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CHILD SURVIVAL STRATEGY STATEMENT FOR PAKISTAN

USAID/PAKISTAN
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EXECUTIVE SUMMARY OF USAID/PAKISTAN CHILD SURVIVAL STRATEGY

Child survival is an essential element for the overall development of Pakistan. Its infant mortality of about 119 per 1,000 live births is much higher than that found in most countries at Pakistan's level of economic development. The Government of Pakistan has been able to mount successfully one element of child survival, the Expanded Program of Immunization; and it recognizes that the other major intervention for preventing infant deaths, Oral Rehydration Therapy, must be promoted widely. Progress to date and the recognition of the need for improvement make the outlook for major expansion of child survival activities encouraging.

The objective of the fiscal year 1988-1993 child survival program is to reduce mortality in the most vulnerable 0-2 age group by 25%. Depending on the level of Pakistan commitment, higher targets might be realistic.

The strategies outlined build upon the success of the EPI and propose the establishment of a funding mechanism that will allow direct funding from a newly constituted body that functions outside the official health structure, but operates under guidelines established by a Presidential/Ministerial-level Task Force on Child Survival.

Because of the organizational and managerial problems in the government health services and the emphasis on curative rather than preventive activities, new initiatives should include, but not be limited to, the public sector.

The strategies that build upon the success of the EPI are:

1) continuation of the EPI with major emphasis on measles immunization between nine months and one year;

2) expansion of the existing surveillance activities in the EPI into an epidemiologic surveillance program for several outcome indicators necessary to plan, monitor and evaluate the Child Survival activities; and,

3) transformation of the existing Oral Rehydration Salts program to an active Oral Rehydration Therapy program with heavy involvement of the private and traditional sectors. This latter program would be eligible for funding both directly and through the mechanism described above.

Other child survival activities that could be funded through the grant-in-aid approach suggested could be such activities as:

1) development of health management training for non-physicians;

2) restructuring of medical school curricula to place greater emphasis on pediatrics and community health;

3) development of continuing education programs in child survival related areas for both public and private sector health care providers; and,

4) developmental programs in nutrition education, maternal health, and child spacing.

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INTRODUCTION

What is Child Survival? The term itself is one coined by UNICEF to dramatize the plight of the children of the world. Child Survival activities are those existing elements of preventive health services that will, if applied appropriately, bring about dramatic change in the survival and development of children. The knowledge and tools exist -- vaccines and oral rehydration salts and breast feeding. Why then do almost one half a million babies die in Pakistan each year before their first birthday?

Lack of resources or lack of concern are probably factors but cannot explain it in the entirety. Lack of focus is more likely the answer. The GOP has shown that it can focus and produce results in the Expanded Program of Immunization. Can a more total focus on the health problems of children and mothers produce the desired reduction in morbidity and mortality?

This strategy statement incorporates observations and suggestions gleaned over many months from many people. During the period 5 May to 25 May, 1986 a team of PRITECH project consultants helped immensely in developing these ideas and writing this paper. In addition to personnel in the USAID Mission, the main contributors were people in the Federal and Provincial Health ministries, the Minister of Planning and Development, governmental health facilities at all levels, UNICEF, WHO, medical schools, the Professional Associations, and the Pharmaceutical Manufacturers' Association, and representatives of hakims.

HEALTH STATUS OF CHILDREN IN PAKISTAN

Pakistan's infant mortality rate is estimated to be 119 deaths per 1,000 live births. The World Bank Development Report of 1985 reports:

	Infant Mortality Rate/1000 live births
Pakistan	119
Bangladesh	132
India	93
Sri Lanka	37

The two big preventable killers of children are measles and dehydration due to diarrhea. The Expanded Program of Immunization (EPI) against six childhood diseases has been the one obvious successful program in the health sector. And yet, this program has reached far less than 50% of the susceptible children with measles vaccine, and is even beginning to show a decline in coverage in some areas. In the Punjab Province where coverage rates had reached 60% in 1984, they fell to under 40% in 1985, coinciding with the incorporation of health workers previously doing only immunization into the basic health services.

There are no reliable morbidity or mortality figures for dehydration due to diarrheal diseases, but one has merely to walk through out patient

clinics to see the extent of the problem. One well informed estimate is that one-third of infant deaths are diarrhea related.

While all health professionals agree that malnutrition is a major contributor to childhood mortality in Pakistan, there is little if any objective data because Pakistan has no growth monitoring program and no mechanism to evaluate nutritional status. Since food supplies appear to be adequate, childhood malnutrition is likely due to lack of maternal understanding about the nutritional needs for herself and for her child.

There can be no single explanation for these high rates of morbidity and mortality. Pakistan does not suffer from a shortage of physicians:

	Population per Physician
Pakistan	3,480
India	3,690
Sri Lanka	7,170

There is a surplus of physicians over available positions, with heavy unemployment in the medical profession. The World Bank estimates that the trained staff needed to meet planned requirements will show a 20% surplus of physicians over requirement by 1993 (a surplus of 11,700 physicians). Contrasted to this is an anticipated 30% deficit of health technicians (4,000). Even more serious are deficits of 37% and 42% of nurses and lady health visitors, respectively. The seriousness of this latter shortage in the area of child survival is manifested by the cultural mandate that only female health workers can communicate with the mothers and young women who are the key to Healthy Children. The long range solution of many of the health problems that must be addressed in Pakistan will only come about with the education and training of female health workers and mothers.

