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REACH

RESOURCES
FOR CHILD
HEALTH

**SEMINARS ON CHILD IMMUNIZATION
POLICIES, PRACTICES AND POLICY-SETTING
IN TURKMENISTAN AND TAJIKISTAN**

June - July 1993



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**SEMINARS ON CHILD IMMUNIZATION POLICIES,
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June - July 1993

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ACRONYMS

AAP	American Academy of Pediatrics
ACIP	Advisory Committee on Immunization Practices
AID	Agency for International Development
BCG	Bacillus, Calmette, and Guerin Vaccine (against tuberculosis)
CAR	Central Asian Republics
CDC	Centers for Disease Control and Prevention
DPT	Diphtheria, Pertussis, Tetanus Vaccine
DT	Diphtheria, Tetanus Vaccine
EPI	Expanded Program on Immunization
FSU	Former Soviet Union
HEV	Hepatitis B Vaccine
HIB	Hemophilus Influenzae b Vaccine
MOH	Ministry of Health
MMR	Measles, Mumps, Rubella Vaccine
NIS	Newly Independent States
OPV	Oral Polio Vaccine
REACH	Resources for Child Health
SES	Sanitary and Epidemiology Station
Td	Tetanus, Diphtheria Vaccine (for older children and adults)
TT	Tetanus Toxoid Vaccine
UNICEF	United Nations Children's Fund
USA	United States of America
USAID	United States Agency for International Development
WHO	World Health Organization

I. EXECUTIVE SUMMARY

A series of seminars and symposia on immunization policies, practices, and policy-setting were conducted in Ashgabat 23-25 June and in Dushanbe 30 June - 2 July. These seminars were sponsored by the Ministries of Health (MOHs) of Turkmenistan and Tajikistan, USAID/REACH, and the World Health Organization (WHO). The seminars brought together an international team of immunization and disease control specialists to exchange technical information with 45 leading epidemiologists, pediatricians, immunologists, and infectious disease control specialists in Turkmenistan and a further 28 in Tajikistan. The seminars lasted 2 days in Turkmenistan and 2 and one half days in Tajikistan and were followed by national symposia on the third day in each country. USAID/REACH had translated some 350 pages of key documents into Russian prior to the seminars. (See Annex 1 for a listing in English and Russian.) Similar seminars and symposia were organized by USAID/REACH in Uzbekistan and Kyrgyzstan in November and December 1992.

The international team (Annex 2) was invited by the Deputy Ministers of Health who chaired the meetings (Dr. K. Mamedov in Ashgabat and Dr. A.G. Kopyltsov in Dushanbe) to examine current and proposed child immunization guidelines, practices, and disease control strategies and to identify problems amenable to policy formulation. The Turkmenistan MOH had prepared a draft document 'National Immunization Program for Ten Years of Well-Being' in Turkmenistan in preparation for the meeting and requested recommendations on the plan from the international team. Minister of Health Mrs. A. Ataeva and U.S. Ambassador Hulings opened the seminar in Turkmenistan; Deputy Minister Kopyltsov and U.S. Ambassador Escudero opened the seminar in Tajikistan. (Ambassador Hulings' remarks appear in Annex 11.)

The MOHs of Turkmenistan and Tajikistan perceive themselves to be at a crossroads with many new opportunities and difficult choices ahead. Now that former ties with Moscow have been loosened, they recognize that it is time to develop their own policies. With independence the MOHs have become interested in examining and revising current child immunization policies, disease control strategies and practices in light of epidemiological characteristics and operational realities and in developing mechanisms for periodic review and revision of policies. However, they have no experience in setting their own policies, as they had been the passive recipients of standard policies formulated in Moscow.

Until recent supply shortages, the health systems in these countries were capable of achieving high immunization coverage levels. However, the health authorities realize that they have been isolated from the mainstream of scientific thought on immunization and disease control and are genuinely eager to benefit from appropriate international experience. The Soviet-based immunization schedule has an unusually high number of routine contacts. As an example, the routine pediatric course for polio vaccination is nine doses. Pediatricians are extremely conservative and quick to find contraindications to vaccination. The official policy on contraindications includes a very long list covering many pages. For example, there is great reluctance to give a child more than one live viral vaccine on the same visit.

The MOH in Turkmenistan frankly shared the problems and appeared committed to a complete re-thinking of immunization policies. The MOH in Tajikistan was more reticent and may require more support in modernizing their immunization schedule and list of contraindications.

The international team's major findings and recommendations were submitted to the MOHs in English and were later sent in Russian. These findings appear in their entirety in the body of this report in English (Sections IV and V) and in Annexes 9 and 10 in Russian. Important points are highlighted below:

- The team congratulated the MOH in Turkmenistan on preparing a plan for a national immunization program and on seeking broad consensus from geographic regions and variety of disciplines. The plan will facilitate the organization and delivery of services in the changing circumstances of independent Turkmenistan, in establishing immunization coverage and disease reduction targets, and in delineating policies and responsibilities. The plan will serve as a road map for nationals and prospective donor agencies alike.
- The team recommended that MOH Tajikistan prepare a national immunization plan.
- The team proposed a series of goals and operational targets related to immunization coverage, disease surveillance, and outbreak response.
- The team observed that the MOHs need to identify the process by which to update policies in future. One way would be to form a national immunization program advisory committee with broad representation of experts in pediatrics, epidemiology, infectious disease control, immunology and public health practice so as to enrich future dialogue and lead to broader implementation of any revised policies. The MOH Turkmenistan and Tajikistan announced at the conclusion of the seminars that each intends to form a committee to review proposals and comments generated at the seminars for inclusion in the plan.
- The team noted that both MOHs had prepared their proposed revisions of the immunization schedule in anticipation of the seminars. (The immunization schedule in use throughout the Soviet Union appears in Table 1.) However, the team proposed a further streamlining of the routine child immunization schedule, including a birth dose of oral polio vaccine, simultaneous administration of all vaccines, measles doses at 9 months of age, reduction in use of booster doses, and a much shortened and simplified list of contraindications. The team advocated routine polio immunization supplemented by national or sub-national immunization days twice per year at which children less than 4 years of age receive two booster doses of oral polio vaccine (OPV) regardless of immunization status.
- Introduction of Hepatitis B vaccine is likely to be a highly cost-effective intervention. However, sustained resources must first be found. The team encouraged the MOH Turkmenistan to consider earlier introduction than their proposed date of 1998-2002 and to reconsider their intention to introduce vaccination against Hepatitis A.

- The MOHs should develop a national vaccine control authority responsible for licensing vaccine preparations and checking documentation of imported vaccines. A national control laboratory should be responsible for testing the potency and safety of imported vaccines.
- The team discouraged the MOHs from their current over-reliance on serologic testing for routine program monitoring and vaccine quality assurance. Testing of vaccines upon receipt from the manufacturer and maintenance of a strong cold chain are the most cost-effective measures to assure quality vaccines.
- The team agreed with the suspension of immunization during the three hottest months of year until the cold chain system is fully operational down to the periphery (anticipated before summer 1994 in Turkmenistan, but unknown for Tajikistan), at which time immunization should be offered year round so that children can be protected without delay.
- The team suggested adoption of standard case definitions, establishment of feedback system, identification of areas at high risk for disease, and surveillance for adverse events following immunization.
- The team encouraged the MOHs to formulate a plan for individual and mass health education in order to sustain public interest and confidence in immunization and to maintain achievements.
- The team recommended that the MOHs use immunization coverage by antigen and dose before 12 months of age as the prime indicator of program output. The team stressed that the denominator should not be reduced by the number of children expected to have contraindications to immunization.
- The team considered that rigid requirements for storing BCG in separate refrigerators and administering it in separate rooms had no basis and recommended that BCG be stored, transported and administered along with other vaccines.

The team members included Dr. Artur Galazka (WHO/EPI Medical Officer/Geneva), Dr. Colette Roure (WHO/Regional Advisor Communicable Diseases, Copenhagen), Dr. Keith Powell (Professor and Associate Chairman, Department of Pediatrics University of Rochester School of Medicine), Dr. James J. Gibson (Medical Advisor, Office of Health, AID/W), and Robert Steinglass (REACH Technical Director, John Snow, Inc.). (See Annex 2.)

The Tajikistan seminar was additionally attended by local UNICEF field staff and by two participants from Moldova. Similar immunization policy workshops are planned for Moldova and Georgia in November 1993.

Both seminars were covered by local newspapers and television.

The MOHs indicated their intention to continue the dialogue begun during the meetings between national epidemiologists and pediatricians who rarely meet together. The MOHs will convene small working groups to identify how future policies could be set, with early attention being directed to revising their immunization schedules and lists of contraindications.

Table 1 shows the routine immunization schedule in force throughout the former Soviet Union. A comparison of the number of diseases prevented by the vaccination schedules recommended by the USA, England, former Soviet Union, and WHO, and the number of visits required to complete the vaccination schedules before 36 months of age appears in Table 2. A glossary of vaccines in English and Russian appears in Annex 12.

Table 1

Soviet routine child immunization schedule*

Age	Vaccination
3-5 days	BCG 1
3 months	OPV 1 DPT 1
4.5 months	OPV 2 DPT 2
6 months	OPV 3 DPT 3
12 months	Measles 1
12-23 months	OPV 4 OPV 5
15-18 months	Mumps
2 years	DPT 4
24-35 months	OPV 6 OPV 7
6 years	Measles 2
7 years	OPV 8 BCG 2
9 years	Td
10 years	BCG 3
15 years	Td OPV 9
16 years	BCG 4

* slight variations in the age of booster vaccinations exist in the immunization schedules by republic

Table 2

**Number of diseases prevented by various vaccination schedules
and number of visits required to complete
vaccination schedule before 36 months of age**

	WHO	ENGLAND	USA	FSU
No. of diseases prevented	6	8	9	7
No. of contacts required to complete vaccination schedule	5	4	5-7	10

II. OBJECTIVES AND DESIRED OUTCOME OF THE SEMINARS AND SYMPOSIA

The objectives and desired outcome of the seminars and symposia were to:

- improve understanding of international immunization policies and practices
- identify problems amenable to policy reformulation
- improve understanding of policy-setting mechanisms utilized in the West
- identify possible policy-setting process at national level
- forge linkages between home institutions and those in the CAR which could lead to partnerships
- inform about role played by international community in support of immunization.

III. ORGANIZATION OF THE SEMINARS AND SYMPOSIA

The seminar in Turkmenistan lasted two days and was attended by a group of 40 influential national participants (Annex 3). In Tajikistan the seminar lasted two and one half days and was attended by 28 national participants (Annex 4).

An agenda which was prepared beforehand in each country was followed with some modifications in Turkmenistan (Annex 5) and in Tajikistan (Annex 6). Short plenary presentations by both national and international experts were followed by questions and answers and discussion.

After the seminar, a symposium in Turkmenistan lasted one day and served to disseminate more widely the ideas presented during the two-day meeting. Approximately 140 persons attended, with representation from each oblast in the country, including the chief pediatricians, epidemiologists, infectious disease control specialists and immunologists from each level of the health system. The agenda appears in Annex 7. In Tajikistan, the seminar was followed by a half day symposium which was attended by approximately 100 staff from within Dushanbe and neighboring rayons. The agenda appears in Annex 8.

Before the seminar in Turkmenistan, the MOH had prepared a draft plan entitled "National Immunization Program for Ten Years of Well-Being" and had solicited comments from around the country. In Tajikistan, the Republican SES had organized a series of mini-meetings prior to the seminar throughout the country to solicit input and share ideas.

The 350 pages of key immunization documents, which had been translated by REACH and provided to the MOHs in December 1992, were evidently put to good use in both Turkmenistan and Tajikistan as reference materials prior to the seminars.

A fluent interpreter was assigned to each non-Russian speaking external resource person. Sequential interpretation was utilized during the seminars and symposia.

The scope of work for the external expert consultants was to:

- read documents and training materials on immunization policies, guidelines, disease control strategies in use in international and domestic settings
- participate in an internal team planning meeting to reach consensus on outcome, products, and group norms
- serve as resource persons to the MOH to share knowledge and experience
- give short presentations on assigned topics and lead informal discussions with key decision makers
- present more formal assigned lecture(s) in wider symposia
- assist nationals to define implementation plan for establishing mechanism for periodic policy review and formulation
- identify appropriate follow-up activities, timetable and process for continued policy dialogue, such as identifying possible partnerships, including between home institutions and those in the CAR
- contribute to final report.

IV. REPORT OF THE INTERNATIONAL TECHNICAL TEAM TO THE MOH, TURKMENISTAN

The international team was requested by Dr. J. Akhmedov (Chief, Sanitary and Epidemiology Department, MOH), to prepare comments on the MOH's draft document for a national immunization program. The Team's report begins in its entirety on the following page and was later translated into Russian (Annex 9):

**MINISTRY OF HEALTH OF THE REPUBLIC OF TURKMENISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
PRACTICES AND POLICY-SETTING**

ASHGABAT, TURKMENISTAN

23 - 24 June, 1993

**COMMENTS OF THE INTERNATIONAL TEAM ON THE
TURKMENISTAN DRAFT NATIONAL IMMUNIZATION PROGRAM**

The Ministry of Health (MOH) of the Republic of Turkmenistan invited an international team of immunization and disease control specialists to participate in a Seminar with the country's leading epidemiologists, pediatricians, immunologists, and infectious disease control specialists. A principal purpose of the Seminar was to exchange technical information and jointly to examine current child immunization policies, practices and disease control strategies in Turkmenistan. The Team was requested by the Chairman of the Seminar, Dr. J. Akhmamedov (Chief, Sanitary and Epidemiological Department, MOH), to prepare recommendations concerning the draft document: "National Immunization Program for 'Ten Years of Well-Being' in Turkmenistan".

The Team reviewed only those essential parts of the draft document which had been translated into English prior to the Seminar. The following report represents the consensus of the Team.

The Team appreciates that the MOH of the newly independent Republic of Turkmenistan perceives itself to be at a crossroads with many difficult choices and new opportunities ahead. Now that former ties with Moscow have been loosened, the MOH recognizes that it is time that they develop their own policies. With independence, the MOH in Turkmenistan has become interested in examining and revising current child immunization policies, disease control strategies and practices, and in developing mechanisms for periodic review and revision of policies. The MOH intends to further strengthen its national immunization program by studying and benefiting from appropriate international experience.

The MOH in Turkmenistan can be proud of its achievements in immunization coverage and disease control. The Team is impressed by the MOH's determination to identify its own problems, collect and analyze data, and arrive at solutions in light of the epidemiological need and operational realities of Turkmenistan.

The Team congratulates the MOH on preparing a plan for a national immunization program and on seeking broad consensus. The manner in which the draft document has been widely circulated to solicit the comments of pediatricians, epidemiologists, immunologists and infectious disease specialists from both within and outside the MOH has been exemplary. The plan will facilitate organization and delivery of services in the changing circumstances of independent Turkmenistan. In establishing immunization coverage and disease reduction targets, and in delineating policies and responsibilities, the plan will serve as a road map for nationals and prospective donor agencies alike.

AIMS AND TARGETS

The national immunization program has been elaborated as an integrated approach to the targeted diseases. It is based on a realistic assessment of available and required staff, resources and facilities.

The Team proposes that the objectives of the national immunization program be modified to make them closer both to the WHO European target 5 and to the epidemiological situation within the country. The Team suggests the following targets:

- No indigenous cases of poliomyelitis by the year 2000.
- No indigenous cases of diphtheria by the year 2000.
- By the year 2000, there should be no deaths from indigenously acquired acute measles and the annual incidence of confirmed cases of measles should be less than 1 per 100,000 population.
- By the year 2000, the annual incidence of pertussis cases should be less than 1 per 100,000 population.

In order to achieve the above goals, the following operational targets on coverage, disease surveillance and outbreak response must be met:

coverage:

- By the year 2000, coverage with the primary immunization series of DPT and OPV should be 95% in children below 1 year of age.
- By 1997, and earlier if possible, immunization coverage against measles should reach 95% in children below 1 year of age.
- By 1997, no rayon should have less than 90% coverage with the complete DPT and OPV primary immunization series.

surveillance:

- **Poliomyelitis:** As early as possible, and before 1995, access to laboratory facilities for isolating, typing, and characterizing polio viruses as wild or vaccine-like should be assured at national level.
- By 1993, surveillance of all acute flaccid paralysis should be established.
- By 1993, all suspected cases of poliomyelitis and their contacts should be fully investigated, including culture of stool for polio virus.

- **Diphtheria:** Effective diphtheria surveillance should be established as soon as possible to be sure that every case is identified.
- By 1995, all reported cases of diphtheria should be classified as indigenous or imported.

- **Measles:** By 1997, an efficient surveillance system to identify all cases of measles should be established
- By 1997, laboratory confirmation should be sought for all sporadic cases of measles.

Outbreak response:

- **Polio:** By 1993, aggressive control strategies in addition to routine immunization activities have to be implemented in areas with cases due to wild polio virus.

- **Diphtheria:** The occurrence of a single case of diphtheria requires immediate control measures, such as isolation of the patient, anti-toxin treatment, anti-microbial chemotherapy, vaccination, and identification and treatment of contacts.

- **Measles:** By 1997, all outbreaks of measles should be investigated.

IMMUNIZATION PROGRAM PHASING

Immunization policy-setting

The MOH needs to identify the optimal mechanism and process by which to review and update guidelines in the future. One way would be to form an advisory committee with representation of experts in pediatrics, epidemiology, infectious disease control, immunology, and public health practice, so as to enrich future dialogue and lead to broader consensus and implementation of any revised guidelines.

Hepatitis B immunization

The Team was informed that 6.8% of women of childbearing age in the country are hepatitis B surface antigen positive. There is much interest in introducing hepatitis B immunization. Introduction of hepatitis B immunization should be a priority and is likely to be a highly cost-effective intervention. However, sustained resources must be found. One way to reduce the costs of the current program and perhaps to permit introduction of hepatitis B is to reduce the number of booster doses of other vaccines, as discussed below. Also, as the risk of serious or life-threatening morbidity from a case of mumps is less substantial than from a case of hepatitis B, mumps immunization is not as high a priority as hepatitis B immunization. The MOH should discuss these and other potential ways in which adequate finance for hepatitis B immunization can be assured earlier than the proposed date of 1998-2002. On the other hand, the Team encourages the MOH to reconsider its intention to introduce vaccination against hepatitis A in 1998-2002, as scarce resources could be better directed at other disease problems.

