI is the only health activity in Pakistan that has quantified goals expressed in outcomes and reliable data available for evaluation. Each province has set its own targets, but the national program has assigned to each province a program manager responsible to the National Manager. In addition, WHO is providing a national technical advisor and operations officer in each province.

The following tables highlight EPI accomplishments and deficiencies as measured by the EPI monitoring system:

FULL IMMUNIZATION COVERAGE BY PROVINCE-CHILDREN 12-23 MOS

<u>Province</u>	<u>1981</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Punjab	3.3%	88.8%	79.5%	89.0%
Sind	1.7%	27.0%	38.6%	60.0%
Baluchistan	0.9%	7.9%	8.1%	12.1%
NWFP	6.2%	49.1%	79.7%	102.7%
AJK	NA	56.8%	69.1%	80.0%
Pakistan	3.1%	64.0%	65.7%	78.4%

IMMUNIZATION COVERAGE BY PROVINCE-CHILDREN 0-12 MOS

<u>Province</u>	<u>1981</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Punjab	2.4%	50.2%	28.9%	54.8%
Sind	1.8%	13.0%	16.9%	25.2%
Baluchistan	0.9%	3.7%	3.5%	5.9%
NWFP	3.8%	18.9%	26.9%	33.6%
AJK	NA	33.0%	22.4%	29.0%
Pakistan	2.3%	34.5%	23.2%	41.0%

The tables show less complete coverage of infants under 1 year due to non-vaccination for measles. The figures also demonstrate a disturbing fall off in coverage in the Punjab in 1985, probably due to initial attempts to integrate the vertical program for EPI into the health services delivery system. Weak supervision at the basic health service level may have decreased EPI effectiveness. In 1986, the new Punjab multipurpose health worker scheme began giving EPI the highest priority, and coverage rates recovered. Integration of EPI should proceed very cautiously, occurring only when the provincial health departments are assured of maintaining coverage. The cold chain is essential to the success of the EPI. Most personnel in the rural areas understand this and records are maintained. Some hospitals in the municipalities, however, have no thermometers in their refrigerators, so there can be no assurance that vaccine potency is acceptable.

The need for the cold chain constrains the role of the private sector in immunization. The cost of providing refrigeration to all medical practitioners would be astronomical, and quality control could not be assured. An attempt by the EPI program to recruit private physicians and provide free vaccines was resisted by the medical profession due to the government's insistence on some control of vaccine potency. EPI will therefore remain primarily a GOP responsibility although larger private facilities and NGOs could play a growing role, especially in the cities.

## 2. Oral Rehydration Therapy

While good epidemiological information on the prevalence and mortality associated with diarrheal disease is not available, existing data indicate that diarrheal disease is the single largest cause of death in the childhood population with estimates that 30-45% of deaths are diarrhea related. The present diarrheal control program began in 1982 with a national 3-Year Plan administered by NIH. This plan included production of Oral Rehydration Salts (ORS) by the NIH, distribution through government outlets, training of health workers in ORT use and promotion of ORT through radio, television and newspapers. A second plan was begun in 1985 and augmented by the Accelerated Health Program (1982 to the present). These programs have been largely effective in producing and distributing ORS to government health facilities. The impact on the attitudes and practices of health workers and mothers has been considerable, but less dramatic. ORS obtained through health facilities and commercial outlets is not always accompanied by training of mothers in its correct use.

In early 1986 the national ORT program coordinator acknowledged the weakness of the existing program and the need for a "big push". Since then thousands of workers have been trained, mass media promotion has continued and vaccinators and other outreach workers have begun distributing two ORS packets to each home with young children. A WHO/PRITECH assessment of December 1986 observed a surprisingly high level of ORT knowledge and use, reinforced by March 1987 survey data. Although there is some concern that the structure of the survey may have overestimated the actual situation, of 878 parents of cases interviewed,

75% were aware of ORS and about 45% had used ORS in the last case of diarrhea. 57% had used ORS at least once. 43% had packets in their homes and 63% knew where to get it. 63% learned about ORS from health workers. The survey report claims that 48% knew how to mix ORS correctly although a mixing demonstration was not part of the interviewer. However, much remains to be done before ORT is universally used to avert diarrhea related deaths.

### 3. Child Spacing

Fertility remains very high in Pakistan with a total Fertility rate of 5.7 births per woman. Contraceptive prevalence in 1985 of 10%, although triple the 1982 level, is too low to have significant impact. The public sector family planning service delivery is expanding, as is private sector distribution of contraceptives under the recently launched social marketing of contraceptives project.

The correlation between child spacing and child survival is not widely appreciated, although the Pakistan Fertility Survey showed IMR of over 200 with a birth interval of under 18 months but IMR of only 75 with a 36-41 month interval.

The GOP has separated the administrative responsibility for family-planning and health services, leading to about 1200 family welfare centers operated by the Population Division independently from Ministry of Health facilities. At the same time, over 8,000 government primary health care outlets provide health services but do not include family planning. A 1985 GOP decision that MOH facilities should add family planning to their services has been largely ignored. The Population Division centers do however provide general maternal and child health services in addition to family planning.

### 4. Nutrition

Maternal and child malnutrition is a public health problem and a child survival issue in Pakistan. A 1976 GOP survey claims that 7 to 10% of young children are acutely malnourished and over 50% of children are moderately undernourished. Yet Pakistan is now self-sufficient in food, is exporting rice, and may soon export wheat. Malnutrition is probably a function of high rates of infectious diseases, poor infant feeding, and inequitable food distribution both within regions and within families. Fifty percent of the pregnant women are anemic and a quarter of newborns weigh less than 2500 grams. Reports suggest that many mothers may not be aware of the appropriate timing for the introduction of solid foods. Breast feeding, although widespread, may be declining in some urban areas.

Little has been done to address malnutrition. The World Food Program provides food for malnourished children and pregnant and lactating mothers, but the program for distributing the food is poorly administered and it is highly unlikely that a substantial lowering of malnutrition is taking place. The Joint Nutrition Support program, funded by Italy and administered by UNICEF, has been delayed by GOP administrative and jurisdictional issues.