If relative shortages of physicians are not a primary deterrent to the improvement of the health status of children, what other factors can be identified? The two obvious factors are lack of financial support in the health sector and the generally low social status of women.

Expenditures on Health as percent of gross national product:

Pakistan	(1980)	0.9
Pakistan	(1984)	0.7
India	(1978)	1.2
Sri Lanka	(1979)	1.7
Bangladesh	(1981)	1.0
Thailand	(1979)	1.2

These figures should speak for themselves.

A final major problem to be overcome is the lack of effective supervision and managerial abilities in the health arenas. This is addressed below.

HEALTH STRUCTURE OF PAKISTAN

The system is designed as a pyramidal structure 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), which according to the most recent 5-Year Plan is to be in every Union Council, the lowest level of government administration. Considerable progress has been made over the last decade in putting in place the infrastructure for a rural health services delivery system. While this structure would appear to be a logical system of administration, several operational components of this system make it cumbersome in dealing with the major health problems of Pakistan. To understand the reason for these problems, one needs to examine more closely the details of certain components of this structure, namely:

- The relationship between the Federal and the various Provincial health departments;
- The emphasis of curative over preventive services;
- The organizational structure of the Federal and Provincial Ministries; and,
- The nature of the information which is available to decision makers to support their planning and management efforts.

Federal-Provincial Relationship

From a national perspective, the provision of health services is a decentralized function, that is, it is the responsibility of the provinces to plan and manage the hospitals, health centers and basic health units according to provincial priorities and development plans. At the provincial level, however, little delegation to lower levels is evident and may reflect insufficient managerial experience and personnel at the district level. Provinces are influenced by federal plans and many federal programs impact directly on the ability of the provinces to manage their facilities. Thus, for example, the EPI program, which has been managed as a federal program through the National Institute of Health (NIH), relies on provincial facilities for the maintenance of the cold chain and the staffing of the program. The result of this melange of responsibilities is that lines of command and responsibility are often confused and Federal-Provincial relationships can suffer.

A second issue with the relationship between Federal and Provincial Governments is the nature of the funding mechanism. Pakistan, like many countries, collects most of its revenues federally while it disperses most of its social services provincially. Accordingly, it must have a mechanism to transfer funds from the central government to the provinces in an equitable fashion. The method that has developed is a provincial disbursement formula based principally on population for funding of new

projects. This money, called ADP or annual development plan monies are then allocated by the provinces as they see fit, consistent with federally approved plans. A second source of provincial funds is called non-ADP or recurrent funding and goes to fund the recurrent activities being carried on by the provinces. This rational system has one drawback. Because the ADP money is set by a formula, any new money which comes into the system, as for example a targeted AID grant, is diluted throughout the entire ADP budget, with the result that provinces have difficulty in adding new programs without reducing activities in other areas. As an example, a program which funded training in one province would mean that province would have less money for its other planned activities. Accordingly, there is little incentive for provinces to seek funding for new and innovative projects since it means less funding for their regular program; new funds are generally not additive but rather are substitutions for other regular funding. Occasional exceptions are made, however. For example, all UNICEF projects are outside ADP.

Curative Vs. Preventive Services

Pakistan's stated policy in the development of its government health infrastructure is to balance the provision of curative and preventive services. However, like many countries with this policy, the balance has been tipped heavily in favor of curative services. This emphasis on curative services is strongly reflected in the design and construction and staffing patterns of hospitals, health centers and basic health units which provide primarily curative treatment. Because the construction of new facilities has proceeded at such a rapid pace, it has taken up the major portion of all new development funds, and future plans are to continue this pattern of spending on facility construction. Because new facilities are staffed with a doctor in every basic health unit, 3 doctors in every rural health center and at least 5 in every hospital, the cost of maintaining this system drains funding from the preventive programs. The staff simply waits at the facility for the patients to come for treatment of their illness. Unfortunately, even this curative function is inadequately fulfilled since the majority of patients do not come to the government facilities for treatment. Basic Health Units with a staff of 5 average 5-15 patients per day; Rural Health Centers with a staff of 16 average 40-50 patients/day. A recent survey by the Federal Bureau of Statistics (1985) indicated that only 18% of patients reporting illness sought medical care in government facilities. These facilities are underutilized, draining resources away from more cost-effective preventive services.

Organizational Structure

Because of the nature of the health system, the management of health services for all but the largest hospitals is the responsibility of the District Health Officer (DHO) in each district. Yet the DHO has insufficient authority to make decisions or take necessary actions. As a result, management at the district level is a stumbling block to the provision of adequate health services. DHOs are supposed to manage and

ensure the proper functioning of all BHUs, RHCs, and Tehsil hospitals in the district, but have little authority over budget, staff, location of facilities, or types of programs which might be available in that district. Furthermore, the district hospital is run by a medical superintendent (MS) with a higher grade than the DHO who reports directly to the Director of Health Services in each Province so there is little coordination between the facilities in each district.

A second organizational problem within the district is that while BHUs should in theory report to and refer patients to the Rural Health Center, in fact the doctor at the basic health unit reports directly to the DHO and generally refers to the district hospital. The health center functions as a big (and very expensive) BHU.

These organizational problems at the district level have their counterparts at the provincial level. Because the DHO has to refer all major decisions to the provincial level, the Director of Health Services (DHS) for each province is overwhelmed by the requirements of that job. Since each district has a DHO and MS reporting to the DHS, there are too many people reporting to him, leaving little time for other than routine work. (In fact, the numbers of DHOs and MSs are Baluchistan - 22, Sind - 26, NWFP - 26, Punjab - 58.) The organizational structure is too flat to accommodate the size of the task at the level of the DHS.

