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Annual Review of EPI Plans in Bolivia, 1988

USAID/La Paz
February 1988

Resources for Child Health Project

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ANNUAL REVIEW OF EPI PLANS IN BOLIVIA, 1988

USAID/La Paz

February 15-25, 1988

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GLOSSARY

AID	Agency for International Development
ARI	Acute Respiratory Infection
AID/W	Agency for International Development/Washington
CCH	Community and Child Health
CCI-B	Comite de Coordinacion Interagencial - Bolivia
CDC	Centers for Disease Control
CS	Child Survival
DT	Diphtheria tetanus toxoid
EPI	Expanded Program on Immunization
FY	Fiscal Year
GOB	Government of Bolivia
HHR	Health and Human Resources
ICC	Inter-Agency Coordinating Committee
IDB	Inter-American Development Bank
IMR	Infant mortality rate
Ing.	Ingeniero (Engineer)
Lic.	Licenciado (Licensed)
MIS	Management Information Systems
MPSSP	Ministerio de Prevision Social y Salud Publica (Ministry of Health)
NGOs	Non-Governmental Organizations
NPA	National Plan of Action
OPG	Operational Program Grant
PAHO	Pan American Health Organization
PID	Project Implementation Document
PL-480	Public Law 480
PP	Project Paper
PVOs	Private Voluntary Organizations
PVO/REC	Private Voluntary Organization/Rotating Executive Committee
SCF	Save the Children Federation
SOW	Scope of Work
ST TA	Short Term Technical Assistance
TACS	Technical Advisor in Child Survival
Td	Tetanus diphtheria toxoid (adult preparation)
USAID	United States Agency for International Development
USIS	United States Information Service

I. EXECUTIVE SUMMARY

USAID/La Paz requested this consultancy whose principal purpose was to participate in an annual ICC meeting to review the EPI Plan of Action in terms of 1987 progress and 1988 plans.

This report reviews the 1988 EPI Plan and identifies areas for USAID support, particularly in light of a new USAID Community and Child Health (CCH) Project expected to be signed in mid-1988. This report also reviews the status of recently completed vaccination coverage evaluation surveys and of a cold chain inventory. A discussion of neonatal tetanus and a draft scope of work (SOW) for a CDC TACS proposed under the CCH project is included. Finally, immunization TA needs of the PVO's are explored.

Key Findings

Although the EPI in Bolivia has made considerable progress in 1987, the routine EPI remains dormant and is greatly in need of strengthening. An existing Inter-Agency Coordinating Committee and an elaborated multi-party EPI plan of action (1987 - 1991) provide the necessary structure for identifying activities and committing resources towards the twin objectives of strengthened routine EPI and polio elimination.

Within the wider context of a new CCH project, expected to be signed in July 1988 committing $3.324 million for EPI, USAID support of $1.353 million to EPI in 1988 will represent 41% of the total EPI budget for 1988. USAID will be involved across the board in 8 of 9 areas of action of the plan and will have the major financing role in 6 areas. Major areas of USAID financing are supervision, cold chain and biologics-logistics.

The 1988 total EPI budget nearly doubles the 1987 budget. To enable the GOB to absorb and support the planned 586% increase from 1987 levels in cold chain investment, USAID has reduced its allocation for cold chain in 1988 by reprogramming some of the savings in 1988 and transferring additional savings to 1989-1991. The GOB will require some external donor assistance with cold chain recurrent costs.

The MPSSP and USAID have indicated interest in conducting neonatal tetanus mortality surveys and medical anthropological studies into socio-cultural perceptions of neonatal tetanus, birth practices and immunization acceptability. These studies would focus attention, catalyze action and identify needed control and social communication strategies. The surveys would be done during the next eight months before the onset of inclement weather in December.

USAID will participate in late 1988 in a joint GOB/WHO/UNICEF/USAID EPI Review.

As the GOB soon contemplates a widespread decentralization, the case for leadership in EPI at central level in programming, evaluation, policy-making, cold chain, training, etc. remains as strong as ever.

This report identifies areas of interest to the CCH Project Paper team based on the EPI ICC Meeting.

Twenty-five vaccination coverage evaluation surveys conducted in late 1987 in 11 urban capitals representing 34% of Bolivia's population indicated weighted polio 3 and DPT3 coverage of 62% and 60%, respectively, for children 12-23 months old. Measles and BCG coverage was 66% and 76%, respectively. TT2 coverage was 3%. Results of the 16 rural coverage surveys were not complete at the time of the consultants' visit. The above surveys were financially supported by the GOB with assistance from PL-480 and reveal a higher level of coverage than had previously been suspected through routine reporting channels.

Key Recommendations

To MPSSP:

- On the eve of decentralization, the GOB should retain strong central leadership in EPI, which remains crucial in the areas of programming, evaluation, policy-making, cold chain, training, etc.

- Analyze the recent coverage survey results to identify in which districts to focus attention and make any policy or programmatic changes. Prepare a simple summary table of results for each district survey. Determine the percentage of children in each survey who were fully immunized with all antigens.

- Identify those health facilities already reporting cases of infectious disease regularly to the MPSSP and include them in a retrospective and prospective sentinel surveillance system, rather than trying all at once to strengthen routine notification through the entire health system.

- Change the present national policy limiting TT to women in their 5th and 7th months of pregnancy. Td should be given at the 1st contact to any eligible woman 15-45 years of age, regardless of month of pregnancy, as this vaccine is safe and efficacious.

- Offer Td (or "DT for adult use") to all females of childbearing age in the high risk ecological zones (tropics, subtropics, and possibly valleys) during the existing mass campaigns directed towards children.

- Develop and use a Td card for women.

- Systematically include OPV at birth in hospitals as part of national immunization policies, thereby ensuring constant circulation of vaccine virus in the community in the absence of routine ongoing immunization. Child vaccination cards and reporting forms will need to be revised accordingly.

- Assess the EPI training and cold chain needs of the Social Security Institute.

- Revise vaccinator training manuals which do not now discuss safe disposal of disposable syringes and needles.

To USAID:

- Consider the recurrent cost implications of any large capital expenditures for the cold chain to avoid hasty decisions and poor programming. Consider funding a portion of recurrent costs on a scheduled phase-out basis.

- Develop a MIS to track use and whereabouts of USAID-provided equipment, to monitor coverage, to document disease trends, and to keep track of training needs and manpower.

To ICC:

- Access ST TA for planning the cold chain and examining the routine vaccine and logistics ordering systems at various levels, including within the Social Security Institute. (PAHO is presently implementing this recommendation.)

- Invite observers from the Social Security Institute and PVO REC to attend future meetings of the ICC.

II. ACKNOWLEDGEMENTS

The consultants wish to thank all those persons from the Government of Bolivia (GOB), USAID, PAHO, UNICEF, Rotary and the PVOs who freely shared their ideas and experiences. A special word of thanks goes to Mr. Paul Hartenberger, Deputy Director, Health and Human Services, USAID/La Paz, for his support, guidance, and friendly encouragement.

III. PURPOSE OF WORK

The USAID Mission in La Paz requested the ST TA of two REACH consultants for the following SOW:

A) Participate with USAID HHR staff in the annual meeting of the Comite de Coordinacion Interagencial-Bolivia for EPI (CCI-B) scheduled from February 17-19, 1988 which will review progress of Bolivia's EPI National Plan of Action (NPA) 1987-91.

B) Review proposed immunization and ARI interventions of the draft PID for the new Community and Child Health (CCH) Project (511-0594) based upon outcome of CCI-B meeting in A above and provide recommendations for PP CCH team.

C) Review MPSSP EPI coverage evaluation survey data completed in Oct/Nov 1987.

D) Review results of MPSSP cold chain inventory.

E) Review with MPSSP, PAHO, and USAID the status of the MPSSP-proposed neonatal tetanus survey.

F) Develop draft SOW for CDC technical advisor in child survival (TACS) proposed under the CCH Project (511-0594).

G) As a follow-up to the September 1987 PVO child survival monitoring and evaluation workshop, review with the PVO rotating executive committee (PVO/REC) the possibility of providing periodic, short-term immunization TA including an EPI workshop (EPI planning, coverage survey methodology, use of cold chain monitors, control of ARI, social mobilization for EPI, risk factor analysis, health education materials, etc.)

The outcome of the consultancy is the present trip report in Spanish and English which, besides reflecting the above SOW, generally reviews the MPSSP EPI National Plan of Action and notes EPI accomplishments and difficulties encountered. Recommendations are given to various actors on how to minimize implementation problems and improve program performance. This report was left in English draft with USAID/La Paz before the consultants' departure.

IV. BACKGROUND

The GOB adopted a campaign approach to EPI in 1983 in an attempt to raise immunization coverage in the face of a dormant routine EPI. According to PAHO in Washington, percentage immunization coverage of infants for DPT3 and measles was 10% and 13%, respectively, in 1983 and 29% and 17% in 1986. Coverage of women with tetanus toxoid 2 remains low and can be estimated at not more than 5% in 1986.

The GOB has identified some problems facing the routine EPI. They are:

- low public awareness
- inadequate cold chain and logistics system
- insufficient supervision
- frequent staff turnover and attrition due to low salaries
- frequent paralyzing strikes disrupting service
- inadequate training
- dispersed isolated population

The GOB now uses a variety of strategies to raise immunization coverage. These include routine EPI services, periodic mobile brigades to cover dispersed rural populations, and three rounds per year of urban campaigns.

The upper age of eligibility for immunization during the campaigns has decreased from 5 years to 3 years and there are plans to lower it further to 2 years. All antigens have not been offered on each campaign round. Fertile-aged women have not yet been targeted during the mass urban campaigns. During the routine program only pregnant women are offered immunization. The policy is to immunize women in their fifth and seventh months of pregnancy.

During campaigns, no special per diem is paid, and all health workers are involved. All operating expenses of the campaigns are said to be borne by the GOB itself.

Despite low reported immunization coverage, incidence levels of polio, measles, pertussis, and diphtheria have fallen according to data on reported number of cases from 1945 to 1987 (July) provided by the National Epidemiology Unit. However, reporting completeness has declined over the years, as well.

A very brief look at the central level cold chain revealed a well-organized and managed cold room.

The MPSSP strives towards institution-building and strengthening of the routine EPI, while at the same time encouraging mass popular mobilizations for campaigns through a well-developed traditional network of community organizations.

In February, 1987, along with other countries in the region and with the support of PAHO, UNICEF, AID, Rotary International and the Inter-American Development Bank (IDB), Bolivia declared a goal of polio elimination. A multi-party five-year EPI Plan of Action was jointly prepared by the major donors to support specified activities with designated funds along a quarterly time frame.

A Memorandum of Understanding was formally signed in October 1987 by the GOB and USAID, along with other donors, to commit resources towards the twin objectives of strengthened, accelerated routine EPI and polio elimination.

The consultants participated in the Inter-Agency Coordinating Committee (ICC) meeting to review the EPI Plan of Action in terms of 1987 progress and 1988 plans, concentrating on identifying activities suitable for USAID support in the context of a new CCH project, expected to be signed in July 1988.

In January 1988, an operational program grant (OPG) for a Child Survival (CS) PVO Network was awarded to SCF (USA) to channel USAID and PVO funds towards strengthened CS field operations over a period of 3 years.

A brief historical synopsis of REACH activities in Bolivia during the past 12 months, along with a few demographic indicators, appears in ANNEX I.

V. TRIP ACTIVITIES

A list of places visited in La Paz and persons contacted appears in ANNEX II.

The consultants engaged in discussions and negotiations with the Government and major donors during an intensive three day ICC meeting to plan 1988 EPI activities and commit resources. USAID provided essential guidance in this process.

Discussions bilaterally with MPSSP officials focused on mutual interests, including cold chain requirements, coverage data, neonatal tetanus, epidemiological requirements, strategic planning and USAID support.

Meetings were held with representatives of PVOs, including members of the Rotating Executive Coordinating Committee (REC), on needs for future immunization TA. Discussions with UNICEF and PAHO indicated joint interest along with USAID in supporting as yet undefined PVO workshops.

At the request of SCF (USA) which is planning to start up a new project in Beni, TA was given for detailed planning for the cold chain. The plan, including required equipment and management tips, appears in ANNEX III and may be of general interest as to the type of immunization TA available to PVO's.

The consultants also attended a Rotary meeting at which the Polio Plus program was presented and also a presentation of USIS at which a World-Net television program with two-way audio hookup was broadcast from Washington simultaneously to Bolivia, Peru and Honduras on the subject of EPI in the Americas.

VI. RESULTS/CONCLUSIONS

This section of the report is organized using the SOW (Section III) as an outline.

A. Participate in Inter-Agency Coordinating Committee Meeting

The meeting was held 17-19 February 1988 with participation from GOB, USAID, PAHO, UNICEF, Rotary, and a brief appearance by PL 480. Dr. Angel Valencia Telleria, Director General of Health, MPSSP, followed by Dr. Jorge Mariscal Padilla, National Director of Epidemiology, opened the meeting.

