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**TRAINING IN VACCINE COLD CHAIN
AND LOGISTICS
TURKMENISTAN AND UZBEKISTAN**

October 18-22 and November 17-30, 1996

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ACRONYMS/DEFINITIONS

AEFI	Adverse Event Following Immunization
AFP	Acute Flaccid Paralysis
BASICS	Basic Support for Institutionalizing Child Survival
BCG	Bacillus Calmette Guerin (tuberculosis vaccine)
CARK	Central Asian Republics and Kazakstan
CDC	Centers for Disease Control and Prevention
CEB	Central Etrap/Rayon Hospital
CSES	Central Sanitary and Epidemiology Station
DPT	Diphtheria-Pertussis-Tetanus vaccine
DT	Diphtheria-Tetanus vaccine (pediatric formulation)
EPI	Expanded Program on Immunization
Etrap/Rayon	Administrative unit (district) below velayet/oblast
FAP	Feldsher (medical assistant); Accoucheur (midwife) post
IICC	Interagency Immunization Coordination Committee
ILR	Ice-lined Refrigerator
ISMS	Information System for Medical Supplies
MAT	Maternity House
MCH	Maternal and Child Health
MECACAR	Mediterranean, Caucasus and Central Asian Republics
MIS	Management Information System
MLM	Mid-level Management
MOH	Ministry of Health and Medical Industries
NID	National Immunization Day
NIP	National Immunization (or Immunoprophylaxis) Program
NIS	Newly Independent States
OPV	Oral Polio Vaccine
REACH	Resources for Child Health
RPO	Resident Program Officer
RSES	Republican Sanitary and Epidemiology Station
RCI	Republican Center for Immunoprophylaxis
SES	Sanitary and Epidemiological Station or Service
SIP	Safe Injection Practices
SNID	Sub-national Immunization Day
SUB	Rural Etrap/Rayon Hospital
SVA	Rural Medical Ambulatory Clinic
Td	Diphtheria-Tetanus vaccine (adult formulation)
TTM	Temperature data logger with computer software
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
Velayet/Oblast	Administrative unit (province) below national level
VII	Vaccine Independence Initiative

VVM
WHO
WHO/EURO

Vaccine Vial Monitor
World Health Organization
WHO/Regional Office for Europe

EXECUTIVE SUMMARY

Since 1992, Turkmenistan and Uzbekistan have received immunization program support as part of the United States government's assistance to various Newly Independent States of the former Soviet Union. Carried out through USAID's REACH project and, since 1994, through the BASICS project, this included consignments of vaccines and cold chain equipment, technical assistance in immunization policy reform, national immunization program planning, and planning and evaluation of National Immunization Days against poliomyelitis.

Between October 1996 and August 1997 three visits were made by BASICS consultant Alasdair Wylie to Turkmenistan and one to Uzbekistan to help plan and conduct refresher training in vaccine and cold chain logistics for provincial and district health personnel. In Turkmenistan, planning for the training took place in October of 1996 and training in the velayets of Ahal and Balkan in November 1996 and in Daschovuz Velayet and Ashgabat City in February 1997. In Uzbekistan training took place in the oblasts of Fergana and Andijan in August 1997. Bibigul Alimbekova, BASICS regional immunization coordinator, helped conduct the training in all these places and also did the planning for the Uzbekistan training from March 1997 and training in the Turkmenistan velayets of Lebap and Mary in May 1997. The BASICS country coordinators assisted with administrative arrangements.

During the training, successive drafts of a new manual, "Safe Vaccine Handling, Cold Chain and Immunization: A Manual for the NIS" on vaccine logistics and cold chain for the NIS—developed from the 1992 Kyrgyz manual and furthered in September of 1996 by a joint WHO/UNICEF/USAID/BASICS working group in Almaty—were further developed with extracts used as handouts. The manual has also been modified to address the countries' information needs better, based on the discussions and findings from these trainings. Wylie was involved as a BASICS representative in meetings/discussions on revision of the manual with BASICS/WHO/UNICEF in Geneva, Almaty, and London.