Vaccine quality control

The Team encourages the MOH to develop a National Vaccine Control Authority which is responsible for licensing the vaccine preparations and checking documentation (including batch protocols) of imported vaccines. A National Control Laboratory should be responsible for testing the potency and safety of imported vaccines.

EPIDEMIOLOGICAL SURVEILLANCE

In order to ensure uniformity and reliability of reporting of targeted diseases, standard case definitions should be used for each disease. This is particularly important for the organization of effective surveillance and control of diphtheria, measles and poliomyelitis.

The Team suggests adding the following points:

- Establishing a feedback system to share with lower levels the results of data analysis and actions taken is important to maintain local interest in data collection and reporting.
- Areas should be classified as high risk on the basis of either immunization coverage or incidence levels, or both.
- Surveillance for adverse events following immunization, with careful use of case definitions to decide which are true reactions, would be useful to continually monitor the safety of vaccines and to substantiate the policies on contraindications.

SEROLOGICAL TESTING

Serological testing is being excessively relied upon as a means of routine program monitoring and to assure vaccine quality. Given the cost and the staff time required, serological testing should be reserved as a tool for specially-designed studies of specific issues. Occasional serosurveys can be helpful, for example, to identify gaps in immunity in certain age groups, which may indicate the need for catch-up immunization in these groups. For example a serosurvey of school age children could lead to mass re-immunization of these children if a large proportion were seronegative for measles. Serological testing should not be used for routine surveillance of vaccine potency. For this purpose, testing of vaccine on receipt from the manufacturer and maintenance of a strong cold chain are the most cost-effective methods of assuring quality vaccines.

STAFF TRAINING AND IMPROVEMENT OF LOGISTICS

The proposal to construct 17 cold rooms cannot be supported on the basis of the requirements for vaccine alone. Top-opening chest freezers are appropriate at republican, oblast and rayon levels for storing measles, polio and, if space permits, BCG vaccines. Refrigerators, icepack freezers, voltage stabilizers, cold boxes, vaccine carriers, icepacks, spare parts, and repair tools need to be provided at various levels to complete the cold chain. Given the rough roads and difficulties in their maintenance, refrigerated vehicles are a less desirable alternative for vaccine transport than the use of trucks carrying cold boxes loaded with vaccine and ice. The MOH and donor agencies should try to standardize the types of cold chain equipment so as to minimize the number of different models in the system. This will facilitate maintenance and repair and reduce the risk of incompatibility.

SCIENTIFIC ACTIVITIES

The Team suggests that the MOH consider conducting carefully designed epidemiologic studies to determine the incidence of congenital rubella syndrome and the causes of neonatal death (including especially tetanus) in Turkmenistan.

PUBLIC HEALTH EDUCATION

Turkmenistan has achieved high immunization coverage and the population is likely to be aware of the importance of immunization. However, the changing economic and political circumstances may make it more difficult to sustain public interest and confidence in immunization. The MOH should formulate a plan for individual and mass health education, which would include an explanation of any changes in the immunization schedule, in order to sustain achievements. Simplifying the immunization schedule will help to simplify the messages given to parents about childhood immunization. Teaching on immunization could be incorporated into school curricula, if not already included.

PROGRAM IMPLEMENTATION AND MANAGEMENT

Cold chain

To help assure vaccine quality, the Team encourages the MOH at all levels to implement the cold chain system, which should include not only the equipment to store and transport vaccine at appropriate temperatures, but also the staff to manage the vaccine and equipment. The recent sizeable donations of cold chain equipment from the USA have highlighted the need for training in cold chain, vaccine logistics, and repair and maintenance of equipment. The Team encourages implementation of WHO recommendations that OPV and measles vaccines at higher levels of the cold chain should be kept frozen at -20 degrees C if use is not imminent.

Immunization during the summer

In view of the current deficiencies in the cold chain, the Team agrees with the current policy of suspending routine immunization during the three hottest months of summer. Once the cold chain is fully operational within Turkmenistan (anticipated before the summer of 1994), immunization should be provided year round so that children can be immunized and protected without delay. The Team believes that data presented at the meeting regarding immunoglobulin concentrations and poor serologic responses to measles vaccine during the summer were not convincing. These studies should be repeated and the results carefully reviewed by peers before being accepted as a reason to withhold vaccinations during the summer.

BCG precautions

The Team was informed that there were rigid requirements dictating that BCG vaccine is to be stored in separate refrigerators and administered in a separate room. The Team considers that these precautions are unnecessary and recommends that BCG be stored, transported and administered along with other vaccines.

IMMUNIZATION SCHEDULE

The general principle governing the use of EPI vaccines is that protection against childhood diseases must be achieved prior to the time when infants are at high risk from these diseases. On the other hand, there is concern that young infants cannot mount an immune response to some vaccines if these are given too early and that the presence of maternal antibodies impairs or suppresses that response.

The immunization schedule must be a reasonable compromise between immunological effectiveness and epidemiological need. The most important issue in this compromise is to provide protection at as young an age as possible while recognizing that seroconversion with some vaccines is age-dependent.

The Team welcomes the proposed changes in the Turkmenistan immunization schedule, shown in the Table. However, the Team believes that adoption of the proposed schedule should await the completion of the cold chain system within Turkmenistan, which is planned by early 1994 with donor assistance. A change from the current exclusive reliance on campaigns for delivering OPV to the proposed system of principal reliance on routine services supplemented by campaigns necessitates greater attention to the cold chain.

The inclusion of a birth dose of oral polio vaccine (OPV) and lowering of the age of measles vaccination from 12 to 9 months should lead to early protection against poliomyelitis and measles. The Team agrees that to achieve the goal of elimination of poliomyelitis by the year 2000, routine immunization with OPV should be supplemented with special immunization activities, such as national immunization days.

The Team supports the decision to reduce the number of booster doses, particularly BCG and OPV, which will result in fewer visits being required to complete the immunization series.

To further simplify the immunization schedule, the Team proposes the following changes:

- The dose of mumps vaccine can be given at 18 months simultaneously with DPT4. Routine simultaneous administration of vaccine is widely recommended and occurs throughout the world. It has been proved to be safe, immunologically effective, efficient in reducing missed opportunities, and economical in eliminating the need for multiple contacts with the health services. For example, children greater than 12 months of age can receive measles and mumps vaccine at the same visit.
- The sixth dose of OPV at the age of 20 months may be canceled.
- Taking into consideration the age-distribution of measles cases and the chronic shortage of measles vaccine, the Team considers that the priority is to achieve and sustain high coverage with one dose of measles administered as soon as the child is 9 months of age. The Team did not have the opportunity to review data on measles epidemiology in Turkmenistan in depth. However, the Team considers that the second dose of measles vaccine is of lower importance nowadays in Turkmenistan and could be eliminated.
- The third dose of BCG at 16-17 years of age can be discontinued. The effectiveness of booster doses of BCG has not been clearly demonstrated in studies in any country. The number of booster doses of BCG should be reduced to a single booster for Mantoux-negative children at the time of school entry.

CONTRAINDICATIONS

The Team notes that six main contraindications are mentioned. The first five (acute disease, clinically-significant immuno-deficiency, severe adverse reaction to the previous dose of the same vaccine, hypersensitivity to vaccine components, and progressive neurological disorder) are in agreement with the recommendations of WHO and the Advisory Committee on Immunization Practices (ACIP). The sixth -- children of low birth weight (below 1800 grams) -- is not in agreement with WHO/ACIP recommendations and should be removed.

Based on international studies and experience in other countries, the Team recognized relatively few true contraindications to immunization. More than 95% of children can be offered immunizations without known increased risk for adverse events. The MOH proposes to adopt most recommendations on contraindications of the World Health Organization (WHO); most contraindications mandated by the former Soviet Union are now proposed for inclusion on the list of false contraindications.

The Team agrees with most contraindications and false contraindications proposed. However, the Team believes that the following points need to be considered by the MOH:

- Significant immunosuppression rarely accompanies common illnesses and therefore the possibility of such immunosuppression should not be considered a contraindication.
- The Team recommends that children with mild upper respiratory infections or mild diarrhea who have temperatures equal to or less than 38.5 degrees Celsius should be vaccinated without delay.
- Likewise, a clear distinction should be made between febrile and non-febrile seizures when considering contraindications to vaccines containing a pertussis component (e.g. DPT). A child who has a seizure following DPT that is not associated with fever should not receive the pertussis component in the future. If a seizure within three days following DPT is associated with fever, DPT should continue to be given. Antihistamine or an antipyretic may be given following immunization to decrease the likelihood of fever.
- Finally, malnutrition ("dystrophia" and "hypotrophia") should be a reason to vaccinate, rather than a contraindication.

Special protocols for managing the immunization of children with temporary medical contraindications are not required. Contraindications should be defined clearly. If a contraindication is present, the child should not receive the contraindicated vaccine. If the contraindication is absent, the health worker should vaccinate the child according to the immunization schedule. If there are questions regarding whether specific conditions should be included as contraindications, a carefully designed study should be conducted to answer the question.

The international Team was composed of the following individuals:

**Mr. Robert Steinglass, Technical Director, U.S. Agency for International Development/REACH (John Snow, Inc.), Arlington, Va.
(Team leader)**

Dr. Artur Galazka, Medical Officer, Expanded Program on Immunization, WHO/HQ, Geneva

Dr. Colette Roure, Regional Adviser, Communicable Disease Control, WHO/EURO, Copenhagen

Dr. Keith Powell, Professor and Associate Chairman, Department of Pediatrics, University of Rochester School of Medicine

Dr. James J. Gibson, Medical Advisor , Office of Health, United States Agency for International Development, Washington.

**MINISTRY OF HEALTH OF THE REPUBLIC OF TURKMENISTAN
 UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
 REACH PROJECT
 WORLD HEALTH ORGANIZATION**

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
 PRACTICES AND POLICY-SETTING
 ASHGABAT, TURKMENISTAN
 23 - 24 June, 1993**

Current and proposed child immunization schedule in Turkmenistan and changes suggested by the USAID/WHO team

age	current schedule		schedule proposed by MOH		schedule suggested by USAID/WHO	
3-5 days	BCG1		BCG1	OPV1	BCG1	OPV1**
2 mos			DPT1	OPV2	DPT1	OPV2
3 mos	DPT1	OPV1*	DPT2	OPV3	DPT2	OPV3
4 mos			DPT3	OPV4	DPT3	OPV4
4.5 mos	DPT2					
6 mos	DPT3	OPV2*				
9 mos		OPV3* OPV4*	MEA1		MEA1	
1 yr	MEA1	MUM				
		OPV5* OPV6*				
1yr 6mo			DPT4	OPV5	DPT4	MUM
1yr 8mo			MUM	OPV6		OPV5
2 yr	DPT4	OPV7* OPV8*				
6 yr	MEA2)BCG2	Td5	OPV7	BCG2
7 yr		BCG2)MEA2			Td5
9 yr		Td5				OPV6
11-12 yr		BCG3				
15-16 yr		Td6				
16-17 yr		BCG4	BCG3	Td6		Td6
No. of routine contacts	12		9		8	

MEA = measles; MUM = mumps

* given in campaigns

** Apart from the routine immunization as specified in this schedule, national days for polio immunization should be organized. Polio national days should include the administration of OPV to all children 0 to 4 years of age, regardless of immunization status. National days will be conducted in September and October during a limited period of time.

**V. REPORT OF THE INTERNATIONAL TECHNICAL TEAM TO THE MOH,
TAJIKISTAN**

The international team was requested by Dr. A.G. Kopyltsov, Deputy Minister of Health, to prepare a report of their findings, which begins in its entirety on the following page and was later translated into Russian (Annex 10):

MINISTRY OF HEALTH OF THE REPUBLIC OF TAJIKISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

REACH PROJECT

WORLD HEALTH ORGANIZATION

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
PRACTICES AND POLICY-SETTING**

DUSHANBE, TAJIKISTAN

30 June - 2 July, 1993

**COMMENTS OF THE INTERNATIONAL TEAM
TO THE TAJIKISTAN MINISTRY OF HEALTH**

The Ministry of Health (MOH) of the Republic of Tajikistan invited an international team of immunization and disease control specialists to participate in a Seminar with the country's leading epidemiologists, pediatricians, immunologists, and infectious disease control specialists. The purpose of the Seminar was to exchange technical information and jointly to examine current child immunization policies, practices and disease control strategies in Tajikistan. The Chairman of the Seminar, Dr. A.G. Kopyltsov (Deputy Minister of Health), asked the Team to prepare written comments and suggestions on the immunization program in the republic. The following report represents the consensus of the Team.

Now that former ties with Moscow have been loosened, the MOH recognizes that it is time that they develop their own policies. With independence, the MOH in Tajikistan has become interested in examining and revising current child immunization policies, disease control strategies and practices, and in developing mechanisms for periodic review and revision of policies. The MOH intends to further strengthen its national immunization program by studying and benefiting from appropriate international experience.

Considering recent political and civil turmoil, the MOH in Tajikistan can be proud of its achievements in immunization coverage and disease control. The Team is impressed by the MOH's determination to identify its own problems, collect and analyze data, and arrive at solutions in light of epidemiologic characteristics and operational realities of Tajikistan.

The Team congratulates the MOH on preparing for the Seminar by conducting a series of mini-meetings on policy revision around the country and by preparing a directive reducing the list of contraindications.

NATIONAL IMMUNIZATION PLAN (NIP)

The Team encourages the MOH to prepare a national immunization plan (NIP) and to seek broad consensus by widely circulating the plan to solicit the comments of pediatricians, epidemiologists, immunologists and infectious disease specialists from both within and outside the MOH. Such a plan will facilitate organization and delivery of services in the changing circumstances of independent Tajikistan. In establishing immunization coverage and disease reduction targets, and in delineating policies and responsibilities, the plan will serve as a guide for nationals and prospective donor agencies alike.

Such a plan is more than an estimate of the number of children to be vaccinated and the amount of vaccine required. The plan should state objectives, coverage and disease reduction targets, guidelines (on immunization schedule, contraindications, etc.), strategies (e.g. use of polyclinics, defaulter tracing, outreach, special strategies for polio eradication, cold chain system, etc.), activities, responsibilities of different sectors and disciplines, time frames for achieving targets and completing activities, evaluation schemes, and resource and vaccine requirements. The NIP format developed by WHO/EURO, translated into Russian, and distributed to the EPI managers can be used as a framework.

AIMS AND TARGETS

The MOH is encouraged to formulate its aims and targets based on a realistic assessment of available and required staff, resources and facilities.

The Team proposes that the objectives of the national immunization program take into consideration the WHO European target 5 and the epidemiological situation within the country. The Team suggests the following targets:

- No indigenous cases of poliomyelitis by the year 2000.
- No indigenous cases of diphtheria by the year 2000.
- By the year 2000, there should be no deaths from indigenously acquired acute measles and the annual incidence of confirmed cases of measles should be less than 1 per 100,000 population.
- By the year 2000, the annual incidence of pertussis cases should be less than 1 per 100,000 population.

In order to achieve the above goals, the following operational targets on coverage, disease surveillance and outbreak response must be met:

coverage:

- By the year 2000, coverage with the primary immunization series of DPT (three doses) and OPV (four doses) should be 95% in children below 1 year of age.
- By 1997, and earlier if possible, immunization coverage against measles should reach 95% in children below 1 year of age.
- By 1997, no rayon should have less than 90% coverage with the complete DPT and OPV primary immunization series.

surveillance:

- **Poliomyelitis:** As early as possible, and before 1995, access to laboratory facilities for isolating, typing, and characterizing polio viruses as wild or vaccine-like should be assured at national level.
- By 1993, surveillance for all acute flaccid paralysis cases should be established.
- By 1993, all suspected cases of poliomyelitis and their contacts should be fully investigated, including culture of stool for polio virus.

- **Diphtheria:** Effective diphtheria surveillance should be established as soon as possible to be sure that every case is identified.
- By 1995, all reported cases of diphtheria should be classified as indigenous or imported.

- **Measles:** By 1997, an efficient surveillance system to identify all cases of measles should be established
- By 1997, laboratory confirmation should be sought for all sporadic cases of measles.

Outbreak response:

- **Polio:** By 1993, aggressive control strategies in addition to routine immunization activities have to be implemented in areas with cases due to wild polio virus.

- **Diphtheria:** The occurrence of a single case of diphtheria requires immediate control measures, such as isolation of the patient, anti-toxin treatment, anti-microbial chemotherapy, vaccination, and identification and treatment of contacts.

- **Measles:** By 1997, all outbreaks of measles should be investigated.

IMMUNIZATION SCHEDULE

The general principle governing the use of EPI vaccines is that protection against childhood diseases must be achieved prior to the time when infants are at high risk from these diseases. On the other hand, there is concern that young infants cannot mount an immune response to some vaccines if these are given too early and that the presence of maternal antibodies impairs or suppresses that response.

The immunization schedule must be a reasonable compromise between immunological effectiveness and epidemiological need. The most important issue in this compromise is to provide protection at as young an age as possible while recognizing that seroconversion with some vaccines is age-dependent.

The Team welcomes the proposed changes in the Tajikistan immunization schedule, shown in the Table, which will reduce the required number of contacts and allow the primary series of immunizations to be started and completed earlier in life than at present.

Lowering of the age of measles vaccination from 12 to 9 months should lead to early protection against measles. The Team recommends that the MOH cancel the fourth dose of OPV (oral polio vaccine) at 9 months of age in their proposed schedule. Instead, a dose of OPV should be added at birth, along with BCG, so that children can be protected earlier in life. The Team further recommends that to achieve the goal of elimination of poliomyelitis by the year 2000, routine immunization with OPV should be supplemented with special immunization activities, such as national or sub-national immunization days.

The Team supports the decision to reduce the number of booster doses, particularly BCG and OPV, which will result in fewer visits being required to complete the immunization series.

To further simplify the immunization schedule, the Team proposes the following changes:

- The dose of mumps vaccine can be given at 16 months simultaneously with DPT4. Routine simultaneous administration of vaccine is widely recommended and occurs throughout the world. It has been proved to be safe, immunologically effective, efficient in reducing missed opportunities, and economical in eliminating the need for multiple contacts with the health services. For example, children greater than 12 months of age can receive measles and mumps vaccine at the same visit.
- The sixth dose of OPV at the age of 18 months may be shifted to school entry at 6-7 years along with Td5 and BCG2.
- The third dose of BCG at 16-17 years of age can be discontinued. The effectiveness of booster doses of BCG has not been clearly demonstrated in studies in any country. The number of booster doses of BCG should be reduced to a single booster for Mantoux-negative children at the time of school entry.
- Taking into consideration the age-distribution of measles cases and the chronic shortage of measles vaccine, the Team considers that the priority is to achieve and sustain high coverage with one dose of measles administered as soon as the child is 9 months of age.