### G. Other Donor Assistance

Other major donors who are assisting Pakistan in child survival activities are WHO, UNICEF and CIDA. Collaboration among these donors and USAID and the GOP is excellent. In June 1986, the GOP, WHO, UNICEF and USAID signed an agreement to coordinate their efforts in the area of EPI. A similar agreement may be drawn up to coordinate support in the area of Control of Diarrheal Diseases (CDD).

#### 1. World Health Organization (WHO)

WHO has programmed \$280,000 per year in 1986, 1987 and 1988 to EPI and CDD programs for technical advisory services, funding of operation staff, monitoring, evaluation, incountry training and participant training, fellowships, supplies, equipment and research grants. The EMRO regional office has decided to terminate direct funding of provincial EPI operations officers. Funding for CDD is likely to be increased. A long term advisor for CDD may be provided by WHO.

#### 2. United Nations Children's Fund (UNICEF)

UNICEF has long been a leader in supporting child survival activities and in mobilizing increased GOP support. UNICEF has programmed \$3.2 million for three years (1986-88) to EPI for cold chain equipment, vehicles, vaccines, communications, monitoring, evaluation and training. Beyond 1988, UNICEF's contribution will almost certainly continue at the same level. UNICEF is planning to provide assistance for control of diarrheal diseases after 1988 at about the \$300,000 to \$500,000 per year level. UNICEF is already working to reduce iodine deficiency disorders and is keenly interested in nutrition.

#### 3. Canadian International Development Agency (CIDA)

Currently, CIDA is providing concentrated polio vaccine to the Pakistan EPI program. From 1987-89, CIDA plans to extend this program and also supply materials to improve the packaging of vaccines in vials at a projected cost of 4.5 million Canadian dollars. CIDA is funding the UNICEF Traditional Birth Attendant (TBA) training program (part of the GOP Population Welfare Project) in Sind province and federal areas. A three year communication services project, costing 3.2 million Canadian dollars in support of child survival activities has recently begun. In total, CIDA plans an estimated \$12,200,000 Canadian assistance for child survival activities in the next three years.

### III. PROBLEMS

The above analysis has indicated a number of serious problems affecting the mortality of infants and children under 5 years of age. These problems, and the rationale for their selection as USAID areas of concern, are presented below:

A. Lack of GOP Commitment:

While the evidence is overwhelming that the high infant and childhood mortality rates in Pakistan are due to diarrhea and dehydration, acute respiratory infections, and vaccine preventable diseases, government allocation of budgets and personnel continues to emphasize the construction and operation of expensive hospitals, health centers, and curative services. Most patients seen at a BHU (staffed by a doctor and other technical staff) could be adequately treated by a properly trained paramedical worker. Furthermore, the low emphasis on both outreach programs from health facilities and preventive rather than curative activities means that the impact of the health system, except for the Accelerated Health Program, on the survival of children is minimal. USAID is determined to address this problem.

B. Inadequate Epidemiological Surveillance, Monitoring and Evaluation:

There is no systematic recording of births or deaths or timely reporting of disease; hospital admissions are reported on an annual basis and are of dubious value; no ongoing sampling or sentinel procedures exist that could be used for estimates of morbidity or mortality; most data collected are not analyzed or used for program management. This lack of data severely constrains the development of a child survival strategy.

Knowledge of current status is essential to the design of appropriate new initiatives and the measurement of outcomes. The basic outcome desired in a child survival program is deaths averted. When the infant mortality rate is largely a guess, it becomes very difficult to document change so that child survival activities can be justified. In fact, world wide evidence shows that child survival programs can achieve dramatic results for modest investments. This needs to be demonstrated to decision makers and the general public in Pakistan, so that the continuation and expansion of these cost-effective programs are assured.

An appropriate surveillance system uses limited health indicators that can be easily and reliably collected. The EPI program has the only surveillance and collection system that approximates the ideal by using sentinels and periodic cluster surveys. Consideration could be given to building on this system.

C. Lack of Technical Leadership:

The success of the health program will depend on its leadership. In Pakistan, enterprising health practitioners prefer curative medicine, where lucrative private practice can supplement government salaries and younger skilled technical leadership for preventive programs is a rare commodity. The 7th Five Year Plan working group noted unsatisfactory progress in creating a cadre of health

managers. Until improvements in the status, pay scales, and career structure of preventive health physicians occur, this lack of technical leadership will remain a significant constraint to the improvement of Child Survival.

D. Inappropriate Medical Education:

Although the written curriculum of the Pakistan Medical and Dental Council that regulates medical education calls for preparation of community oriented physicians, the actual study environment and experience provides little knowledge and even less motivation to pursue careers in public health. The 7th Five Year Plan working group stated: "no progress so far can be reported in the desired change in the training content of doctors to make them oriented in primary health care and community needs". Pediatrics is not accorded full status in final examinations, so most students ignore it. Community medicine is given even lower status. At the service delivery level as well as at the leadership level, preventive child survival measures receive low priority. Medical school admission policies discriminate against females even though the shortage of female doctors is a major constraint to improving maternal and child health. The level of USAID resources available may provide an opportunity to make meaningful initiatives in this long-term area.

E. Isolation of Women:

It is mainly through women that reductions in infant and child mortality can be effected. Women must seek antenatal and perinatal care, must bring children for immunization, must breastfeed their infants and give proper food and must correctly use ORT. Women must be taught to understand the reasons for these additional demands on their already overburdened lives. In Pakistan the education of women is especially difficult, since the culture dictates that women must stay at home, must not go to market and must not be allowed to speak casually to male health workers. Women are mostly illiterate and rarely employed as doctors, nurses, or any type of health workers, except traditional midwives. Although difficult, USAID feels it cannot ignore this problem if its child survival goals are to be achieved.

F. Institutional Constraints:

Past USAID assistance was directed to the federal government, a major constraint since most health services are in the private sector and even the implementation of government health programs is primarily a provincial task. A broadbased child survival program must activate more than the government health network, which is limited in its capacity to reach the entire population and add new programs. USAID believes new institutional arrangements and funding mechanisms will promote progress toward child survival goals.

