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# TRIP REPORT

## BASICS

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**REPORT ON A MOH (KAZAKSTAN), WHO (EURO),  
AND USAID (BASICS) SEMINAR ON CHILD  
IMMUNIZATION POLICIES, PRACTICES  
AND POLICY-SETTING IN KAZAKSTAN**

Almaty

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Robert Steinglass

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## ACRONYMS

ACIP	Advisory Committee on Immunization Practices
AIDS	Acquired Immune Deficiency Syndrome
BASICS	Basic Support for Institutionalizing Child Survival
BCG	Bacillus Calmette-Guerin (vaccine against tuberculosis)
CAR	Central Asian Republics
CARK	Central Asian Republics and Kazakstan
CIS	Commonwealth of Independent States
d	Monovalent Diphtheria Vaccine
DT	Diphtheria, Tetanus Vaccine
DPT	Diphtheria, Pertussis, Tetanus Vaccine
EPI	Expanded Program on Immunization
EURO	European Regional Office of World Health Organization
FAP	Feldsher-Obstetrician Post
FSU	Former Soviet Union
GDO	General Development Officer
HIV	Human Immunodeficiency Virus
HQ	Headquarters
IPV	Inactivated Polio Vaccine
kg	Kilogram
ME	Measles Vaccine
MECACAR	Mediterranean, Caucasus, Central Asian Republics
MU	Mumps Vaccine
mg	Milligram
MOH	Ministry of Health
NID(s)	National Immunization Day(s)
NIS	Newly Independent States
OPV	Oral Polio Vaccine
REACH	Resources for Child Health
SES	Sanitary Epidemiological Station
SUB	Small In-patient Health Facility
SVA	Ambulatory Clinic
Td	Tetanus, Diphtheria Vaccine
TT	Tetanus Toxoid
US	United States
UN	United Nations
UNICEF	United National Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

## **I EXECUTIVE SUMMARY**

**A Seminar on Child Immunization Policies, Practices, and Policy-setting in Kazakstan was conducted from 31 May through 3 June 1995 by the Ministry of Health (MOH), with technical and financial assistance from USAID/BASICS in collaboration with the European Regional Office of the World Health Organization (WHO/EURO). After being exposed to the most current scientific thinking, the MOH elaborated significant health system reforms. The Seminar was as remarkable for the decisions reached as for the processes used to arrive at them.**

**The Seminar helped the participants to:**

- learn about international immunization and disease control practices and policies, and apply this new understanding to their own circumstances;**
- identify problems which can be solved by reformulating policies; and**
- identify possible mechanisms for setting future policies and guidelines, and for continuing the inter-disciplinary dialogue begun during the Seminar.**

**The exchange of views among national and international specialists concentrated especially on the two desired products from the Seminar:**

- A modern national immunization schedule consistent with the epidemiological requirements and operational realities of Kazakstan.**
- A clarified, simplified, and shortened list of medical contraindications, since current practice results in missed opportunities to vaccinate and protect children in time.**

**Under the past centralized command system, Kazakstan passively received policies formulated in Moscow and followed orders. There was little room for tailoring approaches to the unique circumstances found in the Republic. Now roles have changed and authorities in Kazakstan find that they must set policies and guidelines for themselves, but have little experience in doing so.**

**More than 100 participants from the MOH and key institutes attended the Seminar, including senior and mid-level pediatricians, neurologists, epidemiologists, immunologists, allergists, endocrinologists, scientists and infectious disease control specialists. The MOH funded participation of all national participants, including the Chief Pediatrician and Chief Epidemiologist from each of the 21 oblasts. As the participants representing diverse disciplines and backgrounds reflected upon the new ideas and debated among themselves, important experience was gained on how in an increasingly pluralistic society consensus is achieved among various medical disciplines. Participation by oblast-level staff in policy formulation contributed to broad ownership of the resulting conclusions. Participants were particularly interested in how policy-setting in the US is**

the result of a continuous dialogue between public and private sectors, and includes inputs from a variety of professional associations and other stakeholders.

Acknowledging that their current list of medical contraindications is unnecessarily long and results in delays in and absence of protection for a significant proportion of the population, including those at highest risk of disease and complications, the MOH clarified and shortened their list of medical contraindications during the Seminar. The new list of medical contraindications contains only four general contraindications and a few specific ones relative to each vaccine. A list of twenty false, yet commonly applied, contraindications was also developed. The list can serve as a model for other countries of the former Soviet Union.

A modern national immunization schedule consistent with the epidemiological requirements and operational realities of Kazakhstan was prepared by the MOH at the Seminar. According to the current immunization schedule, 14 contacts are needed for each child less than 17 years of age to receive 20 vaccinations against seven infectious diseases. The new immunization schedule will require only nine contacts to receive 16 vaccinations against seven infectious diseases. (The former Soviet schedule demanded 22 immunizations and 17 contacts.) In addition to the major cost savings which will result from fewer contacts with the health services, the reduced requirements for vaccine and syringes alone will result in savings each year of about \$250,000 (at UNICEF prices), or 17 percent of the current expenditure on these commodities. Furthermore, the decision of the MOH to eliminate annual routine Mantoux testing of all children less than 5 years old will conservatively result in over \$2 million in savings each year.

The participants proved themselves eager to learn from international experience and to end the isolation which for too long separated them from their international colleagues.

## **II. PURPOSE**

A Seminar on Child Immunization Policies, Practices, and Policy-setting in Kazakhstan was conducted 31 May - 2 June 1995 in Almaty. It was followed by an additional day on 3 June for a general discussion on the child immunization calendar, medical contraindications, and immunization practices. Collectively, these two training programs are referred to as the "Seminar."

The Seminar helped the participants to:

- learn about international immunization and disease control practices and policies and apply this new understanding to their own circumstances;
- identify problems which can be solved by reformulating policies; and
- identify possible mechanisms for setting future policies and guidelines and for continuing the inter-disciplinary dialogue begun during the Seminar.

**The exchange of views among national and international specialists concentrated especially on the two desired products from the Seminar:**

- **A modern national immunization schedule consistent with the epidemiological requirements and operational realities of Kazakstan.**
- **A clarified, simplified, and shortened list of medical contraindications, since current practice results in missed opportunities to vaccinate and protect children in time.**

### **III. METHOD**

**Two training programs were held in Almaty, Kazakstan, consisting of two distinct components, namely:**

- **Joint MOH/WHO/USAID(BASICS) Seminar on Immunization Policies, Practices and Policy-Setting in Kazakstan, 31 May - 2 June, 1995.**
- **Joint MOH/WHO/USAID(BASICS) General Discussion on Child Immunization Calendar, Medical Contraindications, and Immunization Practices, 3 June 1995.**

**The objective was to expose senior MOH staff in Kazakstan to modern concepts and practices in immunization and disease control programs. As with the six previous national seminars conducted in 1992-1993 by the USAID/REACH project in each of the other Central Asian Republics, Moldova and Georgia, the exchange of views was designed to engage participants in the modernization of their national immunization schedules, and clarification and shortening of the extensive list of medical contraindications to immunization.**

**Participants consisted of more than 100 participants from the MOH and key institutes, including:**

- **senior national-level decision makers (pediatricians, epidemiologists, neurologists, immunologists, allergists, endocrinologists, scientists and infectious disease control specialists);**
- **forty-two Chief Epidemiologists and Pediatricians (from each of the 21 oblasts); and**
- **additional observers from Almaty and surroundings.**

**International specialists were:**

- **Dr. Artur Galazka, WHO/HQ, Geneva**
- **Dr. Keith Powell, University of Rochester School of Medicine, USA**
- **Professor Vladimir Tatochenko, Russian Academy of Medical Sciences, Moscow**
- **Dr. Colette Roure, WHO/EURO, Copenhagen**
- **Mr. Robert Steinglass, BASICS, Washington**

The MOH funded participation, accommodation and transport of all national participants, including both the out-of-town and local participants. The MOH also covered the cost of renting the hall. BASICS and WHO shared the costs of the external technical staff. BASICS paid for interpretation and translation, which was provided by three persons. Interpretation was sequential, as opposed to simultaneous, because of the difficulty of the material and the need for precision.

The Seminar provided new information, much of it translated into Russian by the USAID/REACH and BASICS projects, to enable senior policy makers to propose with confidence a streamlined list of medical contraindications and a more efficient immunization schedule. Participants were exposed to recommendations on medical contraindications issued by WHO, the American Academy of Pediatrics' Committee on Infectious Diseases, the Centers for Disease Control and Prevention, and the U.S. Advisory Committee on Immunization Practices.

The Seminar consisted of four intensive days of presentations, working group sessions and ample time for debate, discussion, and questions. On the second day, two working groups, each of which included a mixture of disciplines, debated and prepared recommendations on a new policy on medical contraindications and a new immunization calendar, including a rationale for the changes. These were discussed in plenary and finalized by the end of the Seminar.

The agendas for the Seminar and General Discussion appear in English in Appendices A and B and in Russian in Appendix C. As stated earlier, the two training programs are collectively referred to as "the Seminar." Participation at both the Seminar and the General Discussion was the same. Discussions and questioning were so lively throughout the first three days that the agenda on the last day (General Discussion), originally scheduled to respond to questions and offer clarifications, was no longer required. Instead the last day was used to complete the business of the first agenda: the formulation of a new immunization schedule and streamlined list of medical contraindications.

Dr. Asiya Kurmangalieva (Head of the SES Department within the MOH) opened and chaired the Seminar and Deputy Minister Dernevoi closed the Seminar. Ms. Paula Feeney (GDO/USAID/CAR), UNICEF Program Officer Sudeep Bhattarai, and WHO Liaison Jibek Karagulova gave opening remarks. Opening remarks prepared for USAID/CAR appear in Appendix D.

#### **IV. FINDINGS**

The available abstracts from presentations during the Seminar and the products of the working groups are presented below.

## **Overview of the Seminar (Robert Steinglass)**

The health system in the NIS in the past achieved impressive levels of immunization coverage and a high level of disease control. However, changes brought about by the dissolution of the former Soviet Union necessitate that each of the New Independent States (NIS) completely re-think their approach to immunization and disease control. Previous assumptions and rules must be re-examined to determine if they are still valid.

For example, in the past cost was not an issue for Kazakstan under the former Soviet Union. Vaccine costs were subsidized by Moscow. Now Kazakstan must secure a predictable supply of vaccines which can be afforded, and Kazakstan must establish disease control objectives within an environment of severe resource constraints.

Under a centralized command system, the MOH in each Republic passively received policies formulated in Moscow and followed orders. There was little room for tailoring approaches to the unique circumstances found in each Republic. Now roles have changed and each of the independent states find that they must set policies and guidelines for themselves, but have little experience in doing so.

The purpose of the Seminar is to assist participants to:

- learn about international immunization and disease control practices and policies, and apply this new understanding to the local situation;
- identify problems which can be solved by reformulating policies;
- identify a possible mechanism for setting future policies and guidelines and for continuing the dialogue which begins at the Seminar; and
- establish linkages internationally between participants and technical groups, and perhaps more importantly, establish linkages domestically among the many different disciplines.

Participants included a diverse array of specialists, all of whom have a role to play in formulating national policies. The presenter broadly reviewed the daily agenda and method of work for the Seminar to orient the participants. Participants were challenged to:

- Revise the immunization calendar to ensure that children start and complete their immunizations as early in life as is immunologically and epidemiologically appropriate (and with fewer contacts with the health system for greater efficiency).
- Shorten the list of contraindications, which is so long and results in delays in protection, and in some cases, absence of protection for those at highest risk of disease and mortality.

### Global Immunization Program (Artur Galazka)

The history, goals, policies, strategies and approaches of the EPI were presented. The global achievement of the 1990s target of 80 percent immunization coverage among infants worldwide with BCG and measles vaccines, and the third dose of DPT and of oral polio 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 among various countries and areas, and reflect the varied development of the primary health care infrastructure. It was emphasized that the achievements of the 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 percent reduction of measles deaths, 90 percent 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 (Keith Powell)

Vaccine policy in the United States is the result of an interactive collaboration between the public and private sectors. The National Vaccine Program, working closely with the Centers for Disease Control and Prevention, and advised by the National Vaccine Advisory Committee and advisory groups from the private sector, have set immunization standards for all practitioners and national goals for disease reduction or elimination.

The US has established a goal of immunizing 90 percent of all children by the age of 2 years against diphtheria, tetanus, pertussis, hepatitis B virus, hemophilus influenzae type B, polio, measles, mumps, rubella and varicella. The US has also set goals to reduce to zero the number of cases of diphtheria, measles, poliomyelitis, congenital rubella, and tetanus. The goals for pertussis and mumps are to reduce the number of cases to fewer than 1000 and 500, respectively.

