PD-ABU-566
112354

IMMUNIZATION SUPPORT ACTIVITIES IN KYRGYZSTAN AND KAZAKHSTAN

14 June-20 July 1997

Gordon A. Larsen

BASICS Technical Directive: 000 KG 01 029/000 NS 01 133
USAID Contract No: HRN-C-00-93-00031-00

A

TABLE OF CONTENTS

ACKNOWLEDGMENTS

ACRONYMS

EXECUTIVE SUMMARY 1
- A. Background 1
- B. Main Findings 1
- C. Summary of Recommendations 2
  - Kyrgyzstan 2
  - Kazakhstan 2

BACKGROUND 2

PURPOSE OF VISIT 3
- A. Scope of Work: Kyrgyzstan 3
- B. Scope of Work: Kazakhstan 3

MISSION ACTIVITIES 4
- A. Kyrgyzstan 4
  - Oblast-Level Cold Chain Management Workshops 4
  - Implementation of AFP Surveillance 5
  - Review of the NIS Cold Chain Manual 8
- B. Kazakhstan 8
  - Review of OPV Stocks and VVMs 8
  - Final Draft of the NIS Cold Chain Manual 10

METHODOLOGY & APPROACHES 11

SUMMARY OF CONCLUSIONS & RECOMMENDATIONS 11
- A. Kyrgyzstan 11
- B. Kazakhstan 12

REFERENCES 12

APPENDIXES

Appendix A Outline Programme; Workshops on Cold Chain Management, AFP Surveillance and MIS for Kyrgyzstan

Appendix B AFP Cases Reported & Data Analysis; Jan-Jun 1997 Issyk-Kul Oblast; Kyrgyzstan

Appendix C AFP Cases Reported & Data Analysis; Jan-Jun 1997 Naryn Oblast; Kyrgyzstan

Appendix D National AFP Summary Sheet; Jan-Jun 1997; Kyrgyzstan

Appendix E Analysis of OPV Stocks and VVM Status; July 1997; Central Vaccine Store; Kazakhstan

B

ACKNOWLEDGEMENTS

The activities described in this report were conducted with the kind support and generous co-operation of many officials in the ministries of health and other institutions in Kyrgyzstan and Kazakhstan. Findings, conclusions, and recommendations result directly from this cooperative effort, and sincere thanks are extended to all who contributed to the assignment.

Special thanks are extended to BASICS/Kyrgyzstan Coordinator Nourgoul Seitkazieva, who assisted most ably in all aspects of the work and also acted as interpreter during the assignment.

ACRONYMS

AFP	Acute Flaccid Paralysis
BASICS	Basic Support for Institutionalizing Child Survival
EPI	Expanded Programme on Immunization
EURO	European Regional Office (World Health Organization)
FAP	Feldsher (medical assistant); Accoucheur (midwife) Post
GPV	Global Programme for Vaccines and Immunization(World Health Organization)
MIS	Management Information System
MoH	Ministry of Health
NIS	Newly Independent States
OPV	Oral Polio Vaccine
PC	Urban or Rural Polyclinic
PRIKAZ	Ministerial Decree
REACH	Resources for Child Health
RCI	Republican Centre for Immmunoprophylaxis (Kyrgyzstan)
RSES	Republican Sanitary and Epidemiology Station
SUB	Rural District Hospital
SVA	Rural Ambulatory Clinic
UK	United Kingdom
SKB	SmithKline Beecham
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VVM	Vaccine Vial Monitor
WHO	World Health Organization

EXECUTIVE SUMMARY

A. Background

Through USAID, the United States government has funded support programs for immunization services in the New Independent States (NIS) since their emergence from the former Soviet Union. In cooperation with other technical agencies, the BASICS project is currently focused on developing sustainable, cost-effective immunization and disease control programs, and on guiding governments towards self-sufficiency in these activities. As part of on-going technical assistance in Kyrgyzstan and Kazakhstan, this report describes further training activities for health staff; work to finalize a new training manual for use throughout the NIS; the introduction of surveillance for acute flaccid paralysis (AFP) as part of polio eradication measures; and tests on vaccine vial monitors (VVMs) to ensure the quality of vaccines used.

B. Main Findings

In Kyrgyzstan, a series of oblast-level training workshops were planned to cover cold chain and logistics, use of AFP surveillance, and a revised management information system (MIS). The first two workshops in the series were conducted and were well received by health staff. AFP surveillance has been introduced, but although national targets for case detection rates have been reached, some areas are still failing to report, while others are apparently over-reporting. Action is needed to ensure that all staff use the correct case definitions for AFP and that all health units provide regular and timely surveillance reports.