Information System

There is no effective health information system available to the decision makers at the provincial and national level. There is a remarkable paucity of data about health status and service outputs by any standards. With the exception of immunization coverage which has a separate, vertical system supported by WHO and UNICEF, little information is available about deaths, morbidity even at government facilities, age distribution of patients, types of services provided, or any outreach activities. Virtually the only information available is the number of government facilities which are providing health services with crude utilization figures. This paucity of data makes planning and management of health services difficult.

Implications for AID Programs

Given the functional problems of the structure of the government health system in Pakistan, it is not surprising that child health indicators are so poor. Furthermore, because the problems of the system are not easily correctable without a complete revamping of the priorities and procedures of the system, it will be difficult to rectify these problems in the near future. This poses some special constraints on the design of a successful Child Survival Program:

- Programs must have very specific targets and methodologies which should not be completely dependent on the functioning of the health infrastructure. This does not mean some of the

programs should not be run through government facilities; rather that they must be designed in such a way that they will be effective even if other components of the government services are not.

- Program goals and objectives must not be overly ambitious. Since many problems with the government infrastructure will be difficult to change within the time frame of this program, an accurate assessment of the existing situation is needed to establish realistic goals for planning and evaluation of any Child Survival Program.

CONSTRAINTS

Despite the clearly recognized need for improvement in the health status of its population and repeated efforts to mobilize various components of the health structure to improve the situation, the results of some of these initiatives have been disappointing. One notable exception is the EPI, which has been one of the most successful developing country immunization programs. Otherwise few inroads have been made in the reduction of preventable childhood diseases due to a number of constraints on the ability of donors and the GOP to improve Child Survival. These constraints are:

- Lack of Commitment to the Child Survival Strategies: 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, the emphasis of the government in the allocation of budgets and personnel remains the construction and operation of expensive hospitals, health centers, and curative services. Even the Basic Health Unit, the most peripheral health facility, is staffed by a doctor, medical technicians, and laboratory technician. Virtually all the patients seen at a BHU could be adequately treated by a properly trained paramedical worker. Furthermore, the very low emphasis on both outreach programs from health facilities and preventive rather than curative activities means that the impact of the health system on Child Survival is minimal. Despite this, political leaders, health planners and administrators propose that future health funding be put into "bricks and mortar" more than into provision of needed basic services and improvement of services quality at existing facilities.

- Lack of Technical Leadership: As with any endeavor, public or private, the success of a health program depends on its leadership. Unfortunately in Pakistan as in most developing countries, younger skilled technical leadership for preventive programs is a rare commodity. With only a handful of dedicated, technically competent health managers and with no

sufficient cadre of future leaders emerging, the prospects of improvement of public health programs are not encouraging. Until changes in the status, pay scales, and career structure of preventive health physicians improves, this lack of technical leadership will remain a significant constraint to the improvement of Child Survival.

- Isolation of Women: It is through women that reductions in infant and child mortality can be effected. It is women who must seek antenatal and perinatal care, who must bring children for immunization, who must breastfeed their infants and give proper food, who must correctly use ORT. Women must be taught these things so they understand the reasons for these additional demands on their already overburdened lives. In Pakistan this education of women is especially difficult. Cultural dictates are that women must stay at home. Rural women do not go to market, must not speak casually to male health workers, are mostly illiterate, and do not seek employment as doctors, nurses, or any type of health worker except as traditional midwives without family backing. Under these conditions, it is exceedingly difficult to transfer knowledge to those who need it most: the mothers of the 1300 children who die every day in Pakistan.

USAID POLICY

USAID has designed a global strategy for Child Survival and designated certain countries as emphasis areas. Pakistan is one. It deserves emphasis with an infant mortality rate of 119/1000 and a crude birth rate of 42/1000. The elements for priority in child survival program as set forth by USAID are:

1. A strengthening of immunization and oral rehydration therapy programs;

2. Support as appropriate for other basic elements of child health activities, especially nutrition (breast feeding and growth monitoring) and child spacing to allow healthier babies to develop;

3. Involvement of the private sector to the greatest possible extent in these activities; and,

4. Operational research to develop further successful strategies for child survival.

USAID/Pakistan is desirous of reorienting its approach to assistance to the GOP. The policy is to develop a funding mechanism that is outcome more than process oriented. It would disburse on the basis of achievement of agreed upon goals. It would deemphasize "intrusion" into methods of doing business, placing USAID in a policy and outcome

monitoring role, rather than in a process monitoring role (buy the cake, not decide upon the recipe). It would minimize direct hire and consultant presence to monitor or operate programs, allowing the GOP to hire consultants if they so desired.

In developing this preliminary design of a Child Survival strategy, these elements have been kept in mind, as has the capacity of the GOP to absorb additional activities.

OBJECTIVE OF CHILD SURVIVAL PROGRAM

The major risks of mortality among infants and young children occur from birth to age 2. A major program on child survival should focus resources on the highly vulnerable 0-2 year period. Interventions such as the six EPI immunizations, ORT to prevent diarrheal disease related mortality, tetanus toxoid for child bearing mothers, promotion of breast feeding and appropriate weaning and feeding practices, child spacing, and improvements in delivery practices can remarkedly increase the prospects of survival.