In 1993 the Comprehensive Child Immunization Act was passed by Congress and signed into law by President Clinton. The law provides for free vaccines to all children who are not covered for immunization by health insurance. The law also made improvements in the National Vaccine Injury Program, which provides compensation for children who suffer from serious vaccine complications. Legislation to create a national vaccine registry and a national vaccine education program, and to improve vaccine delivery systems, is under consideration.

The instrument for reaching national immunization and disease reduction goals is the immunization schedule. The schedule is designed to achieve full protection against ten diseases before the age of 2 years. The schedule relies heavily on combination vaccines and the

simultaneous administration of vaccines. Immunization rates have improved dramatically since the measles epidemic in 1989-90 raised public awareness of the importance of immunizations.

#### Medical Contraindications to Child Immunization: the International Perspective (Keith Powell)

The AIDS epidemic taught the United States a very important lesson about contraindications. Based on no scientific information, a recommendation had been made that children with the HIV infection should not receive live virus vaccines. When a measles epidemic occurred in the United States in 1989-90, children with HIV infections had the most severe illnesses, and many died. Although there were certainly theoretical risks to vaccination, we learned that the risks of disease were far greater. Subsequent studies clearly show that asymptomatic children with the HIV infection have a good response to vaccine, including live virus vaccines. The immune response declines as the disease progresses, so it is important to vaccinate early. The WHO and US immunization schedules for children with the HIV infection were shown.

The EPI list of contraindications was presented and compared to the list developed by the US Advisory Committee on Immunization Practices. The lists of false contraindications developed by these agencies were also reviewed. Since false contraindications are a major cause of missed opportunities to vaccinate, a working group met to develop a list of contraindications for adoption in Kazakhstan. The working group consisted of pediatricians, epidemiologists, immunologists, and other disciplines. An extended discussion on contraindications was held later during the Seminar.

#### Medical Contraindications to Child Immunization: the Russian Perspective (Vladimir Tatochenko)

An analysis of changes in the lists of contraindications in the former Soviet Union and the Russian Federation since 1980 was presented. There have been two revisions during that time. The present revised list of medical contraindications coincide, in general, with international recommendations. However, there remain a few contraindications which need to be removed from the list.

An analysis of the safety and efficacy of vaccination in special groups of ill children supports the recommendation to further limit the general list of medical contraindications to four to six items.

#### Medical Contraindications to Child Immunization: the Kazakhstan Perspective (S. K. Ayupova)

The risk of diphtheria for both children and adults in the Republic of Kazakhstan is so high that one must give more thought to immunological protection than to adding contraindications to vaccination. Pediatricians, who are specialists with a very narrow focus, have increased the list of contraindications due to special somatic diseases, congenital pathology, systemic diseases of the connective tissue and diseases of the central nervous system. Many of the contraindications have

not been scientifically substantiated, and there has been no global comparative statistical analysis of complications from diseases and prophylactic vaccinations.

The medical refusals to vaccinate are especially numerous in the presence of such neurological conditions as perinatal encephalopathy with "intracranial hypertension" and "convulsive readiness" syndrome. The cautious attitude of pediatricians, neuropathologists and allergists towards vaccinations is related to an inadequate understanding of the biological mechanisms which underlie post-vaccinal complications or reactions and to groundless anxiety.

The plan [list] of general contraindications for all vaccines — including anaphylactic and encephalic reactions, immune deficiencies, pregnancy and very severe diseases — was presented in detail.

#### Immunization Schedule: International Perspective (Artur 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. The following principles were stressed: the need for reducing the number of child immunization contacts with the health facility, the need for simultaneous administration of different vaccines, and the early start and early completion of the primary immunization series.

BCG: Controversies concerning the effectiveness of BCG immunization were presented. Special emphasis was given to the high efficacy of BCG in preventing meningeal and miliary forms of tuberculosis in infants and to the lack of evidence of efficacy of multiple BCG doses in older age groups.

Evidence for the safety of direct BCG vaccination (i.e., without prior tuberculin testing) was presented. It was also stressed that annual tuberculin testing in Kazakstan has no scientific basis, serves no practical use, and should be stopped. Current conservative approaches were vigorously defended by the participants from the Kazakstan Tuberculosis Institute, who argued to continue with routine annual skin testing and the current schedule of multiple BCG booster doses with prior tuberculin testing.

Immunization against measles: Data were presented on the need for careful analysis of age distribution of measles cases when revising immunization schedules. The need for compromise between epidemiological requirements and immunological effectiveness was introduced.

Immunization against diphtheria: Because diphtheria incidence in Kazakstan has increased considerably in the past two years, a broad review of changing patterns in diphtheria immunity and morbidity was presented. The effect of booster doses given at different ages was reviewed. The need for achieving and maintaining high levels of immunity in school children, adolescents,

and adults through routine immunization and mass campaigns was stressed. The importance of mass immunization to stop the diphtheria epidemic was emphasized.

### Immunization Program in Kazakstan (A. Kurmangalieva)

A deterioration in the epidemiological situation is being observed in the Republic of Kazakstan with respect to infectious diseases for which effective means of prevention (vaccination) are available. Recent incidence levels of diphtheria were provided. In 1994 the incidence of diphtheria (2.9 per 100,000 population) was ten times higher than in 1992 (0.27). Diphtheria has become a pandemic infection, affecting both adults and children, with a high case fatality rate.

During the past ten years (1985-94), 67 cases of poliomyelitis were reported in Kazakstan. Fifty percent of the cases were confirmed in the laboratory to have been caused by the type 2 polio strain of the virus, against which the OPV is most immunogenic. Consequently, the main factor in these cases is inadequate vaccination. According to all indicators, a study of immune status in 1994 found a decline in immunity against polio.

The main reason for epidemic and widespread incidence of vaccine-preventable diseases is the neglect of and serious shortcomings in immunoprophylaxis. Immunization coverage rates in infants in 1994 were 84.4 percent for diphtheria, and 74.5 percent for polio.

Infant immunization has been complicated by vaccine shortages on the one hand and medical reluctance to vaccinate children on the other. As there is no domestic production of vaccine and sera, these must be purchased from neighboring and distant countries. Financial constraints lead to shortages of vaccines. In 1994, only 42 percent of the annual requirement for polio vaccine, 64 percent of the requirement for measles vaccine, 50 percent for DT, and 40 percent for Td was covered. The vaccine supply situation has improved somewhat in 1995. Vaccines for young children have been obtained under an agreement with the Government of Japan, and the Government of Kazakstan [illegible] and purchased vaccines from the [illegible] company.

The cold chain is no less a problem in the country. No refrigeration equipment, insulated containers, refrigerator spare parts, thermometers, or ice packs are produced in Kazakstan. Refrigerators are obsolete and worn out, and most of them are not working. No new refrigerators have been made available for the last ten years.

The MOH has collaborated with specialists from the institutes of epidemiology, pediatrics, and public health practice to develop a plan for a national immunization program. A feasibility study for this program is being conducted at present. The program is based on the principles of WHO's EPI.

A real reduction in incidence and the elimination of vaccine-preventable infectious diseases can only be achieved by high immunization coverage and high levels of herd immunity. For this

purpose, an acute need has arisen to re-examine the immunization calendar and the list of medical contraindications to immunization.

### **Results of Working Groups**

After plenary presentations on immunization schedules and medical contraindications, the plenary broke on the second day into two working groups, each of which included pediatricians and epidemiologists, as well as other specialists. Each group also consisted of staff from both national and oblast levels to ensure heterogeneous perspectives. In the working groups, participants debated and prepared recommendations on a new policy for medical contraindications and a new immunization calendar with a rationale for the changes. These proposed policy revisions were discussed in plenary and finalized by the end of the Seminar.

### **Medical Contraindications to Immunization: Working Group Results**

The draft MOH revision of the list of medical contraindications appears in Appendix E. It includes a list of only four general conditions which can be considered true contraindications, and also a list of contraindications specific to individual vaccines. A list of twenty false, yet commonly applied, conditions which are not contraindications is highlighted. This list of medical contraindications, similar to the recommendations of the WHO European Region, can serve as a model for other countries of the NIS.

A survey on immunization practices was administered in the working group. All of the 35 physicians in the working group on medical contraindications were read 24 case studies consisting of statements and questions, and were asked to agree or disagree. Each of them recorded their answers anonymously. The statements and questions were a modification, adapted for Kazakstan, of a list prepared for a situational exercise on contraindications during the California Nurses Association "Train the Trainer" seminar in 1993. The adapted list of survey questions and a fuller description of the results of the survey appear in Appendix F and G, respectively. A few of the most significant findings are:

- 80 percent or more of the participants provided the correct answer to 21 of the 24 questions;
- 43 percent answered that a 6-month old child with allergies to ducks, chickens, and feathers should not be immunized;
- 37 percent answered that children being treated for epilepsy should receive DPT vaccine;
- 20 percent answered that a child with a runny nose and a slight fever should not be vaccinated; and
- only three participants (9 percent) would offer all the vaccines on the same day to a well child 12 months old who had never received BCG, DPT, OPV and measles vaccines.

## **Rationale for a New Immunization Schedule: Working Group Results**

A rationale for a new immunization schedule, which includes a comparison of the current (pre-Seminar) versus proposed immunization schedule for Kazakhstan, was drafted by the Working Group. The statement was discussed, further negotiated and refined during the plenary and appears as Appendix H.

According to the current immunization schedule, 14 contacts are needed for each child less than 17 years of age to receive 20 vaccinations against seven infectious diseases. The proposed new immunization schedule includes only nine contacts to receive 16 vaccinations against seven infectious diseases. By contrast, the immunization schedule in the former Soviet Union necessitated 22 immunizations and 17 contacts.

The proposed new schedule eliminates two of the three booster doses of BCG and three booster doses of OPV, since additional doses of OPV are being provided during national immunization days for the next few years. Measles vaccination, which had inexplicably been advanced from 12 to 8 months of age in 1994, has now appropriately been returned to 12 months, at which age it is more immunogenic, since only 6-10 percent of measles cases in Kazakhstan occur in infants before one year of age. The measles booster at 7 years is retained. An additional booster dose of adult-type Td vaccine is added due to the diphtheria epidemic. Simultaneous administration of more than one injection is introduced, with primary measles and mumps vaccines being given together at 12 months, and boosters of BCG, DT and measles vaccines being given at 7 years of age. A more flexible range of days from zero to four for neonatal BCG administration is permitted, so as to reduce wastage of reconstituted BCG vaccine by accumulating sufficient newborns in need of BCG vaccination on the same day. The resource-intensive practice of routine annual tuberculin testing is discontinued, given its limited impact on finding new infections.

Hepatitis B continues to be a serious health problem in Kazakhstan. Recognizing that at present there are insufficient resources to procure hepatitis B vaccine on a sustained basis, the Seminar did not discuss its introduction into the proposed new immunization schedule. It should be introduced into the schedule once funds for its sustained use can be mobilized.

### **Immunization Policy-Setting Process: A Team Effort (Keith Powell)**

Policy-setting should be a problem-solving process, rather than a political one. The problem should be clearly defined and the desired state clearly established. A team should then be created with representation from all of the stakeholders. Representation on the team should include pediatricians, epidemiologists, immunologists, as well as parents, educators, public health officials, and vaccine suppliers. Team members should be selected based on their expertise and interest in solving the problem. Members should be asked to serve on the team for no more than two to three years so that fresh ideas and points of view can be considered. The team should be responsible for considering all available information. What scientific information is available?