Further work to incorporate corrections and additions into a new version of the cold chain and logistics manual was carried out in preparation for translation and final editing by an inter-agency team.

In Kazakhstan, some vaccine vial monitors (VVMs) were reported to give a false indication that vaccine had been damaged by exposure to heat. A number of tests were conducted to assess the accuracy of the VVM response, and it was shown that some monitors from one manufacturer were faulty. New stocks of vaccine had been received to replace some of that wasted due to faulty monitors. The situation was still being closely watched, and routine reports of all incoming vaccine were being maintained.

A meeting of the inter-agency team responsible for drafting the new version of the cold chain and logistics manual agreed on final text, and the remaining steps for its completion and distribution were determined.

C. Summary of Recommendations

Kyrgyzstan

- All health personnel must be reminded of the need to report all cases of AFP, not just suspected poliomyelitis. Widespread dissemination of the standard AFP case definition should also be effected, along with checks to ensure that it is understood and followed by all.

- Rayon and oblast SESs should routinely monitor completeness and timeliness of AFP reporting from all health units, and ensure regular monthly reports, including *zero* reports. These reports need to be routinely transferred to the next administrative level.

- Silent oblasts, or those with AFP detection rates lower than expected, along with oblasts where reported AFP is much higher than expected, should be investigated for their use of correct AFP definitions and whether all cases are true AFP.

- A system for detailed recording of AFP data by oblast and rayon needs to be established at the national level.

- The Management Information System (MIS) should be expanded to include disease surveillance in addition to immunization coverage and vaccine use. Reporting of AFP should be included under the disease surveillance component.

Kazakhstan

- Central-level vaccine stock control system at the Almaty RSES should show the running balance of each vaccine batch in hand; batches should be used strictly in order of arrival and /or expiration date, unless VVMs indicate otherwise.

- The vaccine stock control system at the RSES needs to record the status of VVMs on arrival, as well as the dispatch of each vaccine consignment.

- The MoH/RSES needs to continue maintaining records of all OPV stocks discarded at lower levels due to VVM color changes. This information is to be regularly forwarded to WHO/Geneva for transmission to the vaccine manufacturer.

BACKGROUND

Under the program of support for immunization services which the United States government has been funding in the New Independent States (NIS) since their emergence from the former Soviet Union, the BASICS project has provided continuing technical assistance to these republics for

the past five years. The principle objective of the program is to reduce infant and child mortality through improved child health and sustainable health services. In this endeavour, the BASICS project cooperates closely with other technical agencies supporting the NIS, particularly the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). BASICS' assistance to Central Asia is currently focused on developing more sustainable and cost-effective national immunization and disease control programs, and on guiding respective governments towards self-sufficiency in these activities. BASICS has enjoyed an especially fruitful relationship with Kyrgyzstan and Kazakhstan and has made excellent progress towards these objectives.

This report describes further training activities for health staff; work to finalize a new training manual for use throughout the NIS; the introduction of surveillance for acute flaccid paralysis (AFP) as part of polio eradication measures; and tests on vaccine vial monitors (VVMs) to ensure the quality of vaccines used.

PURPOSE OF VISIT

A. Scope of Work: Kyrgyzstan

- Work with MoH/RCI official(s) to conduct two regional oblast-level cold chain management workshops for health staff using the draft NIS cold chain manual[1] as a guide.
- Follow up on implementation of the national AFP surveillance system, making assessments of AFP data collection rates, high and low performing oblasts and rayons, preparations for AFP echo seminars, completeness and timeliness of reporting, numbers of reporting sites established, and transmission of data to WHO/EURO.
- Meet with BASICS Country Coordinator Nourgoul Seitkazieva to review proposed additions and changes to the second English draft of the NIS cold chain manual in preparation for final translation of the manual into Russian.

B. Scope of Work: Kazakhstan

- Meet with MoH/RSES and WHO/Almaty staff to review the status of OPV stocks and follow-up on the monitoring and testing of VVMs used with this vaccine.

---

1 The NIS cold chain manual is a joint technical document produced by WHO/UNICEF/USAID/BASICS (with assistance by the MOHs in the NIS, along with expert consultants). The finalized manual, "Safe Vaccine Handling, Cold Chain, and Immunizations: A Manual for the NIS," will be printed by WHO in English and Russian for distribution throughout the NIS in the Summer of 1998.