Achievements during 1987 were reviewed and are listed below:

- three mass campaigns were conducted in April, July, and October;

- the cold chain was extended to regional levels;

- a cold chain maintenance course was conducted and tool kits given out with which some 35 refrigerators were repaired;

- a cold chain inventory was prepared by above-trained technicians;

- a polio surveillance course for 12 districts was conducted in Cochabamba;

- a statistics course was conducted;

- vaccination coverage evaluation surveys were done in urban capitals and rural districts of 11 Unidades Sanitarias (Sanitary Units);

- a training course for "health area" staff was conducted in Caranavi, La Paz;

- a meeting of regional staff responsible for social communication was held;

- health education and mass media materials were prepared;

- a child vaccination card was introduced into the program;

- epidemiological surveillance and investigation of polio cases has been undertaken at central and regional levels; and

- a manual for epidemiological surveillance was prepared.

The problems which have been identified in executing the EPI have already been presented in Section IV.

A financial overview of the revised Plan of Action of EPI appears in Table 1. The majority of AID's financing (US$ 972,000 out of a total of US$ 1,353,000) is for investment costs. Only in the area of biologics-logistics is there an appreciable amount (US$ 269,000) earmarked for functioning costs (basically vaccines and related supplies). The major areas of AID financing are supervision (US$ 538,000) and cold chain (US$ 361,000).

Overall the AID financing of the EPI Plan of Action represents 41.0% of the total 1988 EPI budget (Table 2); therefore, AID is the main financing source of the 1988 EPI Plan of Action.

In the finalized 1988 budget, AID distributes its resources in 8 of the 9 areas of action of the plan, having the major financing role in 6 areas (Table 2).

TABLE 1

E.P.I. PLAN OF ACTION FOR 1988, BY AREAS OF ACTION AND FINANCING SOURCES

ACCORDING TO TYPE OF COST (INVESTMENT OR FUNCTION) (1), BOLIVIA, FEBRUARY 1988

AREAS OF ACTION	PAHO			UNICEF			AID			PL480			BOLIVIA			EXTERNAL SOURCE SUB-TOTAL			NATIONAL SOURCE SUB-TOTAL			TOTAL		
	I	F	T	I	F	T	I	F	T	I	F	T	I	F	T	I	F	T	I	F	T	I	F	T
1. Logistics-Biologics	-	10.0	10.0	-	147.0	147.0	-	269.0	269.0	-	50.0	50.0	-	100.0	100.0	-	616.0	616.0	-	5.0	5.0	-	610.0	610.0
2. Cold Chain	-	9.5	9.5	2.7	30.0	32.7	354.0	7.0	361.0	26.0	14.5	40.5	-	-	-	382.7	61.0	443.7	-	31.5	31.5	382.7	92.5	475.2
3. Training	-	10.0	10.0	5.0	-	5.0	35.0	-	35.0	3.5	0.5	4.0	-	-	-	43.5	10.5	54.0	-	2.0	2.0	43.5	12.5	56.0
4. Social Communication	-	-	-	-	46.0	46.0	-	20.0	20.0	-	-	-	-	20.0	20.0	-	66.0	66.0	-	-	-	-	86.0	86.0
5. Operating Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1001.0	1001.0	-	1001.0	1001.0
6. Supervision	-	-	-	-	10.0	10.0	305.0	35.0	330.0	-	35.1	35.1	-	-	-	303.0	80.1	383.1	-	70.0	70.0	303.0	150.1	453.1
7. Epidemiological Surveillance	-	76.5	76.5	-	6.0	6.0	80.0	-	80.0	(2) 35.0	31.5	66.5	-	-	-	115.0	106.0	219.0	-	-	-	115.0	106.0	219.0
8. Investigation	-	6.5	6.5	-	6.0	6.0	-	65.0	65.0	-	-	-	-	-	-	-	55.5	55.5	-	-	-	-	55.5	55.5
9. Evaluation	-	31.0	31.0	-	5.0	5.0	-	5.0	5.0	-	-	-	-	-	-	-	41.0	41.0	-	-	-	-	41.0	41.0
TOTAL	-	163.5	163.5	7.7	244.0	251.7	872.0	381.0	1253.0	66.5	168.6	235.1	-	120.0	120.0	1066.2	1049.1	2083.3	-	1200.5	1200.5	1066.2	2257.6	3301.8

SOURCE: COMPUTER PRINTOUT OF MPSSP, FEBRUARY 19, 1988.

(1) VALUES IN 1000 DOLLARS.

(2) US$ 35,000 FOR 7 COMPUTERS PLUS TRAINING WAS TO BE ASSUMED BY AID BUT IN THE PRINTOUT APPEARED IN THE PL480 COLUMN.

ABBREVIATIONS: I = INVESTMENT F = FUNCTIONING T = TOTAL

TABLE 2

EPI PLAN OF ACTION FOR 1988, BY AREAS OF ACTION AND PROPORTION OF PLANNED EXPENDITURES OF EACH FINANCING SOURCE, BOLIVIA, FEBRUARY 1988

AREAS OF ACTION	PAHO	UNICEF	AID	PL480	ROTARY	EXTERNAL SOURCES	NATIONAL SOURCE	TOTAL
	%	%	%	%	%	%	%	%
Logistics-Biologics	1.6	23.7	43.4	14.2	16.2	99.2	0.8	100.0
Cold Chain	2.0	6.9	76.0	8.5	0.0	93.4	6.6	100.0
Training	17.8	8.9	62.5	7.1	0.0	96.4	3.6	100.0
Social Communication	0.0	53.5	23.2	0.0	23.2	100.0	0.0	100.0
Operating Costs	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
Supervision	0.0	1.5	81.2	5.3	0.0	88.1	11.[illegible]	100.0
Epidemiological Surveillance	34.9	2.7	36.5	25.8	0.0	100.0	0.0	100.0
Investigation	11.7	7.2	81.1	0.0	0.0	100.0	0.0	100.0
Evaluation	75.6	12.2	12.2	0.0	0.0	100.0	0.0	100.0
TOTAL	4.3	7.6	41.0	6.8	3.6	63.4	36.6	100.0

Source: Computer Printout of MPSSP, February 19, 1988.

From the 1987 total budget to the 1988 total budget, there has been a major increase of almost double (91.8%) (Table 3). The areas that have increased most are: Investigation (1,253.6%), Supervision (985.4%) and Cold Chain (585.7%). In all these areas, it is AID who gives the major financial support.

The 1988 budget as planned in 1987 included AID participation in only 4 areas of action, whereas the finalized 1988 budget includes AID in 8 of the 9 areas of the plan (Table 4). In this way, AID has a more balanced participation in the overall EPI Plan of Action for 1988. The reduction of US$ 469,000 in the acquisition of cold chain materials will better enable the GOB to absorb and support the 586% increase from 1987 levels in cold chain capital investment. The overall savings of US$ 424,100 should be transferred to the budgets of the following years in the EPI Plan of Action to support further cold chain investments and other needed costs to be determined in the future.

Of the total US$ 1,353,000 of the AID commitment in 1988, US$ 1,221,000 are in fixed currency and US$ 132,000 in local currency (Table 5).

The following headings correspond to the areas of action appearing in the final 1988 EPI Plan of Action (ANNEX IV).

1. Biologics and Logistics

Vaccine requirements for 1988 were calculated assuming 100% coverage of infants and 30% wastage (except for BCG, 50% wastage). Coverage targets of 60% for children 12-35 months old were calculated for all vaccines except polio, for which coverage targets are 100%. Additional BCG is required for schoolchildren. EPI plans to order both 10 and 20-dose BCG vials in the future.

The MPSSP agreed to the recommendation to include Td for all women of childbearing age during the three mass campaigns. These efforts should maximize resources for greatest impact by focusing on the ecological zones of highest tetanus incidence - the tropics, sub-tropics, and (to a lesser extent) valleys. Td is the vaccine of choice as it provides immunity against diphtheria, as well as tetanus, and is approximately the same cost. It is essential that Td, or DT (adult preparation) as it is sometimes called, be ordered and not DT (pediatric preparation), as the latter cannot be used as safely on adults.

The present MPSSP policy limits TT only to women in their 5th and 7th months of pregnancy. This pro[illegible] many missed opportunities. TT, as well as Td, should be given at the first contact to an eligible woman, regardless of month of pregnancy, as these preparations are safe and efficacious.

The number of doses required was calculated assuming 20% of pregnant women would be reached two times with 30% wastage, and 600,000 additional doses would be needed on the campaigns.

TABLE 3

EPI PLAN OF ACTION: COMPARISON OF 1987 AND 1988 BUDGETS BY AREAS OF ACTION, BOLIVIA 1988

AREAS OF ACTION	Budget 1987 No. (1)	(%)	Budget 1988 No. (1)	(%)	Net Proportional Increase (%)
Logistics-Biologics	456.0	(26.5)	619.0	(18.7)	35.7%
Cold Chain	69.3	(4.0)	475.2	(14.4)	585.7%
Training	20.0	(1.2)	56.0	(1.7)	174.5%
Social Communication	39.5	(2.3)	86.0	(2.6)	117.7%
Operating Costs	949.0	(55.1)	1091.0	(33.0)	15.0%
Supervision	61.0	(3.5)	662.1	(20.0)	985.4%
Epidemiological Surveillance	90.0	(5.2)	219.0	(6.6)	143.3%
Investigation	4.1	(0.2)	55.5	(1.7)	1253.6%
Evaluation	32.0	(1.8)	41.0	(1.2)	28.1%
TOTAL	1721.3	(100.0)	3301.8	(100.0)	91.8%

Sources: Computer Printouts of MPSSP of February 1987 and 1988.

(1) Values in 1000 dollars.

TABLE 4

Comparison of AID Financial Commitments to the 1988 EPI Budget as Planned in 1987 and as Finalized in 1988, by Areas of Action (1)

AREAS OF ACTION	1988 EPI Budget Planned 1987	1988 EPI Budget Finalized 1988	Net Change
Logistics-Biologics	295.0	269.0	-26.0
Cold Chain	830.0	361.0	-469.0
Training	0.0	35.0	+35.0
Social Communications	0.0	20.0	+20.0
Operating Costs	0.0 (2)	0.0	0.0
Supervision	545.5	538.0	-7.5
Epidemiological Surveillance	106.6	80.0	-26.6
Investigation	0.0	45.0	+45.0
Evaluation	0.0	5.0	+5.0
TOTAL	1,777.1	1,353.0	-424.1

Sources: Computer Printouts of MPSSP of February 1987 and 1988.

(1) Values in 1000 dollars.

(2) In the 1987 planning of the 1988 budget, 930 thousand dollars were assigned to the AID budget, but this was considered an error and therefore is not included in this table.

TABLE 5

REQUIRED DISBURSEMENTS IN DOLLARS AND BOLIVIANOS
BY AREAS OF ACTION ACCORDING TO EPI PLAN OF ACTION, BOLIVIA, 1988

AREAS OF ACTION	REQUIRED DISBURSEMENTS			
	TYPE OF COST	US DOLLARS ('000)	(1) BOLIVIANOS ('000)	TOTAL ('000)
Logistics and Biologics	capital	0	0	0
	recurring	269	0	269
Cold Chain	capital	354	0	354
	recurring	0	7	7
Training	capital	0	35	35
	recurring	0	0	0
Social Communication	capital	0	0	0
	recurring	0	20	20
Operating Expenses	capital	0	0	0
	recurring	0	0	0
Supervision	capital	503	0	503
	recurring	0	35	35
Epidemiological Surveillance	capital	60	20	80
	recurring	0	0	0
Investigation	capital	0	0	0
	recurring	30	15	45
Evaluation	capital	0	0	0
	recurring	5	0	5
	capital	917	55	972
	recurring	304	77	381
	TOTAL	1221	132	1353

Source: Computer Printout of MPSSP, February 19, 1988.
(1) In US dollar equivalence.

Rather than order TT and "DT" (as it presently appears incorrectly in the plan), the consultants recommend that only "Td" or "DT-adult" be ordered.

Yellow fever vaccine will be supplied by PAHO and PL-480. Polio is to be supplied by Rotary. USAID and UNICEF will be asked to provide DPT, Td, BCG and measles.

For most vaccines, the amounts required in 1988 are similar, as shown in Table 6, to the amounts despatched in 1987. However, the amount of measles requested for 1988 is very low and should be re-evaluated in light of current stocks and any supplies already in the pipeline.

Disposable needles and syringes will be provided by UNICEF and USAID on the assumption of one sterile needle and one sterile syringe per injection. Contrary to what is stated in the Plan of Action, 22G x 1 1/4" syringe sets are to be supplied. At the time of ordering BCG (tuberculin) syringes, it is important to specify that syringes should be calibrated in cc's, as sometimes tuberculin syringes have a variety of confusing scales (16, 40, or 80 units).

It was revealed during the meeting that apparently it is common for under-supplied health facility staff to reuse disposable needles on their glass reusable syringes. It is also unlikely at high altitudes that proper sterilization is taking place even by well-meaning staff using the "open boiling" method, rather than steam sterilization. Nevertheless, the MPSSP prefers to wait until a fail-safe single-use auto-destruct syringe becomes available, rather than change the present reliance on disposable syringes in favor of re-usable plastic syringes and steam sterilizers. In any event, the training manuals given to vaccinators do not discuss disposal at all and should be revised.