The Team did not have the opportunity to review data on measles epidemiology in Tajikistan in depth. It is therefore difficult to comment on the importance of a second dose of measles vaccine. For measles control, a single dose at nine months may be sufficient. For measles elimination, an additional dose would probably be required, although this could be given either in a one-time mass campaign or as a routine second dose. A second dose should not be introduced until 90% coverage with the primary dose is being achieved in each rayon. If the MOH does wish to continue with a two-dose schedule, however, the Team suggests that

the second dose be given at age 15 months instead of 3 years, since the aim is to protect children who did not seroconvert to the first dose. However, the Team recommends a review of measles epidemiology to determine optimal strategies if the MOH decides to aim for measles elimination.

CONTRAINDICATIONS

Based on international studies and experience in other countries, the Team recognizes relatively few true contraindications to immunization. More than 95% of children can be offered immunizations without known increased risk for adverse events.

The Team acknowledges that the MOH has recently distributed a list of contraindications based on the list developed in Budapest in 1988 at the meeting of the national EPI managers for Europe. However, given the nature of the concerns expressed at the Meeting, it is clear that a long process of re-educating pediatricians will be required.

The Team believes that the following points need to be stressed:

- Children should be immunized as soon as recovery from an acute, moderate to severe illness is well begun.
- The Team recommends that children with mild upper respiratory infections or mild diarrhea who have temperatures equal to or less than 38.5 degrees Celsius should be vaccinated without delay.
- Likewise, a clear distinction should be made between febrile and non-febrile seizures when considering contraindications to vaccines containing a pertussis component (e.g. DPT). A child who has a seizure following DPT that is not associated with fever should not receive the pertussis component in the future. If a seizure within three days following DPT is associated with fever, DPT should continue to be given. Antihistamine or an antipyretic may be given following immunization to decrease the likelihood of fever.

The Team was concerned that 40% of children not vaccinated because of contraindications were said to have neurologic disorders. Many of these children are diagnosed in the newborn period but the team was unable to obtain a clear description or definition of what is being diagnosed.

- Finally, malnutrition ("dystrophia" and "hypotrophia") should be a reason to vaccinate, rather than a contraindication.

Special protocols for managing the immunization of children with temporary medical contraindications are not required. Contraindications should be defined clearly. If a contraindication is present, the child should not receive the contraindicated vaccine. If the contraindication is absent, the health worker should vaccinate the child according to the immunization schedule. If there are questions regarding whether specific conditions should be included as contraindications, a carefully designed study should be conducted to answer the question.

PROGRAM IMPLEMENTATION AND MANAGEMENT

Immunization policy-setting

The MOH needs to identify the optimal mechanism and process by which to review and update immunization guidelines in the future. The Team suggests that a National Immunization Program Advisory Committee be established to make recommendations to the MOH on the National Immunization Program. The committee should have broad representation of experts in pediatrics, epidemiology, infectious disease control, immunology, and public health practice, so as to enrich future dialogue and lead to broader consensus and implementation of any revised guidelines. Wide geographic representation would be useful. Individuals could serve on the committee for limited terms (e.g., 3-4 years) to help keep ideas fresh.

Vaccine quality control

The Team encourages the MOH to develop a National Vaccine Control Authority which is responsible for checking documentation (including batch protocols) of imported vaccines and licensing the vaccine preparations. A National Control Laboratory might be developed in steps and be responsible for testing the potency and safety of imported vaccines.

Cold chain

To help assure vaccine quality, the Team encourages the MOH at all levels to implement the cold chain system, which should include not only equipment to store and transport vaccine at appropriate temperatures, but also properly-trained staff to manage the vaccine and equipment. The recent sizeable donations of cold chain equipment from the USA have highlighted the need for training in cold chain, vaccine logistics, and repair and maintenance of equipment. The Team encourages implementation of WHO recommendations that OPV and measles vaccines at higher levels of the cold chain should be kept frozen at -20 degrees C if use is not imminent.

While much equipment has been provided in 1992 by the USA, the cold chain system is not yet fully equipped. A walk-in cold room is needed in Dushanbe for storing toxoid preparations. Top-opening chest freezers are appropriate at the republican, oblast and rayon levels for storing measles, polio and, if space permits, BCG vaccines. Refrigerators, icepack freezers, voltage stabilizers, cold boxes, vaccine carriers, icepacks, spare parts, and repair tools need to be provided at various levels to complete the cold chain. Given the rough roads and difficulties in their maintenance, refrigerated vehicles are a less desirable alternative for vaccine transport than the use of trucks carrying cold boxes loaded with vaccine and ice. The MOH

and donor agencies should try to standardize the types of cold chain equipment so as to minimize the number of different models in the system. This will facilitate maintenance and repair and reduce the risk of incompatibility.

Immunization during the summer

In view of the current deficiencies in the cold chain, the Team agrees with the current policy of suspending routine immunization during the three hottest months of summer. Once the cold chain is fully operational within Tajikistan, immunization should be provided year round so that children can be immunized and protected without delay.

Measuring immunization coverage

The MOH has a well-defined registration system for recording a child's immunizations, tracking drop-outs, and determining vaccine requirements. The system is also used to monitor coverage. Simpler methods of monitoring and validating immunization coverage, including both routine and survey methods, should be reviewed for appropriateness. In any case, coverage by 12 months of age (by 23 months of age in the case of measles under the current schedule) should be the prime indicator of program output. Coverage should be expressed for individual vaccines (DPT, OPV, BCG, and measles) and separately for each dose (e.g., DPT1, DPT2, and DPT3). The Team recommends that in calculating immunization coverage at all levels, the denominator should not be reduced by the number of children expected to have contraindications to immunization. The Team recommended use of the following formula for each vaccine:

$$\text{immunization coverage (\%)} = \frac{\text{number of children immunized before 12 months of age}}{\text{number of newborns}} \times 100$$

Hepatitis B immunization

The Team was informed that 5-8% of women of childbearing age in the country are hepatitis B surface antigen positive. There is much interest in introducing hepatitis B immunization. Introduction of hepatitis B immunization should be a priority and is likely to be a highly cost-effective intervention. However, sustained resources must be found. One way to reduce the costs of the current program and perhaps to permit introduction of hepatitis B is to reduce the number of booster doses of other vaccines, as discussed above. Also, as the risk of serious or life-threatening morbidity from a case of mumps is less substantial than from a case of hepatitis B, mumps immunization is not as high a priority as hepatitis B immunization. The MOH should discuss these and other potential ways in which adequate finance for hepatitis B immunization can be assured, once a routine supply of the standard EPI vaccines is available.

Rubella

The Team was provided with serologic data showing that 80-90% of women of childbearing age are sero-positive with the lowest rates in rural areas in the south of the country. Currently rubella vaccine is not in use. In the future, any rubella immunization strategy (universal among infants or targeted at high risk groups) should be carefully considered before implementation.

BCG precautions

The Team was informed that there were rigid requirements dictating that BCG vaccine is to be stored in separate refrigerators and administered in a separate room. The Team considers that these precautions are unnecessary and recommends that BCG be stored, transported and administered along with other vaccines.

EPIDEMIOLOGICAL SURVEILLANCE

Disease surveillance consisting of the collection, analysis, use and feedback of epidemiological data is critical to continually guide immunization efforts. The MOH already collects impressive quantities of data and is encouraged to develop the other elements of an effective surveillance system, especially feedback to all levels of the health system and to all providers of health services including pediatricians.

In order to ensure uniformity and reliability of reporting of targeted diseases, standard case definitions should be used for each disease. This is particularly important for the organization of effective surveillance and control of diphtheria, measles and poliomyelitis.

The Team suggests that the MOH:

- Establish a feedback system to share with lower levels the results of data analysis and actions taken. This is important to maintain local interest in data collection and reporting.
- Classify areas as high risk if they have either low immunization coverage or high incidence levels, or both.
- Develop surveillance for adverse events following immunization, with careful use of case definitions to decide which are true reactions, in order to monitor the safety of vaccines and to substantiate the policies on contraindications.
- Request assistance for assessing laboratory needs in the context of polio eradication. The Team suggests that a virologist consultant should be sent to evaluate the capacity of the existing laboratory to type, characterize and differentiate polio viruses.

SEROLOGICAL TESTING

Serological testing is being excessively relied upon as a means of routine program monitoring and to assure vaccine quality. Given the cost and the staff time required, serological testing should be reserved as a tool for specially-designed studies of specific issues. Occasional serosurveys can be helpful, for example, to identify gaps in immunity in certain age groups, which may indicate the need for catch-up immunization in these groups. For example a serosurvey of school age children could lead to mass re-immunization of these children if a large proportion were seronegative for measles. Serological testing should not be used for routine surveillance of vaccine potency. For this purpose, testing of vaccine on receipt from the manufacturer and maintenance of a strong cold chain are the most cost-effective methods of assuring quality vaccines. A valuable way to assess measles vaccine efficacy is to include measles vaccination history in the information gathered on all measles cases.

SCIENTIFIC ACTIVITIES

The Team suggests that the MOH consider conducting carefully designed epidemiologic studies to determine the incidence of congenital rubella syndrome and the causes of neonatal death (including tetanus) in Tajikistan.

PUBLIC HEALTH EDUCATION

The population of Tajikistan is likely to be aware of the importance of immunization. However, the changing economic and political circumstances may make it more difficult to sustain public interest and confidence in immunization. The MOH should formulate a plan for individual and mass health education, which would include an explanation of any changes in the immunization schedule, in order to sustain achievements. Simplifying the immunization schedule will help to simplify the messages given to parents about childhood immunization. Teaching on immunization could be incorporated into school curricula, if not already included.

The international Team was composed of the following individuals:

Mr. Robert Steinglass, Technical Director, REACH Project (John Snow, Inc.) of the U.S. Agency for International Development, Arlington, Va. (Team leader)

Dr. Artur Galazka, Medical Officer, Expanded Program on Immunization, WHO/HQ, Geneva

Dr. Colette Roure, Regional Adviser, Communicable Disease Control, WHO/EURO, Copenhagen

Dr. Keith Powell, Professor and Associate Chairman, Department of Pediatrics, University of Rochester School of Medicine

Dr. James J. Gibson, Medical Advisor , Office of Health, United States Agency for International Development, Washington.

**MINISTRY OF HEALTH OF THE REPUBLIC OF TAJIKISTAN
 UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
 REACH PROJECT
 WORLD HEALTH ORGANIZATION**

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
 PRACTICES AND POLICY-SETTING
 DUSHANBE, TAJIKISTAN
 30 June - 2 July, 1993**

Current and proposed child immunization schedule in Tajikistan and changes suggested by the USAID/WHO team

age	current (old Soviet) schedule	schedule proposed by MOH	schedule suggested by USAID/WHO
3-6 days	BCG1	BCG1	BCG1 OPV1*
2 mos		DPT1 OPV1	DPT1 OPV2
3 mos	DPT1 OPV1	DPT2 OPV2	DPT2 OPV3
4 mos		DPT3 OPV3	DPT3 OPV4
4.5 mos	DPT2 OPV2		
6 mos	DPT3 OPV3		
9 mos		MEA1 OPV4	MEA1
1 yr	MEA1		
15 mos	MUM		
12-24 mos	OPV4, OPV5		
1 yr 4mo		DPT4 OPV5	DPT4 MUM OPV5
1 yr 6mo		MUM OPV6	
2 yrs	OPV6, OPV7		
3 yrs	OPV8, DPT4	MEA2	
6 yrs	MEA2	BCG2 Td5	BCG2 Td5 OPV6
7 yrs	BCG2 OPV9		
9 yrs	Td5		
11-12 yrs	BCG3		
15-16 yrs	Td6 OPV10		
16-17 yr	BCG4	BCG3 Td6	Td6
No. of routine contacts	17	10	8

MEA = measles; MUM = mumps

* Apart from the routine immunization as specified in this schedule, national immunization days should be organized. Polio national days should include the administration of OPV to all children 0 to 3 years of age, regardless of immunization status. National days should be conducted in a cool season.

VI. PRESENTATIONS

Short synopses of the oral presentations were prepared by the individual speakers and appear in this section. Because the agenda of the various seminars and symposia were very similar, presentations by the same individual did not vary greatly; therefore, the written synopses appear below only once by topic. Starting first with the international technical team members and then those national speakers in Turkmenistan and Tajikistan who submitted summaries, the contributions below are organized in the general order in which the presentations appeared on the agenda.

Expanded Program on Immunization: Global Perspective (Galazka)

The history, goals, policies, strategies and approaches of the EPI were presented. The global achievement of the 1990's target of 80% immunization coverage among infants world wide with BCG and measles vaccines, and the third dose of DPT and of oral poliomyelitis vaccines represents a milestone on the way to universal childhood immunization. This progress in global immunization is directly attributable to the efforts of national governments, WHO, UNICEF and other bodies of the UN system, bilateral development agencies, and non-governmental organizations. Differences in immunization coverage levels exist between various countries and areas and reflect the varied development of the primary health care infrastructure. It was emphasized that the achieved successes of immunization programs must be sustained and will require continuing intense efforts for the foreseeable future to avoid a resurgence of vaccine-preventable diseases. It was stressed that the global achievement of major EPI objectives (maintenance of a high level of immunization coverage, 95% reduction of measles deaths, 90% reduction of measles cases, elimination of neonatal tetanus and eradication of poliomyelitis) will need further efforts from the individual countries as well as more concentrated cooperation between countries and international organizations.

Immunization Program in the United States (Powell)

The United States has as a goal the immunization of 90% of children against diphtheria, tetanus, pertussis, hepatitis B virus, Hemophilus influenzae type b, polio, measles, mumps and rubella by two years of age. The U.S. has also set year 2000 goals for disease incidence as follows: diphtheria, 0 cases; measles, 0 cases; mumps, fewer than 500 cases; pertussis, fewer than 1000 cases; and 0 cases of poliomyelitis (paralytic), rubella, congenital rubella syndrome and tetanus. The incidence of these diseases were shown for 1991 and 1992, as well as the peak number of cases reported during a year before the corresponding vaccine was in use.

Immunization rates in the U.S. with DPT, OPV, MMR and Hib at 2 years of age were shown. Overall immunization rates at 2 years of age are lower in the U.S. than in many countries. Immunization rates are generally lower in non-white persons and persons living in the center of cities. By 5-6 years of age, immunization rates for DPT, OPV and MMR all exceed 95%. The immunization schedule used in the U.S. to help achieve the goals was presented.

In order to achieve 90% immunization rates by two years of age, the National Vaccine Program has developed a broad-based plan. The immunization plan includes: educational campaigns aimed at both parents and health care providers; improvements in the vaccine delivery system; development of a nationwide vaccine registry and surveillance system; and elimination of cost as a barrier to immunization. This plan has been proposed by President Clinton as the Comprehensive Child Immunization Act of 1993 and awaits approval by the Congress.

Immunization Schedules in the EPI (Galazka)

The immunization schedule recommended by the EPI/WHO was presented. Differences between immunization schedules used in various countries were discussed with special emphasis on the need to tailor the immunization schedule to conditions prevailing in a particular country. It was stressed that the first priority for routine immunization programs is to ensure that infants are completely immunized against target diseases with the appropriate primary immunization at the youngest age possible. Countries considering doses of vaccines beyond the primary series should evaluate the potential impact of such doses on target diseases, additional resources required, likelihood of continued availability of these resources, cost-benefit, and any potential negative impact on sustaining high coverage in infants prior to implementing such a schedule. Immunization schedules in Uzbekistan and Kyrgyzstan were compared with those used in other countries in terms of the need for simplifying the schedule so that primary immunization can be started and completed as early in life as possible and with fewer booster doses.

Contraindications to Immunization: USA (Powell)

Lists of contraindications to immunization were started when vaccines were much cruder than today and quality control did not exist. As the lists of contraindications grew, the postponement of immunizations because of "false" contraindications became a major cause of missed opportunities to immunize and incompletely immunized children in the U.S. When evaluating the appropriateness of contraindications, it is important to assess all available data about seroconversion as well as the incidence of adverse events in vaccine recipients compared to unvaccinated controls. Where the risk of acquiring a vaccine-preventable disease remains high, the morbidity and mortality associated with diseases far exceeds the incidence of vaccine-associated adverse events.

The EPI list of contraindications was compared to the short list of contraindications recommended by the U.S. Advisory Committee on Immunization Practices (ACIP) and shown to be very similar. A list of true and false contraindications recommended by the National Vaccine Advisory Committee, approved by the U.S. Public Health Service, and endorsed by the American Academy of Pediatrics was reviewed in detail.

A lively discussion followed in which many examples were presented of conditions and situations where immunizations were postponed. The reasons why malnutrition, anemia, chronic illnesses like asthma, heart or kidney disease, allergies, and minor illnesses were false contraindications were discussed. Some participants readily agreed with the Team while others remained skeptical.

The Safety of Simultaneous Immunization with Live Viral Vaccines (Powell)

In order to take advantage of every appropriate opportunity to immunize children, it is desirable to be able to administer as many vaccines as possible at a single visit. For the simultaneous administration of vaccines to be acceptable, there should be good evidence that the immunogenicity of the individual antigens remains the same when they are given simultaneously as when they are given on separate visits, and that the incidence or severity of adverse events does not increase. There is a large body of evidence demonstrating that EPI vaccines as well as Hib, HBV, and MMR vaccines can be given simultaneously without decreasing immunogenicity or increasing adverse effects. Data from several studies were presented. The reasons for emphasizing simultaneous immunizations in the U.S. were presented. The suggestion was made that participants consider simultaneous immunizations when developing a national plan.

Principles of Surveillance for Disease Control (Gibson)

Control of measles cannot be achieved without a system of disease surveillance that is both complete (identifies most cases in each area correctly) and timely (identifies them promptly).

The cycle of surveillance: the purpose of surveillance is gathering information for action. There are 5 essential steps: reporting cases, compilation and analysis of data, interpretation, taking action, and feedback to the reporting sources. All links of the chain must work for its purpose to be achieved. This process of data analysis and interpretation, and taking action on the results of the data, can be done at multiple levels in the reporting chain: rayon, oblast, and republican.