- Work with WHO/Almaty, BASICS, and UNICEF staff to review the final draft of the NIS cold chain manual and to determine the remaining steps for its completion and distribution.

MISSION ACTIVITIES

A. Kyrgyzstan

Oblast-Level Cold Chain Management Workshops

In discussions with MoH/RCI officials, it was agreed that the participants invited to these training workshops would include epidemiologists and immunologists from city and rayon SESs, and heads (mainly paediatricians or neuropathologists) of SVAs, SUBs, polyclinics, and FAPs in each rayon. A model outline for the cold chain training program was prepared based on relevant sections taken from the draft NIS cold chain manual, briefing material on polio eradication and AFP surveillance, and practical points of the revised management information system (MIS) recently introduced in the republic. The agreed program outline is attached as Appendix A.

A schedule for conducting a total of four regional workshops covering all oblasts in the republic was drawn up in **Figure 1**.

Figure 1: Schedule for Regional Cold Chain Workshops

Figure 1: Schedule for Regional Cold Chain Workshops			
Workshop	**Oblasts**	**Location**	**Dates**
1	Bishkek City Chui & Talas	RCI/Bishkek City	20-21 June 1997
2	Issyk-Kul & Naryn	Balykchy City	23-24 June 1997
3	Djalal-Abad	Djalal-Abad City	07-08 July 1997
4	Osh	Osh	10-11 July 1997

Workshops 1 and 2 in this schedule were to be conducted jointly by MoH/RCI staff, with direct BASICS assistance. Following completion of the consultant's mission in Kyrgyzstan, workshops 3 and 4 would be conducted by MoH/RCI staff, with support from BASICS Country Coordinator Seitkazieva. The workshops for staff in Naryn and Issyk-Kul oblasts were considered the highest priorities for direct BASICS assistance, since an earlier series of cold chain training workshops in 1994 had been disrupted there by bad weather and training at that time had to be cancelled.

An estimated total of 264 staff in the various categories were targeted for training in the 4 regional workshops, with numbers of specialists by category and oblast as shown in **Figure 2**.

Figure 2: Estimated Participants for Training			
Oblast	**Epidemiologists/ Immunologists**	**Heads of SVAs/SUBs/PCs/FAPs**	**Totals**
Bishkek City	3	3	6
Chui	11	30	41
Issyk-Kul	6	20	26
Naryn	6	16	22
Talas	6	13	19
Djalal-Abad	15	60	75
Osh	15	60	75
Republic Totals	**62**	**202**	**264**

The first two workshops were completed in Bishkek and Balykchy cities as scheduled, with full attendance of the invitees from each oblast, and good staff participation during all technical sessions. During the field visit to Balykchy City, the opportunity was taken to visit facilities in Issyk-Kul and Naryn oblasts to observe some aspects of routine immunization and the introduction of AFP surveillance.

Implementation of AFP Surveillance

Nationwide AFP surveillance was introduced in the Republic in December 1996 when prikaz (ministerial decree) No. 247 was issued requiring routine reporting of AFP by all health units throughout the country, beginning January 1, 1997. The prikaz also required full and immediate investigation of each AFP case, including collection of stool samples and virological testing, and emphasized that all AFP was to be reported by health units, rather than only suspected or confirmed poliomyelitis as had been the common practice.

The main paediatric and infectious disease hospitals in the republic had already been maintaining records of AFP cases, and although this information has never been routinely reported to the MoH, the existence of such records and practices was of great benefit in establishing a national AFP reporting system. A system for active surveillance of infectious diseases also existed, with weekly telephone contact taking place between the RCI and the main paediatric and infectious

disease hospitals. This system had not previously included AFP, but was extended after the prikaz. The hierarchic structure of health services in Kyrgyzstan suggests that if high quality surveillance could be established at all main paediatric and infectious disease hospitals in Bishkek, in each oblast and rayon, then the great majority of AFP cases should be identified. It was still considered important to ensure that all health units participated in the national AFP reporting system, however, with monthly reports (including *zero* reports when no cases are detected) from all units. Regular monthly transmittal of data collected by the national surveillance system to the WHO/EURO office in Copenhagen was established from 1 January 1997, using standardized reporting forms.

On a national level, the target AFP detection rate of at least 1 case per 100,000 children <15 years was immediately achieved and exceeded, with a total of 30 AFP cases reported in the period January to June 1997, compared with a target of 17 cases for the whole year. This represents a large increase from the total of two AFP cases reported to the MoH in 1996, and three cases in 1995. Detection rates by oblast varied considerably, however, with some exceeding targets based on their 0-14 year populations by a wide margin, while others fell far short of the target and reported few or zero cases. Reported data is summarised in **Figure 3**.