2. Cold Chain

EPI plans to extend its cold chain system to district level and, in some cases, to health areas during 1988. Seven times more money is to be spent in 1988 than was to be obligated in 1987. USAID will provide a large amount of cold chain equipment and spare parts ($300,000, although the breakdown is not explicit in the Plan) and also a truck to deliver equipment. Cold chain technicians will be provided with motorcycles and per diem, as appropriate, in urban and rural areas for routine maintenance of cold chain equipment.

Despite the large amount to be spent on cold chain capital costs ($354,000) in 1988, the amount planned in 1987 for USAID disbursement in 1988 was $760,000. There were several reasons why the consultants felt this reduction was appropriate.

TABLE 6

DOSES OF VACCINES RECEIVED AND DESPATCHED IN 1987 AS COMPARED TO THOSE REQUESTED FOR 1988

VACCINES	NUMBER OF DOSES		
	Received 1987	Despatched 1987	Planned 1988
Polio x 20d	1,410,000	2,325,790	2,600,000
DPT x 20d	1,360,000	1,518,540	2,000,000
Measles x 10d	489,000	1,285,990	650,000
BCG x 20d	150,000	621,180	750,000
BCG x 10d	---	---	150,000
TT x 20d	...	...	200,000
Td x 20d	200,000	270,850	600,000
Yellow Fever x 50d	146,350	209,736	450,000

Source: MPSSP - Epidemiology Department, EPI.

--- No doses received or despatched.

... Data on number of doses not available.

Although the MPSSP is to be congratulated for the great effort it took to prepare an inventory of current cold chain equipment, the information needed to properly plan an integrated cold chain (energy sources, transport availability, delivery strategies, human resources, etc.) at district level has not been compiled. The MPSSP has never had to plan for a routine widespread cold chain, which is very much more demanding, especially in terms of management, than a brief mass campaign using recent vaccine supplies.

ST TA is needed and will be provided by a team of three PAHO consultants. This team should examine the routine vaccine and logistics ordering systems at various levels, as well. They could also determine the cold chain needs of the Social Security Institute.

Concern as to who would be expected to assume the recurrent costs for the large number of refrigerators to be supplied led the consultants to diminish the number, at least in this first year of USAID assistance. These savings are available for re-programming in future years. It is preferable that the MPSSP first gain experience in managing the large number of refrigerators (approximately 300-400) without overwhelming their absorptive capacity.

The recurrent cost implications of large capital expenditures must be considered to avoid hasty decisions and poor programming. The Mission should consider funding a portion of the cold chain recurrent costs on a schedule phase-out basis, providing the GOB moves towards shouldering an increasing share of costs. Such recurrent cost support would have higher development impact than additional new investments and in the Bolivia context generally satisfies the criteria laid out in "AID Policy Paper: Recurrent Costs." (PN-AAM-319, 1982)

3. Training

USAID now has the leading role in training (62.5% of all funds), compared to no role at all envisioned in 1987. The funds will be used to prepare training materials and to conduct field training for up to 480 operational staff.

The consultants felt that in such a rapidly changing field as immunization, it is essential to keep field staff informed, e.g. about contraindications, immunization schedules, screening, etc. This will support EPI's plan to involve health facilities in routine immunization.

4. Social Communication

USAID was not foreseen to have any role in this area in 1987. However, USAID funds will be spent in 1988 on production of health education materials which promote the routine EPI. This will balance nicely the expenditures of UNICEF, which are predominately earmarked for campaign-related activities.

5. Operating Expenditures

These costs fall entirely to the GOB and constitute one third of the total expenditures for 1988. They cover payments to full-time central and regional EPI staff. A total of 1,413 physicians and 935 nurses and auxiliaries at field level are assumed to devote 10% and 30% of their time, respectively, to EPI. These same proportions of their salaries are included in the Government's contribution to EPI. How much of their time in reality is spent on EPI would be the subject of a very useful study.

Contrary to earlier plans made in 1987 for 1988, where USAID was asked to provide anywhere from $163,000 to $930,000, USAID will not be providing any operating expenditures.

6. Supervision

Supervision is critically lacking owing to a deficiency in transport. USAID will address this by providing pickup trucks, jeeps and spare parts to strengthen supervision from regional to district levels and by providing motorcycles and helmets, boats and spare parts to permit supervision from district to field levels.

The MPSSP intends that the motorcycles will be used to supervise TB and malaria field work, as well as EPI.

Expenditures on supervision in 1988 are budgeted at ten times the amount as in 1987. The MPSSP has increased its own expenditures twenty-fold over the same period. Operating costs of the vehicles will be the responsibility of the MPSSP and PL-480.

Management information systems will need to be developed to track use and whereabouts of this equipment, including maintenance schedules and spare parts stocks.

7. Epidemiological Surveillance

Apparently, PAHO intends to provide 12 months salary for a national epidemiologist and 8 months' worth of international consultancies in epidemiology.

The writers were not consulted about the international epidemiologist for 8 months, nor was the matter discussed by the full group. However, since the writers had earlier mentioned that a CDC epidemiologist would be stationed in Bolivia as part of the CCH, and since he will be involved part-time in EPI, the writers assume that placement of this international epidemiologist under PAHO was an error due to the eleventh hour time pressure. Otherwise, in the spirit of collegial coordination, USAID should be informed what this epidemiologist's duties will be. One-third of the cost of supporting the CDC epidemiologist - to reflect his partial involvement in EPI - should be added to the Plan under USAID.

Another possible oversight or printing error concerns the placement of 7 computers for regional surveillance under PL-480, which was not even represented at the meeting at the time of discussion, instead of under USAID, which had volunteered this assistance in the first place. Although it does not really matter who provides the computers, if it was an intentional decision to make PL-480 versus USAID responsible for the computers, then some explanation is in order.

The MPSSP plans to introduce two surveillance systems. All districts will be expected to notify rapidly (weekly) cases and deaths due to a short-list of diseases. The districts will inform the regions by telegram until such time as radios, requested from USAID, can be provided. The radios can also be used for requesting supplies.

The second approach attempts to strengthen the present routine reporting system in all facilities. Over the past few years, however, completeness of reporting has continuously declined. Nevertheless, there are many facilities which have consistently reported over the years.

The consultants believe that, rather than trying to strengthen the entire routine system, an effort should be made to identify those facilities regularly reporting and to include them in a retrospective and prospective sentinel surveillance system. Such a system could be relied upon to provide better quality and more useful data on a greater number of relevant epidemiological variables.

USAID will provide radio transmitters, typewriters, calculators, etc. to strengthen the operational capacity of the information system at each level.

A major new approach supported by USAID is development and use of a Td card.

Based on epidemiological surveillance, five suspected cases of poliomyelitis were reported since January 1, 1988 from Cochabamba City. Since it is claimed that 80% of births in the

city occur in health facilities, OPV should be given at birth, thereby ensuring constant circulation of vaccine virus in the community in the absence of routine ongoing immunization.

Child vaccination cards and registration and statistical forms should be revised, and workers informed, so that routine OPV at birth can begin throughout Bolivia, according to global WHO recommendations. This dose would be in addition to the three doses given along with DPT.

8. Investigation

Of the total funds for investigation in 1988, USAID will provide 81%. No role for USAID was foreseen in 1988, according to the plan elaborated in 1987. Thirteen times more funds will be spent by all parties in 1988 than in 1987 for investigations.

USAID has been requested by the MPSSP to conduct neonatal tetanus mortality surveys and also medical-anthropological studies into socio-cultural perceptions of neonatal tetanus, birth practices, and immunization acceptability. This is discussed in greater length under "E" below.

9. Evaluation

USAID will participate in a joint GOB/WHO/UNICEF/USAID EPI Review, the third such review to be held in Bolivia, in the last quarter of 1988. It will also participate at meetings of the ICC which should be held quarterly.

Planning Process

Several different versions of the Plan of Action, 1987-1991, are still floating around and do not tally with the amount committed by USAID in the Memorandum of Understanding. This in the past led to delays in signing the Memorandum. Small discrepancies due to past arithmetic errors should not be allowed to distract the donors or GOB at this point. The bottom line for USAID is the Memorandum of Understanding ($3.3 million), which roughly tallies with the amount budgeted for immunization in the new CCH project ($3.324 million).

The Plan of Action has proven itself a useful and flexible tool for coordinating the planning of activities. As new areas/activities are identified, the plan will need revision. This should be a quarterly process with full participation by all donors committing funds. It would also be useful for observers from the Social Security Institute and from the PVO/REC to attend.

For future annual meetings, each donor should come to the meeting with a breakdown analyzing actual expenditure of funds versus planned budget. This will help identify past or impending bottlenecks and guide re-programming of under-utilized funds. For example, since the CCH Project will not be signed until July, it is unlikely that funds

budgeted for USAID in the Plan of Action will all be utilized in the half year remaining to the end of 1988. Reprogramming of savings in the 1988 plan will likely be needed.

The ICC meeting is not the appropriate forum to adjust actual expenditures. This should be the responsibility of each donor apart from the meeting.

A provisional agenda and timetable for future ICC meetings should be circulated to all donor agencies in advance.

His Excellency the Minister of Health, Dr. Carlos Perez Guzman, held a debriefing session at which the overall conclusions of the ICC Meeting were presented.

B. Identify Areas of Interest to PP Team Based on EPI ICC Meeting

It appears that EPI will continue to be a national program directed from central levels of the MPSSP, in spite of the GOB decentralization which is planned. Any CCH inputs into EPI should be brought to the attention of the ICC, so that the major donors and GOB are able to provide complimentary support. Already $1.353 million of the proposed FY 1988 CCH $2.8 million obligation is spoken for and reflected as USAID's commitment in the EPI National Plan of Action. These funds are needed immediately after the CCH project agreement is signed. USAID will need to assign staff to process the MPSSP requests for commodities, until such time as the CDC TACS long-term advisor can assume this role.

The PID document calls for strengthening regional levels of the MPSSP. The MPSSP in the EPI Plan of Action is trying for the first time in 1988 to move beyond a mass campaign strategy only. They, too, are concerned about, and have requested resources for strengthened routine EPI primarily at district level. Funds for supervision, cold chain, and surveillance, in particular, are to be spent upgrading district operations. The degree to which these inputs can be translated into strengthened service delivery at "health area" level is critical, especially since donors are reluctant to support operating expenses (fuel and per diem, especially).

The CCH should be designed in such a way in a few operational areas as to be a model for the nationwide EPI on how to develop a routine package of services which is continuously available. In the meantime, elsewhere the MPSSP is planning to continues mass EPI campaigns while struggling with the same need to strengthen routine services. How to translate political will from campaigns into a less spectacular routine functioning EPI will be a major area for the PP to consider.

The PP team should be aware that the MPSSP expects to use the $1.353 million immunization component nationwide. The supplies and equipment component of the CCH project will be needed for immunization-related supplies and equipment for more focused efforts in selected areas. The PP team should resist the temptation to

provide refrigerators at the lowest level of the health system, as the recurrent costs (spare parts and fuel), which will in time exceed the capital investment, will overburden the GOB. USAID could fund a portion of recurrent cold chain costs on an experimental phase-out basis. Cold chain equipment required by PVO's should come from the OPG or from PVO CS funds, as agreed by all parties.

A concern of the consultants is that the design of the CCH project will ignore curative needs. The CCH project should strive to improve curative services, if only because preventive services to the community will more likely be accepted. The CCH project will consist of both water/sanitation and other CS strategies. Whereas with water/sanitation interventions there is a clear distinction between preventive and curative services, always performed by different people, the distinction is blurred (and must be so) for the other CS strategies. The MPSSP is planning to strengthen EPI operations from the bottom up. In an analogous way, the CCH project needs to ensure a package of services is available locally for continuity of care. PVO's could be instrumental in sharing their lessons and models. However, the PID may place too much confidence in the technical role that PVO's are able to play. They are not always accepted by Government health staff and their technical expertise would benefit from upgrading.

The PID does not mention the role that Social Security could play. During the ICC meeting, it was agreed that Social Security should be included in coordination meetings and their needs for training in EPI (and CS) and cold chain assessed.

The ICC is planning to augment coverage with Td to women 14-45 years old (not TT to 15-35 year olds as stated in the PID). The PP team should consider the use of female staff in CS so that socio-cultural barriers to Td acceptance are reduced.

The PID calls for research on health behavior models. The PP team should be aware that the MPSSP plans to use USAID funds to conduct a medical-anthropological study on cultural perceptions of different ethnic groups towards neonatal tetanus, birth practices, and immunization acceptability. The results should guide any social communication strategies. In addition, a useful list (ANNEX V) of Research Issues was prepared during a recent REACH consultancy.

The PP team will no doubt plan an initial baseline epidemiological assessment so that the impact of interventions can be measured. It will be important to include a survey in a control area without interventions. Any survey plans should be shared with the ICC to develop a matrix of research issues and assign responsibilities accordingly. The PP team should be aware that UNICEF has some mortality survey plans using direct and indirect birth history techniques. However, the UNICEF surveys in their present form are unlikely to be detailed enough for the CCH project. Also this report contains results of vaccination coverage evaluation surveys which have recently been conducted in 13 rural districts within 11 Sanitary

Units. It is important that any surveys try to establish the quality of the service and include questions on process and permanence. Lowered IMR should be a consequence of an improved sustainable system.