Without accurate data on the magnitude and patterns of infant and child morbidity and mortality, the etting of precise objectives is complicated. It is suggested, however, that a reasonably modest target for the fiscal year 1988-93 period would be a 25% reduction of mortality in the 0-2 age group. Assuming a 0-2 mortality rate of about 140 per 100 live births, this would result in a 1993 rate of 105. A target of 85 should be considered during the project design phase if there is evidence of sufficient Pakistan commitment to child survival objectives. With a 0-2 mortality rate of 85, infant mortality, i.e. 0-1, might be 70 to 75.

STRATEGIES FOR CHILD SURVIVAL

In attempting to design a strategy for Child Survival, the following approach to activities has been used:

1. Fundamental changes
2. High impact
3. Innovative funding for:
    a. Basic skills development
    b. New Child Survival Activities (through non-Federal support at/by Provinces or Private Sector)

Fundamental Changes

Leadership:

As mentioned earlier a major hindrance to the achievement of goals in child survival in Pakistan is the lack of focus. Not only does

there appear to be only limited enthusiasm in the GOP MOH at this time, but there is no person or unit with total responsibility or accountability for Child Survival activities. The closest identifiable unit is the NIH which is responsible for the EPI and ORT programs. Some form of leadership is essential if the USAID is going to invest heavily in child survival in Pakistan. While committee leadership is not always the best managerial technique, some form of collective leadership will probably be necessary.

On a global scale it has been recognized that the desirability of programs for child survival can and has led to competition and has engendered rivalries. The limited resources at the country levels for implementing programs can be strained by the generosity of donor agencies and nations. This has led to the creation of a Task Force on Child Survival which has membership at the highest levels (Directors General) from the WHO, UNICEF, UNDP, World Bank and the Rockefeller Foundation. Donor countries participate in the meetings, and a small secretariat is maintained through a contract from the Rockefeller Foundation.

If child survival is to be given substantive priority by the GOP, some mechanism must be developed to make certain that the activities are not just buried in the total health system with inadequate focus on the activities necessary to reach established goals. The existing system is fiscally constrained by the rapid expansion of health facilities and staff and integration of vertical programs. It is administratively constrained by low salaries, unattractive career incentives and civil service regulations. It will have significant difficulty focusing on the wide range of Child Survival measures and programs necessary to reduce infant mortality to acceptable levels.

USAID might want to take the initiative in proposing such a Task Force for Pakistan. Ideally, this should be a Presidential Task Force. Membership should be at a policy making level, and include non-governmental representation as well as Ministerial level members. Private industry and philanthropy should be represented. The role of the Task Force would be to support conferences and publicity to mobilize broadbased support for child survival, approve goals and plans, monitor accomplishments, assure the appropriate allocation of funds, and identify unmet needs. Just as the global Task Force meetings are attended by governmental and non-governmental donor agencies, so should the national Task Force meetings be attended by international and governmental donors. The Task Force could have a secretariat in the form of a semi-autonomous body to implement programs and fund projects as described later in the paper under Innovative Funding.

Epidemiologic Surveillance:

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. These points are emphasized because a child survival strategy, to be properly designed, must take into account the patterns of disease and deaths.

Basic to the development of new initiatives is the knowledge of where one is at the present point in time. This is essential not just for the development of programs, but for the measurement of the outcome. One of the criticisms of health programs the world over is that their evaluation has been based on process, i.e. number of doctors trained, hospital beds, rural health centers built rather than actual change in health status.

The basic outcome desired in a child survival program is embodied in its title -- survival. Yet in a country where the infant mortality rate is largely a guess, it becomes very difficult to document change in a manner that should satisfy those people who support and operate child survival activities. Budget and investment decision making in Pakistan gives very low priority to the health sector. Within the health sector, preventive care receives low priority compared to curative programs. Data documenting the impact of modest investments in child survival are essential for justifying the continuation and expansion of these programs.

The USAID policy guidance on child survival quite accurately refers to the twin engines that drive child survival: Immunization and Oral Rehydration. Vigorous implementation of these two activities can drastically alter child survival in a short period of time. Assessment methods that are not dependent upon dicennial censuses or complex field surveys are needed for program evaluation.

One recently developed technique for assessing under 2 year old mortality that could be considered is a method of rapid child survival assessment developed by Brass and McCrae at the Population Research Center, London School of Hygiene. This simple method is based upon the fact that most women in developing countries have a livebirth every two years. Hence a sample of women who have just delivered a live baby are asked about the status of their previous birth and the one preceding that. This type of simple method could be built into current EPI surveillance to measure infant mortality. Knowledge about infant feeding practices, weaning and breast feeding could also be obtained from mothers who bring their children for vaccination at 6 mo. The use of sentinel hospitals, rural health centers, or basic health units for rapid assessment rather than annual statistics collection could provide information about key child survival indicators such as effective use of ORT for dehydration cases admitted, number of deliveries under 2500 g, etc.

All of these assessment techniques emphasize the need for a simple system of epidemiologic surveillance as a prelude to the development of a child survival package.

To be simple, a surveillance system must have a limited number of health indicators that can be easily collected with reliability. The EPI currently is the only program that has the semblance of a surveillance

and collection system through sentinels and periodic cluster surveys. Consideration could be given to building upon this capability.