Figure 3: Reporting of AFP; January-June 1997

Oblast	Minimum Expected AFP Cases/year	Reported AFP Cases/year
Bishkek City	1.55	15
Chui	2.2	8
Issyk-Kul	1.43	6
Naryn	0.95	0
Talas	0.77	0
Djalal-Abad	3.44	1
Osh	6.07	0
Republic Total	**16.41**	**30**

All 1995 and 1996 AFP cases were subsequently proved negative for polio, and to date, no polio virus has been identified among the 30 cases detected in 1997. In the absence of polio, numbers of AFP cases reported in some areas for 1997 thus appeared very large, especially in Bishkek City and Chui and Issyk-Kul oblasts, where rates were approximately 10, 4, and 4 times higher respectively than might have been predicted based on their <15 populations. Examination of all reported cases in these three oblasts needs to be conducted immediately to determine whether all were true AFP and whether the correct AFP definitions were clearly understood and followed by

the staff concerned. Discussions with MoH/RCI on the data suggested that cases of facial paralysis may have been included as AFP in reported totals in some cases, which may account for the very large numbers detected in these three oblasts. For the other four oblasts, where reported AFP cases were below expected rates or zero, investigation is also needed to determine the reasons, especially in Djalal-Abad and Osh oblasts, where surveillance needs to be greatly improved. It was noted that for Naryn and Talas oblasts, where <15 populations were small, the minimum expected AFP cases were slightly less than one per year, and thus, occasional years with zero cases reported are predictable and justified.

No system for detailed recording of AFP data by oblast and rayon has been established at the national level, but during field visits to Issyk-Kul and Naryn, data by rayon was compiled for these two oblasts as shown in Appendixes B and C. Reports for Issyk-Kul Oblast again revealed large variations in AFP detection rates between rayons, with some reporting far more than expected and others still "silent," but for Naryn, although surveillance was said to have begun according to plan, no cases had yet been detected. Data from these two appendixes and also from Figure 3 above are assembled into an outline national AFP summary sheet as Appendix D. This shows the total population, the <15 population, reported AFP cases to date, and corresponding AFP incidence rates per 100,000 children <15 years for rayon level (where known), oblast level, and overall national level. Time constraints on this mission did not allow data from all parts of the Republic to be compiled in order to complete the summary, but the MoH/RCI needs to set up a similar recording system for AFP surveillance at the national level (Appendix D may be used as a guide).

The AFP data system should also include a complete list of all reporting sites by oblast and rayon, and record the completeness and timeliness of reporting from all sites. These same details should also be recorded at oblast and rayon levels for all reporting sites within their area.

The MoH/RCI has regarded training of health personnel as a high priority for the successful introduction of AFP surveillance, and a series of training activities have been organized.

- A round-table meeting and presentation was held in August 1996 to introduce and discuss the important issues of AFP surveillance to a small group of central MoH, RCI, and national-level specialists.

- A national seminar for senior staff from each oblast, including doctors of epidemiology, paediatrics, infectious disease control, and neuropathology, was held in February 1997.

- A series of oblast-level workshops for similar categories of rayon staff are in progress to ensure widespread dissemination and understanding of AFP surveillance and the detailed requirements of the AFP prikaz.

The last in the series of oblast-level workshops was scheduled for completion by mid-July 1997 (see Figure 1), at which point health staff knowledge of AFP surveillance is expected to be of a satisfactory standard throughout the Republic.

Review of the NIS Cold Chain Manual

The original NIS cold chain manual was produced in 1993 under the USAID/REACH project, but a revised and updated version was drafted by an inter-agency team of cold chain and logistics experts at a workshop in Almaty, Kazakhstan, in September 1996. A second draft of the new manual in English is nearing completion, and following meetings of various teams members in Geneva (Zaffran/Wylie) and the UK (Wylie/Larsen), a number of proposed additions and changes are pending.

BASICS/Kyrgyzstan Country Coordinator Seitkazieva was responsible for the translation of the manual into Russian, and meetings were held to discuss and incorporate the latest revisions into the Russian draft. A further meeting of the inter-agency team was scheduled for July 4 in Kazakhstan, and Seitkazieva prepared a second, complete Russian draft for consideration and review by the group.