Between 15 and 30 etrap/rayon health personnel from each of the velayet/oblasts participated at a time in the training, with separate training days arranged for SES and polyclinic personnel. In each country, the BASICS team was accompanied by one official from the Central/Republican SES for each training session and in Uzbekistan some MOH officials also participated. BASICS bore the costs of reproduction of training materials and of participants' lunches and, where necessary, accommodation. In Daschowuz, Turkmenistan, UNICEF covered these costs.

Training content included introduction to vaccine cold chain principles and vaccine storage requirements (including use of a WHO cold chain video with translated soundtrack arranged by BASICS); temperature monitoring, including explanation of the new "vaccine vial monitor" indicator on individual vials of oral polio vaccine; explanation of WHO's new "open vial policy" (not yet officially adopted in either country); practical demonstration and discussion of use and care of the main types of cold chain equipment used by participants, with emphasis both on refrigerators and freezers donated under US and US/Japan assistance in 1992/93 and on the

domestic refrigerator still used by the majority of health facilities; planning for emergencies; checklist for supervisory monitoring of vaccine cold chain practices; and immunization room practice for clinic personnel including demonstration and discussion of the steam sterilizer for re-sterilizable syringes and needles. In Uzbekistan, new topics covered included the critical role of proper vaccine handling, reconstitution and administration in avoiding "adverse events following immunization." This was done using the results of WHO investigations in a number of countries, including some in Central Asia, as examples.

Given the experiences in Uzbekistan and Turkmenistan, recommendations were made on aspects of preparation for and organization of such training in the future; follow-up with WHO on arrangements for Russian translation and dissemination of materials, especially those relating to new immunization policies and technologies; and development of procedures to evaluate the effect of such training.

PURPOSE OF VISITS

The purpose of these visits was as follows:

- 1) October 18 - 22, 1996: Visit Ashgabat, Turkmenistan, to help finalize a plan for vaccine cold chain/logistics training for velayet- and etrap-level staff and to initiate field testing of the revised cold chain manual for the NIS (the first revised draft of this had been developed in Almaty in September 1996; this was a continuing activity during the training in 1996 and 1997).
- 2) November 17 - 30, 1996: Visit Turkmenistan to assist with training in vaccine cold chain and logistics for health staff in Ahal and Balkan velayets.
- 3) January 31 to February 13, 1997: Visit Turkmenistan to assist with a second round of training in vaccine cold chain and logistics for health staff in Daschowuz Velayet and Ashgabat City.
- 4) August 20 to 30, 1997: Visit Uzbekistan to assist with training in vaccine cold chain and logistics for health staff in Fergana and Andijan oblasts.

BACKGROUND

From early 1992, the United States government has provided funds for an emergency immunization support program under a program of humanitarian assistance to various Newly Independent States of the former Soviet Union. This program, carried out through USAID's REACH project, aimed to provide: 1) vaccines and supplies to ensure that infants in these states could be protected against the common vaccine preventable diseases until regular supply lines

for commodities could be reestablished; and 2) technical assistance in vaccine cold chain management, immunization policy and program planning.

USAID/REACH technical visits to Turkmenistan, Uzbekistan and other Central Asian Republics under this program had identified needs for vaccines and immunization equipment, various deliveries of which were made in 1992 and 1993. Technical assistance to Uzbekistan and Turkmenistan in immunization policy reform was provided with WHO in 1992 and 1993 and in national immunization program planning together with UNICEF and WHO in early 1994. From mid-1993 to early 1994, assistance to Turkmenistan was under a joint initiative with the Government of Japan, including assistance with commissioning an upgraded central cold room. Later in 1994, the follow-on project to REACH, the USAID/BASICS project, continued the provision of technical assistance to both countries.

Since 1994, USAID/BASICS' technical assistance in immunization to Turkmenistan included development of vaccine procurement capability, planning and evaluation of the WHO-coordinated "Operation MECACAR," National Immunization Days against polio, and, with WHO/CDC and UNICEF, further development of a draft National Immunization Program plan of activities.