ARI was not discussed at the ICC. The mortality reduction experience of Nepal in community-based ARI diagnosis and treatment, under circumstances similar to Bolivia, should be explored. Any ARI intervention or study should start small and possibly be implemented through a PVO who could manage the prospective nature of frequent community visits enquiring about ARI and who could keep careful costing data against which the viability of the intervention could be assessed.

Contrary to what is stated in the PID, it is unlikely that the PP team will have the time or data to perform cost-effectiveness analyses to select interventions.

The PP team should consider what UNICEF and USAID is committed to in the EPI Plan of Action in the field of social communication, especially since CCH will provide long-term TA in this area. USAID commitments to the EPI Plan of Action in social communication are committed from the immunization line item of the CCH project agreement.

Commitments of CCH long-term technical advisor time in Social Communication for EPI, or for EPI in general, should appear as a USAID contribution to the EPI Plan of Action, as it does not already appear there.

The PP will need a source and origin waiver for cold chain equipment, motorcycles, boats, and radio transmitters. Such a waiver with justification has recently been applied for under the OPG agreement. Whenever possible, orders should be placed through UNICEF locally on a reimbursable cost basis as an alternative to the frequently slow and cumbersome AID supplies and equipment route, which often leads to bad feeling as desperately needed material does not arrive in time.

Great care and attention will have to be exercised by USAID to ensure the correctness of the commodities orders, especially for vaccine, cold chain, and syringes. Vaccine "call forwards" should always be made with consideration for current balance in stock and should not be made "blind" based on an annual phased request which may be out of date. Vaccines should be purchased through the PAHO Revolving Fund. The Fund requires payment in US$ into PAHO's account. PAHO charges a 3% overhead fee, which is money well spent, since the prices are the lowest in the world.

C. Review Coverage Evaluation Survey Data

In Bolivia, routine reporting systems have not been particularly sensitive in the past for evaluating coverage. Vaccinations performed during mass campaigns far outnumber those performed by the routine system, yet statistical recording during the campaigns overlooks the

prior vaccination status of the children. In other words, the same children can receive repeated doses. Moreover, under-reporting is observed in rural areas.

Until recently, coverage evaluation surveys had never been conducted by the MPSSP. UNICEF conducted surveys in December 1986, April and July 1987. These surveys did not follow standard WHO methodology and were overly complex in their sampling (counting all houses and doing a census over a three week period and surveying 262 clusters in 4 areas of La Paz). Children 0-2 years of age were surveyed, rather than 12-23 months -- by which time children can reasonably be expected to have completed the full series. No information on TT coverage was elicited. The presentation of findings was unwieldy and technically incorrect. (DPT infant coverage - with dose unstated - was reported in La Paz to be 49% in April's survey because 49% of the children had received a single dose during the campaign, rather than 15% based on 33 children being fully protected with DPT3 out of the sampled 220 children.)

Predictably, immunization coverage in the older age groups was higher than in infants (for measles in La Paz, 60% of one year olds versus 37% of 9-11 month olds).

In November 1987, for the first time the MPSSP conducted surveys, with funds made available from PL-480, Title III and from the MPSSP itself. This time the surveys followed generally accepted WHO guidelines. Visiting USAID (REACH) and PAHO consultants provided some technical assistance and the PAHO consultant participated in training. UNICEF provided expertise for data analysis.

Separate surveys were conducted in the urban capitals and in rural areas of the 11 Unidades Sanitarias (Sanitary Units). The WHO 30-cluster methodology was used in each survey which gives $\pm$ 10% precision with 95% confidence. Children ages 12-23 months were surveyed, along with their mothers. Reasons for receiving no vaccination or only partial vaccinations were elicited.

A total of 25 surveys were done in the 25 districts in the urban capitals of 11 Sanitary Units. In the 10 surveys done in La Paz, School of Nursing graduates were trained for 10 days in EPI schedules, theory of survey, and field practice. The surveys were completed over a 2 week period. Spot-checking is said to have found little variation, except in one district, in the accuracy of the recorded data. Some of the urban workers, reinforced by malaria field workers in many places, were also used on the 16 surveys in 16 rural districts. A high ratio of supervisors to surveyors was used.

The sampling universe consisted of the entire country except the smaller urban areas which are not capitals of the Sanitary Units and those 8-10 districts (out of Bolivia's 100 districts) with less than 15,000 population. All urban capital districts were then selected and rural districts were randomly selected. After the initial exclusions, each locality was eligible to be selected as a cluster, since population proportionate sampling was used.

The 11 cities (25 surveys) comprise 77% of the urban population of Bolivia and 34% of the total population. Although the survey results are also available for each district separately, they are reported in Table 7 for each urban capital and for Bolivia as a whole. When more than one survey was conducted within an urban capital, results were weighted according to the proportionate population. Values for Bolivia's urban capitals as a whole are similarly weighted. Evidence of vaccination was accepted from either card or verbal history.

Weighted urban capital coverage for polio 3 and DPT3 is, respectively, 62 and 60%. The lowest coverage for both vaccines was 42% in Potosi and the highest was 79% in Tarija. Measles coverage fluctuated from 51% in Potosi to 85% in Tarija, with 66% coverage nationally. National urban BCG coverage (as measured by presence of a scar) was 76%, with district values ranging from 56% in Cobija to 88% in Santa Cruz. Coverage of mothers with TT2 was less than 5% in all but two surveys, for a 3% national urban rate.

Coverage for 13 of the 16 surveys conducted in rural districts of the 11 Sanitary Units is provided in Table 8. Re-surveys in three districts are currently in progress. Coverage for DPT3 and polio 3 ranged, respectively, from 12-44% and from 12-43%. Measles coverage ranged from 37-66% and BCG from 11-76%. TT2 coverage ranged from 0-4%.

Urban coverage figures are generally higher than had been expected. It is hypothesized that vaccinations performed by Social Security, PVO's, hospitals (especially BCG) may not be routinely reported to the MPSSP. Routine data may also be giving lower values, if the assumed number of eligibles in urban areas, based on high rates of urban growth and urbanization predicted over ten years ago, has been overestimated.

Analysts can now identify districts where coverage is either low or high, try to determine the reasons, and make necessary programmatic changes. Also a coefficient of under- or over-reporting of the routine reporting data for ages 12-23 months can be determined for each district when compared to the survey results.

Additionally, more sophisticated analyses of cards with dates of birth and vaccination to determine missed immunization opportunities, delayed immunization starts and prolonged intervals cannot be done. This is because cards have only recently been introduced and are not used at all on the campaigns. Even when a card is present, it may contain only a partial history of the vaccinations received.

TABLE 7

IMMUNIZATION COVERAGE OF CHILDREN 12-23 MONTHS OLD

IN URBAN CAPITALS OF SANITARY UNITS, BOLIVIA, 1987

Area	BCG	Polio 3	DPT 3	Measles	TT 2 *
Bolivia	76.3	61.6	60.2	65.8	3.2
Sanitary Units					
- La Paz	71.0	61.3	60.3	63.6	4.9
- Cobba	81.0	64.5	60.1	70.9	2.7
- Santa Cruz	88.1	65.2	64.1	65.5	1.1
- Trinidad	55.7	54.3	51.6	78.3	2.7
- Cobija	56.3	69.6	68.8	83.0	36.6
- Sucre	65.0	61.2	60.7	63.6	0.0
- Potosi	74.3	41.6	41.6	50.5	0.9
- Tupiza	64.2	65.1	65.6	76.9	0.0
- Tarija	81.0	78.5	78.5	84.9	3.9
- Riberalta	80.9	63.3	61.9	80.5	25.1
- Ororu	77.8	57.1	55.7	67.9	0.0

* child's mother

Source: MPSSP, Epidemiology Department

TABLE 8

IMMUNIZATION COVERAGE OF CHILDREN 12-23 MONTHS OLD

IN SELECTED RURAL DISTRICTS, BOLIVIA, 1987

Sanitary Unit	District	No. Children	% Immunized With: BCG	Polio 3	DPT 3	Measles	TT2 *
La Paz	Ayc Ayo	230	24.3	12.6	12.2	36.5	0.0
	Tiahuanacu	208	56.3	35.6	34.6	49.5	0.0
Cobba	Quillacollo	197	44.7	33.5	27.9	45.2	0.0
	Sacaba	202	55.9	41.1	30.2	47.5	0.5
	Chapare	205	72.7	21.5	17.1	38.5	1.0
Santa Cruz	Jorochito	212	54.7	33.0	33.5	50.9	0.9
	Samaypata	208	76.0	43.3	41.8	59.1	0.0
	Charagua	210	61.4	36.7	35.7	58.1	3.8
Chuquisaca	Azurduy	200	11.5	38.0	38.0	40.0	1.1
Ororu	Challapata	199	30.7	20.6	19.6	45.7	0.0
Potosi	Betanzos	207	17.4	22.7	21.7	47.0	0.5
Tarija	Entrerios	209	48.3	39.2	38.3	66.0	0.0
Tupiza	Cotagaita	210	76.2	43.3	44.3	62.9	0.0

* child's mother

Source: MPSSP, Epidemiology Department.

However, one analysis which is needed is to determine the percentage of children (at any age 0-23 months) who were fully immunized with all antigens. Also a summary table should be prepared for each district survey, as the present format for presentation of data is confusing.

A methodological problem of the surveys concerns TT coverage. Mothers of the index children ages 12-23 months were asked how many TT doses they had received during the index pregnancy. This overlooks the fact that mothers do not need two doses (or even one dose) with every pregnancy. Therefore, since TT received before the index pregnancy was not counted, TT coverage is likely higher than reported in the surveys. Nevertheless, it is still unlikely to be higher than 5% overall.

Time did not permit the consultants to analyze the data, which is not it their final form, concerning reasons for incomplete or no vaccination. However, a cursory review revealed that lack of information and obstacles each accounted for approximately 50% of the replies. The most common reasons given under the category "lack of information" were that the mother did not believe vaccination to be important. The overall single most common reason for failure to immunize was that the child was sick and not brought. However, a significant number of children who are brought are denied immunizations, according to the data.

The MPSSP is to be congratulated on a major achievement in conducting these surveys and now should carefully analyze the data for program and policy implications.

D. Review MPSSP Cold Chain Inventory

The MPSSP has performed an inventory of its cold chain equipment. Nearly 600 refrigerators are available, according to present information. Fuel is apparently provided by MPSSP for campaigns only. The status of the refrigerators at other times of year is not clear. However, all the related information essential to plan an integrated cold chain (energy sources, transport availability, delivery strategies, human resources, catchment populations, etc.) at district level has not been compiled.

There was insufficient time to do a proper review of the cold chain inventory. Since the MPSSP has never had to plan for a routine widespread cold chain which is very much more demanding, especially in terms of management, than a brief mass campaign using recent vaccine supplies, the consultants believe ST TA is needed. PAHO will provide a three man team for two weeks. They will also examine the routine vaccine and logistics ordering systems at each level.

An example prepared by one of the consultants of the types of considerations when planning a cold chain is given for a SCF (USA) project in ANNEX III.

There is general agreement that the PVO's will be responsible for providing their own cold chain equipment and that CCH funds available for the EPI Plan of Action will not be used.

E. Review Status of MPSSP-Proposed Neonatal Tetanus Survey

Neonatal tetanus is a major cause of mortality in Bolivia. A recent review (Pedersen, D., Betts, C., Mariscal, J., and Torres Goitia C., Javier, Child Survival in Bolivia: Current Status and Priorities for Action. USAID (REACH), La Paz, 12 Nov. 1987) of 1982-83 mortality data according to civil registration found that neonatal tetanus contributed 49% of all "perinatal" mortality in the plains. The corresponding values for the valleys and high plateau were, respectively, 9% and 0%. Nationally, the figure was 10%. These figures are probably underestimates, since they related to a more urban population with better access to health facilities where presumably risk factors for neonatal tetanus are lower.

The MPSSP and USAID have indicated interest in conducting two neonatal tetanus retrospective mortality surveys -- one in the plains (presumed high incidence) and one in the high plateau (presumed low incidence). All parties await the assessment of available data which a PAHO consultant will soon perform. Evaluation of the impact of neonatal tetanus in the Americas was recently identified in April 1987 as a research priority by the Fourth Meeting of the Technical Advisory Group on Eradication of Poliomyelitis in the Americas.

In addition to the above two surveys, the EPI Plan of Action now includes USAID funds to conduct medical-anthropological studies using focus group interviews and other appropriate methods among different ethnic groups to determine socio-cultural perceptions of neonatal tetanus, birth practices, and immunization acceptability. Such information is essential as a prelude to designing successful social marketing and service delivery.

The above surveys would be done during the next 8 months before the weather turns bad in December.

Policy makers and operational health staff are frequently unaware of the magnitude of the neonatal tetanus problem. Such surveys would employ regional and district staff and would dramatically focus Ministry-wide interest and attention on the results. Following the survey, strategic planning sessions for neonatal tetanus control would be conducted at various levels with the aim of increasing TT coverage from its current level of less than 5%.

The mortality results would provide a useful baseline now that a policy decision has been made to include Td in mass campaigns.