G. Incomplete EPI Coverage:

The table below prepared by a CDC consultant shows number of cases and deaths of vaccine preventable diseases expected with no

immunization, the number prevented by 1986 levels of immunization, and the balance remaining to be eliminated:

Disease	No Immunization		Currently Prevented		Not Prevented	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Neonatal Tetanus	151,990	121,520	15,040	12,030	136,860	109,490
Pertussis	2,869,440	13,350	1,463,400	7,320	1,406,040	7,030
Measles	3,228,120	64,560	1,452,650	29,050	1,775,470	35,510
Diphtheria	358,680	35,870	213,000	21,300	145,680	14,570
Poliomyelitis	63,700	6,370	30,580	3,060	33,120	3,310
Childhood TB	3,590	3,230	1,510	1,360	2,080	1,876
TOTAL		245,900		74,120		171,780

If these figures are reasonably accurate, the main problem remaining to be tackled under EPI is neonatal tetanus. 64% of 172,000 potentially EPI-preventable deaths are due to neonatal tetanus. Until recently the policy was to give tetanus toxoid injections only to pregnant women because of inadequate vaccine supplies. Now the policy is to give tetanus toxoid to all married women of reproductive age. The traditional midwife (dai in Urdu) training component of the Accelerated Health Program includes the importance of hygiene to reduce neonatal tetanus. The second largest problem remains measles. Measles has traditionally been given less emphasis than other diseases because of vaccine shortage and lack of awareness of measles risks. Recently, however, this weakness has been recognized; increased measles coverage should substantially reduce measles mortality, including measles related diarrheal mortality.

USAID believes it essential to maintain the momentum of the early EPI efforts while eliminating major gaps in coverage.

#### H. ORT Weaknesses:

The effort to institute a national ORT program is young, and analysis reveals several sub-problems that must be addressed if diarrheal disease mortality is to be controlled.

1. Poor case management: There is considerable confusion about ORS use. BHU and RHC staff often do not know whether to recommend home mix, give ORS packets to take home for future use or promote the purchase of ORS through commercial outlets. Often ORS packets are given to the mother with no demonstration or clear instructions of proper mixing and administration. Many say that mothers must bring their children to the health facility for ORT. Nor is it clear that ORS is widely used at health facilities. Many children still receive parenteral fluids unnecessarily. There is no clear policy about use of ORS or other fluids at the onset of diarrhea before dehydration occurs.

2. Improper use of ORS: Health workers and mothers often do not know how to use ORS correctly. Packets come in three different sizes (1 liter, 500 ml., 250 ml.) and none contain adequate instructions for

proper use. There are no standard, universally available, mixing containers. Many health workers have been trained in ORT but there is almost no follow up and continued reinforcement to ensure that the diarrhea management practices have changed.

3. Omission of Nutrition in ORT: An ORT Program should emphasize the importance of feeding and nutrition to the child with diarrheal disease. This has not been emphasized to date in Pakistan and many policy makers, health staff and mothers are unaware of the crucial role of nutrition in sound case management. Resumption of feeding is often delayed by the health worker or mother or diluted foods given in meager quantities.

4. Lack of Village Distribution: Until recently, the ORT program focused on the distribution of ORS packets to BHUs, an inappropriate strategy since most children with diarrhea never reach the health facility. For an ORT program to be successful, some village outlet must be available. The policy decision that multipurpose health workers and vaccinators should distribute two ORS packets to every house with under five children has seemingly partially solved this problem. Efforts are now underway to include traditional midwives into the ORT program and these efforts should be expanded. The potential of commercial distribution and social marketing has barely begun to be exploited.

5. Lack of Support by Private Practitioners: Private doctors supported by drug manufacturing representatives and local pharmacists promote the use of a myriad of commercially available antidiarrheals, many of which contain antibiotics, anti-spasmodics, and other ingredients inappropriate for pediatric use. Because these proprietary drugs are profitable for doctors, pharmacies, and drug companies and because patients demand them, ORT is given lowered or no importance. High use of these dangerous drugs results in frequent post-diarrheal abdominal distention and death. While efforts have begun to remove inappropriate drugs from the market, many remain are used widely. The public is ignorant of their hazards and continues to demand them. Hakims and homeopaths, who are health providers to a substantial proportion of the population have not been included in the ORT program. Overall there seems to be reluctance on the part of some government officials to acknowledge the predominant role of the private sector in control of diarrhea and emphasize action directed toward it.

The Mission believes that improvements in IMR will be most rapid if donors and the GOP join in tackling problems associated with establishing a successful, nationwide ORT program including the private sector.

I. Inappropriate Child Spacing:

There is inadequate recognition of the linkage between child spacing and mortality. Education is needed to underscore the fact that adequately spaced children are more likely to live. Presently children

are often born to the same mother less than two years apart, with a negative effect on IMR.

J. Malnutrition Overlooked:

Since hunger is not a major development problem in Pakistan, malnutrition caused by misinformation, disease or other causes is mostly overlooked, even as a contributing cause of infant mortality, by health workers and mothers. Frequent infections and lack of knowledge are root problems, compounded by cultural practices.

The Mission intends to contribute to the solution of all these problems, although to varying degrees, and not exclusively through the pursuit of the child survival strategy. In all cases, USAID will exercise care to ensure that efforts of other donors and the GOP are coordinated and not duplicated.

IV. OBJECTIVE, STRATEGY, PROGRAM

A. Overview:

1. Objective

The overall Mission goal is to reduce infant and child mortality by 25 percent by 1993. Taking 1987 infant mortality as 104/1000 and 1-4 mortality as 56/1000, this would mean achieving a 1993 IMR of 78 and 1-4 mortality of 42, for a total under five mortality of 120 per 1,000 live births.

Achieving a 25 per cent reduction would save 170,000 lives per year. Given the GOP's previous lack of interest in child survival this might seem an ambitious goal. Factors favoring substantial reductions include the fact that nearly half the 600,000 or more deaths occurring each year are preventable by EPI and ORT alone. In addition, assisted by key donors, the GOP momentum to tackle child survival seems to be growing, as described in Section II, D.5. Even considering replacement mortality, e.g. a child saved from neonatal tetanus later succumbing to diarrheal dehydration, a 25 percent target is not unrealistic, assuming continued economic and political stability and commitment to child survival. The current mortality profile and program activity suggest a limited and declining significance of replacement mortality. The child saved from neonatal tetanus is not likely to succumb to a vaccine preventable disease. Growing ORT use will further minimize subsequent hazards to child survival. Reductions in infections and improved understanding of nutritional requirements should result in lower vulnerability in episodes of diarrhea and acute respiratory infections.