In Uzbekistan, BASICS activities included assistance with vaccine logistics, and planning for polio National Immunization Days after a major polio outbreak in 1994. This generated valuable experience for the logistics planning for "Operation MECACAR," planning for new central cold and freezer rooms; further work to develop (with UNICEF and WHO) a draft of a new plan of activities for the national immunization program; and further reform of the immunization schedule and policy.

TRIP ACTIVITIES AND FINDINGS

Turkmenistan

October 1996

Wylie and BASICS Turkmenistan Country Coordinator Maral Gurbannazarova met with health officials at the Ministry of Health and Medical Industries and at the Central SES, with the chief doctor of Ahal Velayet, and with UNICEF/Ashgabat. Working with Grete Bedareva, chief epidemiologist and immunization coordinator, a plan was developed for conducting refresher training in two velayets, Ahal and Balkan. The Ministry also agreed that this training would eventually take place in all other velayets in the first half of 1997 and, with the involvement of UNICEF, for the training in Daschowuz and Mary Velayets.

Participants in the training would be a group of four from each etrap (nine from Ahal and eleven from Balkan), two from the etrap SES and two from the central polyclinic, plus two from the

velayet SES and if possible two from the velayet medical school (which trains nurses and paramedical workers). A two-day training seminar would be comprised of one day oriented to the SES (vaccine storage and transportation) personnel and one day oriented to the clinic (immunization delivery) personnel. The velayet SES and local medical school participants would attend both days. One day of final preparations at the training site by the group of national and international training resource persons, plus one day reviewing and planning with velayet officials after the two days training, would create a basic four-day unit for each velayet.

A draft timetable of subjects and activities for each training day was developed with the Central SES health officials and training methods and materials were discussed. The content and structure was largely the same as that shown in Appendix A, as eventually used in later trainings in Uzbekistan. The draft of the new manual on vaccine cold chain and logistics, prepared by a BASICS/WHO/UNICEF working group in Almaty in September, was shared with the Central SES and with UNICEF/Ashgabat for review and comments.

Discussions were held on other materials which may be needed in Russian, and contact was made with WHO/EPI, through BASICS, to check on the status of these. (Appendix B shows a later list of translation suggestions made to WHO.) Turkmenistan had not yet received Russian translations of information and training materials on the new vaccine vial monitor (though OPV with the monitor on vial labels had been coming into the country for some months); therefore, the relevant extract from the above draft manual (based on WHO's materials for the VVM) was used. A translation to Russian of the soundtrack of WHO's video "The Cold Chain" was started by the BASICS country coordinator so that the film could be used during the refresher training. This was later dubbed onto the film by BASICS/Almaty.

Other subjects discussed with the Central SES during this visit included the diphtheria control situation—a further mass campaign to give a second dose of diphtheria vaccine (to an age group still to be decided by the MOHMI) had not yet been held, although 2.5 million doses of Td vaccine was available, including 1.2 million supplied by UNICEF in August. The condition of the main vaccine cold room at the Central SES, which was reported to have been problematic during the summer, was also discussed.

November 1996

Training "seminars" were held in Ahal from November 20 - 22 and in Balkan from November 26 - 27, each preceded by a day's planning discussions with SES personnel. Initial meetings with MOHMI, WHO and UNICEF took place on November 18, and final meetings, including debriefing with USAID/Ashgabat, on November 29. Wylie was accompanied by Bibigul Alimbekova, BASICS regional immunization coordinator and by Country Coordinator Maral Gurbannazarova. Central SES epidemiologist, Tatyana Nikolaeva, accompanied the BASICS team and led the training.

As planned, participants in the first day of training for each velayet were personnel from velayet and etrap SES (responsible for vaccine storage and distribution). For Ahal this took place at the Central SES in Ashgabat and for Balkan at the new Velayat SES in Nebitdag. Training for immunization clinic supervisors and staff followed: in Ahal, at Gok Depe and Tejen on successive days with personnel from five and four etraps attending, respectively; in Balkan, at the velayet SES in Nebitdag on one day for personnel from all nine etraps. Between 20 and 25 participants had been scheduled for each day; actual attendance ranged from 15 to over 30. On the days for training clinic personnel, not all etraps were represented by two participants as planned, but all etraps were represented by at least one person. Invited participants from the velayet medical school unfortunately did not attend.