The mortality surveys would use the standard WHO house-to-house 12 month recall format. Some 2,100 births, 70 in each of 30 clusters, would be enumerated by preferably 30 surveyors. Any neonatal death would be further investigated by a physician.

Time needed to complete one survey would depend on number of surveyors, population density, length of recall period, transport, etc. It is expected that two weeks would be required solely for field execution of each mortality survey.

F. Develop Draft SOW for CDC Technical Advisor for Child Survival (TACS) Project

This activity involved a review of generic SOW for similar Technical Advisors in Africa and Ecuador.

The consultants also interviewed the National Director of Epidemiology of the MPSSP, who indicated the major needs in the field of technical assistance from the standpoint of the MPSSP and the Epidemiology Department. The attributes needed are administrative capability, technical expertise in surveillance and CS control programs, and experience with health services delivery systems in Latin America, as well as fluency in Spanish. These needs are embodied in the draft SOW presented in ANNEX VI. The consultants also consider that the proportion of time dedicated to immunization activities should be reflected in monetary terms in the EPI Plan of Action.

G. Identify with PVO/REC ST TA Needs in Immunization

SCF (USA) has recently been awarded a three year OPG from USAID to enhance coordination among PVO's. The grant for the Child Survival PVO Network includes $217,500 of international TA from USAID funds. The PVO's are to provide $72,500 of their own matching funds for international TA. Centrally-funded projects like REACH could be accessed to provide ST TA in immunizations.

The grant states that TA will be provided in project and survey design, training, health education, communication, MIS, and technical aspects of health care related to infant and maternal mortality.

The consultants met with two members of the PVO/REC and were told that plans for ST TA in all areas, including immunization, would be formulated in the next two months.

UNICEF, PAHO, and USAID all expressed interest in co-funding one or more workshops on themes relevant to EPI. If properly organized, such workshops could be replicated by local TA to the wider community of international (non-US) and national PVO's through the institutional networks which will be developed through this grant.

The immunization subcommittee which will be formed to identify immunization needs could consider the following possible subjects for workshops or for direct TA to the PVO's:

- curriculum design in collaboration with the MPSSP for training health workers in conducting vaccination programs (MPSSP and USAID will be collaborating on developing training materials, according to the EPI Plan of Action)

- cold chain micro-planning and management to develop continuous systems

- how to conduct a coverage survey (baseline or post-intervention)

- program planning and delivering a package of services (important lessons here for MPSSP)

- community participation (MPSSP has a lot to learn from the PVO's)

- design and sharing of health education materials

- mutual sharing of information with MPSSP (and Social Security) on policies, delivery strategies, lessons learned, etc.

- injection and sterilization technologies

- methods of record-keeping and follow-up

The PVO/REC representatives expect to use their OPG or present CS funds to fund their own cold chain requirements.

VII. RECOMMENDATIONS

To MPSSP:

1. On the eve of decentralization, the GOB should retain strong central leadership in EPI, which remains crucial in the areas of programming, evaluation, policy-making, cold chain, training, etc.

2. Analyze the recent coverage survey results to identify in which districts to focus attention and make any policy or programmatic changes. Prepare a simple summary table of results for each district survey. Determine the percentage of children in each survey who were fully immunized with all antigens.

3. Identify those health facilities already reporting regularly and include them in a retrospective and prospective sentinel surveillance system, rather than trying to strengthen the entire routine system all at once.

4. Change the present national policy limiting TT to women in their 5th and 7th months of pregnancy. Td should be given at the 1st contact to any eligible woman 15-45 years of age, regardless of month of pregnancy, as this vaccine is safe and efficacious.

5. Offer Td (or "DT for adult use") to all females of childbearing age in the high risk ecological zones (tropics, subtropics, and possibly valleys) during the existing mass campaigns directed towards children.

6. Develop and use a Td card for women.

7. Systematically include OPV at birth in hospitals as part of national immunization policies, thereby ensuring constant circulation of vaccine virus in the community in the absence of routine ongoing immunization. Child vaccination cards and reporting forms will need to be revised accordingly.

8. Assess the EPI training and cold chain needs of the Social Security Institute.

9. Revise vaccinator training manuals which do not now discuss safe disposal of disposable syringes and needles.

10. In light of current stocks and any supplies already in the pipeline, reevaluate the amount of measles vaccine requested for 1988 as it is very low relative to amounts despatched in 1987.

11. Specify at the time of ordering that BCG (tuberculin) disposable syringes are calibrated in cc's and that intra-muscular syringes are 22G x 1 1/4" (not 1/4" as incorrectly stated in the Plan of Action).

To USAID:

1. Consider the recurrent cost implications of any large capital expenditures for the cold chain to avoid hasty decisions and poor programming. Consider funding a portion of recurrent costs on a scheduled phaseout basis.

2. Develop a MIS to track use and whereabouts of USAID-provided equipment, to monitor coverage, to document disease trends, and to keep track of training needs and manpower.

3. Add to the plan under USAID one-third of the cost of supporting the CDC epidemiologist to reflect her partial involvement in EPI.

4. Seek clarification from ICC as to placement of 8 person-months of epidemiological TA under PAHO and 7 computers for regional surveillance under PL-480. (USAID has already approached MPSSP on these points.)

5. Explore the feasibility of a small ARI study/intervention in the altiplano, possibly implemented by a PVO who could manage the prospective nature of frequent community visits and who could keep careful costing data.

To ICC:

1. Access ST TA for planning the cold chain and examining the routine vaccine and logistics ordering systems at various levels, including within the Social Security Institute. (PAHO is presently implementing this recommendation.)

2. Invite observers from the Social Security Institute and PVO/REC to attend future meetings of the ICC.

3. Request donors come to future annual ICC meetings with a breakdown analyzing actual versus planned expenditure of funds, in order to identify bottlenecks and guide reprogramming. Circulate a provisional agenda and timetable in advance of future ICC meetings.

VIII. FOLLOW-UP ACTIONS REQUIRED

1. The CCH should be designed in such a way in a few operational areas as to be a model for the national EPI on how to develop a routine package of services which is continuously available.

2. The PP team should consider the use of female staff in CS so that socio-cultural barriers to Td acceptance are reduced.

3. The PP should include a source and origin waiver for cold chain equipment, motorcycles, boats and radio transmitters. In general, orders should be placed through UNICEF locally on a reimbursable costs basis. Vaccines should be purchased through the PAHO Revolving Fund.

4. $1.353 million of the proposed FY1988 CCH $2.8 million allocation has been committed during the ICC meeting as USAID support for the EPI National Plan of Action. USAID will need to release these funds immediately after the CCH is signed.

5. USAID will need to assign staff to process and track MPSSP requests for commodities, until such time as the CDC TACS long-term advisor is available to assume this role. Vaccine "call forwards" should always be made with consideration for balance in stock and should not be made "blind" based on an annual phased request, which is soon out of date.

6. USAID will need to identify the immunization TA needs of the PVO/REC. A suggested list in this report may prove useful. Once the needs are identified, USAID can explore with PAHO and UNICEF co-funding of one or more PVO workshops.

7. USAID will need to share the final PID, as well as this report, with the MPSSP and also with members of the ICC. Similarly, USAID, as a member of the ICC, should locally request a copy of the report of the PAHO consultants on cold chain and on neonatal tetanus.

ANNEX I

Synopsis of REACH Activities in Bolivia During the Past 12 Months

Population Estimate: 6.4 million

Infant Mortality Rate: 117/1000

Birth Rate: 43/1000

Per Capita GNP: $540

Under Five Deaths: 184/1000

REACH Activities

February, 1987: Consultants reviewed financial and technical aspects of the national multi-party EPI plan of Action, 1987-1991, and participated at the Immunization Coordinating Committee meeting.

September, 1987: A REACH staff member served as a resource person for EPI monitoring and evaluation at the PVO Child Survival Bolivia Country Workshop hosted by USAID/La Paz and provided technical assistance to individual PVOs.

September, 1987: A REACH staff member prepared the groundwork for an epidemiological situation analysis as part of the Mission's formulation of a child survival country strategy. He also explored with Ministry of Health officials possible implementation of a neonatal tetanus mortality survey and coverage evaluation surveys, and catalyzed action by all donors toward signing a Memorandum of Understanding in support of the Government's EPI Plan of Action, 1987-1991.

October, 1987: REACH provided two international and two national consultants to undertake an epidemiological assessment to identify and prioritize child survival risk factors and to review institutional and community capacity to sustain proposed focused child survival interventions. Their report "Child Survival in Bolivia: Current Status and Priorities for Action" guides the planning for a major new Community and Child Health (CCH) project.

REACH Activities (cont.):

November, 1987: REACH provided a consultant health education specialist as a team member to assist in PID preparation for the new CCH project which will include traditional child survival interventions and a water and sanitation component.

ANNEX II

Places Visited in La Paz

MPSSP (Epidemiology Unit)
Pan American Health Organization
Rotary Club
USAID
USIS

Persons Contacted

Name	Title	Affiliation/ Duty Station
Mr. Paul Hartenberger	Deputy Chief, Health and Human Resources Division	USAID/La Paz
Dr. Juan Manuel Sotelo	Representative	PAHO/La Paz
Dr. Jean-Marc Olive	Medical Officer	PAHO/Washington
Dr. Temistocles Sanchez	Medical Officer	PAHO/La Paz
Mr. James Mayrides	Representative	UNICEF/La Paz
Dr. Oscar Castillo	Health Officer	UNICEF/La Paz
Dr. Jorge Mariscal Padilla	National Director of Epidemiology	MPSSP/La Paz
Lic. Enrique Lavadenz	Chief, EPI	MPSSP/La Paz
Dr. Percy Halkyer	National Consultant EPI/Polio	PAHO/La Paz
Lic. Nazario Tirado	Social Communication Advisor	UNICEF/La Paz
Ing. Mario Gutierrez	Consultant (Statistics and Demographics)	UNICEF/La Paz
Mr. Carlos E. Brockman Hinojosa	Executive Director	PL-480 Title 3 Secretariat/ La Paz
Mr. Walter Aramayo	Polio Plus Coordinator	Rotary International/La Paz
Dr. German Villarroel	Medical Officer	SCF (USA)/Beni
Mr. Nathan Robison Carttar	National Project Coordinator (Head, Rotating Executive Coordinating Committee, PVO's)	Andean Rural Health Corporation/La Paz
Mr. Wallace Chastain	National Director	Project Concern International/ La Paz
Ms. Beverly Tucker	Child Survival Fellow	Johns Hopkins/ La Paz

ANNEX III

Cold Chain Requirements for SCF (USA) Project in Beni

As explained by Dr. German Villarroel [SCF (USA) Medical Officer], the project will serve a population consisting of 2,000 families living in 50 nuclei in an area which eventually will extend 116 km. from Yucumo to Rurrenabaque. Most of this area has been newly settled by farmers from the altiplano. The nuclei presently extend some 80 km. from Yucumo towards Rurrenabaque.

SCF plans to recruit vaccinators locally. They will be trained to deliver DPT, OPV, and measles vaccines to all children less than five years old in the first year of the project. In subsequent years, they will concentrate on infants and will expand services to include TT to women of childbearing age and BCG.

A package of services including immunization, growth monitoring, diarrheal disease control, etc. will be simultaneously offered by 20 teams at 20 service points along the main road. Each "camp" will last five days. There will be three such contacts, each lasting five days, per year.

SCF will establish a substation at Centro for service delivery, administration and vaccine storage. Vaccine for the entire five-day program will be collected from either of two GOB hospitals the day before the five-day program begins.

During the five-day program, a project vehicle operating from Centro will deliver to each of the 20 sites a vaccine carrier with ice and vaccine. The vaccine carrier will have a cold life of 40 hours at ambient temperatures of up to 32°C (allowing for 16 openings of two minutes each per hour for eight hours followed by 16 hours of being closed). It is sufficiently large to hold two days' worth of vaccine and diluent. Therefore, the Project can re-supply the vaccinators on day number three and day number five.

The cold box at Centro will be able to store all vaccines and diluents (estimated at 20 liters in the first year) required for the entire five day period without the need for re-supply. Each of 20 vaccinators will need one vial of each vaccine for each day vaccination is offered. Opened vials of OPV, DPT and TT can be used the following day only and then should be collected and destroyed. Measles and BCG must not be reused the next day.

Assuming 100 families with 500 people are to be served in each of the 20 clusters, and assuming in the first year of operations 100% of children less than five years old will be reached for vaccination, then approximately 100 children will visit three times in each site. These 300 visits will occur over 15 days (3 x 5 days), or 20 visits per session. A single vial of DPT and polio, will be needed on each day. Two vials of measles will be needed per day in the first year of operations to cover the backlog.

In subsequent years, SCF will have a much smaller number of infants but a large number of women eligible for vaccinations. Vaccination every day of the five-day program will result in very high wastage of vaccine, as only about 20 newborns will need three visits in each site per year. These 60 visits would be divided by 15 vaccination sessions, resulting in four children per day to receive vaccination. SCF may prefer in that case to offer vaccination only on certain specified days, or else be prepared for high vaccine wastage. The numbers of women needing two doses of TT in the first year (100 x 2) in each site justifies use of TT every day, as 13 women (200/15) could be expected at each session, assuming 100% coverage

The cold box recommended for vaccine storage is large enough to allow expansion of services (TT and BCG, new areas, etc.) in future years. Each vaccinator will be supplied with a vaccine carrier.