2. Strategy

To achieve its overall objective, the Mission will use various combinations of available tools, including policy dialogue, commodities, training, communications, surveillance and monitoring,

private sector involvement, donor coordination, technical assistance, and sector support grants.

Several elements of the strategy, including innovative funding, a commercial emphasis, policy dialogue, and communications and training, will cut across all the problem areas identified in the analysis and are briefly described below:

a. Innovative Funding: Wherever appropriate, USAID wishes to develop a funding mechanism that is outcome oriented, not process oriented. Activities like immunization, that require a direct action by a provider of service can easily be quantified, goals and targets set, and progress monitored. Control of diarrheal disease, improved outcomes of pregnancy, improved maternal and infant nutrition, however, are much more dependent upon motivating the family to take the initiative after receiving information. Since there are multiple sources of information and direction for these areas, not only is there need for family education, but broad based education of health care providers is essential before the family is motivated to ask for something that the provider does not understand or believe in. The challenge to USAID will be to use its external assistance to foster the fundamental changes that will be necessary for achieving and documenting significant improvement in child survival without developing additional vertical programs on the EPI and malaria model.

b. Commercial Emphasis: Recognizing that the public health system is reaching only a fraction of the target recipients, the Mission intends to involve the commercial sector to the maximum extent compatible with political and economic realities. A dual approach is envisaged, in which private health providers will be encouraged to prescribe or dispense appropriate curative and preventive technologies, while pharmaceutical companies will be encouraged to assist in the manufacture and/or distribution of socially desirable goods and services.

c. Policy Dialogue: On a number of occasions over the last year, high level officials such as the Administrator of AID and the senior Assistant Administrator of the Science and Technology Bureau as well as the Ambassador and various USAID officials have promoted child survival with the President, Prime Minister, various ministries and provincial governments. UN agencies, particularly UNICEF, have played a powerful role in raising awareness about issues concerning children and the possibilities of action to improve their survival and welfare. These efforts, along with growing domestic political concern with the welfare of the population, have helped to bring about a desire to strengthen the country's performance in health in general and child survival in particular. This policy dialogue must continue if momentum is not to be lost.

d. Communications and Training: Both media campaigns and training will be widely used by USAID in achieving child survival objectives. Communications and training will be used to reinforce positive health and nutrition behavior and change negative behavior leading to widespread and accurate knowledge and use of immunization,

oral rehydration therapy, child spacing, and infant feeding. The target audiences for communications and training can be disaggregated into four groups: (a) families of young children, (b) health care providers, (c) community and religious leaders, and (d) policy makers. More details on proposed activities in communications and training may be found in Annex A.

### 3. Program

The Mission is currently involved in designing its proposed child survival program in collaboration with the GOP. The nature of the problems will however require complementary initiatives in population, literacy, especially for women, credit support for the commercial sector and training. Many projects and programs in the Mission portfolio will embody those initiatives. The population projects will directly improve the possibility of child spacing. Efforts in primary education, now at the concept stage, will, if implemented, directly improve female literacy levels. The Mission's on-going Development Support Training project will provide the umbrella for participant training in furtherance of child survival objectives. A proposed Special Development Fund might support NGO child survival projects. A planned initiative to involve the commercial sector deserves special mention:

The Mission is currently developing the Commercial Humanitarian Initiatives in the Private Sector (CHIPS) Project. Although a great deal of patience and encouragement was required to bring the idea of the Social Marketing of Contraceptives (SMC) Project to fruition, SMC has now blossomed and a successful model to mobilize commercial firms to work toward government social sector objectives has been established. The CHIPS Project seeks to extend that principle to a variety of other social sector objectives, including child survival. CHIPS will provide USAID funding through the National Development Finance Corporation (NDFC), a parastatal involved in SMC, to private sector firms interested in promoting ideas and products of significance to the government's social sector objectives.

The Mission's Child Survival Program has already begun, with an infusion of funds from the Primary Health Care Project. Activities in immunization, especially tetanus toxoid, measles and iodine deficiency, will be financed during this and the next fiscal year, while the new program is brought to implementation. The new program will have two foci. One will be on ways to avert deaths quickly, namely continued support for EPI and ORT. The second will contribute to the solution of the longer-term problems that must be overcome if the lower IMR is to be sustained and further reduced. This focus on institutional and policy constraints will require skillful programming of the proposed innovative funding mechanism, as well as sustained policy dialogue.

Overall the strategy to avert 170,000 infant deaths per year is made up of simultaneous attacks on the problems outlined in the previous section. For each problem, quantified objectives have been identified, a strategy for achieving the objectives developed, and

projects or programs to embody the strategy selected. Taken together, the Mission believes that the planned activities will lead to the reduction of infant and child mortality by 25 percent by 1993.

B. Specific Objectives, Strategies, Programs:

1. Increasing GOP Commitment

a. Objectives:

- GOP will establish at least one agency with high level membership to promote awareness of child survival issues.
- GOP will continue the present rising trend in expenditures to health, with at least six percent of GOP budget allocated to health by 1993.
- MOH will consolidate and expand EPI and ORT programs to extend coverage and institutionalize programs to assure permanence.

b. Strategy:

Policy dialogue will be the primary tool for achieving additional GOP commitment. Building on relationships developed during the previous six years with the ministries of Finance, Planning and Health, the Mission will continue to encourage GOP to make appropriate modifications in policy, institution creation and reform. Dialogue will be conducted in close coordination with UNICEF, WHO and bilateral health donors.

Some GOP reforms may be conditions for USAID funding of child survival project activities; these would be highly specific, and negotiated as part of project design.

c. Program:

In response to intense recent policy dialogue with USAID, WHO, UNICEF and other donors, the GOP has recently formulated plans for establishing two new institutions which would be exclusively concerned with child survival and development. Details on their proposed functions and composition are provided in Annex B.

USAID believes that if established, these institutions should be supported, even though Pakistan's record in creating effective and efficient public organizations is poor. Given the new political atmosphere, reflected in the Prime Minister's Five-Point Plan, inspired by the success of the Accelerated Health Program that has demonstrably saved thousands of lives and encouraged by a world wide donor emphasis on child survival, new high-level efforts might be given the muscle to operate effectively.