**What has worked or not worked for others? Identify as many potential solutions as possible and select the one considered the most likely to succeed.**

**The team then needs to communicate its findings and recommendations to both practitioners and the general public. Education and understanding will lead to better compliance with the team's recommendations.**

**The functions and structure of the Advisory Committee on Immunization Practices (ACIP) and the Committee on Infectious Diseases of the American Academy of Pediatrics were briefly reviewed.**

### **WHO/UNICEF Strategy for Diphtheria Control (Colette Roure)**

**Widespread immunization with diphtheria toxoid resulted in the virtual elimination of diphtheria in many European countries by the 1970s. A low of 623 cases of diphtheria was reported in 1980 in the region. Since 1989/90, a major resurgence of diphtheria has been observed in Europe, which in the beginning affected mostly Russia and Ukraine. In 1993, the Russian Federation accounted for 80 percent of cases, Ukraine for 16 percent, and the remaining NIS for 3 percent of all cases reported in the European Region of WHO. During 1993-94, the epidemic spread to all the remaining NIS. The annual incidence rate of reported diphtheria has variously increased two-fold to ten-fold. In 1992, 1993, and 1994, imported cases in some countries of western Europe revealed epidemiological links with the current epidemic in the NIS.**

**Among the many reasons for the resurgence of diphtheria in the eastern part of the European Region is the gap of immunity among adults, low immunization coverage among infants and children in many areas, insufficient immunity due to primary immunization performed with low potency Td vaccine, and medical contraindications to vaccination.**

**Diphtheria cases in 1995 are projected to be 150,000 in the NIS, including 1500 in Kyrgyzstan and 2500 in Kazakstan. Two main age-distribution patterns can be distinguished: a) diphtheria cases occurring mainly in adults and adolescents, such as in Russia, Ukraine and Belarus; and b) diphtheria cases concentrating in children below 14 years of age, such as in the Caucasus and Central Asian Republics. The case fatality rates vary from 3 percent (Russia, Ukraine), 6-10 percent (Kazakstan, Kyrgyzstan), to 23 percent (Georgia, Turkmenistan).**

**The WHO/UNICEF strategy for diphtheria control is based on three fundamental principles: immunization, treatment of contacts, and early diagnosis and proper management of diphtheria cases. Emphasis was given to DPT immunization coverage of 95 percent in children less than 2 years of age in each rayon and booster doses at the time of school entry and school leaving. The strategy includes mass campaigns as an emergency measure to control the epidemics. The treatment of close contacts, including follow-up for three days, was discussed. Finally, the proper management of diphtheria cases and their treatment with antibiotics at different dose levels was introduced.**

The forthcoming UN appeal for diphtheria control, scheduled for 19 June 1995 in Geneva, calls for \$23 million in assistance.

Use of Diphtheria Anti-toxin in the Treatment of Diphtheria Cases (Artur Galazka)  
(not a scheduled presentation)

The dose of diphtheria anti-toxin used in various countries in the treatment of diphtheria was presented. A clinical study which showed no clear impact of increased dosage of diphtheria anti-toxin on case-fatality ratios was reviewed. The significance of immune response to horse protein when given as diphtheria anti-toxin was discussed. The dose of diphtheria anti-toxin recommended in the WHO/UNICEF strategy document for diphtheria control was supported.

Issues of Vaccine Delivery and Supply (Robert Steinglass)

The vaccine storage, handling and delivery practices in Kazakstan before the break-up of the Soviet Union was compared with both the current situation and with expected changes in the coming years. Anticipated improvements in vaccine storage at national level and arrivals into Almaty of larger quantities of foreign-manufactured vaccine in multi-dose presentations will have important implications for forecasting needs, vaccine handling and stock management. Vaccines should be stored at higher, and more reliable levels of the cold chain for longer periods of time before despatch to lower levels, if imminent use is not expected. The need to assure the cold chain, as distinct from the current supposed "fast chain," was explained. The special need to preserve vaccine during transport and storage during the winter was stressed.

Methods of calculating vaccine requirements and reducing (and monitoring) wastage without compromising coverage were explained. The new WHO open vial policy was introduced. Options for international vaccine procurement were reviewed. The viewpoint of various potential international partners in terms of vaccine donations was explained. The need to insist on insulated shipment of foreign vaccine, including vaccine from Russia, was stressed. Temperature monitoring as opposed to serosurveys was emphasized as the preferred method of routine monitoring of vaccine quality. New skills and clear lines of responsibility for vaccine handling need to be introduced at each level.

Stability of Vaccines (Artur Galazka)  
(not a scheduled presentation)

Data were presented on the varying stability of different vaccines used in the EPI. EPI vaccines were ranked from the most resistant to heat (toxoids and hepatitis B vaccine) to the most labile vaccine (OPV). The practical implications of the differences in heat-stability were discussed. Results of various studies were presented which showed that repeated freezing and thawing of OPV does not affect its potency. The deleterious impact of freezing on the safety and immunogenicity of adsorbed vaccines was presented and practical ways were offered on how to assess whether a vaccine has ever been frozen.

## **Results of National Immunization Days for Polio Eradication in Kazakstan (A. Kurmangalieva)**

With polio cases currently occurring sporadically, it has become obvious that achievement of high levels of polio immunization coverage is insufficient to ensure the elimination of polio. It has now become necessary to conduct supplemental immunization activities — in particular, national immunization days (NIDs). WHO has recommended that Operation MECACAR — two rounds of vaccinations against polio — be conducted this year. The MOH supported this recommendation and resolved to conduct NIDs. The availability of vaccine, which was obtained promptly and in sufficient quantities from WHO, played a decisive role in the conduct of the campaign during the Spring of 1995. The MOH received substantial support and understanding on the need to conduct campaigns from the Government of Kazakstan and the heads of the oblast, rayon and municipal administrations.

The campaigns were viewed as a national political issue, as attested by the order adopted by the government which confirmed the execution of the NIDs and obliged the various levels of the governmental structure and public organizations to participate.

More than 10,000 immunization stations were established; more than 23,000 medical workers and 17,000 volunteers participated; and more than 5000 mobile immunization teams were organized. The immunization stations were equipped with refrigerators, and transportation for medical workers was provided everywhere.

Great attention was given to mobilize the public, the result of which was a high turn-out. A total of 1.5 million children (99 percent) were vaccinated in each of the two rounds.

The MOH is concerned about the diphtheria epidemic. To prevent further spread and fatality among children, the MOH adopted a resolution that during the second round of the polio NIDs, mass diphtheria vaccination of children from 3 to 6 years of age in the highest-risk areas would be offered. More than 400,000 children were thus vaccinated against diphtheria, which amounted to 92 percent coverage in these areas. Mass vaccination against diphtheria for school children and adolescents up to 19 years of age is planned for September 1995. Preparation to purchase the vaccine is in progress. The problem of syringes must be solved in the oblasts, and vaccination documentation must be reviewed. The mass vaccination campaign, during which medical refusals were reduced to a minimum, convincingly demonstrated the validity of vaccinating any child able to walk out of the polyclinic.

## **Steps on the Path to Develop a National Immunization Program in Kazakstan (Robert Steinglass)**

A detailed operational plan for a national immunization program is like a road map. Developed by consensus with the involvement of diverse groups within the MOH, a plan states where you are coming from, where you are going, and how you intend to get there. A comprehensive plan has many uses: facilitating the organization of services during the present period of rapid change;

delineating roles and responsibilities; helping to set targets and monitor progress; and helping to coordinate and attract donor inputs.

An immunization plan would at a minimum include objectives, targets for vaccination coverage and disease reduction, policies regarding immunization calendars and contraindications, strategies for delivering services and maintaining the cold chain, planned activities with target dates indicated for their start and completion, responsibilities and roles listed for each type of health worker and health institution, plans and indicators for evaluation (including disease surveillance) and research, and of course requirements for human, financial and material resources.

A plan should specify how all the new responsibilities which fall on the MOH will be managed. Several years after independence from the former Soviet Union, in many countries the immunization program is still being managed part-time by the Chief Epidemiologist in the MOH. The position carries with it numerous other responsibilities. The position has authority over only half of the program — the epidemiological and supply side. It has no authority over the other side of the program — the pediatric side — which actually provides the immunization services. Perhaps the structure was sufficient during the Soviet era when policy and practice were devised in Moscow. In most countries, this structure is no longer appropriate and cannot manage the type of national program now required for restoring and maintaining the health of the country in the midst of social, political and economic transition. Many circumstances are now different than in the Soviet era, so most likely past assumptions will need to be re-examined to see if they are still valid or need to be replaced.

In some countries in Central Asia, notably Kyrgyzstan, as part of their recently-developed national plan of immunoprophylaxis, which was endorsed by the Prime Minister, a Republican Center for Immunoprophylaxis was created. This Center has brought responsibility for planning, management and technical guidance of all immunization activities together in a single republic-level institution. Perhaps such a Center, with a similar level of human resources, is needed in most countries in Central Asia to manage the immunization program.

## V. CONCLUSIONS

As explained by one participating specialist (Professor Vladimir Tatochenko), the Seminar has demonstrated that physicians are awakening from their "serfdom" and are to a considerable extent in a position to oppose fallacies imposed upon them by administrative systems, narrow specialists, or false authorities. Training can only help them to do so and to inject new ideas with appropriate explanations and examples of their success in other countries. One senior MOH official described overhearing a participant referring to the training program not as a Seminar, but as a "celebration." Some reflections on conducting future child immunization seminars in countries of the NIS were provided by Professor Tatochenko and appear in Appendix I.

A reporting cable was prepared for USAID/CAR which summarized the results of the Seminar. It appears as Appendix J. A list of policy issues which remain relevant in most of the NIS and includes topics such as simultaneous administration of vaccines, immune response, vaccine use and BCG/TB control appears in Appendix K and may be of use in future policy dialogue.

Soon after the Seminar on 28 June, the MOH in Kazakhstan officially issued decree number <sup>270</sup>246 revising the national immunization schedule, including instructions for the implementation of the new schedule, and the list of medical contraindications to immunization. The decree is attached in English (translated from the original) and Russian as Appendix L and Appendix M, respectively. The decree is in most regards nearly identical to the final drafts which were prepared at the Seminar. USAID (BASICS) will distribute copies of the new decree in Russian and English to the key MOH/SES contacts and relevant partner agencies in each of the ten NIS countries in which BASICS works.

A few of the changes in the official decree, relative to the drafts agreed in plenary at the Seminar, are worth highlighting below as they give insight into the thinking of the MOH:

- A history of Sudden Infant Death Syndrome (SIDS) in the family was added to the list of false contraindications.
- Recent contact with a person with an infectious disease, including tuberculosis, was omitted from the list of false contraindications.
- While strong reaction to a previous dose of vaccine was retained as a general contraindication for all vaccines, the fact that a "strong reaction" specified that a temperature greater than 39.5 degrees Celsius should be per axilla was omitted.
- BCG re-vaccination without a prior Mantoux test was added for children who do not have a BCG scar six months after vaccination.
- BCG re-vaccination at 12 years of age was added for the time being (because of high tuberculosis incidence) to certain oblasts: Aktyubinsk, Atyrau, Almaty, West Kazakhstan, Kzyl-Orda, and Turgay.
- A fourth dose of OPV, at the same time as measles vaccination at 12 months of age, was added in case the child did not receive the required birth dose of OPV.
- Measles vaccination for persons in "organized" settings (dormitory, barracks, etc.) up to 25 years of age, without history of measles disease or prior measles vaccination, was added in case of exposure to measles within the previous two days.
- Vaccination of children with three doses of DT vaccine, regardless of the country of manufacture, was added in case of contraindications to the pertussis component of DPT.

- **An entire section to operationalize and make more specific the immunization schedule for diphtheria control was added (sections 5.4 and 5.5 in the decree in Appendix L and M).**
- **The statement on vaccination (section 6 in Appendix H) against hepatitis B was omitted.**
- **Vaccination coverage targets are changed from 95 percent “in each rayon” to 95 percent for the country as a whole.**
- **The permissibility of simultaneous administration of different vaccines was added; however, if vaccines have not been given on the same day, an interval of at least four weeks between live vaccines was added as a requirement. A statement that intervals between live and killed vaccines was not a requirement was added.**
- **A warning that immunoglobulins cannot be administered until two weeks have elapsed after administration of vaccinations against measles, mumps, polio and BCG, while no interval is required after DPT and DT vaccines, was added.**
- **The need for unvaccinated children, regardless of age, to receive a primary series of vaccinations against tuberculosis, diphtheria, poliomyelitis and measles was added; if reagents are available, preliminary testing of immune status was added as a requirement for these children.**
- **A section was added on the legal basis of immunization, stipulating that citizens of Kazakstan are obliged to receive vaccinations against infectious diseases and that the government is obliged to conduct prophylactic vaccination.**

Most of the changes above reflect either the need to operationalize and clarify the new policies or apply them to specific disease control situations. However, a limited number of policies have been retained or introduced anew in the official decree, which indicates potential areas for further policy dialogue and serves as a reminder that policy formulation is a continuous and evolutionary process.