For each vaccine carrier, two additional sets of spare ice packs (four in each set) will be needed for days three and five. If vaccine will be supplied every day, then four additional sets of spare ice packs will be needed.

Vaccine and ice will be re-supplied to the 20 vaccinators in two cold boxes.

The key to the cold chain will be making sufficient ice in advance of the five-day program in Centro. A gas top-opening freezer is needed. It can make 8 kg. of ice (equivalent to 20 icepacks) at 32°C per day. The 20 vaccinators will need 80 icepacks on day 1, 3 and 5 or 80 per day if ice and vaccine will be delivered daily as part of overall supervision. So either 240 or 400 frozen icepacks are needed at the start of the program. This will require 20 icepacks to be made each day for either 12 or 20 days prior to the start of the program. In addition, the 24 larger icepacks for the cold box (14.4 kg.) will need to be made in advance. The refrigerator consumes 1 kg. of gas daily. For now, it will be too risky to assume that 80 icepacks returned on day one from the field will be thoroughly frozen by day 3, 4, or 5 for reuse. Experience gained in the field will be instructive. For now, assuming a daily re-supply of ice, four additional sets of spare icepacks should be ordered per vaccine carrier.

The requirements for the cold chain are:

No.	UNIPAC No.	PIS (a) No.	Description	Unit Price	Total Price
1 piece	1185051	E4/05	RCW Cold Box	$321.00	$321.00
2 pieces		E4/29	Igloo Cold Box	$39.78	$79.56
20 pieces	1185000	E4/18	King Seeley Thermos	$21.70	$434.00
4 sets (c) (96 pieces per set)	1185010	E5/01	Thermos Icepacks	$76.00	$304.00

4 pieces (c) (specify Spanish language for calibrations)	E6/08	Vaccine Thermometer	$2.03	$8.12
1 piece	E3/09	RC65 Freezer (b)	$886.00	$886.00
1 piece	2910438-01/5	Spare Gasket for Freezer	$11.10	$11.10
1 piece	2910786-00/9	Spare Thermostat for Freezer	$19.50	$19.50
3 pieces (c, d)	E7/05	Automatic Gas Changeover Valve	$96.42	$289.26
			TOTAL	$2,352.54
			(25%) estimated freight	588.14
			(? 3%) UNICEF Overhead	70.58
				$3,011.26

(a) Product Information Sheets 1986/87 - available with UNICEF or WHO or MPSSP locally.

(b) Specify export quality packing required (Electric conversion kit also available).

(c) Some for use by GOB hospital cold chain.

(d) Confirm that local gas is propane and that inlet connection is 1/4" male and outlet connection is 3/8" female.

In case any of the above assumptions concerning service delivery and strategies were to change, the cold chain requirements could change as well and should be rethought.

PROGRAMA AMPLIADO DE INMUNIZACION

País: BOLIVIA

I. PLAN DE ACCION. FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES. 1988.

Area de Accion: BIOLOGICOS Y SUMINISTROS

(miles de US$)

Actividades	Resultado Esperado	Trimestre 1	Trimestre 2	Trimestre 3	Trimestre 4	Responsable	Unidad	Tipo de Costo	Fuente Externa: B Req.	B AID	P BID	S Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRAN TOTAL
1.1 Adquisicion de biologicos	Polio=20d 2,600,000 dosis	X				PAI	INV.					0.0						0.0			0.0
	DPT=20d 2,000,000 dosis	X																			
	Sarap.=10d 650,000 dosis	X					FUN.					0.0	102.0	127.0		100.0	329.0				329.0
	BCG=20d 750,000 dosis	X																			
	DCS=100 150,000 dosis	X					TOTAL		0.0	0.0	0.0	0.0	102.0	127.0	0.0	100.0	329.0	1.0	0.0	0.0	329.0
1.1 Adquisicion de biologicos	TT=20d 200,000 dosis	X				PAI	INV.					0.0						0.0			0.0
	DT=20d 600,000 dosis	X																			
	Antimalaria=50d 450,000 dosis	X					FUN.		10.0			10.0	5.0	20.0	70.0		105.0				105.0
							TOTAL		10.0	0.0	0.0	10.0	5.0	20.0	70.0	0.0	105.0	1.0	0.0	0.0	105.0
1.2 Adquisicion de jeringas y agujas	Jeringas=22x1/4 2,730,000	X				PAI	INV.					0.0						0.0			0.0
	Jeringas=25x5/8" 650,000	X																			
							FUN.					0.0	40.0	122.0			162.0				162.0
							TOTAL		0.0	0.0	0.0	0.0	40.0	122.0	0.0	0.0	162.0	1.0	0.0	0.0	162.0
1.3 Distribucion del biologico y otros insumos del nivel central a las unidades sanitarias	4 distribuciones x 03.0	X				PAI	INV.					0.0						0.0			0.0
							FUN.					0.0			12.0		12.0				12.0
							TOTAL		0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	12.0	1.0	0.0	0.0	12.0
1.4 Distribucion del biologicos y otros insumos de las unidades sanitarias al nivel operativo	06.0	X				PAI	INV.					0.0						0.0			0.0
							FUN.					0.0			6.0		6.0				6.0
							TOTAL		0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	6.0	1.0	0.0	0.0	6.0
1.4 Adquisicion de insumos para vacunacion	Alcohol 1000 l. x 01	X				PAI	INV.					0.0						0.0			0.0
	Algodon 1000 kgs. x 04																				
							FUN.					0.0					0.0		5.0		5.0
							TOTAL		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	1.0	5.0
							INV.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
						TOTAL	FUN.		10.0	0.0	0.0	10.0	147.0	269.0	88.0	100.0	614.0		5.0		619.0
							TOTAL		10.0	0.0	0.0	10.0	147.0	269.0	88.0	100.0	614.0	1.0	5.0	0.0	619.0

CAMER

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS: BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES. 1989.

(miles de US$)

Area de Acciones CADENA DE FRIO

Actividades	Resultado Esperado	Trimestre 1	Trimestre 2	Trimestre 3	Trimestre 4	Unidad Responsable	Tipo de Costo	Fuente Externa: B Req.	P AID	S BID	Total	UNICEF	AID	PL480	CLAB	TOTAL	%	Fuente Nacional: TOTAL	%	GRAN TOTAL
2.1 Estudio de necesidades de cadena de frio	Consultores. 3, 150 + viáticos y pasaje	X				PAI	INV.				0.0					0.0				0
	tecnicos nacional 15dias 925 + pasaje (92.0)	X					FUN.		2.0	7.5	9.5					9.5				9
							TOTAL	0.0	2.0	7.5	9.5	0.0	0.0	0.0	0.0	9.5	1.0	0.0	0.0	9
2.2 Adquisicion de equipos de cadena de frio con repuestos +	A definir segun resultado de la actividad 2.1	X				PAI	INV.				0.0		300.0			300.0				300
	termos PIDE4/10. 1000 pag.frios PIDE3/01. 4000 termomplasta., 3000 x 95	X					FUN.				0.0	25.0				25.0				25
							TOTAL	0.0	0.0	0.0	0.0	25.0	300.0	0.0	0.0	325.0	1.0	0.0	0.0	325
2.3 Movilizacion de los tecnicos de cadena de frio de las Unidades Sanitarias	costo 125. 24 2 pers., 11 US. 2000 x v5 22pers., 200 dias, 7.51 x90.3	X	X	X	X	PAI	INV.				0.0		24.0			24.0				24
							FUN.				0.0	5.0	7.0	5.0		17.0		15.0		32
							TOTAL	0.0	0.0	0.0	0.0	5.0	31.0	5.0	0.0	41.0	0.7	15.0	0.3	56
2.4 Reparacion del almacen nacional de vacunas y construccion deposito de insumos	nacional: 925.0	X				PAI	INV.				0.0			25.0		25.0				25
							FUN.				0.0					0.0				0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	1.0	0.0	0.0	25
2.5 Disponer un sistema para control del mantenimiento de los equipos de cadena de frio	Compra de tarjetas en relacion con actividad	X				PAI	INV.				0.0			1.0		1.0				1
							FUN.				0.0					0.0				0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1
2.6 Compra de cilindros de gas y canonicas	90 cilindros recargas 300 ref. x tanques x 2 x 85	X	X	X	X	PAI	INV.				0.0	2.7				2.7				2
							FUN.				0.0			8.0		8.0		10.0		18
							TOTAL	0.0	0.0	0.0	0.0	2.7	0.0	8.0	0.0	10.7	0.5	10.0	0.5	20
2.6 Gastos de energia electrica para almacenes regionales de vacuna	Asegurar el abastecimiento regular de energia electrica	X	X	X	X	PAI	INV.				0.0					0.0				0
							FUN.				0.0					0.0		5.0		5
							TOTAL	0.0	0.0	0.0	[illegible]	[illegible]	[illegible]	0.0	0.0	0.0	0.0	5.0	1.0	5
2.7 Gastos de combustible y mantenimiento del vehiculo frigorifico y chofer	90 dias, 200 x 90.3 90 dias x 900 + mantenimiento	X	X	X	X	PAI	INV.				0.0					0.0				
							FUN.				0.0			1.5		1.5		1.5		3
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	1.5	0.5	1.5	[illegible]	3
2.8 Facilitar la distribucion de los insumos del programa	compra de un camion	X	X	X		PAI	INV.				0.0		30.0			30.0				[illegible]
							FUN.				0.0					0.0				
							TOTAL	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	1.0	[illegible]	[illegible]	[illegible]
2.9 Capacitacion en operacion y mantenimiento de cadena de frio para nivel operativo	200 servicios de salud. capacitacion en servicio hecha por los supervisores de cadena de frio	X	X	X	X	PAI	INV.				0.0					0.0				
							FUN.				0.0					0.0				
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		[illegible]		
							INV.	0.0	0.0	0.0	0.0	2.7	354.0	26.0	0.0	382.7		[illegible]		[illegible]
						TOTAL	FUN.	0.0	2.0	7.5	9.5	30.0	7.0	14.5	0.0	61.0		[illegible]		[illegible]
							TOTAL	0.0	2.0	7.5	9.5	32.7	361.0	40.5	0.0	443.7	0.9	[illegible]	[illegible]	[illegible]

CAPAC

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS:BOLIVIA

1. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES. 1988.

(miles de US$)

Area de Acciones CAPACITACION

Actividades	Resultado Esperado	Trimestre 1	Trimestre 2	Trimestre 3	Trimestre 4	Unidad Responsable	Tipo de Costo	Fuente Externa: O Req.	P AID	S BID	Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRAN TOTAL
3.1 Adecuacion y produccion de instrumentos de capacitacion	3000 ej.					PAI ROHR	INV.				0.0		10.0			10.0				10.0
							FUN.				0.0					0.0		2.0		2.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	10.0	0.8	2.0	0.2	12.0
3.2 Realizar un curso nacional para capacitador	22pers. x 5 dias x $25 pasajes 20 x $56					PAI	INV.				0.0	5.0				5.0				5.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	1.0	0.0	0.0	5.0
3.3 Realizar cursos teorico y practicos para personal operativo	40pers. x grup. x 2cursos x 2 dias x $15 pasajes 400 x $15					PAI	INV.				0.0		25.0			25.0				25.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	1.0	0.0	0.0	25.0
3.4 Capacitar personal de la seguridad social (Santa Cruz, Cochabamba, La Paz)	reunion nacional, 1 reuniones regionales, 11	I				PAI	INV.				0.0			1.0		1.0				1.0
							FUN.				0.0			0.5		0.5				0.5
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	1.5	1.0	0.0	0.0	1.5
3.5 Capacitacion en vigilancia epidemiologica en el exterior	4 personas, 1 semana			I		PAI	INV.				0.0					0.0				0.0
							FUN.			10.0	10.0					10.0				10.0
							TOTAL	0.0	0.0	10.0	10.0	0.0	0.0	0.0	0.0	10.0	1.0			10.0
3.6 Reunion nacional epidemiologos PAI para implementacion de la vigilancia rapida	20pers., 3d x $25 + pasajes	I				PAI	INV.				0.0			2.5		2.5				2.5
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	2.5	1.0	0.0	0.0	2.5
						TOTAL	INV.	0.0	0.0	0.0	0.0	5.0	35.0	3.5	0.0	43.5		0.0		43.5
							FUN.	0.0	0.0	10.0	10.0	0.0	0.0	0.5	0.0	10.5		2.0		12.5
							TOTAL	0.0	0.0	10.0	10.0	5.0	35.0	4.0	0.0	54.0	1.0	2.0	[illegible]	56.0

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COMSO

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS: BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES, 1988.