Purposes and uses of surveillance data. Specific examples of how it can be used for planning and trouble-shooting: a) age and year-specific incidence data to plan strategies for measles control, such as whether to focus on primary immunization or revaccination; b) region-specific incidence (incidence of polio and measles by oblast); c) incidence by age and immunization status to estimate vaccine efficacy.

To receive reliable surveillance data, valid case definitions must be adopted by all reporting sites and used.

Just as performance of immunization delivery can be monitored by reporting number of immunizations given, also performance of surveillance can be monitored by reporting on number and timeliness of reports received. For this purpose, WHO has designed a standard form on which to record reports expected and received from each unit in an area, and when they are received.

Control of Diphtheria (Galazka)

The widespread immunization of infants and children with diphtheria toxoid has resulted in a dramatic decline in both clinical disease and immunity patterns.

In Europe, diphtheria incidence reached an all-time low level in 1980, when only 623 cases were reported. In the last decade, two waves of diphtheria were reported, the first in 1982-1985, and the second that started in 1990. Both were influenced by the situation in the Russian Federation and Ukraine.

The alarming resurgence of diphtheria in these two countries was reviewed with the special emphasis on geographic distribution, epidemiologic forms, and age distribution.

The main factors that may play a role in the rise and continuation of the epidemic are: low and decreasing immunization coverage rates among infants and children, the gap of immunity to diphtheria in adults and large population movements during recent years.

It was stressed that diphtheria cases have been recorded in several European countries; most of these cases have an epidemiological link with diphtheria cases in Russia and Ukraine.

Increasing alertness in diagnosing and treatment of diphtheria is needed. Activities in treating diphtheria cases and relevant contacts were reviewed, including a strict isolation of cases, anti-toxin treatment, anti-microbial chemotherapy, vaccination, and identification and treatment of contacts.

Measles Control Strategies (Gibson)

Measles is a highly infectious disease and, as such, requires high immunization coverage in the range of 90% in every rayon and community to control transmission.

Measles vaccines are about 85% effective when given at 9 months of age and 90-95% when given at 12-15 months, if the cold chain is functioning well. This drops to less than 50% if given at 6 months, as was well demonstrated during the vaccine trials in Tashkent in 1990.

Several points about the epidemiology of measles are relevant to planning control strategies for a country. Certain groups are at especially high risk of both infection and serious disease; they must have high coverage, and yet they are often the hardest groups to reach. Thus they require special attention. Such groups include refugees, those living in remote areas, social or economic groups not part of the mainstream of society, and persons in medical clinics or hospitals.

The natural course of measles after coverage exceeds about 70% is for incidence to drop to very low for several years. Then as susceptibles accumulate (because efficacy is 90%, not

necessarily because of any cold chain failure), an epidemic occurs. This is not because the system has failed, but because of the epidemiology of measles. Only a two-dose schedule provides a chance of avoiding this, but that requires a very large investment in effort and vaccine that may not be the best use of resources.

Data on immunization coverage by age and oblast shows that coverage fell below 90% in 1991 and 1992. Further, measles age-specific incidence data for Turkmenistan as a whole and for the Ashgabat 1992 epidemic shows that coverage with the first measles dose was not adequate in children under two years of age, at a time when a two-dose schedule was in effect. Thus our recommendation at this time is to concentrate on achieving high coverage with the first measles dose before 15 months of age, before effort is put into giving a second dose to any child.

Stability of Vaccines (Galazka)

Data were presented on the varying stability of different EPI vaccines. EPI vaccines were ranked from the most resistant to heat (toxoids, hepatitis B vaccine) to the most labile vaccine (OPV). The practical implications of the different heat-stability characteristics were discussed. The results of various studies were presented which showed that freezing and thawing of oral poliomyelitis vaccine does not affect potency even when repeated enough times to represent the most unfavorable conditions of storage.

Ensuring Vaccine Quality: The Cold Chain (Steinglass)

The cold chain consists of the equipment, people and procedures required to store, handle and transport vaccines at the appropriate temperatures. The arrival of donated cold chain equipment from the USA has helped to strengthen the cold chain down to some of the rayons, but training in its appropriate use, maintenance and repair is required. The cold chain is not yet complete at all levels.

With the cancellation of flights due to shortages of aviation fuel, vaccines will henceforth be delivered from the manufacturers direct to the capital city, rather than to the oblast centers as in the past. This accelerates the need for improvements in cold storage, stock control, and vaccine handling practices in the capital and at lower levels. The donation of freezers enables ice to be manufactured for the first time for vaccine transport and permits the appropriate storage of measles and polio vaccines, when their use is not imminent.

With all the attention paid to such topics as improving vaccine formulations and monitoring the quality of vaccine by means of pervasive serological testing of children, it seems strange that relatively so little attention has been directed at solving the very practical and immediate problems of vaccine storage and handling. Regrettably, current efforts which are being undertaken by the MOH to improve the cold chain are undermined by the continuation of old

unsound practices. For example, vaccines are still despatched from the manufacturers in the former Soviet Union in ordinary wooden boxes without insulation or icepacks. Vaccine consignments often arrive from Russia without advance notification and can frequently take up to one week or more in transit. It is rare anywhere in the world for such neglect to persist at these high levels of the cold chain, through which every vial of vaccine must pass.

Immunization Policy-Setting Process in the USA (Powell)

The policy making process in the U.S. is a broad interactive process that occurs in both the public and private sectors with close interactions between the two. The most important agencies and committees involved in immunization services were summarized and the Advisory Committee on Immunization Practices (ACIP) was described in greater detail. It was emphasized that the ACIP is comprised of experts in the areas of infectious diseases, pediatrics, immunology, epidemiology and public health. Members of the committee are selected for limited terms and all geographic regions of the country are represented. Most members are not government employees so that policy recommendations are based on available information and needs rather than being politically oriented.

The American Academy of Pediatrics (AAP) Committee on Infectious Diseases is also comprised of diverse pediatric sub-specialists and generalists who make consensus recommendations to the 40,000 members of the AAP. The ACIP and AAP Committee on Infectious Diseases work together to try to reach consensus on recommendations. Recommendations of the ACIP are published by the Public Health Service as well as major medical journals. The recommendations of the AAP are published in the "Red book" which is updated every 2-3 years as well as the journal "Pediatrics."

Unless states, schools, or other institutions pass laws requiring immunizations, it is largely up to the providers of immunization services to follow the recommendations of the policy setting committees.

Creating a Team Approach: The Roles of the Pediatrician, Epidemiologist and Immunologist (Powell)

Leaders with expertise in all areas that might be important for the development of a national immunization plan should be identified. A team comprised of 10-15 of these leaders should be given the responsibility to: 1) carefully define the current situation for the delivery of immunization services; 2) define the desired state; 3) use problem solving techniques to identify the best solutions to problems; and finally 4) set a time table for full implementation of the plan.

Developing a Plan for a National Immunization Program (Steinglass)

An immunization plan, developed by consensus with the involvement of diverse groups within the MOH, is a road map which states briefly where you are coming from, and in detail where you are going and how you intend to get there. A comprehensive plan would have multiple uses by: facilitating the organization of services during the present period of changing circumstances; delineating roles and responsibilities; helping to set targets and monitor progress; and helping to coordinate and attract donor inputs. A plan is considerably more than a list of persons to be immunized or of commodities required.

An immunization plan would at a minimum include objectives, targets for vaccination coverage and disease reduction, policies regarding immunization schedules and contraindications, strategies for delivering services and maintaining the cold chain, planned activities with time frames for starting and completion, responsibilities of each type of health worker and health institution for implementation, plans and indicators for evaluation (including disease surveillance) and research, and requirements for resources. Examples of what was meant generally by a plan and specifically by the above components of a plan were presented in the form of questions, the answers to which could form the beginnings of a national immunization plan.

Problems and Difficulties in Achieving High Immunization Coverage in Turkmenistan (Abramov)

Immunization is a well known effective means of preventing infectious diseases, and it has been widely used in Turkmenistan since the 1960's and 1970's.

During the indicated period a system of disease prevention was developed, and certain results in decreasing the incidence were achieved. Nevertheless, immunization coverage figures for 1992 were lower than optimal.

Basic causes of low coverage:

1. Long list of contraindications.
2. Immunization schedule which is unnecessarily cumbersome and excessively complicated.
3. Poor organization of work at the immunization institutions.
4. In recent years, shortages or irregularity of vaccine supplies from traditional suppliers.

Immunization Schedule in Turkmenistan: Perspectives on Improvement (Bedarova)

In recent years certain changes and corrections have been introduced in the immunization schedule on the basis of several indications from the epidemiological data on poliomyelitis and diphtheria.

This schedule has both strong and weak points. Priority is given to vaccination against polio. These vaccinations are performed in campaigns (the so-called "tours"); in the past three years, there were four campaigns a year: in March, children from three months up to a year, and at one, two, seven and sixteen years of age were covered; in May and October children of the following age groups were eligible: three months up to a year, at one year, and at two years of age; in December - three months up to a year and at one year of age. The objective of these campaigns was to achieve maximum coverage of the target age groups and to immunize using high quality vaccine. Between the ages of three months and 16 years, every child must receive 10 doses of polio vaccine (OPV).

Priority number two is given to vaccination against tuberculosis. The first dose is delivered at 3-5 days after birth. Because of the adverse epidemiological situation in this country concerning tuberculosis, the number of BCG booster doses (six) has remained the same for a prolonged period (10 years or more). The target age groups during the last 10 years have also remained the same: 7, 11-12, 16-17, 22-23 and 27-30 years of age.

Protection of children under three years of age against diphtheria, tetanus, and pertussis was assured through the use of the DPT vaccine, and has remained unchanged for the last 10 years. During this period, vaccine was administered at 3, 4.5 and 6 months after birth. The use of Td vaccine for these age groups has not been widespread. It is used mainly in big cities, especially Ashgabat, where this practice resulted in the increase of pertussis incidence. In age groups over 3 years the booster doses (6 total) against diphtheria and tetanus are administered using Td at 9, 16, 26, 36, 46 and 56 years of age.

In epidemiologically unfavorable situations, Td is used to immunize children against diphtheria in the territories with high exposure risk.

Measles prevention is implemented through vaccination at the age of 1 year, with a booster dose given at school entry (6 years of age).

Anti-mumps immunization is performed at 1 year of age (simultaneously with measles, or two months later).

According to the immunization schedule presently in force, immunization is suspended during the summer period (June-July-August), with the only exception from the rule being children with long-term contraindications due to the impossibility of immunizing them at any other time of the year based on the epidemiological indicators.

To summarize, the schedule includes a large number of booster doses, polio immunization is done in four campaigns a year, immunization is suspended during three summer months, two month intervals are observed between different vaccinations or between an illness and vaccinations, and a large list of contraindications is also characteristic.

All features listed above make the current immunization schedule rather difficult to adhere to in day-to-day practice.

Today, our specialists have to face the task of designing a new, simple and reliable immunization schedule based on the WHO recommendations and practices in other countries with similar climatic conditions and material resources for health services.

Tactical Approaches to Medical Contraindications in Turkmeristan (Bondarev)

Assessing the health status of children before the administration of vaccines by the pediatrician is frequently challenged by the risk of post-immunization adverse reactions, primarily in children with altered reactivity.

Nevertheless, it must be taken into account that contraindications to immunization are undesirable for the following reasons:

1. Infectious diseases most strongly affect the health of children with altered reactivity.
2. Large groups of non-immunized children lead to a significant increase in the population tier with zero immunity, and this can threaten the epidemiological well-being of the whole region (country).
3. Not immunizing children significantly raises the risk of administering humoral serums (anti-tetanus and others), which present a considerably higher health hazard for children with altered reactivity than vaccines and toxoids.

Delivering immunization in such cases needs a lot of well thought out and individual work with children for each vaccination (BCG, polio, DPT, measles, etc.).

Strategies for Diphtheria Control in Turkmenistan (Gurdjiyants)

Diphtheria control - or epidemiological surveillance - is performed according to the instruction, annex to the Decree N 450 of the USSR MOH issued on 2 April 1986 under the heading: "Measures for diphtheria prevention".

Strategies for epidemiological surveillance:

1. Monitoring the epidemiological structure of the population.

2. Tracking the circulation of the causative agent within the community.
3. Early diphtheria case detection.
4. Epidemiological analysis of performed activities and evaluation of their effectiveness. Forecasting the spread of diphtheria infection in a given territory.

After mass immunization of almost all the population from 3 to 16 years of age based on the epidemiological indicators in 1988, the epidemiological situation during the past three years has become more and more complicated. In 1990 four cases of diphtheria were recorded; all of them occurred in the Chardjev shakher and did not affect the age group of children before 14. The mass campaign of 1988 did not take place in Chardjev shakher, because the previous serological tests demonstrated good immunity in children. In 1991 four diphtheria cases were recorded in three different territories (Ashgabat shakher, and the Lebapski and Balkanski velayats). Of those infected, two were children under 14 years of age; 8 carriers were also detected and there is information that several cases occurred, but were not registered in Chardjev. In 1992, 22 cases were recorded, of which four cases, all children, were fatal, and at least three outbreaks occurred (Lebapski, Dashkovouzski velayats, and Ashgabat shakher).

Aggravation of the epidemiological situation in such a short period, notwithstanding a recent mass immunization campaign, can be explained by the vaccinal effect of the campaign among the considerable part of the 30% of the children who had zero antibody titres prior to immunization.

Of the surveillance measures listed earlier, only monitoring of the population's immunological structure was used relatively widely, although not in all velayats. On the basis of serological testing results, a mass campaign was carried out in 1988.

Tracking circulation of the agent is hampered by serious shortcomings in the work of the bacteriological laboratories. The labs can not effectively measure toxigenicity of the isolated cultures usually found at the foci of diphtheria outbreaks.

Early case detection is still limited by unsuccessfully insisting that all cases must be fully registered and reported.

Today, staffing problems have still not been resolved, with difficulties both in finding a sufficient number of qualified specialists, and training them in epidemiological surveillance at the majority of the sanitary epidemiological stations.

It is of prime importance to revise current policies in diphtheria prevention, and to assure the transition from full registration of every case of diphtheria to further strategic changes: work must be done based upon the reality of the number of specialists available and their actual ability to perform the various tasks for epidemiological surveillance.

Immunization Coverage in Ashgabat (Kasparova)

The following issues are covered in this presentation:

Immunization plan, reporting on immunization, analysis of the immunization plan implementation, immunization coverage against measles, diphtheria, polio, tetanus, tuberculosis;

The current immunization situation in Ashgabat, maintenance of the cold chain, 1989-92 results of immunological investigations for stated infections;

Factors which influence the coverage;

List of contraindications (not officially confirmed);

Incidence analysis for diphtheria, measles and polio in 1990-92;

Vaccine shortages in the last year;

Immunity levels against diphtheria at the sites of diphtheria outbreaks, problems that must be solved in order to raise the coverage rates, what is being done at the level of polyclinics and their branches.

Immunological Characteristics of Turkmenistan Children (Partsalis)

A decrease in humoral (Ig A, Ig M, Ig G) and secretory (S Ig A) immunity was discovered during the summer months (May - September). A similar picture is found in specific measles and mumps antibody titres in children immunized during the summer period.

Comparison between the data on non-specific immunoreactivity indicators, seasonal dynamics and specific antibody seasonal titres leads to the conclusion that one of the most probable causes of high incidence rates for preventable child diseases is immunologic deficiency, which undermines specific antibody synthesis after vaccination performed in the summer period.

Problems in Provision, Storage, and Transport of Vaccines in Turkmenistan (Chariev)

As is already known, vaccines used today to prevent poliomyelitis, diphtheria, measles, whooping cough, and other infections require strict temperature control during storage and transport. At all stages of vaccine movement, they require what is known as a "cold chain", which is a system which ensures that the vaccines are preserved during transport from the manufacturer to the consumer.

The cold chain which exists today in the health care system in Turkmenistan can be shown schematically in this way: the manufacturers (suppliers), in accordance with contractual agreements, send the live vaccines (polio, measles, pertussis) to the republican SES by air after first informing them of the time the vaccines were shipped. The vaccines are stored there in cold rooms, and after distribution to the velayats and etraps (regions and districts) are sent by air to the velayat SES; these are also informed ahead of time by telephone of the date and flight of the shipment, where in the majority of cases they are stored in commercial refrigerators, and, more rarely, in cold rooms; then the vaccines are transported to shakher and etrap SES in thermoses, and then in cold boxes they are sent to the various treatment and prevention centers, polyclinics, maternity wards, SUB, SVA, FAP, etc., where the vaccines are given directly to the patients.

In the treatment and prevention centers in Turkmenistan today, there are more than 2200 refrigerators, 56 freezers, more than 2800 thermoses; but more than 500 refrigerators, 15 freezers, and more than 650 thermoses are less than satisfactory, and of these more than 30% are in need of repair.

Practice has shown that a very simple cold chain can be broken due to unreliability or complete absence of a power supply, difficulties with the means of vaccine transport, deficiencies in the necessary equipment and specially trained personnel, etc.

For the cold chain to function effectively, we believe that it is first necessary to radically change the thinking of medical workers in our health care system by emphasizing the extreme importance of the chain for vaccination to work successfully. For without a cold chain that functions normally, it is useless even to discuss vaccination, particularly in our climate, in which 5 months out of the year (May, June, July, August and September), temperatures reach 40-50°C.

To achieve this goal, it is necessary to disseminate propaganda to all those with an interest in this area on the importance of strictly observing the temperature requirements during storage and transport of the vaccines, to organize seminars for those who are responsible for giving the vaccines, and to give centralized and local courses on cold chain.

Of course, such a broad coverage of medical personnel (approximately 2,500 specialists) requires appropriately specialized course materials, training, and publication of special guidelines for EPI, manuals, and the incorporation into programs of study in the medical institutes and medical schools of the problems of storing and transporting vaccines.

In addition, along with training medical personnel, effective monitoring should also be introduced.

According to the WHO recommendations followed throughout the world, various types of indicators are broadly used to monitor the temperature in storage and transport of the vaccines. These indicators are simple and effective. It is particularly popular abroad to use cold chain monitors - a time/temperature indicator whose introduction into our own health care system would play no small role in raising the effectiveness of the cold chain.

In this way, creating a cold chain in our country would allow us not only to raise fundamentally the effectiveness of EPI, but also would reduce childhood infections that are controllable by specific preventative measures, and the deaths caused by them.