The immunization schedule and list of medical contraindications in Kazakstan is now perhaps the most enlightened in the NIS. Appendix N shows the detailed immunization schedules for children less than 17 years of age in the seven NIS countries in which USAID/REACH and BASICS, together with WHO, have assisted the MOHs in conducting similar seminars since 1992. A summary of the child immunization schedules in these seven countries, in terms of the number of immunizations in the schedule and the number of contacts required to complete the schedule, appears in Appendix O. The schedule identified as “proposed” for Kazakstan, by virtue of the MOH decree, became the new official schedule shortly after the Seminar. The annual cost savings due to the revision of the immunization schedules in these seven NIS countries appears in Appendix P. Kazakstan will save nearly a quarter of a million dollars annually from vaccine alone because of the streamlined immunization schedule. Additional savings from fewer contacts with

**the health services and from syringes will be significant. Furthermore, the decision of the MOH in Kazakhstan to eliminate annual routine Mantoux testing on all children less than 5 years old will conservatively result in over \$2 million in savings each year.**

## **APPENDICES**

## **APPENDIX A**

**Agenda for Seminar on Child Immunization Practices, Policies, and Policy-setting in  
Kazakhstan (31 May - 2 June 1995)**

**APPENDIX A**

**MINISTRY OF HEALTH OF KAZAKSTAN**

**WORLD HEALTH ORGANIZATION/EURO**

**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

**BASICS PROJECT**

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

**ALMATY, KAZAKSTAN**

**31 MAY - 2 JUNE 1995**

**AGENDA**

**Day One: Wednesday 31 May**

9:00	Welcome and Introductions	MOH
9:10	Opening Remarks: USAID WHO UNICEF	
9:30	Overview of the Seminar (Learning Objectives and Agenda)	R. Steinglass
10:00	Global and European Immunization Program	Galazka/Roure
10:40	Immunization Program in Kazakstan (Objectives, Targets, Immunization Calendar, Strategies, Problems)	Kurmangalieva
11:00	Break	
11:15	Discussion	
12:00	Immunization Program in the USA	K. Powell

12:30	Medical Contraindications to Child Immunization: International Perspective	K. Powell
13:15	Medical Contraindications to Child Immunization: Russian Perspective	Tatochenko
14:00	Break for Lunch	
15:30	Discussion	
16:00	Medical Contraindications to Child Immunization: Kazakstan Perspective	Ayupova
16:45	Discussion	
17:30	Close of Session	

**Day Two: Thursday 1 June**

9:00	Immunization Calendar: International/European Perspective	Galazka/Roure
9:45	Immunization Calendar in Kazakstan and Prospects for Revision	Kembabanova
10:05	Discussion	
11:00	Break	
11:15	Working Group Session #1 Chairpersons: Kembabanova and Ayupova	

Plenary will break into two small working groups (Group A and Group B) to meet concurrently with distinct agendas. (Working group sessions continue after the break for lunch.)

Group 1: existing immunization calendar, basis for revision, draft of the new calendar.

Group 2: medical contraindications to immunization.

13:00	Break for Lunch	
14:30	Working Group Session #2 Chairpersons: Kembabanova and Ayupova	
	Re-convene in same small working groups and prepare recommendations.	
16:00	Plenary Session:	
	Recommendations of Working Group 1	Kembabanova
	Recommendations of Working Group 2	Ayupova
16:30	Discussion	
17:00	Close of Session	

**Day Three: Friday 2 June**

9:00	Presentation and discussion of Working Group Recommendations	Kembabanova Ayupova
10:15	Immunization Policy Setting Process: A Team Effort	K. Powell
10:30	WHO/UNICEF Strategy for Diphtheria Control	C. Roure
11:00	Break	
11:15	Plan of Action to Control Diphtheria in Kazakstan	Karalnik
11:45	Discussion	
13:00	Break for Lunch	
14:30	Issues of Vaccine Supply and Delivery	R. Steinglass
15:00	Results of NIDs for Polio Eradication in Kazakstan	Kurmangalieva
15:30	Break	

<b>15:45</b>	<b>Steps on the Path to Develop a National Immunization Program in Kazakstan</b>	<b>R. Steinglass</b>
<b>16:15</b>	<b>Discussion</b>	
<b>16:30</b>	<b>Adoption of New Immunization Calendar and Policy on Medical Contraindications and Actions Required to Ensure Implementation</b>	<b>Kurmangalieva</b>
<b>17:00</b>	<b>Closing</b>	<b>Chairman</b>

**APPENDIX B**

**Agenda for General Discussion on Child Immunization Calendar, Medical  
Contraindications, and Immunization Practices (3 June 1995)**

**APPENDIX B**

**MINISTRY OF HEALTH OF KAZAKSTAN**

**WORLD HEALTH ORGANIZATION/EURO**

**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

**BASICS PROJECT**

**GENERAL DISCUSSION ON CHILD IMMUNIZATION CALENDAR,  
MEDICAL CONTRAINDICATIONS, AND IMMUNIZATION PRACTICES**

**ALMATY, KAZAKSTAN**

**3 JUNE 1995**

**AGENDA: 9:00 - 16:00**

The discussion will be led by Dr. Galazka, Dr. Powell, and Professor Tatochenko.

Some possible topics to be addressed (not in any order) include:

- safety of simultaneous immunization
- safety and efficacy of immunizing with two or more live viral vaccines (MMR, OPV) on same day or regardless of interval between them
- ability of children to seroconvert to vaccines in the hot months of summer
- suitability (and desirability) of beginning immunization regardless of gestational age or weight at birth
- safety and efficacy of starting or continuing the immunization schedule with either Russian or Western vaccines, regardless of the order
- undesirability of returning to previous longer and delayed immunization schedules, in case Russian vaccines replace donated Western vaccines in the future

- suitability of immunizing with BCG at birth without waiting for the 4th day of life
- immunization in the thigh versus buttocks
- rate of post-vaccination reactions/complications
- false contraindications: allergies, etc.

There will be breaks at 11:30-11:45 and 13:00-14:30. The summary and closing of the four-day program will be from 15:30 to 16:00.

## **APPENDIX C**

**Agenda for Seminar on Child Immunization Practices, Policies, and Policy-setting (31 May - 2 June 1995) and Agenda for General Discussion on Child Immunization Calendar, Medical Contraindications, and Immunization Practices (3 June 1995) ( in Russian)**

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ КАЗАХСТАН  
ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ  
АГЕНТСТВО СОЕДИНЕННЫХ ШТАТОВ ПО МЕЖДУНАРОДНОМУ РАЗВИТИЮ  
(БЕЙСИКС)

П Р О Г Р А М М А

Республиканского семинара по совершенствованию  
иммунопрофилактики.

Алматы, Казахстан

31 мая - 3 июня 1995 года

День первый : среда 31 мая 1995г.

- |                                                       |                                                                       |
|-------------------------------------------------------|-----------------------------------------------------------------------|
| 9.00. Открытие.                                       | Министерство здравоохранения                                          |
| 9.10. Приветственное слово                            | ЮСАИД<br>ВОЗ<br>ЮНИСЕФ                                                |
| 9.30. Цели и задачи семинара. Обсуждение программы.   | г-н Роберт Стайнглас<br>Бейсикс, Вашингтон                            |
| 10.00. Программа глобальной и Европейской иммунизации | д-р Артур Галазка<br>ВОЗ, Женева.<br>д-р Колет Рур<br>ВОЗ, Копенгаген |
| 10.40. Программа иммунизации в Казахстане             | Курмангалиева А. А.<br>Зам. начальника Главного<br>санэпидуправления  |
| 11.00 - 11.15. Перерыв                                |                                                                       |
| 11.15. Дискуссия                                      |                                                                       |
| 12.00. Иммунизационная программа в США                | Кит Пауэл<br>Университет Рочестер<br>СКУЛ оз Медаен, США              |

- 12.30. Медицинские противопоказания по детской иммунизации международные перспективы. Кит Пауэл  
Университет Рочестер  
СКУЛ ов Медаен, США
- 13.15. Медицинские противопоказания к прививкам в России. Перспективы. профессор В. Таточенко  
Академия мед. наук,  
Москва
- 14.00. - 15.30. Перерыв на обед.
- 15.30. Дискуссия
- 16.00. Медицинские противопоказания при иммунизации детей в Казахстане. Перспективы. Аюпова С.Х.  
главный педиатр МЗРК
- 16.45. Дискуссия.
- 17.30. Окончание работы 1-го дня семинара

**День второй: четверг 1 июня 1995г.**

- 9.00. Календарь прививок. Международные/ Европейские. д-р Артур Галагга  
ВОЗ, Женева.  
д-р Колет Рур  
ВОЗ, Копенгаген
- 9.45. Календарь прививок в Республике Казахстан. Современные подходы к его пересмотру. Кембасанова Г.М.  
начальник отдела  
Главного санэпидуправле
- 10.05. Дискуссия.

11.00. - 11.15. Перерыв

11.15. - 16.00. Работа по 2-м секциям:

В каждой секции работают по 25 участников: представители Минадрава, РСЭС, научно-исследовательских институтов, кафедры Алматинского медицинского института, институт усовершенствования врачей, эпидемиологи и педиатры областей и гг. Алматы и Ленинска. Руководители секций: N1 - Кембабанова Г.М.,  
N2 - Аюпова С.Х.

Обсуждаемые вопросы:

Группа N1. Существующий календарь прививок, современный подход к его пересмотру. Проект нового календаря прививок.

Группа N2. Медицинские противопоказания к прививкам. Современный подход к ее пересмотру.

16.00. Объединенное заседание.

Рекомендации рабочих групп:

- по календарю прививок Кембабанова Г.М.
- по медицинским противопоказаниям Аюпова С.Х.

16.30. Обсуждение рекомендаций

17.00. Окончание работы 2-го дня семинара.

**День третий : пятница 2 июня 1995г.**

9.00. Продолжение обсуждения рекомендаций рабочих групп NN 1 и 2.

10.00. Принятие нового календаря прививок и медицинских противопоказаний к прививкам. Действия, требуемые для обеспечения внедрения рекомендаций. Курмангалиева А.А. зам. начальника Главного санэпидуправления

- 10.15.Процесс проведения политики иммуни-  
зации. д-р Кит Пауэл  
США
- 10.30.Стратегия ВОЗ/ЮНИСЕФ по контролю  
за дифтерией д-р Колеет Рур  
ВОЗ, Копенгаген
- 11.00 - 11.15 Перерыв.
- 11.15.План действий по контролю за дифте-  
рией в Казахстане профессор Каральник  
КНЗМБ
- 11.45.Обсуждение
- 13.00. - 14.30. Перерыв на обед
- 14.30.Вопросы обеспечения и доставки  
вакцины г-н Роберт Стайнглас  
Бейсико, Вашингтон
- 15.00.Результаты проведения национальных  
дней иммунизации в Казахстане по  
ликвидации полиомиелита. Курмангалыева А.А.  
ГСЭУ, Миңадрас РК
- 15.30. - 15.45. Перерыв.
- 15.45.Шаги по пути  
развития национальной программы им-  
мунизации в Казахстане г-н Роберт Стайнглас  
Бейсико, Вашингтон
- 16.15.Обсуждение
- 17.00.Окончание работы 3-го дня семинара.

**День четвертый: суббота 3 июня 1995г.**

Проводят д-р Кит Пауэл, Артур Галакко, В.Теточенко,

Режим работы: с 9.00 до 16.00.

Перевыв с 11.30 до 11.45.

Обед с 13 до 14.30

Примерные вопросы, которые будут представлены:

- безопасность и эффективность иммунизации двумя или более живыми вирусными вакцинами в один и тот же день или независимо от интервала между ними;
- способность детей к сероконвертации вакцины в жаркие месяцы лета;
- начало иммунизации независимо от веса при рождении и возраста;
- безопасность и эффективность начала или продолжения календаря иммунизации российской или западной вакцинами вне зависимости от сезона;
- нежелательность возврата к предыдущим длительным календарям иммунизации при замене российских вакцин в будущем вакцинами, получаемыми за-за рубежа;
- иммунизация против туберкулеза в день рождения, вместо 3-4-хдневного возраста по календарю;
- инъекция в бедро вместо ягодиц;
- соотношение между поствакцинальными реакциями и осложнениями;
- ложные противопоказания.

16.00. Закрытие семинара.

Заместитель начальника ГСЭУ  
Министерства здравоохранения РК

А. А. Курмангалиева

**APPENDIX D**

**Opening Remarks for the Seminar Prepared for USAID/CAR**

## **APPENDIX D**

### **OPENING REMARKS PREPARED FOR USAID/CAR**

#### **MOH/WHO/USAID (BASICS) SEMINAR ON CHILD IMMUNIZATION POLICIES, PRACTICES AND POLICY-SETTING IN KAZAKSTAN**

**ALMATY, KAZAKSTAN**

**31 MAY - 3 JUNE 1995**

Thank you for the opportunity to address you on this occasion. The Seminar beginning today on Child Immunization Policies, Practices, and Policy-Setting is a significant steps in the evolution of immunization and disease control programs in Kazakstan.

Recognizing that immunization is the single most important and cost-effective public health intervention, USAID has been pleased to assist countries throughout Central Asia with their immunization programs since March 1992. Increasing the capacity of these countries to manage their national immunization programs on a sustainable basis is central to the USAID objective in the region.