The content of each day's training had to be condensed to fit into three hours work (instead of the six hours originally planned in October's planning discussions with the Central SES) to permit participants from outlying etraps—sometimes more than two hours away by road—to travel in and back on the same day.

On all days, questions from participants were a valuable feature, some of which provided useful indicators of needed modifications to the draft cold chain manual. Selected sections of the draft cold chain manual were also copied for information and discussion with participants. The condensed time available did, however, impose a constraint on this aspect of the work. A sample 12 month (as opposed to one month) temperature recording sheet, following a model from the BASICS-assisted Kyrgyzstan immunization MIS, was welcomed by participants, and consequently added to the draft manual annexes.

Other subjects discussed with MOHMI, SES, WHO and UNICEF during Wylie's visit included: 1) the status of diphtheria control activities (a second round of mass immunization for the 15 - 39 age group had taken place November 11 - 17 with reported 97 percent coverage); 2) needs for Russian language technical and policy documentation and effective distribution of translated documents to velayets and etraps; and, 3) polio eradication "mopping up" immunization, AFP surveillance, and polio vaccine stocks and needs. A continuing buildup of OPV stocks (in part, representing unadjusted surpluses from the 1995 and 1996 "Operation MECACAR" NIDs), as shown by the MOH's quarterly reports to the WHO/EURO Information System on Medical Supplies (ISMS), was documented for discussion between BASICS, WHO and UNICEF.

February 1997

Training was held in Daschowuz from February 4 - 6 and in Ashgabat City on February 12; each was preceded by planning sessions and discussions with velayet/city SES and health department officials. Grete Bedareva, Central SES chief epidemiologist and immunization coordinator, led the training and accompanied the BASICS team of Wylie, Alimbekova and Gurbannazarova throughout the visit. In Daschowuz, the velayet SES vaccine store was inspected prior to the training and found to be very well managed. A day was spent on a field visit to Ylanly etrap. In Ashgabat, meetings were held with MOH and SES officials, including Deputy Ministers Illiev

and Dovletsahatova, and with UNICEF and WHO. Debriefing with the USAID Representative took place on February 13. UNICEF paid the cost of participants' lunch and refreshments and of reproducing training materials for the Daschowuz training.

As in the first round, participants in the first day's training in Daschowuz were SES personnel from the velayet and each etrap, followed by two days training for groups of immunization clinic staff from Daschowuz City and six out of eight etraps. Personnel from two etraps unexpectedly did not attend, and it was decided that velayet SES personnel would visit and conduct training for them the following week. The one-day seminar in Ashgabat City included participants from the city SES and each of the city polyclinics. Training materials were again mainly extracts from the draft BASICS/WHO/UNICEF cold chain manual for the NIS and, as in the training in Ahal and Balkan, a number of the questions and issues raised by participants provided useful input for further revisions to the manual.

Based on experience in the November courses, training and discussion on both the vaccine vial monitor and the cold chain monitor card were done on a small group basis, as it had been apparent that most participants, particularly those from clinics, were still very unfamiliar with their application and use.

Two issues arose from the visit to Ylanly and were discussed with etrap, velayet and national officials:

- 1) The risks to absorbed vaccines stored in household refrigerators which were found running at or below 0 degrees (at the etrap store) with thermostats unadjusted, even though the storeroom ambient temperature had dropped to below +5 degrees; this occurred in the care of new health staff not yet trained in vaccine handling; shake tests conducted and demonstrated on vial samples, using deliberately frozen control vials for comparison, showed that most but not all of the vaccine concerned was still all right.
- 2) An MK142 ice-lined refrigerator found out of order (having had an unauthorized repair and compressor change) at a small FAP with under 40 infants this year and located within 30 minutes of another health facility from which vaccine could easily be brought for immunization sessions.