USAID therefore plans to encourage GOP establishment of these institutions and to support them if they are properly staffed, funded and authorized through the proposed child survival program. However, USAID will not bank too heavily on the establishment and successful functioning of these new institutions in designing child survival activities.

2. Improving Epidemiological Surveillance, Monitoring and Evaluation

a. Objectives:

- A simple, efficient and effective surveillance system operating in Pakistan by 1993, accurately measuring and monitoring infant mortality, morbidity and mortality of specific child survival related diseases as well as program and process measures.

b. Strategy:

USAID will work very closely with GOP and other donors to achieve this objective. Further analysis is required before a detailed strategy can be developed. A sizeable financial and technical assistance investment will probably be required. Microcomputers will likely be introduced.

c. Program:

Activities to improve epidemiological surveillance would be funded by the Child Survival Program. A simple monitoring system being tried under the Primary Health Care Project will be adopted and replicated if workable. The usefulness of an Aga Khan University proposal for a prospective study of pregnancy outcomes to determine morbidity and mortality levels and patterns will be explored. The value of recently developed rapid epidemiologic assessment techniques will be considered during design.

3. Increasing Technical Leadership

a. Objectives:

- GOP will make appropriate changes in the pay scales and career structure of preventive health workers.
- 70% of preventive health workers will receive technical and/or management training by 1993.

b. Strategy:

Policy dialogue, possibly backed by performance disbursements and/or program financing conditionality will be explored as

an effective tool to encourage personnel policy reforms to attract leaders to the preventive side of health careers.

c. Program:

Both the proposed Child Survival Program and the Mission's on-going Development Support Training Project will provide funds to implement the strategy for increasing technical leadership. Short term training in the U.S. and Pakistan will be provided for preventive health workers. External long term training in public health will be offered.

4. Improving Medical Education

a. Objectives:

- Public health, including field work and other practicums, fully integrated into medical education by 1993.
- Pediatrics, currently an insignificant part of medical training, increased in importance by requiring a separate examination paper and assignment of pediatricians to examining boards by 1993.

b. Strategy:

Again, policy dialogue, possibly backed by performance disbursements and/or project conditionality, will be the first line of attack in achieving these objectives. The concept of preventive or community pediatrics will be promoted. In addition, technical assistance, support for field activities, and training will be used to strengthen the new elements in the curriculum. Conferences will be organized to bring the heads of medical schools together with professors of pediatrics and community medicine to explore ways of strengthening teaching in these fields.

c. Program:

Achievement of improved medical education objectives will be embodied in the proposed Child Survival Program. An assessment of the strength and weaknesses of medical education attitudes toward reform, and alternate methods of achieving objectives will be conducted as part of program design.

5. Getting the Message to Women

a. Objectives:

- Female enrollment in primary schools to increase from 20% to 40% by 1993.

- Female health practitioners, including 17,000 additional dais trained in child survival techniques by 1993.
- Increased proportion of medical students being women.
- Media messages designed specifically for women at home conveying appropriate child survival information, and reaching 90% of women in households with radio or TV by 1993.

b. Strategy:

Every discussion with the GOP on child survival will stress the importance of reaching the main decision makers -- i.e. mothers. Ways of using dais more effectively will be found for both health promotion and provision of basic services. It is likely that they will play a key role in the tetanus toxoid acceleration program. However, the isolation of women affects all development topics, and policy dialogue in this area will be carried out in the context of all USAID sectors of interest, with a particular emphasis in primary education, which may become a Mission priority during the 1987-93 period. The enrollment of women in primary schools is one of the objectives for the Mission identified in the CDSS for the period. Funding of media campaigns and training activities will be used to achieve the other two objectives relating to women.

c. Program:

Getting development messages to women is the focus of a number of Mission programs and projects in health, agriculture and population. A potential initiative in primary education would target female enrollment to increase female literacy and exposure to modern ideas and technologies. The proposed Child Survival Program will provide funds for training and communications.

6. Expanding EPI Coverage

a. Objectives:

- Expand EPI coverage in weak areas including Baluchistan and Sind; 80% of all 0-1 children immunized by 1993.
- 80% measles coverage for 1-2 year olds by 1990.
- 80% of married women of reproductive age vaccinated with two shots of tetanus toxoid by 1993.
- 70% of children and women of reproductive age protected against iodine deficiency in affected areas.

- Vaccine preventable deaths reduced to fewer than 40,000 by 1993.
- 80% of doctors and paramedics in the government rural health service will have received immunization training by 1993.

b. Strategy:

Mission strategy will be to build on successes by the NIH. Tools to be used include commodity supply, training, policy dialogue, technical assistance and communications. Donor coordination will be emphasized throughout. A major emphasis will be on the development of a workable surveillance, monitoring and evaluation system for all EPI initiatives.

c. Program:

EPI will be one of the two main foci of activities under the proposed Child Survival project. The design is currently underway. Specific proposed activities so far discussed with the GOP are presented in Annex C.

7. Strengthening the Oral Rehydration Therapy Program

a. Objectives:

- Diarrheal mortality reduced by up to 100,000 by 1993.
- 90% of mothers have ORS available either at home or from a nearby shop or village midwife by 1993.
- 80% of physicians in government health service will have received up-to-date ORT training by 1993.
- 40% of private sector physicians, NGO health workers and traditional healers will have received ORT training by 1993.
- 80% of households with radio or TV will receive messages promoting ORT and warning about the dangers of antidiarrheal drugs; 60% of mothers will understand proper mixing and use of ORS.
- Deregistration of the most abused and unnecessary drugs for treatment of diarrhea.

b. Strategy:

Of all the problems revealed by the analysis, the strengthening of the ORT program seems likely to absorb the largest proportion of USAID's proposed activities budget. The desired expansion

of ORT activities goes well beyond the GOP budget, and while WHO will probably provide technical assistance, and UNICEF has pledged modest funding, the Mission anticipates that the GOP will request USAID to provide the bulk of the required external financing. The analysis suggests that this will be a good use of funds, since widespread and proper use of ORT can save half the lives now lost to this major killer, diarrhea. ORT is a more complex intervention than EPI, which can also quickly avert unnecessary deaths, and therefore requires more money, as well as other inputs.