USAID assistance in the region has consisted both of provision of emergency humanitarian commodities -- such as vaccine, syringes and cold chain equipment -- as well as technical expertise through its REACH project and now more recently through its BASICS project. Technical support in the region has been provided by USAID/REACH and BASICS to meet needs identified by the MOH in the fields of logistics and cold chain, training, communications and social mobilization, design of management information systems, and planning. In Kazakstan, USAID/CAR provides technical support through both the Centers for Disease Control and Prevention and the BASICS project.

We have been impressed by the demonstrated commitment, competence, openness and receptivity to new ideas displayed by the MOH during these transitional years of social and economic disruption. The Ministry is at a crossroads and many options present themselves. But we admire the Ministry's determination to identify problems, analyze data and arrive at solutions in light of the epidemiological and operational realities of Kazakstan.

In the Ministry's efforts to seek longer-term solutions and modernize health services, USAID encourages you to prioritize needs and select only those approaches which are affordable and sustainable, and which will increase the likelihood of your achieving self-sufficiency. Now more than ever, effective donor coordination under the leadership by the Ministry is needed. USAID encourages you to to elaborate a detailed operational plan for a national program of immunoprophylaxis, just as has been done during the past two years in other countries of the CARK. USAID is prepared to provide technical support, in concert with other donors, for such a

joint planning exercise. The plan will inform the donors about the Ministry's goals, objectives and strategies in the field of immunization and disease control and may help to mobilize national and international resources.

With the dissolution of the Soviet Union and the resulting change of roles and responsibilities of health staff within the MOH in Kazakstan, USAID believes that it becomes even more important for the MOH to re-think its immunization program and re-examine all the underlying assumptions which were inherited from the former Soviet Union, many of which may no longer apply. A multi-donor planning exercise led by the MOH will achieve that objective, as well as provide us all with a common script to guide us in providing support for MOH goals.

USAID congratulates the Ministry on the impressive execution of the recent national immunization days for polio eradication. This has demonstrated to us that, despite economic disruptions, your system is still capable of heroic efforts and achievements. We hope that the wider donor community will be encouraged to participate in your immunization and disease control efforts. With the alarming epidemic of diphtheria, it is clear that the emergency is not over. The unmet needs which remain are too large for any single donor to shoulder.

Turning to the task ahead of you for the next four days, I am informed that the list of medical contraindications, which was inherited from the former Soviet Union, is unnecessarily long and results in delays and absence of protection for a significant proportion of the population, including those at highest risk of disease and complications. In addition to shortening and clarifying the list of medical contraindications, I understand that modifications to the immunization calendar are also likely to result from your deliberations -- including a reduction in the number of doses and contacts required for children to complete their immunizations at the appropriate ages.

The Seminar, which is co-sponsored by the MOH, WHO, and USAID/BASICS, are important opportunities to bring together the leading specialists of Kazakstan with some of the leading international experts, in order to address these problems. I will be interested to learn of your decisions.

The Seminar is an attempt to formulate policies, to review and update guidelines to achieve consensus, and to identify a mechanism for future policy-setting in an increasingly pluralistic society, soliciting input from diverse professional groups and from lower levels of the health system. USAID supports this approach.

USAID looks to the Government of Kazakstan and the Ministry to demonstrate the political will and vision to ensure that the job of immunizing its greatest national treasure -- its children -- and in controlling communicable diseases receives the highest priority.

**APPENDIX E**

**Revision of List of Medical Contraindications to Immunization Drafted by MOH at the Seminar**

## APPENDIX E

MINISTRY OF HEALTH OF KAZAKSTAN  
WORLD HEALTH ORGANIZATION/EURO  
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
BASICS PROJECT

SEMINAR ON CHILD IMMUNIZATION POLICIES, PRACTICES,  
AND POLICY-SETTING IN KAZAKSTAN

ALMATY, KAZAKSTAN  
31 MAY - 3 JUNE 1995

### MEDICAL CONTRAINDICATIONS

#### A. General Contraindications:

1. Anaphylactic(1), encephalitic or strong reaction(2) to previous dose of vaccine;
2. Immune deficiency states (for live vaccines):
  - primary;
  - caused by leukemia and other malignant disease(3);
  - current systemic steroid therapy in high doses (equal to or more than 2mg/kg/day of prednisone for more than one week)(4)
3. Pregnancy (for live virus vaccines)
4. Acute disease accompanied by fever or systemic illness considered clinically significant by the health worker(5);

In addition to these general contraindications, additional contraindications and information for individual vaccines exist and are listed under "B" below.

#### Footnotes:

- (1) If allergy is caused by vaccine components, another vaccine product not containing this component could be administered.
- (2) Strong reactions -- convulsions for 2-3 days, collapse, inconsolable crying, fever more than 39.5 degrees C (axillary) -- to the previous dose of DPT calls for individual decision on giving DPT or, at least, DT.

(3) Vaccination can be performed six months after the end of immunosuppressive therapy.

(4) Vaccination can be performed three months after the discontinuation of the therapy.

(5) Vaccination is performed upon recovery or the institution of a full or a partial remission.

## **B. Specific Contraindications:**

### **BCG:**

- newborns:
- prematurity (birth weight of less than 1500 grams and/or gestational age less than 33 weeks(6)
  - generalized BCG infection in a sibling (suggests possibility of hereditary immunodeficiency)
- re-vaccination:
- history of tuberculosis
  - keloid scar at the site of the first vaccination
  - clinical case of AIDS

### **DPT:**

- evolving neurological conditions

### **DT and Td:**

- no contraindications(7).

### **OPV:**

- immunodeficiency in a family member(8)
- HIV infection(8)

### **Measles (9):**

- additional contraindications absent

### **Mumps (9):**

- additional contraindications absent

**Footnotes:**

- (6) These infants, along with those non-vaccinated at birth due to a disease, should be vaccinated before discharge from the neonatal care units.
- (7) Td is unsuitable for use for primary vaccination in children below the age of 7 years.
- (8) IPV can be given instead of OPV.
- (9) After immunoglobulin or other blood products, the vaccine can be administered after an interval of at least three months.

**C. Conditions that are NOT contraindications to vaccination**

- non-serious general (temperature less than 39.5 degrees C by axillary) or local vaccination reactions
- mild diseases (with temperature less than 38 degrees C or diarrhea)
- current antibacterial therapy or convalescence
- steroid therapy - topical, inhalations or systemic with moderate or low doses (less than 2 mg/kg/day of prednisone or a short course of 7 days or less of prednisone)
- prematurity: vaccinations are done at the scheduled age regardless of the weight
- pregnancy of the mother or others in the family
- recent infectious disease
- frequent acute respiratory infections
- breast feeding
- allergy to food, feathers, house dust, penicillin, etc. (except constituents of some vaccines - e.g., neomycin, streptomycin)
- bronchial asthma, eczema, atopic dermatitis
- chronic diseases of the heart, lungs, kidneys, etc.
- malnutrition, anemia, rickets
- history of neonatal jaundice, septicemia, and other diseases

- congenital malformations
- "perinatal encephalopathy" (including such diagnoses as "hydrocephalo-hypertensive syndrome", "syndrome of excessive irritability" and "convulsive readiness")
- thymomegaly
- findings in the immunogram that are not consistent with primary immune deficiency, immunosuppression due to therapy or HIV infection (sometimes referred to as "secondary immune deficiency")
- recent contact with an infectious disease, including TB.

**APPENDIX F**

**Case Studies on Medical Contraindications to Immunization**

## APPENDIX F

### CASE STUDIES ON MEDICAL CONTRAINDICATIONS TO IMMUNIZATION<sup>1</sup>

1. You are seeing a child for a well-child exam and learn from the mother that the child has diarrhea. The child appears well. Do you go ahead and give the needed immunizations? Why or why not?
2. A child is being seen today because of a runny nose for five days, but otherwise she appears well. Can you give the needed immunizations? Why or why not?
3. The mother reports that her infant who is four months old had a fever and redness and swelling at the site after the last DPT vaccination. What would you tell the mother?
4. The baby was born six weeks premature (weighing 1800 grams) and is now 3 months old. Should the baby start immunizations? Why or why not?
5. The mother reports that her six month old child is allergic to ducks, chickens and feathers. Can immunizations be given? Why or why not?
6. The mother states that her 18 month old child is allergic to penicillin. Would you give any immunizations? Why or why not?
7. The father brings in his 18 month old child for an exam and states that both he and the child have allergies. Can the child have the immunizations that are due? Why or why not?
8. The child had a bad ear infection and has been on antibiotics for seven days. Would you give the child immunizations today? Why or why not?
9. The child is well and needs immunizations, but the mother states that the child was exposed to chickenpox. What would you say to the mother?
10. The mother states that the child's grandfather, who lives with them, has tuberculosis. Should the child get the immunizations that are needed? Why or why not?
11. The baby is well today and should receive the first DPT. The mother tells you that a sibling had febrile seizures. Can you give this child DPT? Why or why not?
12. The 15 month old is due for measles today, but the mother states that she is pregnant. Can you give the vaccine? Why or why not?

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<sup>1</sup>Adapted from a 1993 in-service training course developed for the California Nurses Association with the Immunization Branch of the California Department of Health Services.

13. A six month old infant finally comes in for a well-baby visit. The mother says that she did not bring the baby in for immunizations earlier, because she is still breast-feeding. What would you say to her?
14. This 12 month child is well but has never been vaccinated. Therefore the child needs BCG, DPT, OPV, and measles vaccines. Which ones should be given?
15. It is time for this infant to begin immunizations, but the mother tells you that a previous child died of Sudden Infant Death Syndrome (SIDS). What would you say to this mother?
16. This baby has a diagnosis of epilepsy and is on medication. Do you think she can start DPT? Why or why not?
17. This 12 month old was given immune globulin last month, but is due for measles vaccine today. Should you give the measles vaccine? Why or why not?
18. This five month old is back today for DPT2 and OPV2. It has been three weeks since she received the first DPT and OPV immunizations. Should you give the vaccines?
19. A two month old infant has come in for an exam. The family history reveals that the infant's father has HIV infection. Should immunizations be started? Why or why not? Which ones?
20. A 15 month child is due for measles, but the mother tells you that the child is allergic to eggs, had throat and tongue swelling and had to be taken to the emergency room. Would you still give immunizations? Why or why not?
21. This six month old infant came in because of a runny nose and also seems to have a slight fever; otherwise, she is active and eating well. Should immunizations be given? Why or why not?
22. It is the summer and the weather is extremely hot. Should you vaccinate the child? Why or why not?
23. Is it better to give young children intramuscular vaccines in the buttock or in the lateral aspect of the thigh?
24. Four months have passed since this child received the first doses of OPV and DPT. Is it necessary to begin the series again?

**APPENDIX G**

**Results of a Survey on Immunization Practices Administered in the Working Group on  
Contraindications**

## **APPENDIX G**

### **Results of a Survey on Immunization Practices Administered in the Working Group on Contraindications**

#### **Methodology:**

All of the 35 physicians in the working group on medical contraindications were read 24 statements/questions and were asked to agree or disagree. They recorded their answers on paper and turned the sheets in without identifying themselves by name. The statements and questions were a modification, adapted for Kazakstan, of a list prepared for a situational exercise on contraindications during the California Nurses Association "Train the Trainer" seminar in 1993. The adapted list appears in the following Appendix.

#### **Results:**

- 80% or more provided the correct answer to 21 of the 24 questions
- 43% answered that a six-month old child with allergies to ducks, chickens, and feathers should not be immunized
- 37% answered that children being treated for epilepsy should receive DPT vaccine
- 20% answered that a child with a runny nose and a slight fever should not be vaccinated
- 14% answered that they would not vaccinate a child receiving antibiotics for an ear infection
- 14% answered that they would give the second dose of OPV and DPT vaccines to a child who returned only 3 weeks after the first dose
- to the question whether a well child 12 months old who has never received any immunization can receive BCG, DPT, OPV and measles vaccines on the same visit, only three persons would offer all the vaccines on the same day.

**APPENDIX H**

**Rationale for the New Immunization Schedule Drafted by MOH at the Seminar, Including  
Current and Proposed New Immunization Schedule**

## **APPENDIX H**

**MINISTRY OF HEALTH OF KAZAKSTAN  
WORLD HEALTH ORGANIZATION/EURO  
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
BASICS PROJECT**

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

**ALMATY, KAZAKSTAN  
31 MAY - 3 JUNE 1995**

**RATIONALE FOR THE NEW IMMUNIZATION SCHEDULE  
FOR THE REPUBLIC OF KAZAKSTAN**

In developing the proposed new immunization schedule, the following principles are taken into consideration:

- The number of child contacts with the health services for the purpose of immunization is minimized; and simultaneous immunization with different vaccines is promoted.
- The effort is made to achieve protection against childhood vaccine-preventable diseases prior to the time infants are at high risk. Immunizations should be given at the earliest possible age.
- The epidemic and economic situation are taken into consideration.