Other subjects discussed with the MOHMI, CSES, UNICEF and WHO during the visit included: plans for a third round of this training in Mary and Lebap Velayets (eventually conducted in May with the assistance of BASICS Regional Immunization Coordinator Alimbekova); plans for a BASICS/WHO/UNICEF-sponsored regional seminar on immunization policy in Tashkent in March; and the status of diphtheria control and polio eradication activities. Reported diphtheria cases for 1996 totaled 80, indicating a stabilization and hopes for a reduction in cases in 1997 following the two rounds of mass immunization conducted in 1996. Plans were being made for the third annual National Immunization Day against polio under "Operation MECACAR" to be conducted in April and May. A 400,000 dose UNICEF donation of polio vaccine, plus the

considerable stocks already in country, were expected to meet the 1.2 million dose requirement comfortably for the two rounds. Surveillance of acute flaccid paralysis cases still appeared limited, with no cases being reported from September 1996 through January 1997.

Uzbekistan

August 1997

A first round of training in Uzbekistan was held in Fergana Oblast from August 20-22 and in Andijan Oblast from August 25-27. Each training consisting of two one-day seminars for rayon SES and for rayon polyclinic personnel, respectively, plus a day of visits to inspect vaccine storage and handling at oblast and rayon SES and at local health facility levels. The BASICS team consisted of Alimbekova and Wylie, with Grete Bedareva from Turkmenistan as a resource person. From Tashkent, Republican SES Head of Immunoprophylaxis Inessa Ashirova participated in both of the seminars. Ministry of Health officials B. Matkarimov, Prof. S. Maksumov and D. Tursenova also participated. In Tashkent on August 28-30, Wylie met with officials at the MOH and the Republican SES, as well as UNICEF and WHO, and he debriefed with the USAID Representative on August 29.

Participants in the first day's training in both oblasts were SES personnel from the oblast and from each rayon; participants in the second day were staff from the central polyclinic in each rayon. Total numbers at each ranged from 15 to 30, including some who were additional observers by local arrangement from the respective oblast and city SES and health department staffs. The six-hour program for each day's training included the subjects covered in the Turkmenistan training plus a new presentation by Alimbekova on the critical role of proper vaccine handling, reconstitution and administration in avoiding "adverse events following immunization" (using the results of WHO investigations in a number of countries, including some in Central Asia, as examples). Content on AEFI and safe injection practices was also added to the latest draft of the WHO/UNICEF/USAID/BASICS cold chain manual for the NIS.

Plans for local follow up to these seminars (using trained participants to conduct their own training for health facility staff within each rayon, under the supervision of oblast level personnel) were discussed with MOH and SES counterparts and with local officials in Fergana and Andijan. Additional issues discussed, arising from observations made during the visits to oblast, rayon and clinic vaccine stores, included:

- 1) The need to store measles vaccine in freezers rather than cold rooms at both oblast SESs;
- 2) The need to relocate certain chest freezers (provided through USAID/REACH project assistance in 1992/93) to the oblast SES in Andijan from other places;
- 3) The need to manage vaccine distribution better so that stocks surplus to short-term needs (polio and DPT in both oblasts) are held at oblast level rather than being pushed out to

rayons and clinics where refrigerators were found overstocked (with the consequent associated risks); [Note: It was later learned that the DPT surplus was the result of a procurement by Uzbekistan using a European Union credit, although current needs were fully covered by the "VII" agreement with Japan/UNICEF]

- 4) The need throughout the oblasts and rayons to keep more frozen icepacks at clinic level (Dr. Ashirova expressed an interest in exploring the possibility of local manufacture and procurement of these in Tashkent);
- 5) The need for more thermometers at all levels;
- 6) The need for better management and use (including additional training, as necessary) of cold chain monitor cards; and
- 7) The need to pursue improved vaccine literature (Russian language instructions still not provided with all imported vaccines; imported OPV leaflet arrived without reference to VVMs; local diphtheria vaccine packet had no warning against freezing).