(miles de US$)

Area de Accion: COMUNICACION SOCIAL

Actividades	Resultado Esperado	Trimestral 1	2	3	4	Unidad Responsable	Tipo de Costo	Fuente Externa: G Req.	P AID	S BID	Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRAN TOTAL
4.1 Elaboracion y produccion de material para las jornadas nacionales de vacunacion	afiches, 15,000	I	I	I	I	PAI	INV.				0.0					0.0				0.0
	hojas infoma., 600,000																			
	pasa calles, 40						FUN.				0.0	35.0			10.0	45.0				45.0
	volantes, 200,000																			
	letrero puestos vac, 2000						TOTAL	0.0	0.0	0.0	0.0	35.0	0.0	0.0	10.0	45.0	1.0	0.0	0.0	45.0
4.1 cont.	spots TV, 3	I	I	I	I	PAI	INV.				0.0					0.0				0.0
	spot radio, 1																			
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
4.2 Elaboracion y produccion de material para promocion del programa regular	Impresos, sonoros y audiovisuales		I			PAI	INV.				0.0					0.0				0.0
							FUN.				0.0		20.0			20.0				20.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	1.0	0.0	0.0	20.0
4.3 Reuniones multidisciplinarias elaboracion estrategia para incentivar otros sectores: SB, CBB,...	elaboracion de material para promocion de vacunacion de otras entidades del sector salud	I				PAI	INV.				0.0					0.0				0.0
							FUN.				0.0	5.0				5.0				5.0
							TOTAL	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	1.0	0.0	0.0	5.0
4.4 Reunion nacional de Clubes Rotarios y Epidemiologos para definir rol en las JNV, promocion y vigilancia	17-19 marzo	I				PAI	INV.				0.0					0.0				0.0
							FUN.				0.0				10.0	10.0				10.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	1.0	0.0	0.0	10.0
4.5 Elaboracion, produccion y difusion del manual de comunicacion social	1000 ej.	I				PAI	INV.				0.0					0.0				0.0
							FUN.				0.0	0.5				0.5				0.5
							TOTAL	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	1.0	0.0	0.0	0.5
4.6 Promocion educativa atraves de comites populares de Salud	11 U.S. x0.5	I	I	I	I	PAI	INV.				0.0					0.0				0.0
							FUN.				0.0	5.5				5.5				5.5
							TOTAL	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	5.5	1.0	0.0	0.0	5.5
							INV.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
						TOTAL	FUN.	0.0	0.0	0.0	0.0	44.0	20.0	0.0	20.0	84.0		0.0		84.0
							TOTAL	0.0	0.0	0.0	0.0	44.0	20.0	0.0	20.0	84.0	1.0	0.0	0.0	84.0

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GASTO

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS:BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES, 1988.

(miles de US$)

Area de Accion: GASTOS OPERATIVOS

Actividades	Resultado Esperado	Trimestral 1	2	3	4	Unidad Responsable	Tipo de Costo	Fuente Externa: G Req.	P AID	S BID	Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRA TOTA
5.1 Costo de salarios para el personal de salud apoyado al PAI	Asegurar la operacion del Programa	X	X	X	X	PAI	INV.				0.0					0.0				0
							FUN.				0.0					0.0		1,091.0		1,091
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,091.0	1.0	1,091
						TOTAL	INV.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0
							FUN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1,091.0		1,091
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,091.0	1.0	1,091

SUPER

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS: BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES, 1988.

(miles de US$)

Area de Acciones: SUPERVISION

Actividades	Resultado Esperado	Trimestre 1	Trimestre 2	Trimestre 3	Trimestre 4	Unidad Responsable	Tipo de Costo	Fuente Externa O Req.	P AID	S BID	Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL TOTAL	%	GRAN TOTAL
6.1 Adquisicion de vehiculos para de supervision de los distritos a unidades operativas	motocicletas 125cc. 95 lanchas de aluminio. 5 motor fuera de bordo. 5 repuestos 815.0		X	X		PAI	INV.				0.0		122.0			122.0				122.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	122.0	0.0	0.0	122.0	1.0	0.0	0.0	122.0
6.2 Adquisicion de vehiculos para supervision del nivel regional a los distritos	camionetas. 12 x 815.0 jeeps. 12 x 812.0 repuestos. 150.0		X	X		PAI	INV.				0.0		374.0			374.0				374.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	374.0	0.0	0.0	374.0	1.0	0.0	0.0	374.0
6.3 Adquisicion de cascos de seguridad	cascos. 112 x 660		X	X		PAI	INV.				0.0		7.0			7.0				7.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	7.0	1.0	0.0	0.0	7.0
6.4 Compra de carburant y combustibles para vehiculos actuales y los que se van a adquirir	12c x 1600 x 200 x 90.3 22c x 400 x 200 x 90.3 11a x 1600 x 51 x 90.3 112a x 400 x 51 x 90.3 44b x 600 x 904 x 90.3	X	X	X	X	PAI	INV.				0.0					0.0				0.0
							FUN.				0.0			20.0		20.0		15.0		35.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	20.0	0.6	15.0	0.4	35.0
6.4 cont.	54b x 20 0 x 800 x 90.3	X	X	X	X	PAI	INV.				0.0					0.0				0.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
6.5 Gastos de viaticos para coordinadores regionales, supervisores distritos y nivel central	11pers., 10d, 12p x 815 100pers., 15d, 11a x 95 2pers., 10d, 11a x 925	X	X	X	X	PAI	INV.				0.0					0.0				0.0
							FUN.				0.0	10.0	35.0	15.0		60.0		64.0		124.0
							TOTAL	0.0	0.0	0.0	0.0	10.0	35.0	15.0	0.0	60.0	0.5	64.0	0.5	124.0
6.6 Elaboracion y impression de la guia de supervision por niveles	500 ej.	X				PAI	INV.				0.0					0.0				0.0
							FUN.				0.0			0.1		0.1				0.1
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	1.0	0.0	0.0	0.1
						TOTAL	INV.	0.0	0.0	0.0	0.0	0.0	503.0	0.0	0.0	503.0		0.0		[illegible]
							FUN.	0.0	0.0	0.0	0.0	10.0	35.0	35.1	0.0	80.1		[illegible]		[illegible]
							TOTAL	0.0	0.0	0.0	0.0	10.0	538.0	35.1	0.0	583.1	0.9	[illegible]		[illegible]

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS:BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES, 1988.

Area de Accion: VIGILANCIA EPIDEMIOLOGICA

(miles de US.

Actividades	Resultado Esperado	Trimestral 1	2	3	4	Unidad Responsable	Tipo de Costo	Fuente Externa: B Req.	B AID	P BID	S Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRAN TOTAL
7.1 Nominacion en cada regional de un epidemiologo encargado del PAI y de la vigilancia epidemio.	Asegurar el flujo de la informacion y la toma de medidas adecuadas correctivas y de control	I				DIR. EPID.	INV.				0.0					0.0				0.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
7.2 Nominacion de 100 tecnicos epidemiologos responsable del PAI y de la Vigilancia Epid. al nivel Distrital	Asegurar el flujo de la informacion y la toma de medidas adecuadas correctivas y de control	I				DIR. EPID.	INV.				0.0					0.0				0.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
7.3 Capacitacion de los tecnicos epidemiologos en PAI y vigilancia epidemiologica	40pers. x 3 x 56 x 926 pasajes, 40 pers. x 956	I	II			PAI	INV.				0.0					0.0				0.0
							FUN.	12.0			12.0			3.0		15.0				15.0
							TOTAL	12.0	0.0	0.0	12.0	0.0	0.0	3.0	0.0	15.0	1.0	0.0	0.0	15.0
7.4 Implementacion de la vigilancia rapida	radiotransm., 60 x 81.0 telegramas semanales propagados, 16 Dist. Nac. x 42 x 92	I	I	I	I	PAI	INV.				0.0		60.0			60.0				60.0
							FUN.		3.5		3.5			3.5		7.0				7.0
							TOTAL	0.0	3.5	0.0	3.5	0.0	60.0	3.5	0.0	67.0	1.0	0.0	0.0	67.0
7.5 Capacitar personal estadistica de las unidades sanitarias	Curso nacional sobre manejo del sistema de informacion PAI y VE, 12 pers. x 10 dias x 925 pasajes 8560.Activ 7.3/87	I				PAI	INV.				0.0					0.0				0.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
7.6 Mejoramiento de la capacidad operativa del sistema de informacion al distrital y regional	maq. de escribir, 112 Kardex, 112 x 950 calculadoras, 20 carne vac.inf, 300,000 carne vac mat, 300,000			II		PAI	INV.				0.0		20.0			20.0				20.0
							FUN.				0.0	6.0		12.0		18.0				18.0
							TOTAL	0.0	0.0	0.0	0.0	6.0	20.0	12.0	0.0	38.0	1.0	0.0	0.0	38.0
7.7 Impresion del manual de PAI y VE y formularios para PAI	(6000e). Actividad 7.1/87 formularios vacunacion y Vigilancia, 70,000, 93.0	I				PAI	INV.				0.0					0.0				0.0
							FUN.				0.0			3.0		3.0				3.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	3.0	1.0	0.0	0.0	3.0
7.8 Desarollo de un sistema de monitoreo de coberturas de vacunacion al nivel de los Distritos	Identificar areas de riesgo Adquisicion de 7 computadoras + insumos y capacitacion	I	I	I	I	PAI	INV.				0.0			35.0		35.0				35.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0	35.0		0.0		35.0
7.9 Envio de muestras de casos probables de poliomielitis al laboratorio de referencia	Asegurar envio oportuno de las muestras	I	I	I	I	PAI	INV.				0.0					0.0				0.0
							FUN.		1.5		1.5					1.5				1.5
							TOTAL	0.0	1.5	0.0	1.5	0.0	0.0	0.0	0.0	1.5	1.0			1.5
7.10 Agilizar el procesamiento de datos	insumos para computadora nivel central	I				PAI	INV.				0.0					0.0				0.0
							FUN.		0.5		0.5					0.5				0.5
							TOTAL	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.5	1.0			0.5

7.11 Edicion boletin epidemiologico nacional trimestral	00000j.	I	I	I	I	PAI	INV.				0.0				0.0				0.0
							FUN.	2.0			2.0				2.0				2.0
							TOTAL	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	2.0
7.12 Investigacion de brotes de polio y actividades de busqueda activa	40 notif. x 5d. x 925 + pasajes	I	II	I	I	PAI	INV.				0.0				0.0				0.0
							FUN.		6.0		6.0				6.0				6.0
							TOTAL	0.0	6.0	0.0	6.0	0.0	0.0	0.0	0.0	6.0	1.0	0.0	0.0	6.0
7.13 Reunion con pediatras sobre poliomelitis y VE	10 personas x 2d. x 925 + pasajes	I	II			PAI	INV.				0.0				0.0				0.0
							FUN.		1.0		1.0				1.0				1.0
							TOTAL	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0
7.14 Cooperacion tecnica	Consultor Nacional, 12 meses + viaticos	I	II			PAI	INV.				0.0				0.0				0.0
	Consultor 8 meses	I	II	II			FUN.			50.0	50.0				50.0				50.0
							TOTAL	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	50.0	1.0	0.0	0.0	50.0
						TOTAL	INV.	0.0	0.0	0.0	0.0	0.0	80.0	35.0	0.0	115.0		0.0		115.0
							FUN.	14.0	12.5	50.0	76.5	6.0	0.0	21.5	0.0	104.0		0.0		104.0
							TOTAL	14.0	12.5	50.0	76.5	6.0	80.0	56.5	0.0	219.0	1.0	0.0	0.0	219.0

INVES

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS:BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES, 1989.