According to the current immunization schedule, 14 contacts are needed for each child less than 17 years of age to give 20 vaccinations against 7 infectious diseases. The proposed new immunization schedule includes 9 contacts to provide 16 vaccinations against 7 infectious diseases.

## **PROPOSED CHANGES:**

### **1. Use of BCG vaccine**

The use of BCG vaccine has been controversial for decades, largely owing to conflicting results from field trials and the debate surrounding these differences. However, in all these trials which reported on specific morbidity, protection against early and life-threatening forms of tuberculosis (meningitis or miliary tuberculosis) was above 80%. There is no strong evidence for the effectiveness of multiple BCG boosters at older age.

It is decided to continue to use BCG during the first four days of life while the newborn infant is still in the maternity center. A range of days from 0-4 is permissible so as to reduce wastage of reconstituted BCG vaccine by accumulating sufficient newborns in need of BCG vaccination on the same day.

Since children from different milieu congregate at the time of school entry, and since an increase in tuberculosis is reported in Kazakstan at 11-13 years of age, a single booster dose of BCG at 6-7 years of age is retained. This dose is used without prior tuberculin testing.

### **2. Annual tuberculin skin test for each child**

This resource-intensive routine procedure is discontinued, given its limited impact on finding new infections and the negative effect of multiple tuberculin doses on sensitization of children to the tuberculin protein.

### **3. Number of OPV doses**

Four doses for children less than 12 months of age are retained and are administered at birth in the maternity center and then at 2, 3, and 4 months of age.

Further booster doses are eliminated, because of the two rounds of mass immunization of children under 5 years of age each year in 1995 through 1997.

### **4. Age of primary immunization against measles**

The age for the first dose of measles vaccine is shifted from 8 to 12 months of age. This change is based on the fact that only 6-10% of measles cases in Kazakstan occur in infants before one year of age. Furthermore, the effectiveness of measles vaccination in terms of its capacity to stimulate seroconversion increases with age, when passively-acquired antibodies wane.

A booster dose of measles vaccine is retained at the time of school entry.

## **5. Immunization against diphtheria**

The timing of vaccination with DPT remains unchanged with three primary doses of DPT in the first year of life and a reinforcing dose of DPT during the second year of life.

Booster doses are used at 6-7 years of age (DT vaccine) at the time of school entry and at 17 years of age (Td vaccine) before finishing school and entering the army, college or employment. A booster dose of monovalent diphtheria toxoid ("d" vaccine containing 2 Lf) is proposed at 12 years of age. Given doubts as to whether or not this vaccine will be available, Td can be used at 12 years of age instead of "d" toxoid.

The relatively high number of diphtheria booster doses is justified by the rapid increase in diphtheria incidence in recent years in Kazakstan, especially in children of school age, and more rapid decreases in diphtheria antibody than previously considered.

The schedule of three booster doses (at 6-7, 12, and 17 years of age) can be used for a short period of time to stop the epidemic. Once the epidemic is controlled, a return to two booster doses (at 6-7 and 17 years) will be used.

## **6. Vaccination against hepatitis B**

Hepatitis B continues to be a serious health problem in Kazakstan. Recognizing that at present there are insufficient resources to procure hepatitis B vaccine on a sustained basis, the Seminar did not discuss its introduction into the proposed new immunization schedule. It should be introduced into the schedule once funds for its sustained use can be mobilized.

## **7. Immunization of impaired persons**

A monovalent tetanus toxoid (TT) is currently being used for specific anti-tetanus prophylaxis of injured persons. TT will be replaced by adult-type Td vaccine. This procedure will increase the number of adults immunized against diphtheria.

## **8. Immunization coverage targets**

By the Year 2000, Kazakstan aims to achieve greater than 95% coverage with each vaccine for each age group in each rayon.

## CURRENT AND PROPOSED NEW IMMUNIZATION SCHEDULE IN KAZAKSTAN

### CURRENT SCHEDULE:      PROPOSED NEW SCHEDULE:

age	CURRENT SCHEDULE						PROPOSED NEW SCHEDULE						
	BCG	OPV	DPT	DT	Td	Me Mu	BCG	OPV	DPT	DT	d	Td	Me Mu
0-4 days		+					+	+					
3-4 days	+												
2 months		+	+					+	+				
3 months		+	+					+	+				
4 months		+	+					+	+				
8 month						+							
12 months												+	+
15 months													+
18-24 months		++	+						+				
6 years	+												
7 years		+			+		+			+			+
9 years				+									
12 years	+											++	
15 years					+								
17 years**	+												+

**CONTACTS: 14**  
**IMMUNIZATIONS: 20**  
**DISEASES: 7**

**CONTACTS: 9**  
**IMMUNIZATIONS: 16**  
**DISEASES: 7**

**Notes:**

\* In case monovalent diphtheria vaccine is unavailable, Td vaccine will be used.

\*\* Td vaccine is offered to adults every 10 years.

**APPENDIX I**

**Reflections on Conducting Immunization Seminars in the NIS**

## APPENDIX I

### Reflections on Conducting Immunization Seminars in CIS Countries

(prepared by Professor Vladimir Tatochenko)

1. As with a majority of other health services related to children, provision of vaccinations is the responsibility of pediatricians primarily and, therefore, their training is of utmost importance.
2. Since pediatricians care (in more than one sense) for a given number of children, their training should, apart from imparting the rationale for the desired actions, provide them with a sense of confidence that their actions will neither be harmful to children nor appear harmful to their parents. Hence, scientific justifications have to be supplemented by data that could help to convince the public.
3. As with most other physicians, NIS pediatricians are "hard-core" clinicians, very insensitive to purely epidemiological arguments. Hence, there is a need to supplement data that are essentially analytical with convincing "clinical" material, including practical clinical examples and even references to "clinical authorities" such as standard textbooks.
4. My experience has shown that a concise theoretical lecture (accounting for some 20% of total training time), followed by practical training based on discussions around real-life problems and examples, is much more acceptable than courses based mainly on lectures. From this point of view, the last days in Bishkek and Almaty were very productive.
5. The experience of the two working groups in Almaty confirmed my view that the trainees have to be given more of an active role in arriving at a decision. Guiding the discussion with due recognition of the local context and the physicians' backgrounds is not difficult and leads to sensible final decisions. The drafting by international staff of the final version of decisions is unlikely to cause problems, such as an impression that a decision is "bestowed" upon the participants from outside.
6. In some circumstances, the aim of the training is to produce skills and attitudes that may not be welcome by administrators, many of whom would prefer to maintain their hold on their junior staff. Hence, it should be a rule to include the chiefs in the group of trainees, so that the group's decision will be accepted by one and all.
7. People in Russia are not very receptive to generalities, and people in other NIS countries even less so. Hence, lectures that aim at defining general principles and strategies should not be stressed. Instead, illustrating such generalities with practical examples helps to make the subject more acceptable.
8. The most valuable training materials should contain both information (new or carefully selected old materials) and practical recommendations. Physicians in the NIS are virtually cut

off from periodicals and books. The written materials should be presented in such a way that they could be used in practice. Preparation of such material, if it does not already exist, need not take much time, but it would double the impact of training.

9. The Seminar in Kyrgyzstan and Kazakstan has demonstrated that physicians are awakening from their "serfdom" and are to a considerable extent in a position to oppose fallacies imposed upon them by administrative systems, narrow specialists, or false authorities. Training has only to help them to do so and to inject new ideas with appropriate explanations and examples of their success in other countries.

**APPENDIX J**

**Proposed Reporting Cable for USAID/CAR**

## APPENDIX J

### PROPOSED REPORTING CABLE DRAFTED BY ROBERT STEINGLASS (BASICS)

(TO BE SENT BY USAID/CAR TO WASHINGTON [NIS TASK FORCE AND GLOBAL BUREAU], WITH COPIES TO USAID MISSIONS IN EACH OF THE CAR AND BASICS/WASHINGTON)

1. THIS CABLE REPORTS ON A SEMINAR ON CHILD IMMUNIZATION POLICIES, PRACTICES, AND POLICY-SETTING IN KAZAKSTAN CONDUCTED IN ALMATY FROM 31 MAY THROUGH 2 JUNE BY THE MINISTRY OF HEALTH WITH TECHNICAL AND FINANCIAL ASSISTANCE FROM USAID/BASICS AND WHO/EURO. SEE POINT 20 FOR REQUESTED ACTION.
2. THE SEMINAR HELPED THE PARTICIPANTS TO:
  - LEARN ABOUT INTERNATIONAL IMMUNIZATION AND DISEASE CONTROL PRACTICES AND POLICIES AND APPLY THIS NEW UNDERSTANDING TO THEIR OWN CIRCUMSTANCES
  - IDENTIFY PROBLEMS WHICH CAN BE SOLVED BY REFORMULATING POLICIES
  - IDENTIFY POSSIBLE MECHANISMS FOR SETTING FUTURE POLICIES AND GUIDELINES AND WHICH CONTINUE THE INTER-DISCIPLINARY DIALOGUE BEGUN DURING THE SEMINAR.
3. DR. ASIYA KURMANGALIEVA (HEAD OF THE SES DEPARTMENT WITHIN THE MOH) OPENED AND CHAIRED THE SEMINAR AND DEPUTY MINISTER DERNEVOI CLOSED THE SEMINAR. PAULA FEENEY (GDO/USAID/CAR), UNICEF REPRESENTATIVE BHATTERAI, AND WHO REPRESENTATIVE JIBEK KARAGULOVA GAVE OPENING REMARKS.
4. MORE THAN 100 PARTICIPANTS FROM THE MOH AND KEY INSTITUTES ATTENDED, INCLUDING SENIOR AND MID-LEVEL PEDIATRICIANS, NEUROLOGISTS, EPIDEMIOLOGISTS, IMMUNOLOGISTS, ALLERGISTS, ENDOCRINOLOGISTS, SCIENTISTS AND INFECTIOUS DISEASE CONTROL SPECIALISTS. THE MOH FUNDED PARTICIPATION OF ALL NATIONAL PARTICIPANTS, INCLUDING THE CHIEF PEDIATRICIAN AND EPIDEMIOLOGIST FROM EACH OBLAST. EXTERNAL SPECIALISTS INCLUDED ROURE (WHO/EURO), GALAZKA (WHO/GENEVA), POWELL (U. OF ROCHESTER SCHOOL OF MEDICINE), TATOCHENKO (INSTITUTE OF PEDIATRICS, MOSCOW) AND STEINGLASS (USAID/BASICS).
5. THE SEMINAR PROVIDED NEW INFORMATION, MUCH OF IT TRANSLATED INTO RUSSIAN BY THE USAID REACH AND BASICS PROJECTS, TO ENABLE SENIOR POLICY MAKERS TO CONFIDENTLY PROPOSE A STREAMLINED LIST OF MEDICAL

CONTRAINDICATIONS AND A MORE EFFICIENT IMMUNIZATION SCHEDULE. THE MOH ACKNOWLEDGES THAT THE CURRENT LIST IS UNNECESSARILY LONG AND RESULTS IN DELAYS AND ABSENCE OF PROTECTION FOR A SIGNIFICANT PROPORTION OF THE POPULATION, INCLUDING THOSE AT HIGHEST RISK OF DISEASE AND COMPLICATIONS. PARTICIPANTS WERE EXPOSED TO RECOMMENDATIONS ON CONTRAINDICATIONS ISSUED BY WHO, THE AMERICAN ACADEMY OF PEDIATRICS' COMMITTEE ON INFECTIOUS DISEASES, THE CENTERS FOR DISEASE CONTROL AND PREVENTION, AND THE U.S. ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES.

6. THE HEALTH SYSTEM IN KAZAKSTAN WORKED IN THE PAST TO ACHIEVE IMPRESSIVE LEVELS OF IMMUNIZATION COVERAGE AND A HIGH LEVEL OF DISEASE CONTROL. HOWEVER, CHANGES BROUGHT ABOUT BY THE DISSOLUTION OF THE FORMER SOVIET UNION NECESSITATE THAT KAZAKSTAN COMPLETELY RE-THINKS ITS APPROACH TO IMMUNIZATION AND DISEASE CONTROL. PREVIOUS ASSUMPTIONS AND RULES MUST BE RE-EXAMINED TO DETERMINE IF THEY ARE STILL VALID.