Immunization Schedule: Perspectives in Tajikistan (Pavlovich)

Before the disintegration of the USSR, specialists in the health institutions of Tajikistan rarely needed to think about efficient vaccine use, sources and cost of vaccines. Today, due to the difficulties in vaccine procurement and money transfer, this issue has become a major challenge.

Republican scientists (epidemiologists, pediatricians, neuropathologists) were not involved in development of immunoprophylactics and associated issues. Before, these matters were decided exclusively at the level of the former central Soviet institutions.

Looking at today's immunization perspectives in our Republic, we address the experience and recommendations of the EPI experts from WHO, U.S. Agency for International Development, UNICEF and our own limited experience in this area.

The immunization schedule proposed here hopefully not only will improve the quality and effective implementation of immunization, but will also significantly reduce labor and resources annually spent for these goals. (See page 28, middle column).

Subsequently, Td is given every 10 years as immunity deteriorates in a given age group (according to serological testing) and BCG according to Mantoux reaction.

In the schedule proposed, BCG is delivered at birth as in the past, but the number of booster doses is reduced to 4 in accordance with the possibilities of subsequent revaccination and the immunological status, material resources available and unproven effectiveness of adult immunization against tuberculosis.

Three doses of polio immunization will be given at two month intervals. The immunization will not start at birth due to the risk of adverse effects, frequent cases of skull/brain injuries and relatively low vaccine effectiveness at this age, but two additional doses are introduced (OPV₄ and OPV_{5,6}), based on the data received in India, showing that only five doses can yield a 95% effectiveness.

The DPT immunization consists of three doses given together with OPV and a 4th dose given at 16 months to strengthen immunity against pertussis. Subsequent doses of Td are administered at school (6-7 years) and high school (16-17) entry. The last two doses are necessary because of insufficient immunity after administration of DPT vaccines and unrestrained circulation of diphtheria agents in these age groups.

Anti-measles immunization starts at 9 months; this is based on the experience available, showing that vaccines administered earlier are not very effective. To strengthen immunity, a booster dose is given at three years, upon entry into kindergarten when the previously achieved immunity is on the decrease, and exposure to the virus becomes more probable - according to data analysis, this and older age groups account for 55% of all measles cases.

Finally, vaccination against mumps is administered at 18 months, based on the EPI recommendations.

Closing Remarks, Tajikistan (Kopyltsov)

The Deputy Minister announced that the MOH in Tajikistan will convene a working group to review proposed changes in the immunization schedule and to continue study of a birth dose of oral polio vaccine. The working group will submit its proposals to the Scientific Council of the MOH. If approved, a ministerial decree would then be issued to each health facility.

ANNEXES

ANNEX 1

RESOURCE MATERIALS

Many key documents and articles were translated by REACH into Russian in preparation for the seminars. Ten sets of documents, each consisting of some 350 pages, were provided to the MOHs six months before the seminars were held.

The documents included:

- 1) WHO/EPI. Stability of oral polio vaccine after repeated freezing and thawing. Weekly Epidemiological Record. 6 July 1990 (no. 27).
- 2) WHO/EPI. The effects of freezing on the appearance, potency and toxicity of adsorbed and unadsorbed DPT vaccines. Weekly Epidemiological Record. 12 December 1980. (no. 50).
- 3) McBean, AM, Gateff, C, Manclark, CR, Foster, SO. Simultaneous administration of live attenuated measles vaccine with DPT vaccine. Pediatrics. 1978. (62,3): 288-93.
- 4) Contraindications for vaccines used in EPI (Europe). Weekly Epidemiological Record. 9 September 1988. (no. 37).
- 5) Galazka, AM, Lauer, BA, Henderson, RH, Keja, J. Indications and contraindications for vaccines used in the EPI. Bulletin of the World Health Organization. 1984. (62,3): 357-365.
- 6) U.S. Department of Health and Human Services. Centers for Disease Control. Standards for pediatric immunization practices. May 11, 1992. (forthcoming in the Journal of the American Medical Association.)
- 7) WHO/EPI. Immunization policy. WHO EPI/GEN/86.7REV1.
- 8) Litvinov, SK, Bolotovskii, VM, Kosenko EV. The cold chain: Its role and significance in fighting infections controllable by specific prophylactic agents (in Russian). Zh Mikrobiol Epidemiol Immunobiol. 1989. (11): 88-95.
- 9) WHO/EPI. Outbreak of Diphtheria, USSR. Weekly Epidemiological Record. 21 June 1991 (no. 66).
- 10) Galazka, A. Stability of Vaccines. WHO/EPI. (WHO/EPI/GEN/89.8).
- 10a) WHO/EPI. Stability of vaccines. Weekly Epidemiological Record. 27 July 1990. (no. 30).

- 11) Litvinov, SK, Lobanov, AV, Peregudov, AN. The cluster method in conducting epidemiological research. (in Russian) Zh Mikrobiol Epidemiol Immunobiol. 1986. (11): 78-84.
- 12) Beasley, RP. Hepatitis B immunization strategies. WHO/EPI. (WHO/EPI/GEN/88.5).
- 13) Galazka, A. Contraindications to immunization. Presented at Training Course at the Russian Informative-Analytical Centre, Moscow. 8 April 1992.
- 14) Galazka, A. Booster dose policy. EPI/Global Advisory Group. World Health Organization. (EPI/GAG/92/WP.10).
- 15) Galazka, A. Diphtheria in Russia: why so long? Presented at Training Course at the Russian Informative-Analytical Centre, Moscow. 13 April 1992.
- 16) WHO/EPI. Global poliomyelitis eradication by the year 2000: Plan of Action (Revised 1992). EPI/GAG/92/WP.11. (19 pages of text only are translated.)
- 17) Henderson, RH, Keja, J, Hayden, G, Galazka, A, Clements, J, Chan, C. Immunizing the children of the world: Progress and prospects. Bulletin of the World Health Organization. 1988. (66,5): 535-43.
- 18) Expanded Programme on Immunization: Progress report by the Director General. 11 December 1991. (EB89/17).

All the documents listed above, with the exception of numbers 8, 11, 17, and 18, were translated into Russian by REACH.

ANNEX 2

TEAM COMPOSITION

Experts in epidemiology, immunology, pediatrics and public health practice from outside the former Soviet Union joined their counterparts from within the CAR. The external team was composed of the following individuals:

Mr. Robert Steinglass, Technical Director, REACH Project (John Snow, Inc.) of the U.S. Agency for International Development, Arlington, Va. (Team leader)

Dr. Artur Galazka, Medical Officer, Expanded Program on Immunization, WHO/HQ, Geneva

Dr. Colette Roure, Regional Adviser, Communicable Disease Control, WHO/EURO, Copenhagen

Dr. Keith Powell, Professor and Associate Chairman, Department of Pediatrics, University of Rochester School of Medicine

Dr. James J. Gibson, Medical Advisor , Office of Health, United States Agency for International Development, Washington.

ANNEX 3

**MINISTRY OF HEALTH OF THE REPUBLIC OF TURKMENISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
PRACTICES AND POLICY-SETTING**

ASHGABAT, TURKMENISTAN

23 - 24 June, 1993

LIST OF NATIONAL PARTICIPANTS

ATAEVA Aksoltan Toraevna	Minister of Health
MAMEDOV Hangelgi Mamedevich	Deputy Minister of Health
AKMAMEDOV Juma Kulievich	Chief, Sanitary and Epidemiological Department, MOH
NIKOLENKO Tatyana Nikolaevna	Chief, Department of Curative and Preventive Care of Mothers and Children, MOH
ALIEVA Sofia Guseinovna	Chief Pediatrician, MOH
RADZINSKY Victor Evseevic	Director, Research Institute of Maternal and Child Health Protection
CHARIEV Ashir Charievich	Director, Research Institute of Preventive Medicine
NAZAROV Chari Nazarovich	Chief Physician, Anti-Tuberculosis Hospital (Professor)
BONDAREV Vasili Nikolaevich	Doctor of Medical Sciences and Professor of Research Institute of Maternal and Child Health Protection

HALMURADOVA Nina Rejepovna	Deputy Director, Research Institute of Maternal and Child Health Protection (candidate of Medical Sciences)
PARTSALIS Elena Mihailovna	Head, Laboratory and Diagnostic Department, Research Institute of Maternal and Child Health Protection
BAIRAMOVA Tamara Ajdarovna	Professor, Doctor of Medical Sciences, Head, Department of Children's Diseases No. 1, Medical Institute
CHARIEV Bekdjan Charievich	Chief Physician, Republican SES
KURBANOV Igor Bailievich	Deputy of Chief Physician, Republican SES
BEDAREVA Greta Gulamovna	Head, Epidemiological Department, Republican SES
KURBANOVA Geral Fedorovna	Medical Epidemiologist, Republican SES
IVANTSOVA Lydia Timofeevna	Medical Epidemiologist, Republican SES
GURDJYANTS Egert Missakovich	Medical Epidemiologist, Republican SES
BAGIROVA Humar Rustamovna	Deputy Head, Ashgabat City Health Department (Childhood and Delivery)
FARAFONOVA Lubov Orazovna	Chief Pediatrician, Ashgabat City Health Department
KASPAROVA Ludmila Arakelovna	Head, Epidemiological Department, Ashgabat City SES
MIROSHNICHENKO Natalia Ivanovna	Medical Epidemiologist, Ashgabat City SES
KURBANOV Chari Kurbanovich	Deputy Head, Achal Oblast Health Department (Childhood and Delivery)
PASHIEVA Gozel Hudaiberdievna	Chief Pediatrician, Achal Oblast Health Department
JANAEV Kurban Janaevich	Chief Physician, Achal Oblast SES
ACHMEDOVA Marina Robertovna	Deputy Head, Balkan Oblast Health Department (Childhood and Delivery)

BASKIN Arkady Ilyich	Chief Pediatrician, Balkan Oblast Health Department
RIZHKINA Tatyana Dmitrievna	Head, Epidemiological Department, Balkan Oblast SES
ANNAMURADOV Juma Orazovich	Deputy Head, Mary Oblast Health Department (Childhood and Delivery)
BELYAKOVA Maya Akievna	Chief Pediatrician, Mary Oblast Health Department
ESENOV Sahatmurad	Deputy Chief Physician, Mary Oblast SES
ABRAMOV Bekjan	Deputy Head, Dashhovuz Oblast Health Department (Childhood and Delivery)
ELISEEVA Rita Mikhailovna	Chief Pediatrician, Dashhovuz Oblast Health Department
GUTLIEV Ravshan	Chief Epidemiologist, Dashhovuz Oblast Health Department
ORAZOV Dayanch	Head, Epidemiological Department, Dashhovuz Oblast SES
USHAKOV Vladimir Genadevich	Deputy Chief, Lebap Oblast Health Department (Childhood and Delivery)
HODJAMBERDIEV Dovran Hodjamberdievich	Chief Pediatrician, Lebap Oblast Health Department
PERMANOV Haidarkuli Hemrakulievich	Head, Epidemiological Department, Lebap Oblast SES
POPOVA Svetlana Alexandrovna	Chief Pediatrician, Medical Services, Turkmen Railway Station
SUVHANOVA Gulya Kurbanovna	Head, Epidemiological Department, Turkmen Railway Station
REUTSKAYA Lilya Leonidovna	Head, Children's Consultation Department, Turkmen Railway Hospital No. 1, Ashgabat
KARPENKO Ludmila Evgenevna	Head, Epidemiological Department, Aeroflot SES, MOH
ORAZOV Ilmurad Ashirovich	Chief Physician, Ashgabat City SES

ANNEX 4

**MINISTRY OF HEALTH OF THE REPUBLIC OF TAJIKISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
PRACTICES AND POLICY-SETTING**

DUSHANBE, TAJIKISTAN

30 June - 2 July, 1993

LIST OF NATIONAL PARTICIPANTS

- | | |
|--------------------------|---|
| 1. Kopyltsov, A.G. | 1st Deputy Minister of Health |
| 2. Abdujaborov, N.A. | Deputy Minister of Health |
| 3. Maltseva, V.A. | Head of Mother and Child Department of Ministry |
| 4. Kurbonov, S.K. | Chief Pediatrician of Ministry |
| 5. Jumayev, P.B. | Head of SES Department of Ministry |
| 6. Pavlovich, A.N. | |
| 7. Shoismatulloev, B.Sh. | Chief Doctor of Republic SES |
| 8. Topchin, Y.A. | Deputy Chief Doctor of Republic SES |
| 9. Raupov, B.E. | Head of Epidemiology Department of Republic SES |
| 10. Kainaeva, Z.A. | Medical Epidemiologist of Republic SES |
| 11. Kurbonov, M.D. | Head of Epidemiology Department of Lenin Oblast
SES |
| 12. Inomjonov, M.I. | Chief Pediatrician of Lenin Oblast Health
Department |
| 13. Loginova, G. | Deputy Head of Pamir Health Department |
| 14. Kiyobekov, I. | Chief Doctor of Pamir Oblast SES |
| 15. Blyakher, I.A. | Deputy Head of Epidemiology Department of
Dushanbe SES |
| 16. Sattorov, G.N. | Chief Pediatrician of Dushanbe Health Department |
| 17. Molochaeva, I.S. | Vice-Director of Scientific Institute |
| 18. Sattorova, M.Kh. | Main Specialist of Scientific Institute |
| 19. Grezov, I.G. | Head of Epidemiology Department of Khatl. Oblast |
| 20. Fyodorov, M.Y. | Deputy Head of Health Department of Khatl. Oblast |

- | | |
|--------------------|--|
| 21. Davlatov, S.H. | Head of the Epidemiology Department of Kulyab SES |
| 22. Ikromov, K. | Chief Doctor of Child Polyclinic |
| 23. Sattorov, I.S. | Head of Epidemiology Department of Medical University |
| 24. Umarova, Z.K. | Head of Polyclinic, Pediatric Department of Medical University |
| 25. Shigalev, V.N. | Vice-Director of Institute of Pediatrics |
| 26. Boboev, S.B. | Head of Child Infectious Diseases of Medical University |
| 27. Odinaev, F.O. | Chief Therapist of Ministry of Health |
| 28. Sirojiddinova | Chief of Tuberculosis, Department of Medical University |

OTHER PARTICIPANTS

- | | |
|-----------------------|--|
| Dutca, M.A. | Chief SES Department, MOH, Moldova |
| Melnic, A. | Chief, Anti-Epidemic Department, Republican SES, Moldova |
| Mr. Johan Fagerskiold | Consultant, UNICEF |
| Dr. Rex Blumhagen | Consultant |
| Dr. Jeanne Blumhagen | Consultant |
| Mr. Jeffrey Paulsen | Representative, Vision International |

ANNEX 5

**MINISTRY OF HEALTH OF THE REPUBLIC OF TURKMENISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
PRACTICES AND POLICY-SETTING**

ASHGABAT, TURKMENISTAN

23 - 24 June, 1993

AGENDA

23 June

09:00	Opening Address	A.T. Ataeva (Minister of Health)
	Message from the U.S. Ambassador	J. Hulings
	Message from A.I.D. representative	J. Gibson
	Overview of the Meeting (Objectives, Anticipated Outcomes, Agenda, Administrative Details)	R. Steinglass
09:30	Immunization Program in Turkmenistan	D. Akmamedov
09:50	The Global Immunization Program	A. Galazka
10:10	Immunization Program in the U.S.A.	K. Powell
10:30	Immunization Program in Europe	C. Roure
10:50	Discussion	(Chairman)
11:10	BREAK	

11:30	Obstacles to Organizing and Achieving High Immunization Coverage in Turkmenistan	A. Abramov
11:40	Immunization Schedule and Prospects for its Improvement -Turkmenistan perspective -European/International perspective	G. Bedareva/S. Alieva A. Galazka
12:40	Discussion	(Chairman)
13:00	LUNCH	
14:00	Policies on Contraindications -Turkmenistan perspective -U.S.A. perspective -International perspective	V. Bondarev K. Powell A. Galazka
15:10	Polio Eradication Strategies	G. Bedareva/C. Roure
16:00	BREAK	
16:20	Diphtheria Control Strategies	E. Gurdjiyants/A. Galazka
17:00	Measles Control Strategies	L. Ivantsova/J. Gibson
17:40	Discussion	(Chairman)
<u>24 June</u>		
09:00	Opening and Introductory Remarks	(Chairman)
09:10	Supply and Delivery of Quality Vaccine	R. Steinglass
09:30	Problems of Vaccine Supply, Storage and Transport in Turkmenistan	B. Chariev
09:50	Immunization Coverage	L. Kasparova/S. Farafonova
10:10	Discussion	(Chairman)
10:30	BREAK	
10:50	Policy Setting Process in U.S.A.	K. Powell

11:10	State of Health and Immunological Status of Children in Turkmenistan	E. Partsalis
11:30	Discussion	(Chairman)
12:30	LUNCH	
13:30	Draft of the National Immunization Program in Turkmenistan	D. Akmamedov
14:00	Comments on the Draft National Immunization Program from: -Oblasts -Cities -Academy of Medical Sciences -Medical Institutes -International Team	
15:00	BREAK	
15:20	Continuation of Discussion of the Draft National Immunization Program	(Chairman)
16:10	Creating a Unified Approach: The Role of Pediatricians, Epidemiologists, and Immunologists	K. Powell
16:40	Technical Assistance and International Cooperation	R. Steinglass
16:50	Discussion	(Chairman)
17:00	Closing	(Chairman)

ANNEX 6

**MINISTRY OF HEALTH OF THE REPUBLIC OF TAJIKISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

**SEMINAR ON CHILD IMMUNIZATION POLICIES,
PRACTICES AND POLICY-SETTING**

DUSHANBE, TAJIKISTAN

30 June - 2 July, 1993

AGENDA

30 June

09:00	Opening, Welcome and Participant Introductions	Minister of Health
09:10	Message from H.E. the U.S. Ambassador	S. Escudero
09:15	Message from A.I.D. representative	J. Gibson
09:20	Overview of the Meeting - Objectives - Anticipated Outcomes - Agenda - Administrative Details	R. Steinglass
09:30	Immunization Program in Tajikistan - Disease control objectives - Immunization schedule - Immunization strategies - Immunization coverage - Disease incidence	(TBD)
09:50	Discussion	(Chairman)