Grete Bedareva thought that the next priorities should be the study of cold chain integrity from rayon to clinics (using either cold chain monitor cards or TTMs or both), and quality of service at clinic level. She was interested in being kept informed of the progress of the BASICS-supported TTM refrigerator study in Kazakstan, and she suggested that she might discuss an initial study of this sort in Daschowuz Velayet with UNICEF/Ashgabat.

Discussions were also held with the MOH/Tashkent about further cold chain/logistics training in Uzbekistan. Rayon staff in Fergana and Andijan had already been instructed by the MOH to prepare (by September 6) a plan for training sessions within each rayon in those oblasts, for which BASICS then drafted training planning guidelines (Appendix C). The MOH was considering conducting the next round of training in Samarkand and Bukhara Oblasts in late October. These would include additional time to familiarize participants with Uzbekistan's new National Immunization Program (with BASICS technical assistance), including the revised immunization schedule, which was planned for implementation in January 1998. It was not clear at this stage what BASICS support would be needed or possible for cold chain training in further oblasts.

The MOH also expressed an interest in receiving a copy of the Russian version of the joint WHO/UNICEF/USAID/BASICS manual, "Safe Vaccine Handling, Cold Chain and Immunizations: A Manual for the NIS," when available. A full Russian text of the WHO article on AEFI, which had been used in the BASICS training in Fergana and Andijan, was also requested.

Draft reporting cables to USAID were prepared and given to the respective USAID representatives in Ashgabat and Tashkent, at the conclusion of each of the four trips.

RECOMMENDATIONS

1. All training activities for any level in any country should include an allocation of at least two days preparatory time for the trainer resource persons to make visits to selected locations and health facilities to observe and discuss current practice.
2. All concentrated refresher training activities should include budget provision for participants' overnight costs, if needed, to avoid curtailment of the working day because of travel needs.
3. Even if countries have received and distributed information/instructions on new policy and/or technology (such as VVMs and "open vial policy"), small group work as part of locally arranged training sessions/seminars is essential to ensure understanding by health staff.
4. When new policy and technology information and/or instructions are introduced, BASICS, WHO and UNICEF should discuss and determine how to monitor and support its receipt, implementation and dissemination (in the appropriate language by the MOH/SES in each country).
5. BASICS should discuss with WHO the issue of translating a variety of existing WHO/EPI materials to Russian. These issues include: procedures for determining responsibility and timing of translation of selected new materials while they are being produced (with a "priority" category for items such as *Weekly Epidemiological Record* articles or other communications on key subjects such as AEFI); and the testing and dissemination of Russian versions of user instructions for new cold chain equipment, such as the Vestfrost MK074 (old model 4010).
6. Procedures should be developed to evaluate the effect of this cold chain and vaccine logistics training, particularly in Turkmenistan. This would be using assessment tools to identify and analyze gaps between standards and performance as well as to identify any follow-up learning/training needs.

APPENDIXES

APPENDIX A
Sample Content of One-day Refresher Training

Sample content of one day refresher training on "Safe Vaccine Handling, Cold Chain and Immunizations" for health facility personnel, Uzbekistan
(draft 31 Aug 1997)
(developed from original refresher training schedule, Turkmenistan)

Materials/equipment needed

Purpose of seminar

Pretest on vaccine storage and temp. control

Pretest form

Vaccine types, immunity, doses and storage

Handout 1

Open vial policy

TV/video/film

"Cold Chain" video film

Temperature monitoring, thermometers, recording sheets Thermometer(s)

Handout 2

Introduction to CC Monitor Card and Vaccine Vial Monitor

Samples of CCM/VVM

Working group sessions (max. 10 per group)

(Note: For training in places with more than one type of refrigerator, e.g. household and ice-lining, subdivide/modify working groups as appropriate.)

Vaccine Storage and transportation

Handout 3 Refrigerator (empty but complete)

Thermometer Empty vaccine boxes

Icepacks (min 4)

Vacc.carrier/cold box

Cold Chain Monitor Cards

Samples of CCM cards (min. 4, prepared to show different histories)

(+ Freezewatch, Stopwatch)

If used, samples of Fwatch, SWatch

Vaccine Vial Monitor, shake test

Handout 4

*Samples of OPV vials with VVM including 1 fully exposed
Prepared vials of DPT/Td for shake test (one previously frozen,
one not, from same manufacturer)*

Presentation of results of pretest

Vaccine handling work in immunization room, handling
and disposal of syringes

Syringe samples, Incinerator box?