USAID's strategy will be to support the current program at its weakest points, but also plan a number of specific interventions which do not rely on the government infrastructure for success. Social/anthropological studies will be conducted to determine current perceptions and practices regarding diarrhea and the treatment practices of health care providers including hakims. A major private sector role is planned for USAID's ORT interventions. Policy dialogue will be used to encourage public sector institutional and policy reforms.

c. Program:

ORT activities will form the heart of the proposed Child Survival project. Design is currently underway. Specific activities proposed by the Mission, and under discussion with the GOP are presented in Annex C.

8. Encouraging Wider Child Spacing

a. Objective:

- To promote at least two year spacing between children for all Pakistani families, reducing the number of children per mother to five, and increasing contraceptive use to 20% by 1993.

b. Strategy:

The Mission will continue to support the GOP's public sector family planning efforts, while placing increasing emphasis on the private sector in achieving population objectives. Policy dialogue on child spacing will continue in the context of child survival, as will training and communications efforts. But operationally, USAID's efforts to reduce fertility will be undertaken in the context of on-going population projects.

c. Program:

For the period 1987-93, USAID will continue to be the major supplier of contraceptives in Pakistan, and the only supplier of condoms and pills. The Mission will be supporting distribution through private and public outlets, and providing financing for training and communications. More details on programmatic elements in population may be found in the CDSS.

## 9. Addressing Malnutrition

The analysis has revealed that malnutrition exists, and is a significant factor in child morbidity and mortality. It seems clear that lack of food is not the problem, but rather frequent infections and lack of good information, and some conflicts with cultural practices. To date the Mission lacks sufficient knowledge of this problem to formulate quantifiable objectives and a strategy to achieve them. However, during the next six years, the Mission intends to rectify this omission, and ensure that its work in child survival includes appropriate support for efforts to improve infant and child nutrition. Communications and training will be elements in the strategy for overcoming almost all the problems identified in this document. Annex A discussed the proposed activities as they are currently envisaged.

## V. STAFFING REQUIREMENTS FOR PROGRAM MANAGEMENT

Consistent with overall Mission policy, the Child Survival Program will be designed to minimize both the management burden on the USAID Mission and long term technical assistance requirements. Pakistani expertise will be used where possible, both in the design and the management and implementation of program supported activities.

However, reducing infant and child mortality by 25 percent would be a most significant achievement and promising opportunities to achieve this objective should not be compromised by niggardliness regarding staffing levels and management requirements.

Under the Primary Health Care Project, USAID/HPN staffing consists of a PSC Project Manager who will soon become US Direct Hire plus two Pakistani assistants and a secretary. This staff should be able to manage the Child Survival Project after PHC project termination in September 1988. At present, however, the existing staff are fully occupied managing ongoing projects. The Mission has already employed a PSC design coordinator and now plans to recruit a senior Pakistani doctor to assist in the technical aspects of design, research and implementation of the Child Survival Program. When the Primary Health Care Project ends, the continued need for both of these positions will be reappraised.

The Pakistani field staff under Primary Health Care consists of 12 management and training specialists in the provinces plus support staff. It is likely that this staff will continue to be required for the Child Survival Program level since the implementation of many activities will be a provincial responsibility.

Long term expatriate technical assistance requirements for the Child Survival Project will depend to some extent on the actions of other donors. Two options for reducing USAID long term technical advisors are: (a) providing funding to WHO to provide incountry technical expertise to projects, and (b) grants to UNICEF to undertake child survival activities consistent with USAID's strategy. WHO/Pakistan is interested in exploring the possibility of USAID funding for WHO advisors and operations officers; however, a recent policy decision from WHO/EMRO has

raised questions about whether this would be approved. UNICEF/Pakistan may consider USAID bilateral grants in areas such as nutrition and infant feeding, and iodine deficiency disorders control. Both options will be pursued further during the design of the Child Survival Program.

USAID funding may be required for up to four long term advisors in areas such as: (a) medical direction and coordination; (b) communications; (c) training; and, (d) epidemiology, statistics and health information expertise for monitoring project progress. There are two long term advisers under the PHC project, one in management and one in training.

#### VI. LONG TERM CHILD SURVIVAL PLAN

This strategy statement has been written for a 6-year time frame to match the FY 1988-93 period of the post-1987 AID program for Pakistan. Child Survival will be the primary focus of AID activity in the health sector. A Child Survival PID was submitted to AID/Washington in February 1987 along with the PID for Commercial Humanitarian Initiatives in the Private Sector (CHIPS) Project, which is expected to support a number of activities of significance to child survival.

The Mission and the GOP have been focusing the ongoing Primary Health Care Project increasingly on child survival so that in effect implementation of the Mission's child survival strategy has already begun. The GOP endorsed the new focus of the PHC project on child survival and is requesting an extension of the project by one year to September, 1988 and an addition of 10 million dollars to bring total life of project funding to 30 million dollars. The add on will fund \$9 million of new initiatives by NIH: (a) communications, testing of mixing containers, development of diarrheal training units, establishment of rehydration units for ORT, (b) increased tetanus toxoid coverage of reproductive age women to reduce neonatal tetanus, and (c) an iodized oil campaign in areas of Northern Pakistan affected by iodine deficiency disorders. An additional, \$ 1 million will finance continuation of the Pakistani and expatriate staff working on the Primary Health Care Project. The new Child Survival Project funding will be available in 1988 to continue support of initiatives begun under Primary Health Care Project funding.

The major components of the new Child Survival Project will be expansion and strengthening of ORT, expansion and institutionalization of EPI, communications and training for child survival, and possibly improvement of nutrition and infant feeding practices. Support for the child spacing component of the Child Survival Strategy will be continued through ongoing population funded projects. Initially, the collaborating agency for most child survival activities will be the National Institute of Health which is coordinating the national EPI and ORT programs. If requested, the Mission will consider continued support for the Basic Health Services Cell (USAID's principal counterpart for the Primary Health Care Project), provided the proposed activities have clear relevance to child survival. USAID will also support a child survival outreach program and training at the Children's Hospital, Islamabad in

response to a personal request by President Zia. The CHIPS project should generate new child survival initiatives to be pursued by the commercial sector. Less certain at present, but with the potential of having significant impact in the longer term, are two other possible program components, namely, the National Institute of Child Survival and Development with its accompanying National Children's Fund, and performance based disbursements relating to policy changes in, for example, medical education and pharmaceutical practices. These latter two elements will be pursued by the Mission. The Child Survival Program will be designed, however, so that achievement of short term objectives will be independent of progress in these two items.