B. Kazakhstan

Review of OPV Stocks and VVMs

The MoH had previously reported problems with VVMs attached to some OPV stocks supplied for the 1996 NIDs. The monitor, first introduced on OPV supplies worldwide in early 1996, is a temperature-sensitive device that gives the health worker a visual indication of the potency of each vial of vaccine. Colour change of the monitor normally indicates a loss of vaccine potency, but in Kazakhstan (and several other countries), some VVMs showed a very rapid colour change even when vaccines had been stored under ideal cold chain conditions. The rapid colour change was most noticeable when vaccines were transferred from the -20oC to the + 4oC storage, a process which occurs routinely when stocks are distributed from central- to oblast- or rayon-level storage. Potency tests on sample vials, which had apparently suffered damage through heat exposure, subsequently showed that vaccine was, in fact, still fully potent, and that the VVMs in question were giving a false indication. The faulty monitors were eventually traced to batches of OPV manufactured by SmithKline Beecham (SKB) and supplied to a number of countries between April 1996 and February 1997. In March 1997, SKB changed the type of monitor they used. No further problems are anticipated.

Since the previous assignment, the remaining SKB batches of OPV received by the Almaty central vaccine store over the period April 1996 to February 1997 were tested for rate of VVM color change. The agreed test protocol was followed:

- samples from each vaccine batch were moved from the -20oC freezer to + 4oC storage

- parallel tests were conducted in the +4oC walk-in cold store, and in the domestic refrigerator in the ofice of the deputy chief doctor (in which the original January 1997 tests were conducted)

- rates of VVM colour-change for both sets of samples, and the time taken to reach 100 percent exposure were carefully monitored

Details of the vaccine batches tested are shown in **Figure 4**.

Figure 4: Testing of VVMs on Batches of OPV

Date Received	Manufacturer	Quantity Received (doses)	Batch/Lot Number	Expiry Date
26/04/96	SKB	667,940	S2237A5A	03/98
02/05/96	SKB	981,920	S2250A4A	04/98
10/07/96	SKB	210,000	S2183A4A	02/98
10/07/96	SKB	418,950	S2214A5A	03/98
10/07/98	SKB	421,050	S2214B5B	04/98
09/10/96	SKB	750,000	S2257A4B	08/98

Tests confirmed that all batches behaved in essentially the same way, with 100 percent VVM color change reached in approximately two to three weekls when exposed to + 4oC storage conditions. This was much faster than the design specification for the VVM and confirmed that all batches tested had been supplied with faulty monitors. There were no significant differences between batches tested in the walk-in cold store and those tested in the domestic refrigerator, an observation which confirmed the validity and conclusions of the original small-scale tests conducted by MoH/RSES in January 1997.

These findings were reported to WHO/Geneva and to the manufacturer, who had meanwhile accepted responsibility for the faulty monitors and agreed to replace some of the affected OPV stocks. An initial replacement delivery of 142,900 doses was received by the MoH/RSES on April 9, 1997, but the situation was still under review by both WHO and SKB, who awaited further reports from affected countries. An analysis was done of the current OPV stock situation and the status of VVMs on each batch of OPV at the central store, the results of which are shown in Appendix E. It was noted that VVMs on vaccine received after February 1997 showed no color change, but it was agreed that RSES would keep the situation under close review. It was

also noted that the stock control system at the RSES was unable to provide the exact balance of each vaccine batch in hand, but could only give an overall running total.

The MoH/RSES had also agreed during the previous assignment that records would be maintained of all OPV stocks discarded at lower levels due to VVM color changes. Staff had been training on the use of VVMs, and according to instructions, would discard any vaccine when monitors reached the 100 percent color change point. MoH had decided it would be too confusing if staff were then told that some monitors were faulty, and agreed instead to simply record amounts of vaccine discarded due to VVM color changes. This record showed that a total of some 118,000 OPV doses had been discarded in the period January-June 1997, with a monthly breakdown as shown in **Figure 5**.

Figure 5: SKB OPV Stocks Discarded: January-June 1997

Month	Quantity (doses)
January	0
February	39,500
March	820
April	49,740
May	23,070
June	5,000
Total	**118,130**

This information was also reported to WHO/Geneva and the vaccine manufacturer, although it was noted that the replacement delivery of 142,900 doses already received by MoH/RSES more than compensated for the vaccine actually wasted due to faulty VVMs.