High Impact Programs

Expanded Program of Immunization - A National Activity:

The EPI of Pakistan has achieved international notice for its accomplishments. 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, it has made major strides since 1983 in immunizing the children of Pakistan. It has followed the accepted WHO model of operation of a vertical independent program, with heavy emphasis placed upon training, supervision and assessment. It is the one health activity in Pakistan that has meaningful goals expressed in health outcomes and where reliable data are available for evaluation. While being a decentralized program it has been organized along the political divisions of the country with each province setting its own targets. However, the National program has assigned to each province a program manager responsible to the National Manager. In addition, WHO provides a national technical advisor and operations officers in each province.

The following tables highlight the accomplishments and deficiencies in coverage:

IMMUNIZATION COVERAGE BY PROVINCE-CHILDREN 12-23 MOS

Province	1981	1984	1985
Punjab	3.3%	88.8%	79.5%
Sind	1.7%	27.0%	38.6%
Baluchistan	0.9%	7.9%	8.1%
NWFP	6.2%	49.1%	79.7%
AJK	NA	56.8%	69.1%
Pakistan	3.1%	64.0%	65.7%

While these figures appear to represent major accomplishment, which they do, there are weaknesses in them. These figures are for children over the age of one, while measles vaccine should be given prior to age one for greatest impact. The National EPI leadership has recognized this and also looks at coverage under one year of age:

Province	1981	1984	1985
Punjab	2.4%	50.2%	28.9%
Sind	1.8%	13.0%	16.9%
Baluchistan	0.9%	3.7%	3.5%
NWFP	3.8%	18.9%	26.9%
AJK	NA	33.0%	22.4%
Pakistan	2.3%	34.5%	23.2%

The lower levels of complete coverage are almost entirely attributable to non- vaccination for measles, the greatest killer. The other disturbing aspect of the figures is the significant fall off in coverage in the Punjab, which had previously been the leader in the country. This is believed to be attributable to the initial attempts to integrate the vertical program for EPI into the health services delivery system. No longer is the vaccination team responsible to the EPI, but to the basic health unit. While this on the surface may seem to be a logical management function, the weakness of supervision at the basic health service level could decrease the effectiveness of the EPI. If this trend continues in the Punjab, the decision to integrate the EPI into Basic Health Services should be seriously questioned. To sacrifice the gains made to date, when so much remains to be done, for the sake of an administrative principle could doom the ultimate success of this key element in child survival.

There is an attempt underway to make certain that vaccines are available and used in all government health facilities. This is commendable and will add additional opportunities to immunize children; the more opportunities the better.

Essential to the success of the EPI is the cold chain. Most personnel in the rural areas understand this and records are maintained. Some hospitals in the municipalities, however, have no thermometers in the refrigerators, so there can be no assurance that vaccine potency is acceptable.

This latter area, cold chain, will be the greatest deterrent for incorporation of immunization into the private sector. The cost of providing refrigeration to all medical practitioners would be astronomical, and in any case no quality control could be assured. An attempt by the EPI program to recruit private physicians into the program and even provide free vaccines was resisted by the medical profession due to the government's insistence on some sort of quality control on vaccine potency. It would seem, therefore, that the EPI will remain primarily the responsibility of the government although larger private facilities and NGOs could play a growing role, especially in the cities.

While the EPI has focused mainly on the immunization of children, the immunization of women with Tetanus Toxoid to prevent neonatal tetanus may have a significant impact on infant mortality. Although tetanus immunization of women in the child bearing age is carried out, coverage rates are low and unacceptably high levels of neonatal tetanus continue. The concern expressed by a few officials that any further public action, such as mass campaigns, would be construed as attempts at involuntary birth control should be investigated.

Another recommendation is a massive one day measles immunization program. This should not be delayed to the post-1987 Child Survival program but should be given urgent attention at the present time. Measles vaccination is lagging, due to its late introduction into the

system. Even in the best areas coverage is too low, and the trends are not encouraging. A campaign which would utilize the excellent managerial structure that exists to administer the vaccine, coupled with an intensive media campaign, utilizing political, religious and medical leadership could wipe out the backlog in one day. This is ambitious, but would serve not only to increase measles coverage, but to be a motivating force for health workers and the government to launch into the more complicated yet essential ORT program that follows.

Post 1987 will be a crucial period for the concept of the EPI. The global program will be ten years old, there still will be unimmunized children, and those who remember the eradication of smallpox may wonder why the same has not occurred with measles and polio. Politicians who have supported the program may lose interest and budgetary support may become even more difficult.

If the above holds true for Pakistan, where the job is less than 50% complete, the great danger could be the dismantling of the National EPI program and relying only on the Basic Health Services to provide immunization to users of their services.

The impact on immunization levels could be catastrophic. Add to this the complicating factor that the Coordinator of the EPI is very senior and that his successor may bring a change in management, the difficulties increase geometrically.

As mentioned above, with the exception of larger private facilities and NGOs, EPI is not amenable for incorporation into the private sector for technical reasons (refrigeration and the quality control monitoring of such refrigerators in use).

What are the technical alternatives?

1. Maintain the present vertical program with NIH responsible for its management including procurement, logistics, training, supervision, program evaluation and vaccination.

2. Encourage widespread availability of vaccine in all government operated health facilities and maintain a National EPI to establish the epidemiologic surveillance program described in an earlier strategy, manage procurement, logistics, etc., but only provide vaccination where it became obvious that the other resources were not immunizing adequate levels of children. In this option, the epidemiologic surveillance could be expanded to include indicators of other Child Survival outcomes (dehydration, infant mortality rate, nutritional status, etc.). This option would call for the institutional strengthening of the NIH, perhaps making it a central focus for all preventable disease programs (it currently is responsible for the ORT and has a nutrition cell). If this were done, prime attention should be paid to the development of much strengthened public and community health education programs.