Child Survival is a key component of the Mission's April 1987 Country Development Strategy Statement. Because Pakistan's performance in the social sectors has lagged behind development in other areas, AID and other donors have given high priority to the need to catch up in education and health. Child Survival is a logical extension of ten years of USAID support for primary health care, supplemented by the Mission's involvement in population and family planning.

The Mission considers it important to develop long term planning perspectives that go beyond the six year time frame of this strategy and the current objective of reducing infant mortality by 25 percent. Addressing more difficult problems like acute respiratory infections and the complications of undernutrition will remain important problems in 1993. Further policy and institutional reforms will be needed. These longer term issues will be addressed during project design and during the initial years of program implementation and the strategy updated as necessary.

PROPOSED USAID ACTIVITIES IN COMMUNICATION & TRAINING

The importance of training and communications has been stressed in the discussion of nearly all the Child Survival problem areas. The following brings together all the planned activities in these areas: (1) training of a large number of health care providers in the public and private sectors including traditional healers about immunizations, ORS, child spacing, preventive hygiene, and nutrition; (2) development, production, pretesting, and distribution of simple printed and audio-visual materials to support the efforts of health care providers; (3) radio and television spots using drama or other forms found to have the greatest impact on the target audience to convey basic information; (4) newsletters for physicians and paramedical personnel; (5) interpersonal contacts with various target groups; (6) policy dialogues and audio-visual presentations to convince policy makers of the importance of preventive health and child survival interventions; (7) observation tours of successful programs for policy makers and program planners; (8) social marketing including a distribution, promotion and advertising for child survival information and products; (9) conducting training needs assessment on which to base future training strategies and the development of programs and teaching materials; (10) continuation and expansion of inservice training for health care providers leading to institutionalization of continuing education; (11) adapting existing training materials and developing, pretesting and disseminating new ones as necessary; (12) developing, pretesting and disseminating child survival materials to be incorporated into literacy training, primary schools and other existing programs which reach the community; (13) technical assistance to public and private sector implementing agencies; (14) formative evaluation of communications and training activities through, for example, periodic audience surveys and focus group discussions; (15) strengthening basic medical education in areas crucial to child survival; (16) long term and short term training for planners and implementors of communications and training programs; (17) mobilizing new resources such as NGOs and commercial firms to promote child survival behaviors and products. Creative ways to attract private sector doctors to in-service training will be sought. The concept of continuing education will be promoted.

USAID's contribution to the above mentioned communications and training activities will be refined in further discussions with the GOP and other donors. USAID will probably finance air time for radio and television messages, audience research and training needs assessments to develop additional information on which to base sound communications and training programs, some technical assistance as well as training for planners and implementors of communications and training programs, and social marketing promotion and advertising activities.

NEW CHILD SURVIVAL INSTITUTIONS PROPOSED BY THE GOP

In response to suggestions from USAID, the MOH has prepared a resolution to establish a National Children's Commission to be co-chaired by the President and the Prime Minister with the functions of: (a) framing a national policy for children; (b) mobilizing broad-based support for child survival; (c) approving guidelines for national development plans; (d) reviewing program implementation; (e) coordinating governmental and private efforts; (f) extending financial support to NGOs and governmental organizations for child survival, care, and development; and, (g) legislation on child related matters.

MOH also calls for the establishment of an autonomous National Institute of Child Survival and Development, as a center of excellence for child related research and training and a coordinator of public and private efforts for child survival and development. Its proposed functions include: (a) research on child survival, care and development; (b) organize training for both public and private sector personnel involved in child development and preventive health care; (c) monitor activities in the public and private sector in child development; (d) provide financial and professional support to eligible public and private child related activities; (e) highlight the cause of children by holding conferences and workshops; (f) organize communications and mass media on all aspects of child survival and development; (g) act as secretariat to the National Children's Commission and the National Children's Fund; (h) coordinate with national, international, and bilateral donors; (i) prepare and publish child situation reports, reviews and plans of action. The institute would have a Board of Governors and would be managed by an Executive Director.

The National Children's Fund would be administered by the Institute and would grant funds to voluntary organizations and special public sector programs at the national and provincial level to implement programs for the welfare of children including immunization, ORT, rehabilitation of destitute children, etc.

The fund would be financed by federal and provincial governments as well as bilateral and international donors.

PROPOSED USAID ACTIVITIES IN EPI AND ORT1. Expanded Program of Immunization (EPI)

EPI expansion activities will be embodied in the proposed Child Survival Program. At the present level of design, the following activities have been planned:

To strengthen and maintain Pakistan's commitment to EPI, a presentation on child survival using slides and printed material will be prepared for high level policy makers. Dialogue with the lagging province of Baluchistan will be initiated at the policy and line. Additional dialogue, training, and policy formulation will be pursued to convince administrators of hospitals and rural health centers to integrate EPI in all inpatient and outpatient services. The Punjab experience with multipurpose health workers will be evaluated to ascertain the efficiency and costs of this approach in providing high levels of EPI coverage and other services. Other provinces may be encouraged to adopt this structure, if results are positive.

The inservice EPI training program will be expanded to reach a target of 80% of physicians and paramedics staffing hospitals and rural health facilities. Refresher training for multipurpose health workers in the Punjab will be undertaken, and offered to other provinces if necessary. The importance of EPI will be included in training for private sector physicians and traditional healers. The mass media campaign to convince parents of the necessity of having their children immunized will be continued and improved. USAID's inputs will complement those of CIDA, which provides a full time communications advisor and funding in support of EPI promotion.

Commodities such as injection equipment, vaccines if required, vaccine production equipment and vehicles will be provided. USAID inputs will be coordinated with the GOP and other donors following the model of the June, 1986 joint document of understanding between WHO, UNICEF, USAID and the GOP. WHO will provide long term technical assistance. USAID, UNICEF and CIDA will provide short term technical assistance as required.5

The tetanus toxoid campaign will be accelerated to rapidly reach high levels of coverage of reproductive age women to eliminate most of current neonatal tetanus mortality. The plan of action drawn up by NIH and the provinces will likely lead to requests for commodities, training and financial support from USAID and other donors. The NIH has already requested USAID to provide a bacterial fermentor to develop the production capacity locally for the large quantities of tetanus toxoid that will be required. Social/anthropological research into the attitudes and acceptance of tetanus toxoid of reproductive age women will be undertaken to enhance the probability of success of the planned TT acceleration.