AEFI - causes related to practice

Handout 5

(+ translation of WHO/WER article, when available)

Refrigerator breakdown - diagnosis of faults and planning for emergencies

Handout 6

Check list for supervisory visits (SES personnel)

Handout 7

List of handouts, (extracts from draft manual "Safe Vaccine Handling, Cold Chain and Immunizations")

1. Vaccine storage recommended temperatures/times (Table 3)
2. Temperature recording sheet (annual) (Annex 4)
3. Use of household refrigerator (Fig 14)
4. Vaccine Vial Monitor (section 5.5)
5. AEFI - causes related to practice (Annex 5)
6. Breakdowns and emergencies (section 8.1, 8.2)
7. Refrigerator/cold chain checklist for supervisors (annex 7)

APPENDIX B
Suggestion for Translation of WHO Materials to Russian

Suggestions to WHO/EPI for translation to Russian, February, 1997
(from GPV catalogue 1995 + 1996 addendum)

1. Video - Cross Infection/Steam Sterilizer (CCV/04 and 05)
2. Pamphlet - Look after your cc equipment (CCPS/04)
- 3." - Polio will be eradicated... (Cat ID# 069)
4. Stop Watch (CCPS/17)
5. Poster - Vaccine cold chain monitor (CCPS/16)
- 6." - Has your DPT or TT vaccine been frozen? (CCPS/02)
- 7." - Vaccine Vial Monitor (CCPS/20)
- 8." - Differential diagnosis of polio (Cat ID# 359)
9. (Commentary for) Sterilization Slide Set (CCSS/02)
10. "The child, measles and the eye (Cat ID# 056)
11. Sticker - Vaccine. Rush! (CCST/03)
12. Logistics for Health Worksheets (EPI/LHWS/95.01 - .05)
13. Safe injection practices (EPI Update 27, Jan 95) and other key documents on this subject
14. Guidelines for planning training activities..(EPI/TRAM/95.02)
15. International list of availability of vaccines and sera
(VSQ/95.02 and supplements as produced)
16. National Control Authority (VSQ/95.01)
17. Guidelines on establishing vaccine stores (revised version of EPI/CCIS/ 80.15 rev 2, in particular section on improving existing stores)
18. Acute onset flaccid paralysis (MNH/EPI/93.03)
19. Manual for virolog. investigation of polio (EPI/CDS/POLIO/90.01)
20. Immunization Policy (EPI/GEN/95.03) PRIORITY - preferably revised to remove discrepancy regarding interference between live vaccines, pointed out by R. Steinglass to EPI Geneva Oct 15, 1996.
21. Framework for evaluating a vaccine for EPI (EPI/GEN/93.05)
22. Vaccine stability (EPI/GEN/89.08 ?revised)

APPENDIX C
Draft Guidelines for Planning Rayon-level Training

DRAFT 27 August 1997

Guidelines for planning one day training on "Safe Vaccine Handling, Cold Chain and Immunizations" for health facility personnel in rayons where rayon staff have already attended training.

Elements of plan

Number and type of health facilities in rayon:

Type: Polyclinic SUB SVA FAP Other

Number:

Total number:

Number with refrigerators:

Number without refrigerators, or with non-functioning refrigerator:

Number of health personnel to attend from each facility: 2

(If necessary, conduct separate seminars to avoid numbers becoming too big; recommended limit = 30 per seminar)

Number of trainers/facilitators for each seminar: 3 to 5

(1 or 2 each from rayon SES and central polyclinic, and 1 from oblast SES; all must have attended the previous seminar for rayon SES or clinic personnel)

Latest date for preparing plan for all seminars in oblast:

Latest date for sending oblast plan to MOH/RSES

Attachment: Sample content and list of handouts
(see Appendix A)