Final Draft of the NIS Cold Chain Manual

A further meeting of the inter-agency team responsible for drafting the revised cold chain manual was held on July 4-5, in Almaty. The team was comprised of WHO, UNICEF,and BASICS staff, joined on this occasion by Lora Shimp from BASICS/Washington. The second draft in both English and Russian was reviewed, and additions and changes proposed during recent consultations with other experts were considered. A number of diagrams, tables, and annexes were also prepared for the manual, and remaining materials to be obtained from other sources and scanned into the final document were enumerated. Satisfactory progress was made at the meeting, and remaining steps for completion and distribution of the manual were determined. BASICS consultant Alasdair Wylie agreed to meet with other experts and sources to coordinate

finalization of the English version of the manual, and Seitkazieva agreed to do likewise for the Russian version.

METHODOLOGY & APPROACHES

The field work, training programs, assessments, and conclusions described in this report build upon the experience and cooperative working relations established over the past five years with staff from the ministries of health and other institutions in each republic. All activities were conducted directly with national counterparts, and all recommendations are presented with their full knowledge and agreement.

SUMMARY OF CONCLUSIONS & RECOMMENDATIONS

A. Kyrgyzstan

- Questions from participants at the management workshops indicated that the national AFP surveillance system and prikaz No. 247 were still not properly understood. The need to report all cases of AFP, not just suspected poliomyelitis, must be emphasized to all health facility, hospital, and SES personnel.

- Some confusion was found regarding exactly what should be reported as AFP. Widespread dissemination of the standard AFP case definition must occur, along with the assurance that this is clearly understood and followed by all grades of health personnel.

- The need for complete and timely reporting was discussed in workshops, but no system has yet been established by the MoH to monitor this issue. Rayon and oblast SESs should routinely monitor completeness and timeliness of AFP reporting from all health units in their area and follow up where necessary to ensure regular monthly reports, including *zero* reports where no cases of AFP are detected. Data on completeness and timeliness of AFP reporting needs to be routinely notified to the next administrative level.

- Although national AFP targets are being met, many areas have yet to start regular reporting. Silent oblasts or those where AFP detection rates are lower than expected, need to be investigated to determine the causes, especially Djalal-Abad and Osh oblasts, where surveillance apparently needs much improvement.

- Oblasts where reported AFP is much higher than expected, especially Bishkek City and Chui Oblast, also need to be investigated to determine whether the correct AFP definitions are clearly understood and followed by staff concerned, and whether all cases are true AFP.

- A system for detailed recording of AFP data by oblast and rayon should be established at the national level. At a minimum, each level should show <15 population, reported AFP cases, corresponding AFP incidence rates per 100,000 children <15 years, and completeness and timeliness of AFP reporting for all reporting units.

- Once national introduction of the new management information system (MIS) is complete, the MoH will begin planning to include disease surveillance in the system, in addition to immunization coverage and vaccine use. Reporting of AFP should be included under the disease surveillance component.

B. Kazakhstan

- The central-level vaccine stock control system at RSES/Almaty needs to be improved to show the running balance of each vaccine batch in hand, in addition to showing overall totals available. In general, the batches should be used strictly in order of arrival and/or expiration date, unless VVMs indicate otherwise.

- The vaccine stock control system at the RSES should also record the status of VVMs on arrival and the dispatcher of each vaccine consignment.

- The MoH/RSES should continue maintaining records of all OPV stocks discarded at lower levels due to VVM color changes. This information needs to be regularly forwarded to WHO/Geneva for transmission to the vaccine manufacturer.

REFERENCES

1. Report on a Technical Mission to Kyrgyzstan, CIS; Gordon Larsen; WHO/EPI/GPV Geneva; July/August 1996

2. Report on a Technical Mission to Kyrgyzstan and Kazakhstan, CIS; Gordon Larsen; WHO/EPI/GPV Geneva; January/February 1997

3. Report on a Technical Mission to Kazakhstan, CIS; Gordon Larsen; WHO/EPI/GPV Geneva; September 1996

4. Development of a Manual on Vaccine Cold Chain and Logistics for the Newly Independent States, A. Wylie, S. Spanner and N. Seitkazieva; USAID/BASICS Washington; September 1996

APPENDIXES

Appendix A

Outline Programme; Workshops on Cold Chain Management, AFP Surveillance and MIS for Kyrgyzstan

Workshops on Cold Chain Management, AFP Surveillance and MIS
Kyrgyzstan, June 1997

OUTLINE PROGRAMME

Day 1:

08.30-09.00	Registration	
09.00-09.15	Opening, Course Outline and Objectives;	MoH/RCI
09.15-09.30	The REACH & BASICS Projects, Mandate and Activities to date in the NIS and Kyrgyzstan	BASICS consultant
09.30-10.30	Immunity and Vaccines, Characteristics of Some Vaccines Used in the Kyrgyz Republic	MoH/RCI
10.30-10.45	Coffee	
10.45-11.45	Main Principles of Cold Chain; Vaccine Storage Temperatures and Times, Handling and Distribution of Vaccines	BASICS consultant
11.45-12.50	Vaccine Potency and Stability; Vaccine Vial Monitors, Cold Chain Monitors, Stop Watch and Freeze Watch Indicators, Shake Test	BASICS consultant
12.50-13.00	Video, The Cold Chain in Kyrgyzstan	MoH/RCI
13.00-14.00	Lunch	
14.00-15.10	Common types of Cold Chain Equipment; Use, Care and Routine Maintenance of Different types of Equipment	BASICS consultant
16.00-16.15	Coffee	
16.15-17.00	Practical Work on Equipment Use, Care and Maintenance, Use of Maintenance Checklists	BASICS consultant

...../

15

Day 2:

08.00-09.00	Main Points of the New Kyrgyz Management Information System (MIS), Recording of Vaccine Arrivals and Vaccine Consumption Rates	MoH/RCI
09.00-10.30	Practical Exercises on Data Entry, Recording & Reporting for the MIS	MoH/RCI
10.30-10.45	Coffee	
10.45-11.15	Global Overview of Polio Eradication Efforts and the Current Status of Polio Eradication in Europe and the NIS	BASICS consultant
11.15-12.00	Main Points of Government Decree No 247; "Polio Eradication by the Year 2000 in the Kygryz Republic"	MoH/RCI
13.00-14.00	Lunch	
14.00-15.00	Status of Polio Eradication in Kyrgyzstan, , Achievements, Problems and Prospects for the Future	MoH/RCI
15.00-16.00	Establishing AFP Surveillance, Current Status in the Republic, Problems and Solutions	BASICS consultant
16.00-16.15	Coffee	
16.15-16.45	Feedback from EPI Seminars in Tashkent, Novgorod, and Cholpon-Ata	MoH/RCI
16.45- 17.00	Attestation of staff on Decree No 247	MoH/RCI
17.00-17.30	Final Discussions, Conclusions & Closing	MoH/RCI

****

16

Appendix B

AFP Cases Reported & Data Analysis; Jan-June 1997 Issyk-Kul Oblast; Kyrgyzstan

AFP Cases Reported; 1997
Issyk-Kul Oblast; Kyrgyzstan

(01 January- 30 June 1997)

Rion	Cases Reported	Date of Onset	Date of Admission	Age (years)	Initial Diagnosis
Karakol city	1	15/04/97	22/04/97	3	Polio ?
Balykchi city	1	?	?	?	?
Issyk-Kul Rion					
Tuyp Rion	1	02/04/97	18/04/97	10	Polio ?
Ak-Suu Rion	2	07/04/97	18/04/97	2	Polio ?
Djuty-Orguz Rion	1	23/04/97	?	3	Polio ?
Tons Rion					
	6				

Analysis of AFP Cases; 1997
Issyk-Kul Oblast; Kyrgyzstan

Rion	Pop <15 yrs	Minimum Expected AFP Cases/yr	Reported AFP Cases/yr	Minimum Expected Incidence /100,000<15yr	Reported Incidence /100,000<15yr
Karakol city	19338	0.19	1	1	5.17
Balykchi city	16965	0.17	1	1	5.89
Issyk-Kul Rion	24171	0.24	0	1	0.00
Tuyp Rion	20820	0.21	1	1	4.80
Ak-Suu Rion	20713	0.21	2	1	9.66
Djuty-Orguz Rion	23754	0.24	1	1	4.21
Tons Rion	17450	0.17	0	1	0.00
Oblast Total:	**143,211**	**1.43**	**6**	**1**	**4.19**

Appendix C

AFP Cases Reported & Data Analysis; Jan-June 1997 Naryn Oblast; Kyrgyzstan

AFP Cases Reported; 1997
Naryn Oblast; Kyrgyzstan

(01 January- 30 June 1997)

Rion	Cases Reported	Date of Onset	Date of Admission	Age (years)	Initial Diagnosis
Naryn City	0				
At-Bashin Rion	0				
Ak-Talaa Rion	0				
Kochkorka Rion	0				
Djumgal Rion	0				
	0				