10:10	The Global Immunization Program <ul style="list-style-type: none"> - Disease control objectives - Immunization schedule - Immunization strategies - Immunization coverage - Disease incidence 	A. Galazka
10:30	Discussion	(Chairman)
10:50	BREAK	
11:10	Immunization Program in the U.S.A. <ul style="list-style-type: none"> - Disease control objectives - Immunization schedule - Immunization strategies - Immunization coverage - Disease incidence 	K. Powell
11:30	Discussion	(Chairman)
11:50	Immunization Program in Europe	C. Roure
12:10	Discussion	(Chairman)
12:30	LUNCH	
14:00	Obstacles to High Immunization Coverage and Control of Vaccine-Preventable Diseases in Tajikistan	(TBD)
14:20	Discussion	(Chairman)
14:40	Immunization Schedule and Prospects for its Improvement <ul style="list-style-type: none"> - International perspective - Tajikistan perspective 	A. Galazka (TBD)
15:10	Discussion	(Chairman)
16:00	BREAK	
16:20	Policies on Contraindications <ul style="list-style-type: none"> - International perspective - U.S.A. perspective 	A. Galazka K. Powell

	Tajikistan perspective	(TBD)
16:40	Discussion	(Chairman)
17:30	Close of Day's session	
<u>01 JULY</u>		
09:00	Safety of Simultaneous Immunizations with Live Viral Vaccines	K. Powell
09:20	Discussion	(Chairman)
09:40	Principles of Surveillance for Disease Control	J. Gibson
10:00	Discussion	(Chairman)
10:20	Polio Eradication Strategies <ul style="list-style-type: none"> - International strategies - Tajikistan activities 	C. Roure (TBD)
10:40	Discussion	(Chairman)
11:00	BREAK	
11:40	Diphtheria Control Strategies <ul style="list-style-type: none"> - Recommendations from an investigation - Tajikistan activities 	A. Galazka (TBD)
12:00	Discussion	(Chairman)
12:20	Measles Control Strategies <ul style="list-style-type: none"> - International perspective - Tajikistan perspective 	J. Gibson (TBD)
12:40	Discussion	(Chairman)
13:00	LUNCH	

14:00	Vaccine Quality and Delivery - Vaccine stability - Freezing/thawing of live viral vaccines - Regulatory mechanisms - Delivery strategies	A. Galazka A. Galazka A. Galazka R. Steinglass
14:40	Discussion	(Chairman)
15:00	Vaccine Storage and Transport in Tajikistan	(TBD)
15:20	Discussion	(Chairman)
15:40	BREAK	
16:00	Immunization Coverage; Its Measurement and Validation - International perspective - Tajikistan perspective	C. Roure (TBD)
16:20	Discussion	(Chairman)
16:40	Immunization Policy setting process in U.S.A.	K. Powell
17:00	Discussion	(Chairman)
17:30	Close of day's session	

02 JULY

09:00	State of Health and Immunological Status of Children in Tajikistan	(TBD)
09:20	Discussion	(Chairman)
09:40	Selection of Immunization Policy Issues to pursue in Tajikistan	(TBD)
10:00	Discussion	(Chairman)
10:30	BREAK	
10:40	Implementation of Revised Immunization Program in Tajikistan	(TBD)

11:00	Discussion	(Chairman)
11:20	Creating a Team Approach; The Roles of the Pediatrician, Epidemiologist and Immunologist	K. Powell
11:40	Discussion	(Chairman)
12:00	Technical Assistance and International Cooperation	R. Steinglass
12:30	Closing	(Chairman)

ANNEX 7

**MINISTRY OF HEALTH OF THE REPUBLIC OF TURKMENISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

NATIONAL SYMPOSIUM ON IMPROVING CHILD IMMUNIZATION PRACTICES

ASHGABAT, TURKMENISTAN

25 June 1993

AGENDA

25 June

09:00	Opening Address	A.T. Ataeva (Minister of Health)
09:10	Message from the U.S. Ambassador	J. Hulings
09:20	Contraindications	K. Powell
10:00	Immunization Schedule	A. Galazka
10:30	Draft of the National Immunization Program	D. Akmamedov
11:00	BREAK	
11:20	Polio Eradication Strategies	C. Roure
11:50	Measles Control Strategies	J. Gibson
12:20	Diphtheria Control Strategies	A. Galazka
12:50	Discussion	
14:00	Closing	

ANNEX 8

**MINISTRY OF HEALTH OF THE REPUBLIC OF TAJIKISTAN
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

REACH PROJECT

WORLD HEALTH ORGANIZATION

NATIONAL SYMPOSIUM ON IMPROVING CHILD IMMUNIZATION PRACTICES

DUSHANBE, TAJIKISTAN

2 July, 1993

AGENDA

02 July

14:30	Opening, Welcome and Participant Introductions	(Minister of Health)
14:40	Message from A.I.D. representative	J. Gibson
14:45	The Immunization Schedule and Prospects for Its Improvement	A. Galazka
15:10	Contraindications	K. Powell
15:30	Polio Eradication	C. Roure
15:50	BREAK	
16:10	Measles Control Measures	J. Gibson
16:30	Diphtheria Control Measures	A. Galazka
16:45	Proposed Revised Immunization Program for Tajikistan	(TBD)
17:05	Discussion	
17:30	Closing	

ANNEX 9

**COMMENTS OF THE INTERNATIONAL TEAM
ON THE MOH/TURKMENISTAN DRAFT NATIONAL IMMUNIZATION PROGRAM
(in Russian)**

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ ТУРКМЕНИСТАН
АГЕНТСТВО МЕЖДУНАРОДНОГО РАЗВИТИЯ США
ПРОЕКТ REACH
ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ

СОВЕЩАНИЕ ПО ПЛАНИРОВАНИЮ, РАЗРАБОТКЕ И ПРОВЕДЕНИЮ
ДЕТСКОЙ ИММУНИЗАЦИИ

АШХАБАД, ТУРКМЕНИСТАН

23 - 24 июня 1993 года

РЕКОМЕНДАЦИИ МЕЖДУНАРОДНОЙ ГРУППЫ ПО ПРОЕКТУ ПРОГРАММЫ
ВСЕОБЩЕЙ ИММУНИЗАЦИИ ТУРКМЕНИСТАНА

По приглашению Министерства здравоохранения (Минздрава) Республики Туркменистан международная группа специалистов по вопросам иммунизации и контроля над заболеваемостью приняла участие в Совещании с ведущими эпидемиологами, педиатрами и иммунологами страны. Основной целью Совещания были обмен информацией и совместная оценка текущей программы иммунизации детей, практики и стратегии борьбы с заболеваемостью в Туркменистане. По просьбе председателя Совещания заведующего отделом гигиены и эпидемиологии Минздрава доктора Ахмамедова Группа подготовила рекомендации, касающиеся проекта документа «Программа всеобщей иммунизации на «Десятилетие здоровья» в Туркменистане».

Группа рассмотрела лишь основные части проекта, предварительно переведенные на английский язык. Приводимый ниже отчет отражает единодушное мнение группы.

Группа сознает, что Минздрав новой независимой Республики Туркменистан находится на распутье перед трудным выбором и открывающимися возможностями. В нынешней обстановке ослабления прежних связей с Москвой перед Минздравом стоит проблема разработки собственного курса. С обретением независимости Минздрав Туркменистана проявляет заинтересованность в переоценке и текущих программ детской иммунизации и борьбы с заболеваемостью, а также дальнейшей разработке механизмов периодической оценки и усовершенствования практики иммунизации. Минздрав намерен укреплять программу всеобщей иммунизации с учетом и внедрением международного опыта.

Минздрав Туркменистана вправе гордиться своими достижениями в области иммунизации и контроля над заболеваемостью. Группа высоко оценивает стремление Минздрава выявить существующие проблемы, собрать и проанализировать данные, а также принять соответствующие решения в свете эпидемиологических потребностей и наличных возможностей Туркменистана.

Группа также высоко оценила разработку Минздравом плана всеобщей иммунизации, вынесенного на широкое обсуждение. Большой круг педиатров, эпидемиологов, иммунологов и специалистов по инфекционным заболеваниям как в Минздраве, так и вне его имел возможность ознакомиться с проектом документа и высказать свои соображения. План призван усовершенствовать организацию и обеспечение медицинских услуг в меняющихся условиях независимого Туркменистана. Устанавливая степень охвата прививками и уровень снижения заболеваемости, определяя порядок мероприятий и меру ответственности, план может служить руководством к действию для местных органов здравоохранения и потенциальных донорских агентств.

ЦЕЛИ И ЗАДАЧИ

Программа всеобщей иммунизации разработана в рамках комплексного подхода к борьбе с рядом заболеваний. Она основана на реалистичной оценке имеющихся и необходимых ресурсов, персонала и оборудования.

Группа предлагает внести в перечень задач программы всеобщей иммунизации ряд изменений, приближающих их к разработанной ВОЗ Задаче 5 для европейских стран и учитывающих эпидемиологическую ситуацию в стране. Группа советует включить следующие цели:

- Искоренение в республике полиомиелита к 2000 году.
- Искоренение в республике дифтерии к 2000 году.
- Ликвидация к 2000 году случаев смертности от острой коревой инфекции и сведение числа подтвержденных случаев заболевания корью менее чем к 1 на 100 тыс. населения в год.
- Сведение к 2000 году числа случаев заболевания коклюшем менее чем к 1 на 100 тыс. населения в год.

Для достижения вышеуказанных целей необходимо выполнение следующих оперативных задач по охвату прививками, надзору за заболеваемостью и мерам в случае эпидемии:

Охват прививками

- Охват к 2000 году первичной иммунизацией вакциной АКДС и ОПВ 95% детей в возрасте до 1 года.
- Охват к 1997 году, а по возможности раньше, 95% детей до одного года противокоревой вакцинацией.
- Минимальный охват к 1997 году первичной иммунизацией АКДС и ОПВ 90% детей каждого района.

Надзор

- *Полиомиелит:* к 1995 году, а по возможности раньше, обеспечение на национальном уровне доступа к лабораторному оборудованию для выделения, типирования и характеристики вируса полиомиелита дикого типа и вакцины.
- К 1993 году регистрация и постановка на учет каждого строго случая вялотекущего паралича.
- К 1993 году тщательное изучение с обязательным проведением анализа кала на полио вирус каждого случая подозрения на полиомиелит, включая контакты.
- *Дифтерия:* установление в кратчайшие сроки эффективного надзора за заболеваемостью дифтерией с тем, чтобы ни один случай не был пропущен.
- Классификация к 1995 году всех зарегистрированных случаев дифтерии на местные и завезенные.
- *Корь:* разработка к 1997 году эффективной системы надзора для выявления случаев заболевания корью.
- Подтверждение к 1997 году лабораторными данными всех спорадических случаев заболевания корью.

Меры в случае эпидемии

- *Полиомиелит:* внедрение к 1993 году в дополнение к плановой иммунизации системы экстренных мероприятий в районах с зарегистрированными случаями полиомиелита, вызванного диким типом вируса.
 - *Дифтерия:* принятие в каждом случае дифтерии немедленных мер, таких как изоляция больного, лечение антитоксином, антимикробная терапия, вакцинация, а также выявление и лечение контактов.
- Корь:* расследование к 1997 году всех микроэпидемий кори.

ЭТАПЫ ПРОГРАММЫ ИММУНИЗАЦИИ

Разработка стратегии иммунизации

Минздраву надлежит разработать на будущее оптимальный механизм оценки и совершенствования имеющихся инструкций. Одним из способов может стать учреждение консультативного комитета с представительством специалистов в области педиатрии, эпидемиологии, контроля над заболеваемостью, иммунологии и организации здравоохранения, что позволит проводить широкое обсуждение и эффективное внедрение в практику пересмотренных инструкций.

Вакцинация против гепатита В

Группа была информирована о том, что 6,8% женщин детородного возраста в стране сероположительны на поверхностный антиген гепатита В. В этой связи иммунизация против гепатита В приобретает особую важность. Иммунизация против гепатита В должна стать вопросом первостепенной важности и приведет к значительной экономии средств в будущем. Однако, для ее проведения необходимы немалые ресурсы. Одним из способов уменьшения затрат на текущую программу является снижения числа повторных вакцинаций другими вакцинами, о чем будет более подробно указано ниже; сэкономленные средства могут позволить провести вакцинацию против гепатита В. Кроме того, поскольку риск серьезной заболеваемости и смертности при паротиге значительно меньше, чем при гепатите В, иммунизация против последнего должна проводиться в первую очередь. Минздраву следует обсудить эти и другие возможные пути адекватного финансирования программ иммунизации против гепатита В в более ранние сроки, чем намеченный ныне период 1998-2002 гг. Наряду с этим Группа поддерживает решение Минздрава пересмотреть сроки вакцинации против гепатита А, намеченные на 1998-2002 гг, поскольку имеющиеся ограниченные средства могут быть использованы для борьбы с другими заболеваниями.

Контроль качества вакцин

Группа призывает Минздрав организовать государственное ведомство по контролю качества вакцин, которое будет нести ответственность за лицензирование вакцин и проверку документации (включая протоколы партий) ввезенных вакцин. Государственная контрольная лаборатория должна нести ответственность за проверку активности и безвредности ввезенных вакцин.

ЭПИДЕМИОЛОГИЧЕСКИЙ НАДЗОР

Для обеспечения единообразия и надежности регистрации заболеваний стандартные определения должны быть использованы для каждой болезни. Это приобретает особую важность для организации эффективного надзора и контроля за заболеваниями дифтерией, корью и полиомиелитом.

Группа предлагает следующие мероприятия:

- Разработка системы обратной связи для обеспечения работников на местах информацией о результатах анализа данных и принятых мерах с целью поддержания на местах заинтересованности в сборе данных и регистрации случаев заболеваемости.
- Обязание зонами высокого риска районов с недостаточным охватом иммунизацией или высокой частотой заболеваемости, или же тем и другим.

- Проведение с целью непрерывного мониторинга безвредности вакцин и разработки параметров противопоказаний наблюдения за неблагоприятными реакциями после иммунизации для определения, не являются ли они последствиями вакцинации.

СЕРОЛОГИЧЕСКАЯ ДИАГНОСТИКА

Плановый мониторинг программ иммунизации и контроль качества вакцин в настоящее время в значительной мере основаны на серодиагностике. С учетом стоимости и времени серодиагностику следует ограничить применением для специальных исследований отдельных тканей. В ряде случаев серодиагностика может быть полезной, например, для выявления иммунитета в определенных возрастных группах, что, в свою очередь, может указать на необходимость проведения иммунизации среди групп с недостаточным иммунитетом. Так, серодиагностика школьников может указать на необходимость массовой повторной вакцинации, если значительное число детей оказались серонегативными к кори. Серодиагностика не должна использоваться для планового надзора за активностью вакцины. Наиболее эффективными и экономичными методами контроля качества вакцин являются тестирование вакцины при получении ее от производителя, а также поддержание в рабочем состоянии холодовой цепи.

ПОДГОТОВКА ПЕРСОНАЛА И СОВЕРШЕНСТВОВАНИЕ ТЕХНИЧЕСКОГО ОБЕСПЕЧЕНИЯ

Предложение о постройке 17 холодильных помещений для хранения вакцин не представляется целесообразным. В Ашхабате требуется одна промышленная холодильная установка для хранения вакцин при температурах от 0° до +8° С; такую установку следует приобрести. Для республиканского, областного и районного уровней достаточно иметь холодильники с морозильными отделениями для хранения противокоревых, противополиомиелитных и, если позволяет место, вакцин БЦЖ. Холодильники, морозильные установки для хранения льда, трансформаторы, портативные холодильники, установки для транспортировки вакцин, паковый лед, запасные части и ремонтные инструменты должны быть обеспечены на всех уровнях холодовой цепи. Учитывая плохие дорожные условия и трудности в ремонте дорог, для перевозки вакцин целесообразнее использовать обычные грузовики с холодильными установками, чем специальный рефрижераторный транспорт. Минздраву и донорским агентствам следует стандартизировать типы оборудования холодовой цепи, чтобы свести к минимуму число моделей в системе. Это облегчит ремонт и поддержание оборудования и уменьшит риск несовместимости.

НАУЧНАЯ ДЕЯТЕЛЬНОСТЬ

Группа рекомендует Минздраву проведение специально разработанных эпидемиологических исследований для выявления в Туркменистане частоты случаев синдрома врожденной краснухи и причин неонатальной смерти (уделяя особое внимание случаям столбняка).

САНИТАРНОЕ ПРОСВЕЩЕНИЕ

Туркменистан достиг высокого охвата иммунизацией, что свидетельствует о понимании населением важности иммунизации. Однако, изменение политико-экономической ситуации может снизить уверенность населения и ослабить его интерес к иммунизации. Для поддержания достигнутого уровня охвата Минздраву следует разработать план проведения индивидуального и массового санитарного просвещения для объяснения любых изменений в схемах прививок. Упрощение схем прививок поможет родителям получить информацию о детской вакцинации в более доступной форме. Просветительская работа, касающаяся иммунизации, должна быть включена в школьную программу, если это не было сделано до сих пор.

ВНЕДРЕНИЕ И ПРОВЕДЕНИЕ ПРОГРАММЫ

Холодовая цепь

Для обеспечения качества вакцин Группа рекомендует Минздраву внедрение на всех уровнях системы холодовой цепи, которая должна включать не только оборудование для хранения и транспортировки вакцин в надлежащих температурных условиях, но и персонал, обученный работе с вакцинами и оборудованием. Недавняя поставка переданного США в дар оборудования холодовой цепи показала необходимость в обучении обращению с цепью, вакцинами, а также ремонту и поддержанию оборудования. Группа считает целесообразным придерживаться рекомендаций ВОЗ, касающихся длительного хранения ОПВ и противокоревых вакцин при температуре -20°C.

Иммунизация в летний период

Учитывая нынешнее несовершенство холодовой цепи, Группа поддерживает решение о нецелесообразности проведения вакцинации в течение трех наиболее жарких летних месяцев. Как только холодовая цепь будет полностью внедрена в Туркменистане (что ожидается до лета 1994 г.), иммунизацию следует проводить круглый год, с тем, чтобы дети были вакцинированы без задержки. Группа считает, что представленные на совещании данные о концентрации иммуноглобулина и слабой серологической реакции на противокоревую вакцину в летний период неубедительны. Эти исследования следует

повторить и представить их результаты коллегам для тщательного обсуждения, прежде чем принять решение о целесообразности вакцинации в летний период.