7. UNDER A CENTRALIZED COMMAND SYSTEM, KAZAKSTAN PASSIVELY RECEIVED POLICIES FORMULATED IN MOSCOW AND FOLLOWED ORDERS. THERE WAS LITTLE ROOM FOR TAILORING APPROACHES TO THE UNIQUE CIRCUMSTANCES FOUND IN THE REPUBLIC. NOW ROLES HAVE CHANGED AND AUTHORITIES IN Kazakstan FIND THAT THEY MUST SET POLICIES AND GUIDELINES FOR THEMSELVES, BUT HAVE LITTLE EXPERIENCE IN DOING SO.

8. THE SEMINAR CONSISTED OF FOUR INTENSIVE DAYS OF PRESENTATIONS, WORKING GROUP SESSIONS AND AMPLE TIME FOR DEBATE, DISCUSSIONS, QUESTIONS AND ANSWERS. THE EXCHANGE OF VIEWS AMONG NATIONAL AND INTERNATIONAL SPECIALISTS CONCENTRATED ESPECIALLY ON THE TWO DESIRED PRODUCTS FROM THE SEMINAR:

- A MODERN NATIONAL IMMUNIZATION SCHEDULE CONSISTENT WITH THE EPIDEMIOLOGICAL REQUIREMENTS AND OPERATIONAL REALITIES OF KAZAKSTAN
- A CLARIFIED, SIMPLIFIED, AND SHORTENED LIST OF MEDICAL CONTRAINDICATIONS, SINCE CURRENT PRACTICE RESULTS IN MISSED OPPORTUNITIES TO VACCINATE AND PROTECT CHILDREN IN TIME.

9. [FYI. THIS SEMINAR WAS MODELED AFTER SIX PREVIOUS SEMINARS CONDUCTED IN EACH OF THE OTHER CAR AND IN MOLDOVA AND GEORGIA FROM 1992 TO 1993 BY THE EARLIER USAID REACH PROJECT. END FYI]

10. PARTICIPANTS WERE EAGER TO LEARN FROM INTERNATIONAL EXPERIENCE TO END THEIR LONG ISOLATION. THEY MAINTAINED A HEALTHY SKEPTICISM AND RELENTLESSLY PURSUED ANSWERS TO QUESTIONS WHICH HAD CLEARLY BEEN TROUBLING THEM FOR YEARS.

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11. SOME OF THE TOPICS ADDRESSED INCLUDED THE FOLLOWING:
- SAFETY AND EFFICACY OF SIMULTANEOUS ADMINISTRATION OF VACCINES, INCLUDING LIVE VIRAL VACCINES
  - RATES OF REACTIONS AND COMPLICATIONS FROM THE VACCINES RELATIVE TO THE DISEASES THEMSELVES
  - COMMON FALSE CONTRAINDICATIONS SUCH AS ALLERGIES, FEVERS OF LESS THAN 38.5 DEGREES CELSIUS, ETC.
  - ABILITY OF CHILDREN TO SEROCONVERT TO VACCINES EVEN IN THE HOT SUMMER MONTHS
  - SUITABILITY AND DESIRABILITY OF STARTING IMMUNIZATION REGARDLESS OF THE LEVEL OF MATURITY OR WEIGHT AT BIRTH
  - IMMUNIZATION OF SMALL CHILDREN IN THE THIGH AS THE PREFERRED SITE VERSUS THE BUTTOCKS.

12. ADDITIONAL PRESENTATIONS IN PLENARY WERE GIVEN ON THE GLOBAL, EUROPEAN, KAZAKSTAN, AND USA IMMUNIZATION PROGRAMS; INTERNATIONAL, RUSSIAN AND KAZAKSTAN PERSPECTIVES ON MEDICAL CONTRAINDICATIONS TO CHILD IMMUNIZATION; INTERNATIONAL, EUROPEAN AND Kazakstan IMMUNIZATION SCHEDULES; IMMUNIZATION POLICY SETTING PROCESS AS A TEAM EFFORT; WHO/UNICEF AND KAZAKSTAN STRATEGIES TO CONTROL DIPHTHERIA; ISSUES OF VACCINE SUPPLY AND DELIVERY; RESULTS OF NATIONAL IMMUNIZATION DAYS FOR POLIO ERADICATION IN Kazakstan; STEPS ON THE PATH TO DEVELOP A NATIONAL IMMUNIZATION PROGRAM IN KAZAKSTAN; AND ADOPTION OF NEW IMMUNIZATION SCHEDULE AND POLICY ON MEDICAL CONTRAINDICATIONS.

13. TWO WORKING GROUPS, EACH OF WHICH INCLUDED A MIXTURE OF DISCIPLINES, DEBATED AND PREPARED RECOMMENDATIONS ON A NEW POLICY ON CONTRAINDICATIONS AND A NEW IMMUNIZATION CALENDAR WITH A RATIONALE FOR THE CHANGES. IMPORTANT EXPERIENCE WAS THEREBY GAINED ON HOW IN AN INCREASINGLY PLURALISTIC SOCIETY CONSENSUS IS ACHIEVED AMONG VARIOUS MEDICAL DISCIPLINES. INCLUSION OF OBLAST-LEVEL STAFF THROUGHOUT THE ENTIRE SEMINAR, UNLIKE EARLIER REACH SEMINARS, WAS AN INNOVATION WHICH THE MOH HAD INSISTED UPON AND WHICH WORKED EXTREMELY WELL. THEIR ACTIVE AND ENTHUSIASTIC PARTICIPATION CONTRIBUTED TO BROAD OWNERSHIP OF THE RESULTING CONCLUSIONS. PARTICIPANTS WERE PARTICULARLY INTERESTED IN HOW POLICY-SETTING IN THE USA IS THE RESULT OF A CONTINUOUS DIALOGUE BETWEEN PUBLIC AND PRIVATE SECTORS AND INCLUDES INPUTS FROM A VARIETY OF PROFESSIONAL ASSOCIATIONS AND OTHER STAKEHOLDERS. THE PARTICIPANTS LEARNED BEST FROM PRACTICAL, AS OPPOSED TO GENERAL, PRESENTATIONS WHICH USED CONCRETE EXAMPLES BASED ON REAL-LIFE CLINICAL SITUATIONS.

14. THE NEW LIST OF MEDICAL CONTRAINDICATIONS CONTAINS ONLY FOUR GENERAL CONTRAINDICATIONS AND A FEW SPECIFIC ONES RELATIVE TO EACH VACCINE. A LIST OF 20 FALSE, YET COMMONLY APPLIED, CONTRAINDICATIONS WAS ALSO DEVELOPED. THE LIST CAN SERVE AS A MODEL FOR EACH OF THE NIS.

15. ACCORDING TO THE CURRENT IMMUNIZATION SCHEDULE, 14 CONTACTS ARE NEEDED FOR EACH CHILD LESS THAN 17 YEARS OF AGE TO RECEIVE 20 VACCINATIONS AGAINST 7 INFECTIOUS DISEASES. THE PROPOSED NEW IMMUNIZATION SCHEDULE INCLUDES ONLY 9 CONTACTS TO RECEIVE 16 VACCINATIONS AGAINST 7 INFECTIOUS DISEASES. THE FORMER SOVIET SCHEDULE NECESSITATED 22 IMMUNIZATIONS AND 17 CONTACTS.

16. THE PROPOSED NEW SCHEDULE ELIMINATES TWO OF THREE BOOSTER DOSES OF BCG AND THREE BOOSTER DOSES OF OPV, SINCE ADDITIONAL DOSES OF OPV ARE BEING PROVIDED DURING NATIONAL IMMUNIZATION DAYS. MEASLES VACCINATION, WHICH HAD STRANGELY BEEN ADVANCED FROM 12 TO 8 MONTHS OF AGE IN 1994, HAS NOW APPROPRIATELY BEEN RETURNED TO 12 MONTHS, AT WHICH AGE IT IS MORE IMMUNOGENIC, SINCE ONLY 6-10% OF MEASLES CASES IN KAZAKSTAN OCCUR IN INFANTS BEFORE ONE YEAR OF AGE. THE MEASLES BOOSTER AT 7 YEARS IS RETAINED. AN ADDITIONAL BOOSTER DOSE OF ADULT-TYPE Td VACCINE IS ADDED DUE TO THE DIPHTHERIA EPIDEMIC. SIMULTANEOUS ADMINISTRATION OF MORE THAN ONE INJECTION IS INTRODUCED, WITH BOOSTERS OF BCG, DT AND MEASLES VACCINES BEING GIVEN AT 7 YEARS OF AGE. A MORE FLEXIBLE RANGE OF DAYS FROM 0-4 FOR NEONATAL BCG ADMINISTRATION IS PERMITTED, SO AS TO REDUCE WASTAGE OF RECONSTITUTED BCG VACCINE BY ACCUMULATING SUFFICIENT NEWBORNS IN NEED OF BCG VACCINATION ON THE SAME DAY. THE RESOURCE-INTENSIVE PRACTICE OF ROUTINE ANNUAL TUBERCULIN TESTING IS DISCONTINUED, GIVEN ITS LIMITED IMPACT ON FINDING NEW INFECTIONS.

17. HEPATITIS B CONTINUES TO BE A SERIOUS HEALTH PROBLEM IN KAZAKSTAN. RECOGNIZING THAT AT PRESENT THERE ARE INSUFFICIENT RESOURCES TO PROCURE HEPATITIS B VACCINE ON A SUSTAINED BASIS, THE SEMINAR DID NOT DISCUSS ITS INTRODUCTION INTO THE PROPOSED NEW IMMUNIZATION SCHEDULE. IT SHOULD BE INTRODUCED INTO THE SCHEDULE ONCE FUNDS FOR ITS SUSTAINED USE CAN BE MOBILIZED.

18. AS EXPLAINED BY ONE PARTICIPATING SPECIALIST, THE SEMINAR HAS DEMONSTRATED THAT PHYSICIANS ARE AWAKENING FROM THEIR "SERFDOM" AND ARE TO A CONSIDERABLE EXTENT IN A POSITION TO OPPOSE FALLACIES IMPOSED UPON THEM BY ADMINISTRATIVE SYSTEMS, NARROW SPECIALISTS, OR FALSE AUTHORITIES. TRAINING HAS ONLY TO HELP THEM TO DO SO AND TO INJECT NEW IDEAS WITH APPROPRIATE EXPLANATIONS AND EXAMPLES OF THEIR SUCCESS IN OTHER COUNTRIES.

ONE SENIOR MOH OFFICIAL DESCRIBED OVERHEARING A PARTICIPANT REFERRING TO THE TRAINING PROGRAM NOT AS A SEMINAR BUT AS A QUOTE CELEBRATION UNQUOTE.

19. [FYI. ONCE ISSUED FORMALLY AS DECREES BY THE MOH IN KAZAKSTAN, USAID/BASICS WILL DISTRIBUTE COPIES OF THE NEW IMMUNIZATION CALENDAR AND SHORTENED LIST OF MEDICAL CONTRAINDICATIONS TO EACH OF THE KEY MOH/SES CONTACTS AND RELEVANT DONOR AGENCIES IN EACH OF THE CAR. END FYI]

20. OTHER NOTEWORTHY FINDINGS OF THE BASICS VISIT INCLUDE:

- A DESIRE ON THE PART OF DEPUTY MINISTER DERNEVOI AND HIS STAFF FOR A TRANSFER OF SKILLS TO CONDUCT AN INTERNATIONAL COMPETITIVE VACCINE TENDER AND BID, SINCE THE MOH IS NOW PROCURING NON-PRIMARY VACCINES AT RATHER HIGH PRICES FROM A SOLE SOURCE. MISSION REQUESTS ASSISTANCE FROM BASICS TO DETERMINE THE APPROPRIATENESS OF A COMPETITIVE VACCINE PROCUREMENT IN KAZAKSTAN AND TO PROVIDE REQUISITE TRAINING.
- INTENTION OF PROJECT HOPE TO DONATE 400,000 DOSES OF LEDERLE DPT VACCINE DUE TO EXPIRE JULY 1996 TO COVER UNMET NEEDS IN KAZAKSTAN FOR THE FOURTH DOSE. USAID/CAR REQUESTS NIS TASK FORCE TO CONTACT PROJECT HOPE URGENTLY TO ENCOURAGE THEIR ADDITIONAL DONATION OF AVAILABLE LEDERLE DPT STOCK TO OTHER COUNTRIES BATTLING DIPHTHERIA EPIDEMIC IN THE CAR.

**APPENDIX K**

**List of Immunization Policy Issues Relevant in the NIS**

## **APPENDIX K**

### **LIST OF POLICY ISSUES WHICH ARE RELEVANT IN THE NIS**

#### **SIMULTANEOUS ADMINISTRATION:**

Vaccinate children with all standard vaccines for which they are eligible by age, regardless of the number of vaccines.

Administer two or more live virus vaccines on the same day.

Administer two or more live viral vaccines, even if separated by less than 30 days.