The need to give greater priority to measles coverage in EPI recognized. Continued monitoring of provincial performance will be maintained.

Opportunities for strengthening EPI in private medical facilities and through NGOs will be assessed. Training, technical assistance, and commodities such as cold chain equipment will be made available to the private sector where appropriate.

Surveillance activities will move from the current emphasis on immunization coverage to the surveillance of EPI diseases. NIH will be encouraged through policy dialogue to work with the provinces and selected institutions to radically improve reporting from sentinel sites of EPI diseases. Technical assistance and equipment for automated data processing will be provided by USAID or other donors.

In the iodine deficient areas of the North-West Frontier province, Northern Areas and Azad Kashmir, the GOP plans to give iodized oil injections to all children up to the age of 20 and all reproductive age women. UNICEF will provide oil and technical assistance and USAID may provide equipment, finances for operations, and training.

## 2. Oral Rehydration Therapy (ORT)

ORT activities will form the heart of the proposed Child Survival Program. The following specific activities are planned:

While WHO plans the immediate appointment of an ORT advisor to NIH to work with the national program manager, NIH will be encouraged to recruit ORT operations officers for each province, probably funded likely by UNICEF. Decisions on case management, and distribution and logistics of ORS, enforcement of those decisions, strengthening of supervision, monitoring program progress, a major thrust in the private sector for production, distribution and promotion of ORS, the use of village-based distribution outlets, and establishment of rehydration corners in health facilities for treatment and diarrheal training centers will all be made early in the program jointly with NIH and other donors.

A large scale training program of public and private sector health workers including the hakims and homeopaths, religious leaders, chemists and pharmacists, Dais, mid-level health workers, and physicians will be undertaken. ORT will be introduced or strengthened in the training curricula retraining programs of the Councils of Hakims and Homeopaths, the Pakistan Medical Association, the Pakistan Paediatric Association, the Dai training programs, NGOs, and government institutions. The Children's Hospital Islamabad training program for private sector physicians will include ORT. Medical colleges, hospitals and NGOs will be encouraged and supported to expand training capacity for various child survival interventions. Specific incentives for ORS use will be considered, such as support for the sale of ORS packets by private doctors or distribution of certificates and attractive widely recognized plaques coupled with an advertising campaign encouraging the public to use health care providers who have been trained and promote ORT.

USAID will support diarrhea training units in each division, initially at medical colleges and large hospitals. This program is now being planned by NIH and the provinces.

USAID will help finance a publicity and marketing campaign for the promotion of ORT use. NIH's on-going mass media program will be refined and expanded with additional resources. The National Development Finance Corporation (NDFC) has completed in draft a study of ORS in the commercial sector and will explore the feasibility of a full scale, scientific, social marketing program. USAID might finance technical assistance in the design of promotional material and selection of firms for product specific advertising, marketing, production and distribution of films, pamphlets, and other materials promoting ORT through existing commercial facilities, market surveys and the supply of balloons, T-shirts and toys, to display the logo of the ORT program. Education about ORT will be targeted not only to health personnel and parents, but also to politicians, school children, social welfare workers, religious leaders, planners, and various decision makers and opinion leaders.

USAID is studying the feasibility of using brightly colored plastic 1 liter containers imprinted with the ORT logo and mixing instructions. These containers, if effective, will be widely distributed either through subsidized sales or promotional campaigns which give free containers to any mother who can demonstrate how and when to use ORT. While these containers will be used for many things other than ORS, they will serve as a reminder to mothers to use ORT when a child has diarrhea. A pictorial leaflet on mixing and using ORS will be available for the 1987 summer diarrhea season.

USAID will approach the pharmaceutical industry about promotion of ORS. The Pakistan Pharmaceutical Manufacturers' Association may be interested in a public relations campaign to improve the image of the industry, and has been receptive to the idea of promoting adequate ORT as the first line of attack for diarrheal disease. USAID may also work through the Pharmacists' Association.

Since ORS will be promoted through the health infrastructure, all health facilities must give the same message to the population as the media. Accordingly, USAID will work with the Provincial Health Ministries to develop messages and implementation procedures for the ORT program to promote consistency among the various sectors involved in the ORT program.

A plan for designating a specific location in hospitals, RHCs and BHUs as a rehydration unit is currently under development. Technical assistance, training and equipment will be provided by USAID.

Although many of the above plans can be carried out within existing institutional capacity, the strengthening of existing institutions or the establishment of new institutions will permit a greater level of accomplishment in ORT. Inservice training on the scale anticipated will require new ways of reaching both public sector and private sector physicians and other health care providers. The inservice training

institutions now being discussed by Punjab and North-West Frontier province will, if established, be important. The provinces have already organized and conducted substantial training in short courses on child survival technologies with USAID and UNICEF support. This will be expanded. Funding will be available if institutions such as professional associations, medical schools, some hospitals, and perhaps a few NGOs will undertake training. The Institute of Child Survival and Development with a National Children's Fund can, if established, channel support to a variety of public and private sector institutions willing to undertake activities to expand use of ORT and other child survival interventions. The establishment of new institutions, if successful at all, will take several years to develop. Initially therefore, training capacity among existing institutions will be expanded to the extent feasible.

Modest operations research will be conducted to develop and refine the most effective and efficient means of providing protection against diarrheal disease morbidity and mortality. Studies concerning ORS packet size will be conducted. NIH is moving toward a one liter standard for uniformity in the short run with the intention of monitoring its appropriateness in light of some concern that a smaller size might be preferable. Technical assistance and funding, perhaps from central projects, will be available to encourage medical schools and the Pakistan Medical Research Council to undertake research relevant to priority public health problems, such as diarrhea. This summer the Aga Khan University will conduct social/ anthropological research to gain better information and insight regarding current perceptions and practices of mothers and health care providers concerning diarrhea.

Policy issues that will be addressed include establishment of diarrhea case management recommendations, standardization of ORS packet size, design and labels, recommendations regarding appropriate use of home solutions, and deregistration of some of the antidiarrheal and antibiotic drugs.