Предосторожности при вакцинации БЦЖ

Группа была информирована о жестких правилах, касающихся хранения БЦЖ в отдельных холодильниках и проведения вакцинации в отдельном помещении. Группа считает, что вышеуказанные предосторожности излишни, и рекомендует проводить хранение, транспортировку и введение вакцины БЦЖ вместе с другими вакцинами.

КАЛЕНДАРЬ ПРИВИВОК

Общий принцип применения вакцин РПИ заключается в профилактике детских заболеваний до момента, когда младенцы оказываются в группе риска. С другой стороны, следует учитывать, что иммунный ответ младенцев на некоторые вакцины при слишком раннем их введении ослаблен, поскольку наличие материнских антител затрудняет или подавляет иммунный ответ.

Календари прививок должны являть собой разумный компромисс между иммунологической эффективностью и эпидемиологическими потребностями. Важнейшей проблемой является обеспечение защиты в наиболее раннем возрасте с учетом того, что сероконверсия при некоторых вакцинах зависит от возраста.

Группа приветствует предложенные изменения в календаре прививок Туркменистана, приведенные в Таблице. Вместе с тем Группа считает, что принятие предложенных схем должно быть отложено до полного внедрения в Туркменистане системы холодовой цепи, намеченного на начало 1994 г. при содействии доноров. Переход от ныне существующей практики спорадической вакцинации ОПВ к сочетанию плановой и спорадической вакцинации подчеркивает важность наличия холодовой цепи.

Вакцинация новорожденных ОПВ и снижение возрастного критерия для противокоревой вакцинации с 12 до 9 месяцев должна привести к ранней профилактике полиомиелита и кори. Группа согласна, что для достижения цели искоренения полиомиелита к 2000 году плановая иммунизация ОПВ должна дополняться специальными мероприятиями по иммунизации, такими как проведение Дня всеобщей иммунизации.

Группа поддерживает решение о снижении числа повторных вакцинаций, особенно БЦЖ и ОПВ, что приведет к уменьшению числа визитов для завершения схемы иммунизации.

С целью дальнейшего упрощения календаря прививок Группа предлагает ввести следующие изменения:

- Введение одноразовой дозы вакцины против паротита одновременно с АКДС4 в возрасте 18 месяцев. Рутинное одновременное введение вакцин широко используется во всем мире. Подобная практика показала себя безопасной, иммунологически оправданной и эффективной в снижении числа упущенных возможностей, а также сокращающей число контактов со службами здравоохранения. Так, дети в возрасте старше 1 года могут быть вакцинированы против кори и паротита в рамках одного визита.
- Отмену шестой дозы ОПВ в возрасте 20 месяцев.
- С учетом возрастного распределения случаев кори и хронической нехватки противокоревой вакцины Группа считает первостепенной задачей достижение и поддержание высокой степени охвата вакцинацией детей в возрасте 9 месяцев одноразовой дозой противокоревой вакциной. Группа не имела возможности тщательно проанализировать данные об эпидемиологии кори в Туркменистане. Тем не менее Группа считает, что введение в Туркменистане повторной дозы противокоревой вакцины в настоящее время не является необходимым и может быть отменено.
- Отмену практики введения третьей дозы БЦЖ в возрасте 16-17 лет. Проведенные во многих странах исследования не подтвердили эффективность повторных доз БЦЖ. Число повторных доз БЦЖ должно быть снижено до однократной ревакцинации для детей с негативной реакцией Манту ко времени поступления в школу.

ПРОТИВОПОКАЗАНИЯ

Группа рассмотрела шесть основных противопоказаний. Первые пять (острое заболевание, клинически выраженный иммунный дефицит, выраженная побочная реакция на предыдущую вакцинацию, гиперчувствительность к компонентам вакцины и хроническое прогрессивное неврологическое заболевание) совпадают с рекомендациями ВОЗ и Консультативного комитета по практике иммунизации (ККПИ). Шестое противопоказание, касающиеся недоношенных детей (с весом ниже 1800 граммов) не совпадает с рекомендациями ВОЗ и ККПИ, и должно быть отменено.

Основываясь на международных исследованиях и опыте в других странах, Группа признает существование ограниченного числа истинных противопоказаний иммунизации. На сегодняшний день можно считать, что более 95% детей могут быть вакцинированы, не подвергаясь риску побочных эффектов. Минздрав предлагает принять большинство рекомендаций ВОЗ, касающихся противопоказаний; большинство противопоказаний, строго соблюдавшихся в бывшем Советском Союзе, решено включить в список ложных.

Группа одобряет большинство предложенных противопоказаний и ложных противопоказаний. Вместе с тем Группа предлагает Минздраву рассмотреть следующие соображения:

- Выраженное ослабление иммунной системы редко сопровождается распространением заболевания, и, следовательно, возможность подобного ослабления не должно считаться противопоказанием.
- Группа считает, что дети со слабо выраженной респираторной инфекцией верхних дыхательных путей или с небольшим расстройством желудочно-кишечного тракта и температурой не выше 38,5° С должны подвергаться вакцинации без задержки.
- Следует также четко различать судороги, обусловленные температурной реакцией, при рассмотрении противопоказаний к вакцинам, содержащим коклюшный компонент (в частности, АКДС). Ребенок, у которого после прививки АКДС отмечены судороги, не связанные с температурной реакцией, не должен получать в будущем противокклюшную вакцину. Если же судороги связаны с температурой в течение трех дней после введения АКДС, можно продолжать вводить вакцину. Антигистаминные или жаропонижающие средства можно применять после иммунизации для снижения температурной реакции.
- Наконец, недостаточность питания (дистрофия и гипотрофия) должны быть показанием, а не противопоказанием к вакцинированию.

Нет необходимости в специальных инструкциях по иммунизации детей с временными медицинскими противопоказаниями. Противопоказания должны быть четко определены. При наличии противопоказаний ребенок не должен получать противопоказанную вакцину. В отсутствие противопоказаний работник здравоохранения должен проводить вакцинацию ребенка согласно календарю прививок. Вопрос о включении особых обстоятельств в качестве противопоказаний должен решаться на основе тщательно проведенных исследований.

В состав международной Группы входили:

Роберт Стейнгласс (Robert Steinglass), технический директор, Агентство международного развития США и проект REACH («Джон Сноу, инк»), Арлингтон, штат Виржиния (руководитель группы);

Д-р Артур Галазка (Artur Galazka), сотрудник Расширенной программы по иммунизации ВОЗ, Женева;

Д-р Колетт Рур (Colette Roure), региональный советник, Комитет по контролю инфекционных заболеваний, ВОЗ, Копенгаген;

Д-р Кейт Пауэлл (Keith Powell), профессор, заместитель директора Отдела педиатрии медицинского факультета Рочестерского университета;

Д-р Джеймс Гибсон (James Gibson), советник по медицинским вопросам, Отдел здравоохранения, Агентство по международному развитию США, Вашингтон.

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ ТУРКМЕНИСТАН
 АГЕНТСТВО МЕЖДУНАРОДНОГО РАЗВИТИЯ США
 ПРОЕКТ REACH
 ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
 СОВЕЩАНИЕ ПО ПЛАНИРОВАНИЮ, РАЗРАБОТКЕ И ПРОВЕДЕНИЮ
 ДЕТСКОЙ ИММУНИЗАЦИИ
 АШХАБАД, ТУРКМЕНИСТАН
 23 - 24 июня 1993 года

**Текущие и предложенные календари прививок детей в Туркменистане,
 а также изменения, рекомендованные Группой АМР США и ВОЗ.**

возраст	текущая схема	предложенная схема	рекомендованная АМР США и ВОЗ
3-5 дней	БЦЖ1	БЦЖ1 ОПВ1	БЦЖ1 ОПВ1**
2 месяца		АКДС1 ОПВ2	АКДС1 ОПВ2
3 месяца	АКДС1 ОПВ1*	АКДС2 ОПВ3	АКДС2 ОПВ3
4 месяца		АКДС3 ОПВ4	АКДС3 ОПВ4
4,5 месяца	АКДС2		
6 месяцев	АКДС3 ОПВ2*		
9 месяцев	ОПВ3* ОПВ4*	противокоревая 1	противокоревая 1
1 год	противокоревая 1 против паротита ОПВ5* ОПВ6*		
1 год 6 мес.		АКДС4 ОПВ5	АКДС4 ОПВ5
1 год 8 мес.		против паротита ОПВ6	против паротита
2 года	АКДС4 ОПВ7* ОПВ8*		
6 лет	противокоревая 2	БЦЖ2 АДС5 ОПВ7	БЦЖ2 АДС5 ОПВ6
7 лет	БЦЖ2 ОПВ9*	противокоревая 2	
9 лет	АДС5		
11-12 лет	БЦЖ3		
15-16 лет	АДС6 ОПВ10*		
16-17 лет	БЦЖ4	БЦЖ3 АДС6	АДС6
число визитов	12	9	8

* Спорадическая иммунизация

** Помимо плановой иммунизации согласно схеме следует проводить Дни всеобщей иммунизации против полиомиелита. В эти дни ОПВ надлежит вводить всем детям от 0 до 4 лет, независимо от иммунизационного статуса. Дни всеобщей иммунизации будут проводиться в определенные периоды в сентябре и октябре.

ANNEX 10

**COMMENTS OF THE INTERNATIONAL TEAM TO THE TAJIKISTAN MOH
(in Russian)**

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ ТАДЖИКИСТАН
АГЕНТСТВО МЕЖДУНАРОДНОГО РАЗВИТИЯ США
ПРОЕКТ REACH
ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ

СОВЕЩАНИЕ ПО ПЛАНИРОВАНИЮ, РАЗРАБОТКЕ И ПРОВЕДЕНИЮ
ДЕТСКОЙ ИММУНИЗАЦИИ

ДУШАНБЕ, ТАДЖИКИСТАН

30 июня - 2 июля 1993 года

РЕКОМЕНДАЦИИ МЕЖДУНАРОДНОЙ ГРУППЫ
МИНИСТЕРСТВУ ЗДРАВООХРАНЕНИЯ ТАДЖИКИСТАНА

По приглашению Министерства здравоохранения (Минздрава) Республики Таджикистан международная группа специалистов по вопросам иммунизации и контроля над заболеваемостью приняла участие в совещании с ведущими эпидемиологами, педиатрами и иммунологами республики. Основной целью Совещания были обмен информацией и совместная оценка текущей программы иммунизации детей, практики и стратегии борьбы с заболеваемостью в Таджикистане. По просьбе председателя Совещания, доктора А.Г.Копыльцова (заместитель министра здравоохранения), группа подготовила замечания и рекомендации, касающиеся программы иммунизации в республике. Приводимый ниже отчет отражает единодушное мнение группы.

В нынешней обстановке ослабления прежних связей с Москвой перед Минздравом стоит проблема разработки собственного курса. С обретением независимости Минздрав Таджикистана проявляет заинтересованность в переоценке текущих программ детской иммунизации и борьбы с заболеваемостью, а также дальнейшей разработке механизмов периодической оценки и усовершенствования практики иммунизации. Минздрав намерен укреплять программу всеобщей иммунизации с учетом внедрения международного опыта.

С учетом недавних политических событий в республике, Минздрав Таджикистана вправе гордиться своими достижениями в области иммунизации и контроля над заболеваемостью. Группа высоко оценивает стремление Минздрава выявить существующие проблемы, собрать и проанализировать данные, а также принять соответствующие решения в свете эпидемиологических потребностей и наличных возможностей Таджикистана.

Группа высоко оценивает работу Минздрава по подготовке Совещания, включавшую проведение ряда рабочих встреч по пересмотру текущих программ и разработку инструкций по сокращению списка противопоказаний.

ПЛАН ВСЕОБЩЕЙ ИММУНИЗАЦИИ (ПВИ)

Группа призывает Минздрав к разработке плана всеобщей иммунизации (ПВИ) и вынесению его на широкое обсуждение. Большой круг педиатров, эпидемиологов, иммунологов и специалистов по инфекционным заболеваниям как в Минздраве, так и вне его должен иметь возможность ознакомиться с проектом документа и высказать свои соображения. Подобный план призван усовершенствовать организацию и обеспечение медицинских услуг в меняющихся условиях независимого Таджикистана. Устанавливая степень охвата прививками и уровень снижения заболеваемости, определяя порядок мероприятий и меру ответственности, план сможет служить руководством к действию для местных органов здравоохранения и потенциальных донорских агентств.

Подобный план выйдет далеко за рамки простого подсчета числа детей, нуждающихся в вакцинации, и количества требуемых вакцин. В плане следует наметить цели по охвату иммунизацией и снижению заболеваемости, разработать руководства (по схемам иммунизации, противопоказаниям и т.д.) и стратегии действий (в частности, использование поликлиник, учет и регистрация нарушений, масштаб охваты, меры по искоренению полиомиелита, системы холодильных цепей и т.д.), сформулировать меры ответственности различных секторов и дисциплин здравоохранения, определить временные рамки для достижения целей и завершения мероприятий, разработать системы оценки и определить потребности в ресурсах и вакцинах. В качестве отправной точки полезным представляется пользование схемой ПВИ, разработанной европейским отделом ВОЗ, переведенной на русский язык и розданной менеджерами РПИ.

ЦЕЛИ И ЗАДАЧИ

Минздраву рекомендуется сформулировать цели и задачи на основе реалистичной оценки имеющихся и необходимых ресурсов, персонала и оборудования.

Группа предлагает внести в перечень задач программы всеобщей иммунизации ряд изменений, приближающих их к разработанной ВОЗ Задаче 5 для европейских стран и учитывающих эпидемиологическую ситуацию в стране. Группа советует включить следующие цели:

- Искоренение в республике полиомиелита к 2000 году.
- Искоренение в республике дифтерии к 2000 году.
- Ликвидация к 2000 году случаев смертности от острой коревой инфекции и сведение числа подтвержденных случаев заболевания корью менее чем к 1 на 100 тыс. населения в год.
- Сведение к 2000 году числа случаев заболевания коклюшем менее чем к 1 на 100 тыс. населения в год.

Для достижения вышеуказанных целей необходимо выполнение следующих оперативных задач по охвату прививками, надзору за заболеваемостью и мерам в случае эпидемии:

Охват прививками

- Охват к 2000 году первичной иммунизацией вакциной АКДС (3 дозы) и ОПВ (4 дозы) 95% детей в возрасте до 1 года.
- Охват к 1997 году, а по возможности раньше, 95% детей до одного года противокоревой вакцинацией.
- Минимальный охват к 1997 году первичной иммунизацией АКДС и ОПВ 90% детей каждого района.

Надзор

- *Полиомиелит:* к 1995 году, а по возможности раньше, обеспечение на национальном уровне доступа к лабораторному оборудованию для выделения, типирования и характеристики вируса полиомиелита дикого типа и вакцины.
- К 1993 году регистрация и постановка на учет каждого острого случая вялотекущего паралича.
- К 1993 году тщательное изучение с обязательным проведением анализа кала на полио вирус каждого случая подозрения на полиомиелит, включая контакты.
- *Дифтерия:* установление в кратчайшие сроки эффективного надзора за заболеваемостью дифтерией с тем, чтобы ни один случай не был пропущен.
- Классификация к 1995 году всех зарегистрированных случаев дифтерии на местные и завезенные.
- *Корь:* разработка к 1997 году эффективной системы надзора для выявления случаев заболевания корью.
- Подтверждение к 1997 году лабораторными данными всех спорадических случаев заболевания корью.

Меры в случае эпидемии

- *Полиомиелит:* внедрение к 1993 году в дополнение к плановой иммунизации системы экстренных мероприятий в районах с зарегистрированными случаями полиомиелита, вызванного диким типом вируса.
- *Дифтерия:* принятие в каждом случае дифтерии немедленных мер, таких как изоляция больного, лечение антитоксином, антимикробная терапия, вакцинация, а также выявление и лечение контактов.
- *Корь:* расследование к 1997 году всех микроэпидемий кори.

КАЛЕНДАРЬ ПРИВИВОК

Общий принцип применения вакцин РПИ заключается в профилактике детских заболеваний до момента, когда младенцы оказываются в группе риска. С другой стороны, следует учитывать, что иммунный ответ младенцев на некоторые вакцины при слишком раннем их введении ослаблена, поскольку наличие материнских антител затрудняет или подавляет иммунный ответ.

Календари прививок должны являть собой разумный компромисс между иммунологической эффективностью и эпидемиологическими потребностями. Важнейшей проблемой является обеспечение защиты в наиболее раннем возрасте с учетом, что сероконверсия при некоторых вакцинах зависит от возраста.

Группа приветствует предложенные изменения в календаре прививок Таджикистана, приведенные в таблице. Указанные изменения позволят снизить число визитов и провести первичную серию иммунизации в более раннем возрасте.

Снижение возрастного критерия для противокоревой вакцинации с 12 до 9 месяцев должно привести к ранней профилактике кори. Группа рекомендует Минздраву внести поправку в предлагаемую схему и отменить четвертую дозу ОПВ (пероральная противополиомиелитная вакцина) в 9-месячном возрасте. Вместо этого одноразовую дозу ОПВ следует вводить новорожденным наряду с БЦЖ для более ранней профилактики. Далее, для достижения цели полного искоренения полиомиелита к 2000 году Группа рекомендует дополнить плановую иммунизацию ОПВ проведением специальных мероприятий, таких как Дни всеобщей иммунизации.

Группа поддерживает решение о снижении числа повторных вакцинаций, особенно ВЦЖ и ОПВ, что приведет к уменьшению числа визитов для завершения схемы иммунизации.

С целью дальнейшего упрощения календаря прививок Группа предлагает следующие изменения:

- Введение одноразовой дозы вакцины против паротита одновременно с АКДС4 в возрасте 16 месяцев. Плановое одновременное введение вакцин широко используется во всем мире. Подобная практика показала себя безопасной, иммунологически оправданной и эффективной в снижении числа упущенных возможностей, а также сокращающей число контактов со службами здравоохранения. Так, дети в возрасте старше 1 года могут быть вакцинированы против кори и свинки в рамках одного визита.
- Введение шестой дозы ОПВ в перед поступлением в школу в возрасте 6-7 лет (вместе с ДТ5 и БЦЖ2) вместо 18 месяцев.

- Отмену практики введения третьей дозы БЦЖ в возрасте 16-17 лет. Проведенные во многих странах исследования не подтвердили эффективности повторных доз БЦЖ. Число повторных доз БЦЖ должно быть снижено до однократной ревакцинации для детей с негативной реакцией Манту ко времени поступления в школу.
- С учетом возрастного распределения случаев кори и хронической нехватки противокоревой вакцины Группа считает первостепенной задачей достижение и поддержание высокой степени охвата вакцинацией детей в возрасте 9 месяцев одноразовой дозой противокоревой вакцины.