3. A third option would be to allow the National EPI program to be folded into the Basic Health Services and have periodic mass campaigns to attempt to maintain some adequate level of immunization in the childhood population. This option would be reactive rather than proactive and would have to accept higher levels of mortality and morbidity.

The second option offers the greatest hope of long-term protection of children and USAID should promote this concept.

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 of 30-40% diarrheal associated mortality in the under 2 age group. Thus, there is strong justification for a concerted effort to reduce the diarrheal associated mortality through the use of Oral Rehydration Therapy. While ORT has been a component of the Accelerated Health Program of the GOP administered through the National Institute of Health (NIH), it would appear that the proper use of ORT is very limited. There remains, therefore, a lot of work to be done before the ORT program will make significant inroads in the high Infant Mortality Rate in Pakistan.

Existing Program

The present Diarrheal Control Program in Pakistan began in 1982 with a national 3-Year Plan administered by NIH. This plan included production of ORS by the NIH, distribution through government outlets, training of health workers in both the use and promotion of ORT and some media publicity through radio, television and newspapers. A second plan was begun in 1985 and has been augmented by the Accelerated Health Program which began in 1982 and continues through the present. While these programs have been largely effective in the production and distribution of ORS to government health facilities, their impact on the attitudes and practices of both health workers and mothers has been much less dramatic. In addition, the ORS obtained through commercial outlets is not always accompanied by training of mothers in its correct use. As a result, while a significant number of mothers have at least tried ORS, few know how to use it correctly. There are a number of reasons why the success of this program has been limited:

- Lack of clear case management strategy. There is considerable confusion in Pakistan about the way ORS is to be used. Staff in the BHUs and RHCs do not know whether to teach mothers to use home mix, whether mothers should be given packets of ORS to take home for future use, and whether they should promote the purchase of ORS through commercial outlets. The prevailing opinion seems to be that mothers must bring their children to the health facility for treatment with ORS. In

addition, it is not clear that a concerted effort to use ORS at health facilities has taken place. Much education of the medical profession remains to be done. Many children still receive parenteral fluids unnecessarily.

- Lack of strategy to promote "effective use". There is little information available to either health workers or mothers about how to use ORS correctly. Packets are available in 3 different sizes (1 l., 500 ml., 250 ml.) and do not contain complete instructions about mixing and use. There is little effort to teach mothers when to use ORS and how much to give, and even government officials are divided on these questions. Accordingly, few mothers appear to be using ORS correctly.

- Insufficient effort to incorporate better feeding practices into the ORT program. While an ORT Program must emphasize the importance of feeding and nutrition to the child with diarrheal disease, little emphasis has been given to this aspect of the program, with the result that most policy makers and health staff alike see ORS packets alone as the answer to the diarrheal disease problem.

- Lack of village based distribution system. The ORT program focuses on the distribution of ORS packets to the BHU level. However, these BHUs are vastly underutilized so, in general, children with diarrhea never reach the health facility. For an ORT program to be successful, some village based outlet must be available to mothers of children with diarrheal disease. Some efforts are now underway to include the village Dais or traditional midwives into the ORT program and these efforts should be expanded. The inclusion of multiple village based outlets, both public and private is required. The potential of commercial distribution and social marketing has barely begun to be exploited.

- Lack of support by private practitioners. The private doctors (both qualified and unqualified) represent a very significant outlet for the distribution of health services in Pakistan, particularly in urban areas. However, these practitioners, supported by drug manufacturing representatives and local pharmacists promote the use of a myriad of commercially available antidiarrheals, many of which contain antibiotics, anti-spasmotics, and other ingredients inappropriate for pediatric use. Because these proprietary drugs are very profitable for doctors, pharmacies, and drug companies alike, the use of ORT is not promoted. There has been no effort to enlist hakims and homeopaths, who are health providers to a substantial proportion of the population, in the ORT program. Indeed there seems to be a reluctance on the part of some government officials to acknowledge the potential contribution of the private sector.

- Lack of program manager. There is no one in Pakistan with the responsibility at the operational level of making sure that the ORT program is a success and of making key decisions about the way ORT is to be used, distributed, and promoted. Until a full-time program manager is named there is little hope that the problems cited above will be resolved.

Given the scope of the problems of the ORT program, it is remarkable that ORS use has expanded even as much as it has. It does appear that the availability of ORS packets in health facilities and in some commercial outlets is widespread, and that at least some mothers in the villages have heard of, and even tried, ORS. There remains, however, a long way to go.

Because of the very significant institutional problems in the ORT program as it now stands, it is recommended that AID adopt a very targeted approach to the ORT component of the Child Survival Program. This means that in addition to supporting the current program at various weak points, a number of very specific interventions should be planned which support but do not rely on the government infrastructure for success. In addition, USAID might wish to encourage the GOP to make selected policy decisions linked to ORT which are necessary for a successful government program. These policy changes might, for example, be linked to a "performance-based disbursement" program. Specific recommendations for the ORT component of the Child Survival Program include:

- Immediate appointment of a national, full-time program manager in NIH, decisions on the case management and distribution strategy, enforcement of those decisions, strengthening of supervision, a major thrust in the private sector for production and distribution of ORS, the use of village-based distribution outlets, and establishment of rehydration units in hospitals for treatment and training centers.