Analysis of AFP Cases; 1997
Naryn Oblast; Kyrgyzstan

Rion	Pop <15 yrs	Minimum Expected AFP Cases/yr	Reported AFP Cases/yr	Minimum Expected Incidence /100,000<15yr	Reported Incidence /100,000<15yr
Naryn City	31297	0.31	0	1	0.00
At-Bashi Rion	17982	0.18	0	1	0.00
Ak-Talaa Rion	13670	0.14	0	1	0.00
Kochkorka Rion	21220	0.21	0	1	0.00
Djumgal Rion	16237	0.16	0	1	0.00
Oblast Total:	**100,406**	**1.00**	**0**	**1**	**0.00**

Appendix D

National AFP Summary Sheet; Jan-June 1997; Kyrgyzstan

NATIONAL AFP SUMMARY SHEET; KYRGYZSTAN
Jan-Jun 1997

Oblast	Rion	Total Pop:	Pop <15 yrs	% <15 yrs	Minimum Expected AFP Cases/yr	Reported AFP Cases/yr	Min. Expected Incidence /100,000<15yr	Reported Incidence /100,000<15yr
Bishkek City		597336	154924	0.26	1.55	15	1	9.68
Chui	Tokmok City				0	1		
	Alamoudoun				0	3		
	Keminski				0	1		
	Moscovski				0	2		
	Panfilovski				0	1		
Total:		720107	220319	0.31	2.20	8	1	3.63
Issyk-Kul	Karakol City		19338		0.19	1	1	5.17
	Balykchi City		16965		0.17	1	1	5.89
	Issyk-Kul Rion		24171		0.24	0	1	0.00
	Tuyp Rion		20820		0.21	1	1	4.80
	Ak-Suu Rion		20713		0.21	2	1	9.66
	Djuty-Orguz Rion		23754		0.24	1	1	4.21
	Tons Rion		17450		0.17	0	1	0.00
Total:		381,479	143,211	0.38	1.43	6	1	4.19
Naryn	Naryn City	67221	29456		0.29	0	1	0.00
	At-Bashin Rion	41458	16924		0.17	0	1	0.00
	Ak-Talaa Rion	32093	12866		0.13	0	1	0.00
	Kochkorka Rion	48350	19972		0.20	0	1	0.00
	Djumgal Rion	39848	15282		0.15	0	1	0.00
Total:		228970	94500	0.41	0.95	0	1	0.00
Talas					0			
					0			
					0			
					0			
Total:		198548	76706	0.39	0.77	0	1	0.00

...../

NATIONAL AFP SUMMARY SHEET; KYRGYZSTAN
Jan-Jun 1997

Oblast	Rion	Total Pop:	Pop <15 yrs	% <15 yrs	Minimum Expected AFP Cases/yr	Reported AFP Cases/yr	Min. Expected Incidence /100,000<15yr	Reported Incidence /100,000<15yr
Jalal-Adad	Alabukinski				0	1		
					0			
					0			
					0			
Total:		785356	343934	0.44	3.44	1	1	0.29
Osh					0			
					0			
					0			
					0			
Total:		1484268	606526	0.41	6.07	0	1	0.00
Kyr Republic TOTAL:		**4,396,064**	**1,640,120**	**0.37**	**16.40**	**30**	**1**	**1.83**

23

Appendix E

Analysis of OPV Stocks and VVM Status; July 1997; Central Vaccine Store; Kazakhstan

ANALYSIS OF OPV STOCKS & VVM STATUS

CENTRAL VACCINE STORE, ALMATY CITY, KAZAKHSTAN;
07 July 1997

Date Rec'd	Manufact/ Supplier	Quantity Rec'd (doses)	Batch/ Lot No.	Expiry Date	Balance In Stock (doses)	VVM Status (07/07/97)
26/04/96	SKB	667,940	S2237A5A	Mar-98		10% exp
02/05/96	SKB	981,920	S2250A4A	Apr-98		10% exp
10/07/96	SKB	210,000	S2183A4A	Feb-98		10% exp
10/07/96	SKB	418,950	S2214A5A	Mar-98		10% exp
10/07/96	SKB	421,050	S2214B5B	Apr-98		10% exp
09/10/96	SKB	750,000	S2257A4B	Aug-98		10% exp
01/01/97			1996 balance carried forward:		2,850,000	
12/03/97	SKB	220,000	S2359A4A	Nov-98		0%
09/04/97	SKB	* 142,900	S2359A4A	Nov-98		0%
30/04/97	Pasteur	344,000	5132-1	Feb-99		0%
30/04/97	Pasteur	506,000	5115-1	Feb-99		0%
			balance @ 01/06/97:		1,177,600	
		4,662,760			**1,177,600**	

* partial replacement for batches with defective VVMs