Группа не имела возможности тщательно проанализировать данные об эпидемиологии кори в Таджикистане. В этой связи Группа затрудняется дать четкие рекомендации о целесообразности введения второй дозы противокоревой вакцины. Для контроля заболеваемости корью однократная доза в возрасте 9 месяцев представляется достаточной. Тем не менее для искоренения кори может потребоваться дополнительная доза, вводимая либо в порядке плановой иммунизации, либо в порядке проведения одноразовой массовой кампании. Вторую дозу следует использовать лишь при 90-процентном охвате первичной дозой в каждом районе. Если Минздрав считает целесообразным продолжить практику введения второй дозы, Группа рекомендует вводить ее в возрасте 15 месяцев вместо 3 лет, поскольку задача состоит в защите детей, у которых не произошло сероконверсии в ответ на первую дозу. Группа рекомендует пересмотреть эпидемиологию кори для разработки оптимальной стратегии, если Минздрав примет в качестве одной из целей искоренение кори.

ПРОТИВОПОКАЗАНИЯ

Основываясь на международных исследованиях и опыте в других странах, Группа признает существование ограниченного числа истинных противопоказаний к иммунизации. На сегодняшний день можно считать, что более 95% детей могут быть вакцинированы, не подвергаясь риску побочных эффектов.

Группа отмечает, что Минздрав распространил список противопоказаний, основанный на материалах, разработанных на совещании национальных руководителей РПИ в 1988 г. в Будапеште. Однако, учитывая озабоченность, высказанную во время Совещания, представляется очевидной необходимостью в длительном процессе переподготовки педиатров.

Группа считает необходимым подчеркнуть следующие положения:

- В случаях острого, среднетяжелого или тяжелого заболевания, вакцинацию следует проводить в ранний период выздоровления.

- Группа считает, что дети со слабо выраженной респираторной инфекцией верхних дыхательных путей или с небольшим расстройством желудочно-кишечного тракта и температурой не выше 38,5°C должны подвергаться вакцинации без задержки.
- Следует также четко различать судороги, обусловленные температурной реакцией, при рассмотрении противопоказаний к вакцинам, содержащим коклюш чей компонент (в частности, АКДС). Ребенок, у которого после прививки АКДС отмечены судороги, не связанные с температурной реакцией, не должен получать в будущем противокклюшную вакцину. Если же судороги связаны с температурой в течение трех дней после введения АКДС, можно продолжать вводить вакцину. Антигистаминные или жаропонижающие средства можно применять после иммунизации для снижения температурной реакции.

Группа выразила озабоченность тем, что неврологические расстройства послужили противопоказанием к вакцинации 40% невакцинированных детей. Многие из этих детей были диагностированы в период новорожденности, однако группа не смогла получить четких данных о диагнозе и истории болезни.

- Наконец, недостаточность питания (дистрофия и гипотрофия) должны быть показанием, а не противопоказанием к вакцинированию.

Нет необходимости в специальных инструкциях по иммунизации детей с временными медицинскими противопоказаниями. Противопоказания должны быть четко определены. При наличии противопоказаний ребенок не должен получать противопоказанную вакцину. В отсутствие противопоказаний работник здравоохранения должен проводить вакцинацию ребенка согласно календарю прививок. Вопрос о включении особых обстоятельств в качестве противопоказаний должен решаться на основе тщательно проведенных исследований.

ВНЕДРЕНИЕ И ПРОВЕДЕНИЕ ПРОГРАММЫ

Разработка стратегии иммунизации

Минздраву надлежит разработать на будущее оптимальный механизм оценки и совершенствования имеющихся инструкций. Группа предлагает создать Государственный консультативный комитет по программе иммунизации, призванный разрабатывать рекомендации для Минздрава по программе всеобщей иммунизации. В комитете должны быть широко представлены специалисты в области педиатрии, эпидемиологии, контроля над заболеваемостью, иммунологии и организации здравоохранения, что позволит проводить широкое обсуждение и эффективное внедрение в практику пересмотренных инструкций. Группа приветствует широкое географическое представительство. Срок работы в комитете следует ограничить 3-4 годами для постоянного притока новых идей.

Контроль качества вакцин

Группа призывает Минздрав организовать государственное ведомство по контролю качества вакцин, которое будет нести ответственность за лицензирование вакцин и проверку документации (включая протоколы партий) ввезенных вакцин. Государственная контрольная лаборатория должна нести ответственность за проверку активности и безвредности ввезенных вакцин.

Холодовая цепь

Для обеспечения качества вакцин Группа рекомендует Минздраву внедрение на всех уровнях системы холодовой цепи, которая должна включать не только оборудование для хранения и транспортировки вакцин в надлежащих температурных условиях, но и персонал, обученный работе с вакцинами и оборудованием. Недавняя поставка переданного США в дар оборудования холодовой цепи показала необходимость в обучении обращению с цепью, вакцинами, а также ремонту и поддержанию оборудования. Группа считает целесообразным придерживаться рекомендаций ВОЗ, касающихся длительного хранения ОПВ и противокоревых вакцин при температуре -20°C.

Несмотря на значительные поставки оборудования из США в 1992 г., система холодовой цепи еще не достаточно укомплектована. В Душанбе необходимо установить холодильную комнату для хранения препаратов анатоксина. Для республиканского, областного и районного уровней достаточно иметь холодильники с морозильными отделениями для хранения противокоревых, противополиомиелитных и, если позволяет место, вакцин БЦЖ. Холодильники, морозильные установки для хранения льда, трансформаторы, портативные холодильники, установки для транспортировки вакцин, паковый лед, запасные части и ремонтные инструменты должны быть обеспечены на всех уровнях холодовой цепи. Учитывая плохие дорожные условия и трудности в ремонте дорог, для перевозки вакцин целесообразней использовать обычные грузовики с холодильными установками, а не специальный рефрижераторный транспорт. Минздраву и донорским агентствам следует стандартизировать типы оборудования холодовой цепи, чтобы свести к минимуму число моделей в системе. Это облегчит ремонт и поддержание оборудования и уменьшит риск несовместимости.

Иммунизация в летний период

Учитывая нынешнее несовершенство об холодовой цепи, Группа поддерживает решение о нецелесообразности проведения вакцинации в течение трех наиболее жарких летних месяцев. Как только холодильная цепь будет полностью внедрена в Таджикистане, иммунизацию следует проводить круглый год с тем, чтобы дети были вакцинированы без задержки.

Оценка охвата иммунизацией

Минздрав располагает налаженной системой регистрации вакцинации каждого ребенка, учета невакцинированных детей и определения потребностей в вакцинах. Разработанная система позволяет также проводить мониторинг охвата вакцинацией. Очевидно, следует рассмотреть возможность использования упрощенных методов мониторинга и оценки охвата иммунизацией, включая плановые и обзорные методы. В любом случае охват детей в возрасте 12 месяцев (или в возрасте 23 месяцев для кори согласно нынешней схеме) должен быть основным показателем эффективности программы. Показатель охвата должен быть рассчитан для каждой вакцины (АКДС, ОПВ, БЦЖ и противокоревая) и отдельно для каждой дозы (АКДС1, АКДС2, АКДС3 и т.д.). Группа рекомендует при расчете охвата иммунизацией на всех уровнях учитывать число детей, могущих иметь противопоказания к иммунизации. Группа рекомендует использовать для каждой вакцины следующую формулу:

$$\text{охват иммунизацией (\%)} = \frac{\text{число детей, вакцинированных в возрасте до 12 месяцев}}{\text{число новорожденных}} \times 100$$

Вакцинация против гепатита В

Группа была информирована о том, что 5-8% женщин детородного возраста в республике сероположительны на поверхностный антиген гепатита В. В этой связи иммунизация против гепатита В приобретает особую важность. Иммунизация против гепатита В должна стать вопросом первостепенной важности и привести к значительной экономии средств в будущем. Однако для ее проведения необходимы немалые ресурсы. Одним из способов уменьшения затрат на текущую программу является снижение числа повторных вакцинаций другими вакцинами, о чем будет более подробно указано ниже; сэкономленные средства могут позволить провести вакцинацию против гепатита В. Кроме того, поскольку риск серьезной заболеваемости и смертности при паротите значительно меньше, чем при гепатите В, иммунизация против последнего должна проводиться в первую очередь. Минздраву следует обсудить эти и другие возможные пути адекватного финансирования программ иммунизации против гепатита В, как только плановые поставки стандартных РПИ вакцин станут доступными.

Краснуха

Группа ознакомилась с серологическими данными, показывающими что 80-90% женщин детородного возраста являются сероположительными, причем наиболее низкие показатели наблюдаются в сельской местности на юге страны. В настоящее время противокраснушная вакцина не используется. В будущем любые программы противокраснушной иммунизации (всеобщая среди младенцев или направленная на группы особого риска) должны быть тщательно изучены перед внедрением.

Предосторожности при вакцинации БЦЖ

Группу была информирована о жестких правилах, касающихся хранения БЦЖ в отдельных холодильниках и проведения вакцинации в отдельном помещении. Группа считает, что вышеуказанные предосторожности излишни, и рекомендует проводить хранение, транспортировку и введение вакцины БЦЖ вместе с другими вакцинами.

ЭПИДЕМИОЛОГИЧЕСКИЙ НАДЗОР

Эпидемиологический надзор, включающий сбор, анализ, обработку эпидемиологических данных и систему обратной связи, необходим для осуществления эффективных иммунологических мер. Объем собираемых Минздравом данных впечатляет; однако следует развивать и другие элементы системы эффективного надзора, особенно обратную связь на всех уровнях системы здравоохранения и, в частности, с медицинскими работниками включая педиатров.

Для обеспечения единообразия и надежности регистрации заболеваний стандартные определения должны быть использованы для каждой болезни. Это приобретает особую важность для организации эффективного надзора и контроля за заболеваниями дифтерией, корью и полиомиелитом.

Группа рекомендует Минздраву следующие мероприятия:

- Разработку системы обратной связи для обеспечения работников на местах информацией о результатах анализа данных и принятых мерах с целью поддержания на местах заинтересованности в сборе данных и регистрации случаев заболеваемости.
- Объявление зонами высокого риска районов с недостаточным охватом иммунизацией или высокой частотой заболеваемости, или же тем и другим.
- Проведение с целью непрерывного мониторинга безопасности вакцин и разработки параметров противопоказаний наблюдения за неблагоприятными реакциями после иммунизации для определения, не являются ли они последствиями вакцинации.
- Запрос о содействии в оценке лабораторных нужд в контексте искоренения полиомиелита. Группа предлагает направить консультанта-вирусолога для оценки имеющихся лабораторных средств и ресурсов для типирования, характеристики и дифференциации вирусов полиомиелита.

СЕРОЛОГИЧЕСКАЯ ДИАГНОСТИКА

Планов мониторинг программ иммунизации и контроль качества вакцин в настоящее время в значительной мере основаны на серодиагностике. С учетом стоимости и времени серодиагностику следует ограничить применением для специальных исследований отдельных тканей. В ряде случаев серодиагностика может быть полезной, например, для выявления иммунитета в определенных возрастных группах, что, в свою очередь, может указать на необходимость проведения иммунизации среди групп с недостаточным иммунитетом. Так, серодиагностика школьников может указать на необходимость массовой повторной вакцинации, если значительное число детей оказались серонегативными к кори. Серодиагностика не должна использоваться для планового надзора за активностью вакцины. Наиболее эффективными и экономичными методами контроля качества вакцин являются тестирование вакцины при получении ее от производителя, а также поддержание в рабочем состоянии холодовой цепи. Надежным методом оценки эффективности противокоревой вакцины является включение данных о противокоревой вакцинации при анализе информации в каждом случае заболевания корью.

НАУЧНАЯ ДЕЯТЕЛЬНОСТЬ

Группа рекомендует Минздраву проведение специально разработанных эпидемиологических исследований для выявления в Таджикистане частоты случаев синдрома врожденной краснухи и причин неонатальной смерти (уделяя особое внимание случаям столбняка).

САНИТАРНОЕ ПРОСВЕЩЕНИЕ

Имеющиеся данные свидетельствуют о понимании населением Таджикистана важности иммунизации. Однако изменение политико-экономической ситуации может снизить уверенность населения и ослабить его интерес к иммунизации. Для поддержания достигнутого уровня охвата Минздраву следует разработать план проведения индивидуального и массового санитарного просвещения для объяснения любых изменений в календаре прививок. Упрощение календаря прививок поможет родителям получить информацию о детской вакцинации в более доступной форме. Просветительская работа, касающаяся иммунизации, должна быть включена в школьную программу, если это не было сделано до сих пор.

В состав международной Группы входили:

Роберт Стейнгласс (Robert Steinglass), технический директор, Агентство международного развития США - проект REACH («Джон Сноу, инк»), Арлингтон, штат Виржиния (руководитель группы);

Д-р Артур Галазка (Artur Galazka), сотрудник Расширенной программы по иммунизации ВОЗ, Женева;

Д-р Колеетт Рур (Colette Roure), региональный советник, Комитет по контролю инфекционных заболеваний, ВОЗ, Копенгаген;

Д-р Кейт Пауэл (Keith Powell), профессор, заместитель директора Отдела педиатрии медицинского факультета Рочестерского университета;

Д-р Джеймс Гибсон (James Gibson), советник по медицинским вопросам, Отдел здравоохранения, Агентство международного развития США, Вашингтон.

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ ТАДЖИКИСТАН
 АГЕНТСТВО МЕЖДУНАРОДНОГО РАЗВИТИЯ США
 ПРОЕКТ REACH
 ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
 СОВЕЩАНИЕ ПО ПЛАНИРОВАНИЮ, РАЗРАБОТКЕ И ПРОВЕДЕНИЮ
 ДЕТСКОЙ ИММУНИЗАЦИИ
 ДУШАНБЕ, ТАДЖИКИСТАН
 30 июня - 2 июля 1993 года

Текущие и предложенные календари прививок детей в Таджикистане,
 а также изменения, рекомендованные Группой АМР США и ВОЗ

возраст	текущая схема (бывшая советская)	предложенная Минздравом	рекомендованная АМР США и ВОЗ
3-5 дней	БЦЖ1	БЦЖ1	БЦЖ1 ОПВ1*
2 месяца		АКДС1 ОПВ1	АКДС1 ОПВ2
3 месяца	АКДС1 ОПВ1	АКДС2 ОПВ2	АКДС2 ОПВ3
4 месяца		АКДС3 ОПВ3	АКДС3 ОПВ4
4,5 месяца	АКДС2 ОПВ2		
6 месяцев	АКДС3 ОПВ3		
9 месяцев		протизокоревая 1 ОПВ4	противокоревая 1
1 год	противокоревая 1		
15 месяцев	против паротита		
12-24 мес.	ОПВ4 ОПВ5		
1 год 4 мес.		АКДС4 ОПВ5	АКДС4 ОПВ5 против паротита
1 год 6 мес.		ОПВ6 против паротита	
2 года	ОПВ6 ОПВ7		
3 года	ОПВ8 АКДС4	противокоревая 2	
6 лет	противокоревая 2	БЦЖ2 АДС5	БЦЖ2 АДС5 ОПВ6
7 лет	БЦЖ2 ОПВ9		
9 лет	АДС5		
11-12 лет	БЦЖ3		
15-16 лет	АДС6 ОПВ10		
16-17 лет	БЦЖ4	БЦЖ3 АДС6	АДС6
Число визитов	17	10	8

* Помимо плановой иммунизации согласно схеме следует проводить Дни всеобщей иммунизации. В Дни всеобщей иммунизации против полиомелита ОПВ надлежит вводить всем детям от 0 до 3 лет, независимо от иммунизационного статуса. Такие дни следует проводить в холодное время года.

ANNEX 11

OPENING REMARKS OF THE HONORABLE JOSEPH HULINGS, U.S. AMBASSADOR TO THE REPUBLIC OF TURKMENISTAN

Mrs. Minister, ladies and gentlemen, on behalf of the U S. Embassy, it is a pleasure to be part of this historic seminar.

The U.S. Embassy and the Agency for International Development, which funds technology and humanitarian assistance activities, have followed closely the activity of the REACH Project in Turkmenistan. The achievements of the REACH Project over the past year in providing and distributing vaccines, cold chain equipment and immunization supplies have been impressive. For this success, we are very grateful for the efforts and professionalism of all participants, but especially the contributions of REACH personnel and the Ministry of Health under the leadership of Mrs. Ataeva.

This week's project marks the beginning of a new phase in U.S. technical assistance. You are beginning a process which, within a short period of time, will result in creation of a sustainable Turkmen child immunization program. You will acquire the technical knowledge and commercial contacts to implement your own immunization programs without the need to rely upon donations and foreign expertise. In a sense, Turkmenistan will become as independent in vaccination technology as it is in the world political arena.

You have already taken the first steps to achieve this objective. Your willingness to review data and circumstances and to seek new solutions to problems which have been inherited from the past are very encouraging. This week, through this forum, you will have an opportunity to exchange views with international experts in the fields of epidemiology, pediatrics, immunology, and infectious disease control. These experts can call upon their own experiences in addressing similar challenges elsewhere. Surely, when international and Turkmen specialists of such stature get together, great results are certain to emerge.

In closing, I would like to congratulate the Ministry of Health for its superb organization of this program. I would also like to thank the U.S. Agency for International Development and REACH for their sponsorship. Finally, I would like to recognize the contributions of international experts from the World Health Organization and the University of Rochester School of Medicine. Through their dedication and your unselfish efforts to control infectious childhood diseases, the battle to create a safer, richer world for all children will be successful.

Thank you and best wishes.

ANNEX 12

<u>VACCINE</u> (English)	<u>VACCINE</u> (Russian)	<u>VACCINE AGAINST</u>
DPT	АКДС	diphtheria, pertussis, tetanus
DT	АДС	tetanus and diphtheria ("DT for children")
Td	АДС-М	tetanus and diphtheria ("DT for adults")
TT	АС	tetanus ("tetanus toxoid")
OPV	опВ	polio
Measles	корь	measles
MMR	—	measles, mumps, rubella
BCG	БЦВС	tuberculosis
Hepatitis B ("Hep B")	гепатитис-В	hepatitis B