- Support of a wide network of non-government health workers including the hakims and homeopaths, the Pirs, and other religious leaders, the trained Allopaths, chemists and pharmacists, the Dais or traditional birth attendants, and the private physicians. This could be done through a variety of mechanisms including the introduction or strengthening of ORT in the curriculum of training for these various health workers, and retraining programs sponsored through the Councils of Hakims and Homeopaths, the Pakistan Medical Association, the Pakistan Paediatric Association, the Dai training programs, NGOs, and government institutions. Another mechanism available to promote the use of ORS through these workers is the introduction of specific incentives for them to use ORS. This might include support of the sale of ORS packets by these practitioners, or support for the distribution of certificates and attractive widely recognized plaques for posting outside of their houses coupled with an advertising campaign to use the providers who have been trained and now use ORT.

- After the aforementioned training, support of a broadly based publicity and marketing campaign for the promotion of ORT use. A full scale, scientific social marketing program should be considered. This might include technical assistance to the government in the design of promotional material and selection of media for marketing, production and distribution of films, pamphlets, and other materials promoting ORT through existing commercial facilities, market surveys such as the one currently underway for the targeting of user groups, and the supply of balloons, T-shirts, toys, etc. which display the logo of the ORT program. Education about ORT should be targetted not only to health personnel and parents, but also to politicians, schools, social welfare workers, religious leaders, planners, and other decision makers and opinion leaders.

- Support of brightly colored plastic 1 liter containers imprinted with the ORT logo and graphic mixing instructions. These containers could be widely distributed to rural areas either through subsidized sales or promotional campaigns which give free containers to any mother who can demonstrate how and when to use ORT. While it is anticipated that 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.

- Support of the pharmaceutical industry's promotion of ORS. This is the 25th anniversary of the Pakistan Pharmaceutical Manufacturers' Association and they are planning a public relations campaign to improve the image of the industry. There was receptivity to the idea of promoting adequate ORT as the first line of attack for diarrheal disease before the use of proprietary preparations in promotional literature. One might consider the support of this strategy of using the pharmaceutical industry despite reservations about the use of proprietary preparations since this offers one of the few mechanisms for promoting ORS in the urban population who rely heavily on recommendations by pharmacists and chemists for choice of treatment. Another alternative might be to work through the pharmacists' association.

- Support of Provincial plans to promote and distribute ORS. Since ORS will be promoted through the health infrastructure, it is important that all health facilities are giving the same message to the population as the media. Accordingly, working with the Provincial Health Ministries to develop message plans and implementation procedures for the ORT program will help to promote consistency among the various sectors involved in the ORT program.

Other Child Survival Interventions

Although strengthening and extending the EPI and ORT activities initiated under the GOP Accelerated Health Program should be the principal thrust of a post-1987 child survival program, some resources should be allocated to several other interventions. The nutritional status of infants and children is closely associated with their vulnerability to sickness and death from the major child killers. Nutritional education, promotion of breast feeding, and support for sound weaning and feeding practices, should be pursued. Some areas may have special problems such as iodine deficiency.

Recent research has shown that child survival as well as maternal survival is enhanced by avoidance of child-bearing at too young an age, spacing of births by intervals of 2 to 4 years, limiting the number of births, and avoidance of child-bearing at too old an age. The GOP operates about 1200 family planning outlets through the Population Welfare Division. In addition the GOP has decided that the health services delivery network should also provide family planning information and services. Encouraging and supporting the strengthening and extension of these programs should be an integral part of a comprehensive child survival strategy.

Although progress in other sectors such as female education and water and sanitation may also have impact on child survival, they have not been addressed in this strategy.

Innovative Funding

As discussed earlier under USAID policy, USAID is desirous of reorienting its approach to assist the GOP. The policy is to develop a funding mechanism that is outcome oriented, not process oriented.

In the area of child survival, outcomes are less easy to define than in some areas, and isolating the reasons for change is even more difficult. If the elements of child survival are arrayed against the actions necessary to improve outcomes, this becomes apparent. Those activities that require a direct action by a provider of service can easily be qualified, goals and targets set, and progress monitored. Immunizations are an example of this. 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.

Past programs have established certain realities that have to be dealt with. The GOP has devoted large portions of its health budget to capital construction, which in turn makes large recurring costs demands for staff

and maintenance. The policy of the government has been to encourage physician education to the point where the country is an exporter of physicians and there is widespread unemployment of doctors. There is licensure of physicians, but no relicensure (a deterrent to incorporating continuing education into medical care). The medical examination requires proficiency in medicine and surgery, with much less attention to pediatrics and obstetrics, the areas most concerned with child survival. There is little emphasis on preventive health and community medicine. Pakistan has not adopted the WHO essential drug list; over 7000 drugs are registered. The populace equates health care with the dispensing of drugs.

How can external assistance begin to bring about the fundamental changes that will be necessary for long term improvement in child survival without developing additional vertical programs on the EPI and malaria model? How can this be done and support the overall AID policies enumerated above?

More important, is it possible to use the traditional funding mechanism of grants or loans to the Federal government to allow for the development of new and innovative programs in the Provinces, medical institutions, and private sector? Can a pass through mechanism be developed that will not involve USAID in direct funding and managing of multiple projects that are necessary to find the best ways of accomplishing improvement in child survival?