(miles de US$)

Area de Accion: INVESTIGACION

Actividades	Resultado Esperado	Trimestre 1	2	3	4	Unidad Responsable	Tipo de Costo	Fuente Externa: B Req.	P AID	S BID	Total	UNICEF	AID	PL480	CLUB ROTAR.	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRAN TOTAL
8.1 Ejecucion de encuestas para conocer oportunidades perdidas de vacunacion	Encuestas en varios niveles de atencion	X	X	X	X	PAI	INV.				0.0					0.0				0.0
							FUN.		2.0		2.0					2.0				2.0
							TOTAL	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	2.0
8.2 Revision de datos disponible de tetanos neonatal	Establecer necesidades de estudios ulteriores En funcion de los resultados encuesta de de TTN en Montero y Alto	X	X			PAI CENETROP	INV.				0.0					0.0				0.0
							FUN.			3.0	3.0		30.0			33.0				33.0
							TOTAL	0.0	0.0	3.0	3.0	0.0	30.0	0.0	0.0	33.0	1.0	0.0	0.0	33.0
8.3 Estudio de casos de SGB en menores de 15 anos en Cochabamba, Sta Cruz y La Paz	Conocer los criterio diagnosticos de GBS	X	X			PAI CENETROP	INV.				0.0					0.0				0.0
							FUN.		1.5		1.5					1.5				1.5
							TOTAL	0.0	1.5	0.0	1.5	0.0	0.0	0.0	0.0	1.5	1.0	0.0	0.0	1.5
8.4 Encuestas para conocer causas de no vacunacion en barrios urbanomarginales de La Paz y Cochabamba	Encuesta tipo CAP		X	X	X	PAI UNICEF	INV.				0.0					0.0				0.0
							FUN.				0.0	4.0				4.0				4.0
							TOTAL	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	4.0	1.0	0.0	0.0	4.0
8.5 Encuesta de condicionantes socioculturales de TTN	Conocer los factores socioculturales referente al TTN		X			PAI	INV.				0.0					0.0				0.0
							FUN.				0.0		15.0			15.0				15.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	15.0	1.0	0.0	0.0	15.0
						TOTAL	INV.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
							FUN.	0.0	3.5	3.0	6.5	4.0	45.0	0.0	0.0	55.5		0.0		55.5
							TOTAL	0.0	3.5	3.0	6.5	4.0	45.0	0.0	0.0	55.5	1.0	0.0	ERR	55.5

EVAL

PROGRAMA AMPLIADO DE INMUNIZACION

PAIS: BOLIVIA

I. PLAN DE ACCION, FINANCIAMIENTO ANUAL DE AREAS DE ACCION POR FUENTES, 1988.

(miles de US$)

Area de Accion: EVALUACION

Actividades	Resultado Esperado	Trimestre 1	2	3	4	Unidad Responsable	Tipo de Costo	Fuente Externa: Req.	B AID	P OPS	S Total	UNICEF	AID	PLADEO	CLAD	TOTAL	%	Fuente Nacional: TOTAL	%	GRAN TOTAL
9.1 Evaluacion Inter-agencial del programa	15 dias, 15 participantes				X	PAI/CEI	INV.				0.0					0.0				0.0
							FUN.		10.0	5.0	15.0	5.0	5.0			25.0				25.0
							TOTAL	0.0	10.0	5.0	15.0	5.0	5.0	0.0	0.0	25.0	1.0	0.0	0.0	25.0
9.2 Evaluacion del sistema de Vigilancia epidemiologica y de informacion del PAI	Hacer un diagnostico del sistema de VE y informacion del PAI para proponer mejoras			X		PAI	INV.				0.0					0.0				0.0
							FUN.	4.0			4.0					4.0				4.0
							TOTAL	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0	1.0	0.0	0.0	4.0
9.3 Reuniones trimestrales de Comite de Coordinacion Inter-Agencial	Revisar cumplimiento actividades PAI, intercambiar informacion y programar actividades	X	X	X	X	PAI	INV.				0.0					0.0				0.0
							FUN.				0.0					0.0				0.0
							TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ERR	0.0	ERR	0.0
9.4 Cooperacion tecnica durante las jornadas y para el programa regular	Consultor inter-pais	X	X	X	X	PAI	INV.				0.0					0.0				0.0
							FUN.	12.0			12.0					12.0				12.0
							TOTAL	12.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	12.0	1.0	0.0	0.0	12.0
						TOTAL	INV.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
							FUN.	16.0	10.0	5.0	31.0	5.0	5.0	0.0	0.0	41.0		0.0		41.0
							TOTAL	16.0	10.0	5.0	31.0	5.0	5.0	0.0	0.0	41.0	1.0	0.0	ERR	41.0

* Para referencias equipos ver DOPOIX OMT 5, 1988

JA

FIMOD

PROGRAMA AMPLIADO DE INMUNIZACION

3. PLAN DE FINANCIAMIENTO POR FUENTE Y POR AREA DE ACCION, 1988.

País BOLIVIA (miles de US$)

Area de Acción	Tipo de Costo	FUENTE EXTERNA: B Req.	B AID	P BID	B Total	UNICEF	AID	PLANO	CLAB	TOTAL	%	FUENTE NACIONAL: TOTAL	%	GRAN TOTAL
1.	INV.				0.0					0.0				0.0
DIFUSION SUMINISTROS	FUN.	10.0			10.0	147.0	269.0	88.0	100.0	614.0		5.0		619.0
	TOTAL	10.0	0.0	0.0	10.0	147.0	269.0	88.0	100.0	614.0	1.0	5.0	0.0	619.0
2.	INV.				0.0	2.7	334.0	26.0		382.7				382.7
CADENA DE FRIO	FUN.		2.0	7.5	9.5	30.0	7.0	14.5		61.0		31.5		92.5
	TOTAL	0.0	2.0	7.5	9.5	32.7	341.0	40.5	0.0	443.7	0.9	31.5	0.1	475.2
3.	INV.				0.0	5.0	33.0	3.5		43.5				43.5
CAPACITACION	FUN.			10.0	10.0			0.5		10.5		2.0		12.5
	TOTAL	0.0	0.0	10.0	10.0	5.0	33.0	4.0	0.0	54.0	1.0	2.0	0.0	56.0
4.	INV.				0.0					0.0				0.0
COMUNICACION SOCIAL	FUN.				0.0	46.0	20.0		20.0	86.0				86.0
	TOTAL	0.0	0.0	0.0	0.0	46.0	20.0	0.0	20.0	86.0	1.0	0.0	0.0	86.0
5.	INV.				0.0					0.0				0.0
GASTOS OPERATIVOS	FUN.				0.0			1.0		1.0		1091.0		1092.0
	TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1091.0	1.0	1092.0
6.	INV.				0.0		383.0			383.0				383.0
SUPERVISION	FUN.				0.0	10.0	33.0	33.1		80.1		79.0		159.1
	TOTAL	0.0	0.0	0.0	0.0	10.0	416.0	33.1	0.0	463.1	0.9	79.0	0.1	542.1
7.	INV.				0.0		80.0	35.0		115.0				115.0
VIGILANCIA EPIDEMIOLOGICA	FUN.	14.0	12.5	50.0	76.5	6.0		21.5		104.0				104.0
	TOTAL	14.0	12.5	50.0	76.5	6.0	80.0	56.5	0.0	219.0	1.0	0.0	0.0	219.0
8.	INV.				0.0					0.0				0.0
INVESTIGACION	FUN.		3.5	3.0	6.5		45.0			51.5				51.5
	TOTAL	0.0	3.5	3.0	6.5	0.0	45.0	0.0	0.0	51.5	1.0	0.0	0.0	51.5
9.	INV.				0.0					0.0				0.0
EVALUACION	FUN.	16.0	10.0	5.0	31.0	5.0	5.0			41.0				41.0
	TOTAL	16.0	10.0	5.0	31.0	5.0	5.0	0.0	0.0	41.0	1.0	[illegible]	[illegible]	[illegible]
TOTAL	INV.	0.0	0.0	0.0	0.0	7.7	972.0	64.5	0.0	1044.2	1.0	[illegible]	[illegible]	[illegible]
	FUN.	40.0	28.0	75.5	143.5	244.0	281.0	160.6	120.0	1049.1	0.5	1208.5	[illegible]	[illegible]
	TOTAL	40.0	28.0	75.5	143.5	251.7	1253.0	225.1	120.0	2093.3	0.6	1208.5	[illegible]	[illegible]

ANNEX V

Research Issues

Tetanus Neonatorum: field survey on three regions (urban/rural).

Diarrheal Diseases: case management at the household level and health services level.

Acute Respiratory Infection: risk factors in altiplano and valleys; etiology of ARI in children below 3 years old; case management at the household and health services level.

EPI: reasons for no vaccination in low income populations.

Rapid assessment methods: field survey methods for health services utilization, and CS major problems (Chagas, malaria, child abuse, etc.)

Health-seeking behavioral models: for Quechua, Aymara and Mestizo groups (both urban/rural)

Nutrition: (in collaboration with Ministry of Agriculture and/or other institutions such as NGOs)

- Intra-family distribution of food
- Income distribution and composition of children's diet
- Weaning foods
- Development of incentives for food production (traditional grains and food stuff in the highlands and valleys)

Development and support of small vendors and (small loans) credit for the informal sector (mainly women at the market/street/etc.)

Traditional birth attendants: management of deliveries at home, in different settings (altiplano rural/urban, valleys and llanos).

Migrant women and children: health risks in workplace and home (zafra-sugar cane, cotton fields, etc.)

Collaborative studies: (in collaboration with other countries or centers in the region)

with CDC Atlanta: Chagas, Malaria

with PAHO/CLAP: Perinatal History Forms, Caesarean Section, Low birth weight, Prenatal care

with REACH: Tetanus Neonatorum, other research priorities

Source: Pedersen, D.; Betts, C.; Mariscal, J.; and Torres Goitia C., Javier; Child Survival in Bolivia: Current Status and Priorities for Action. USAID (REACH). La Paz. 12 Nov. 1987.

ANNEX VI

Draft Scope of Work

I. Position: Technical Advisor for Child Survival (TACS) Project

II. Location: USAID/Bolivia
Technical Advisor shall report to the Health, Population and Nutrition Officer, USAID

III. Duration of Assignment: Five years

IV. Background:

On October 12, 1987, a Memorandum of Understanding was signed by the GOB, USAID, PL-480 (Title III), Rotary Club International, UNICEF, and PAHO for a five year plan of action (1987-1991) of the Expanded Program on Immunization (EPI).

In this memorandum, AID commits itself to contribute approximately US$ 3.3 million to the plan. Furthermore, USAID/La Paz and the GOB are to sign during the third quarter of this year (1988) a "Community and Child Health Project" in which AID commits itself to contribute a total of US $15 million (which includes the US$ 3.3 million to EPI). The components of this project include: Immunizations, Other CS Interventions, Construction of Water and Sanitation Systems, Social Communications and Training, Equipment and Supplies, Evaluation, Studies, etc. It also contemplates Project coordination and TA for which the present scope of work is designed.

V. Tasks:

1.0 General: The individual will serve as project coordinator for the USAID/La Paz Community and Child Health Project (511-0594). He/she will work under the general supervision and will receive policy guidance from the Chief of the Health, Nutrition and Population Division of USAID/La Paz.

2.0 Specifically, the coordinator shall:

2.1 Provide continuous technical assistance in child survival and in management and administrative aspects of project implementation to national counterparts.

2.2 Participate as USAID/La Paz representative in the EPI Inter-Agency Coordinating Committee (ICC).

2.3 Give MPSSP's Epidemiology Department TA in designing, implementing and evaluating epidemiological surveillance systems (Rapid Surveillance Systems, Sentinel Surveillance Systems, etc.) adapted to the realities of the Bolivian health system's infrastructure.

2.4 Support all efforts made to strengthen routine health services (i.e. integrating preventive and curative programmatic activities into the local health facilities).

2.5 Be responsible for local currency disbursement of the USAID funds in the EPI Plan of Action.

2.6 Administer a Management Information System (MIS) to track coverage, supplies, cold chain equipment, surveillance, training staff, etc.

2.7 Review commodities' ordering and timing (e.g. vaccines, syringes, etc).

2.8 Monitor through MIS the situation of Chagas, malaria, neonatal tetanus, diarrheal disease, ARI, EPI-target diseases, nutrition, health-seeking behavioral models, migrant women and children, 30-cluster surveys, etc.

2.9 Head a Project Coordination Unit, supervising available office staff.

2.10 Assist USAID and the MPSSP in the identification of technical assistance needs and in the selection of individuals and/or firms who will provide technical assistance required under the project.

2.11 Assist MPSSP in the development of scopes of work for technical assistance to be procured through institutional contracts, buy-ins to centrally-funded projects, a grant to PAHO and for other technical assistance as required.

2.12 Assist USAID in finalizing the specifications for the commodities to be procured through the project.

2.13 Supervise and coordinate with MPSSP and USAID the activities of all AID-financed long and short-term consultants to be provided during the life of the project.

2.14 Maintain direct and regular liaison with the project managers at the MPSSP and the USAID Health Officer.

2.15 Review in collaboration with the MPSSP Coordinators progress on evaluation activities and on their results which measure project progress. Assist in organizing meetings to disseminate the results to appropriate groups within the MPSSP and USAID.

2.16 Coordinate the USAID bilateral child survival effort with the US PVO projects in child survival (e.g., Meals for Millions, CRS, CARE, and Save the Children).

2.17 Maintain project files for all of the different agreements plus centrally-funded projects and project related grants and contracts.

2.18 Travel to the field at least 15 percent of the time to observe project implementing activities.

2.19 Assist MPSSP in completing administrative and financial requirements of project.

2.20 Participate in the meetings of the Child Survival Technical Committee in an advisory capacity.

2.21 Assist USAID and the MPSSP in coordinating child survival-related activities with other donor organizations such as PAHO and UNICEF.

VI. Required Reports

1) Prepare written quarterly reports for USAID on project progress and bottlenecks encountered. The quarterly report should also include activities to be accomplished during the following months.

2) Translate and/or summarize the USAID quarterly reports into Spanish for presentation to MPSSP officials. This report should highlight actions taken by the project and any problems to be resolved by the host country counterpart agencies.

3) The quarterly report to USAID Project Officer should include progress as measured by the output indicators cited in specific tasks.

4) Prepare a written report for USAID Mission to be submitted to AID/W Child Survival Task Force on project progress, by October 30 of each year.

5) Prepare other project-related reports as requested by USAID.

Qualifications:

1. At least two years experience working with the administration of public health, nutrition, and/or child survival programs in developing countries.

2. At least two years working experience in Latin America.

3. An English and Spanish language capability of at least 3, 3.

4. Experience working with AID-assisted projects.

5. Have at least the equivalent of a Master's Degree in Public Health, Health Administration, Epidemiology, Public Administration, or related fields.

6. Expertise and experience with immunization, diarrheal diseases, ARI, high risk births, nutrition programs and water and sanitation activities.

7. Be knowledgeable and experienced in health services delivery systems in Latin America.