USAID might want to explore the development of a national (in contrast to Federal government) program that would make grants to Provinces and medical institutions outside of the ADP budget. A model that could be considered would be the legal constitution of a semi-autonomous central review and approval body, made up of representatives from the various provinces, the Federal government, medical schools, private sector, and donor agencies that would consider proposals for programs that would improve an element of child survival. Proposals could be considered from provincial governments, union councils, medical colleges, professional associations, NGOs, etc. It could receive and administer funds from the federal government, philanthropic individuals and organizations, public and private sector firms, and international and foreign national donors. Government could be responsible for overall policies through the Presidential Child Survival Task Force proposed earlier, but the body should have considerable independence in its operations. USAID could make a planning grant to establish such a secretariat and then provide more major funding on the basis of this body's developing terms and conditions for the award of grants, establishing goals and objectives for the grants, and a manual of operations that will clearly spell out that the grants are to be considered on their merit and potential for improving child survival. Once this is done, major funding could be provided to the granting body, which would then assume the responsibility for the monitoring of the projects.

Basic Managerial Skills

An issue of concern is the absorptive capacity of the GOP for additional, particularly new and different, health programs. The key for absorption would be the mangerial competence to direct and execute such programs. The base of providers is large. The base of human need in the child survival area is immense. The technical talents and administrative flexibility for innovation in the governmental services are minimal, but they do exist in the academic and research centers. To date there has been little systematic effort to develop managerial skills in the health field. Skill in managing health projects has come from the military system perhaps more than the civil sector. Management is not included in physician education. The EPI which has been successful has been coordinated by a retired General and managed by an army colonel, and the program execution has been logically designed along the lines of a military campaign. The EPI is centered at the National Institute of Health, which, while part of the MOH, is separate from the day-to-day preoccupation with facility construction, staffing and operations that subsume MOH attention at the Federal level as well as at the provincial.

A basic managerial problem that is as accentuated in Pakistan as anywhere is the belief of the MOH that physicians can automatically be managers, and the twin belief that nonphysicians can not manage health programs.

If the GOP is willing to create a post of Assistant to the DHO for Management and agree to a career ladder for such individuals, USAID should consider funding stipends for post baccalaureate study in health service administration after the GOP or some institution has successfully developed a curriculum. This approach would be in keeping with USAID's performance-based disbursement policy.

While creating such posts would appear to be an additional cost, there are hundreds of sanctioned but unfilled posts throughout the system, in rural areas as well as in administrative jobs. Part of this is attributable to the undesireability of the rural postings available, but undoubtedly, a major deterrent for a career in public health is the reluctance of physicians to accept positions in public health program management that do not offer the opportunities for lucrative private practice found in clinical jobs. Also, they do not like to be overburdened by managerial tasks for which they have not been trained.

The Dean of the Islamic University in Islamabad has said that the University intends to develop a course in health management. This may be an appropriate institution to be involved since it could have the secondary benefit of development of greater cooperation in the two sectors of Islamic life and health.

HEALTH CARE PROVIDERS

The Federal Bureau of Statistics has published the results of a National Health Survey which indicates that the Governmental health services

provide a minority of the health services to the people of Pakistan. The survey ascertained the amount of illness in the population in the preceding month (10% reported being ill), and where they received service for that illness:

Government facility	16%
Private hospital	18%
Private clinic	25%
Hakim	12%
Compounder	15%
Others	14%

If there is to be a major improvement in the child health situation in Pakistan, it is obvious that the governmental institutions cannot be expected to do it alone. There are some things that only the government can do (e.g. anti-malarial spraying). But the private practitioner can treat malaria if he suspects the diagnosis, and knows how to treat it properly. Most immunizations will have to be continued through the government for some time because of the needs for proper refrigeration, but appropriate use and administration of oral rehydration can be understood by the private physician.

Are there policy barriers that could be overcome that would effectively mobilize the private sector for child survival?

1) The Pakistan medical system does not place emphasis upon pediatrics as a speciality. The major examinations that are necessary for graduation are in Medicine and Surgery so the specialty areas most important to child survival -- Pediatrics and Obstetrics are not regarded as important by the student.

2) Once a physician is licensed there is no requirement for continuing education. Relicensure in many countries is dependent upon attendance in continuing education courses. National medical societies promote and conduct such programs and give certificates. If such a requirement could be introduced into Pakistan, courses in those elements of child survival that should be addressed by the private physician could be given.

   Both of these policy changes would face opposition. There are indirect ways, however, that USAID might be able to influence change. A requirement for any type of institutional grant or support to medical school could be dependent upon offering sufficient hours of training in pediatrics. A grant to medical education in general could be linked to action by the Pakistan Medical and Dental Council to make pediatrics a separate examination subject and assign pediatricians to examining committees. Most countries - both developed and developing - have already done this.

New Child Survival Activities

Because of the decentralized nature of the health system in Pakistan, the provinces are the implementing arm of almost any government health program, including the proposed Child Survival Program. Accordingly, the greatest impact on the government health infrastructure can be made by working directly through the provincial systems. This strategy may be particularly rewarding for three reasons:

- The Provincial Directors of Health Services (DHS) are much closer to the programs being implemented than their Federal counterparts, and accordingly may have a much better understanding of what the weakest elements of the system are and what changes will be most effective.

- Since the provincial DHS will be the implementer of many of the programs being supported, their cooperation will be required. Including the provincial staff in the initial planning and decision making process will promote their enthusiasm for any Child Survival initiatives which are undertaken.

- There are important differences between the needs, priorities and social, economic, political, cultural and ecological environments of the provinces. There should be flexibility so that national policies and problems could be adopted to local realities.