Give children their routine intramuscular injections regardless of recent or expected administration of OPV.

#### **IMMUNE RESPONSE:**

Vaccinate newborns and children without respect to prematurity or birth weight.

Vaccinate children as they become eligible by age throughout the year, including during the hot summer months, since the immune response of children is good regardless of the outside temperature.

Vaccinate malnourished children on a priority basis, as they are most susceptible to serious complications and mortality from immunizable diseases.

A temperature of 37.9 degrees Celsius is within two standard deviations of normal and is not cause for postponement of vaccination.

#### **VACCINE USE:**

Give intramuscular injections to children less than 2 years of age in the lateral portion of the thigh, rather than in the buttocks.

Administer the second dose of measles vaccine without serological testing.

Use polio vaccine regardless of the number of times it has frozen or thawed, as long as the vaccine is kept continuously below 8 degrees Celsius.

**Continue vaccinating the child according to the national immunization calendar, regardless of the source of manufacture of the vaccine or the order in which Russian or international vaccines are given.**

**BCG/TB:**

**Avoid giving more than one BCG booster.**

**Immunize newborns at birth or soon thereafter, before they are released from the maternity center, without waiting for a specific day such as the fourth day of life. (Flexibility in offering BCG to newborns at any time in the maternity center from 0-7 days of life will reduce vaccine wastage.)**

**Use BCG in cases both of delayed primary immunization and also for booster doses without prior testing for tuberculin sensitivity.**

**COMMENT:**

**The goal of immunization is disease control and public health impact, not the best individual serological response attainable.**

## **APPENDIX L**

**Official Ministerial Decree Revising Immunization Schedule and List of Medical  
Contraindications in Kazakstan (translated from the original Russian)**

**MINISTRY OF PUBLIC HEALTH  
REPUBLIC OF KAZAKHSTAN**

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**ORDER  
Almaty**

June 28, 1995

No. 246

**Concerning the improvement of  
immunoprophylaxis in the republic**

The epidemiological situation in regard to a number of infectious childhood diseases which can be controlled by vaccination has grown sharply more difficult in recent years. A sharp increase in diphtheria morbidity is causing particular alarm. For example, there were 45 cases recorded in 1992, 82 in 1993, and 489 in 1994, and 390 people have fallen ill in the first 5 months of this year. The death rate is high: there were 34 deaths in 1993 and 21 in the first 5 months of this year.

Sporadic cases of poliomyelitis are recorded every year, and polio viruses are isolated in the environment. No record keeping or virusological examinations of patients with acute flaccid paralysis have been set up until now.

The statistics for measles, whooping cough and mumps morbidity remain high.

This situation in regard to "controllable" infections has developed because of the decline in collective immunity and the low level of vaccination coverage of children.

For the purpose of the implementation of the Expanded Immunization Program, which is aimed at reducing and eliminating a number of infectious diseases, I HEREBY ORDER:

1. That a new vaccination schedule (attachment 1) for the work of public health organs and institutions, a list of medical contraindications to vaccinations (attachment 2) and instructions with respect to the interpretation of the vaccination schedule (attachment 3) be confirmed and implemented, effective 1 July 1995.
2. That the Medical Statistics Department of the Ministry of Public Health is to submit to Goskomstat for examination the revisions to item 5 - the annual record of childhood and adolescent populations vaccinated against infectious diseases - according to the new vaccination schedule.
3. That the heads of public health departments and administrations of the provinces and the city of Almaty are to provide:
  - 3.1. The planning and execution of vaccinations in conformity to the new vaccination schedule and the contraindications.
  - 3.2. Province, city and district seminars for physicians and middle-level medical workers involved in the immunization of the population in regard to the implementation of the new vaccination schedule and the list of contraindications to vaccination.
  - 3.3. The adherence to "cold" chain conditions in the transportation and storage of vaccines at all levels.
  - 3.4. At least 95% vaccination coverage of children during the specified time periods.

3.5. The responsibility of pediatricians, all receiving physicians at polyclinics and physicians of children's hospitals for the prompt immunization of children.

3.6. The vaccination of newborns hospitalized at hospitals for the second stage of care, newborn pathology divisions and other specialized divisions before they are discharged, according to the vaccination schedule.

3.7. The notification of the Ministry of Public Health of each instance of an unusual reaction to the administration of vaccines.

4. That the chief state sanitation physicians for the provinces and the city of Almaty and in railroad and air transportation are to provide:

4.1. The monitoring of the comprehensiveness of the immunization coverage of children, with special attention to children in the first two years of life.

4.2. The constant availability of vaccines for all prophylactic and treatment institutions.

5. That the Scientific Research Pediatrics Institute is to conduct the registration and study of post-vaccination reactions and complications and the development of methods for treatment and for the correction of impaired immunocompetence.

6. That the Scientific Research Institute of Epidemiology, Microbiology and Infectious Diseases and the Scientific Research Pediatrics Institute are to provide scientific methodological and practical assistance to public health organs and institutions with respect to issues of immunoprophylaxis.

7. That the heads of medical institutes and the institute for the improvement of physicians and the directors of medical academies are to reexamine their training programs in the light of issues pertaining to immunoprophylaxis under the rubric of the Expanded Immunization Program.

8. That the Republic Sanitation and Epidemiological Center:

8.1. Is to take additional steps for the prompt supply of vaccines to the provinces.

8.2. Is to provide monthly records of vaccines, broken down by provinces and the city of Almaty, as delivered:

- according to the agreement between Kazakhstan and UNICEF;
- at the expense of the centralized funds of the Ministry of Public Health;
- at the expense of the provinces;
- by way of humanitarian aid.

9. That the republic center "Zdorovye" ["Health"] is to conduct explanatory work with the public concerning the significance and importance of vaccinations.

10. That the orders of the Ministry of Public Health of the Republic of Kazakhstan No. 72, 5 March 1993, "Measures for the further reduction of measles morbidity," with respect to changes in the vaccination periods, and No. 83, 14 March 1994, "The new vaccination schedule and medical contraindications to vaccinations in the Republic of Kazakhstan," are to be considered no longer in force.

11. That A. A. Kurmangaliyev, deputy director of the Main Sanitation and Epidemiology Administration, and A. A. Zaik, director of the Administration for Protection of the Health of Mother and Child, are to be charged with monitoring the execution of this order.

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DEPUTY MINISTRY

[signed]

A. G. DERNOVOY

Vaccination Schedule, Republic of Kazakhstan

Age	BCG	OPV	DPT	DT	d <sup>0</sup>	Td	measles	mumps
0 - 4 days	*	*						
2 months		*	*					
3 months		*	*					
4 months		*	*					
12 months							*	*
18 months			*					
6 - 7 years	*			*			*	
12 years					*			
16 - 17 years						*		
Adult - every 10 years								

1) In the event that d is unavailable, Td is used.

### MEDICAL CONTRAINDICATIONS

- A. General contraindications::
1. Anaphylactic,<sup>1</sup> encephalic or strong reactions<sup>2</sup> to a previous dose of vaccine (for all vaccines).
  2. Immunodeficiencies (for live vaccines):
    - primary;
    - caused by leukosis, lymphoproliferative diseases or immunosuppressive therapy;<sup>3</sup>
    - steroid therapy at high doses (prednisolone at doses equal to or greater than 2 mg/kg/day for 7 days or more).<sup>4</sup>
  3. Pregnancy (live vaccines).
  4. Medium and severe diseases accompanied by fever and/or serious impairment of overall condition.<sup>5</sup>

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<sup>1</sup> In the presence of allergies to vaccine components, similar vaccines which do not contain the components in question may be used.

<sup>2</sup> Strong reactions: prolonged convulsions, collapse, violent crying, fever above 39.5 degrees, in response to DPT require an individual approach to the solution of the problem of the continuation of vaccination with DPT or, as a minimum, DT.

<sup>3</sup> Vaccination is performed six months after the end of immunosuppressive therapy.

<sup>4</sup> Vaccination is performed three months after the end of the treatment.

<sup>5</sup> Vaccination is performed upon recovery or full or partial remission.

The contraindications for the individual vaccines listed in section B are presented below.

**B. Contraindications for individual vaccines.**

**BCG**

**NEWBORNS**

- premature birth (birth weight less than 1500 g and/or gestational age less than 33 weeks);<sup>6</sup>
- generalized BCG infection in a child in the family (the possibility of hereditary immunodeficiency).

**REVACCINATION**

- history of tuberculosis;
- keloid scar at the site of the first BCG vaccination;
- HIV infection with clinical manifestations.

**DPT**

Progressive neurological pathology.

**DT and Td**

No contraindications.<sup>7</sup>

**OPV<sup>8</sup>**

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<sup>6</sup> These children, along with those which have not been vaccinated due to disease, are to be vaccinated before being discharged from the neonatal care units of the children's hospital or maternity clinic.

<sup>7</sup> Td is unsuitable for primary immunization.

<sup>8</sup> IPV can be substituted for OPV.

- immunodeficiency among family members;
- HIV infection.

### MEASLES and MUMPS<sup>9</sup>

No additional contraindications.

C. Conditions which are not contraindications to vaccination:

- general (with a temperature below 39.5 degrees) or local reactions to a previous vaccination which are not severe;
- mild diseases with a temperature below 38 degrees or diarrhea;
- antibacterial therapy or convalescence currently in progress;
- steroid treatment - topical, inhalation or systemic therapy at moderate or low dosages (less than 2 mg/kg/day) or brief courses of treatment (less than 7 days);
- premature birth; vaccinations are to be conducted within the schedule deadlines, regardless of the infant's weight;
- pregnancy of the mother or other family members;
- recent infectious disease;
- frequent acute respiratory disease;
- breast feeding;
- allergy to food products, feathers or penicillin;
- bronchial asthma, eczema or atopic dermatitis;
- chronic disease of the heart, lungs, kidneys, etc.;
- sudden infant death syndrome in the family history;
- malnutrition, anemia, rickets;
- history of neonatal jaundice, septicemia and other diseases; - congenital developmental defects; - perinatal encephalopathy (including such diagnoses as "hydrocephalo-hypertension syndrome," "hyperexcitability syndrome" or "convulsive" tendencies);
- thymomegaly;
- the presence in the immunogram of changes which are sometimes interpreted as "secondary immunodeficiency," but which are not consistent with the presence of primary immunodeficiency, immunosuppression due to drugs, or HIV infection.

Director, Administration for Protection

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<sup>9</sup> The vaccine is administered at least three months after immunoglobulin or blood preparations have been injected.

of the Health of Mother and Child

[signed]

A. A. Zaik

**Instruction for the implementation  
of the new vaccination schedule**

The following principles have been taken into consideration in the development of the new vaccination schedule:

- the reduction of the number of visits to the doctor by children for immunization purposes by the simultaneous administration of various vaccines;
- the performance of a primary series of vaccinations on children up to the age at which the risk of the infection in question is high, i.e., during the early stages of life;
- the epidemic situation in the republic and the economic conditions.

**Revisions which have been introduced**

In the light of the protective effect with respect to early and severe forms of tuberculosis (meningitis, miliary tuberculosis) of up to 80% by BCG vaccine and the low effect of repeated BCG vaccinations at older ages:

1.1. The vaccination of newborns during the first 0-4 days of life in the birth clinic has been retained.

1.2. Children with undeveloped signs of BCG are subject to repeated vaccination after six months, without a preliminary Mantoux test.

1.3. The revaccination of children six to seven years old before they enter school, without the setup of the Mantoux reaction in advance, has been preserved.

1.4. In the light of the high tuberculosis morbidity, the revaccination of children 12 years old has been preserved for the time being in the Aktyubinsk, Atyrau, Almaty, Western Kazakhstan, Kzyl-Orda and Turgay provinces.

2. Tuberculin tests.

The annual tuberculin test performed on each child has been canceled, since its effect on the detection of instances of infection is limited.

3. Vaccinations against poliomyelitis.

Four vaccinations for children up to one year of age have been retained: at the birth clinic, and then at the ages of two, three and four months. Later revaccinations have been canceled in connection with the performance of the two-round mass immunization of children up to five years old in 1995, 1996 and 1997.

- if a child has failed to receive the "O" vaccination (at the birth clinic), it is necessary to vaccinate him with a fourth OPV dose along with the measles vaccination at the age of one year.

#### 4. Vaccinations against measles. <sup>presence</sup>

4.1. In the light of the low specific measles morbidity in children, 5-10% up to one year of age, and the decrease in the level of maternal antibodies in children up to the age of one year, the vaccination time has been shifted from above 8 months of age to 12 months.

4.2. Measles booster vaccinations at the age of 6-7 years at the children's entry into school have been preserved.

4.3. With the recording of the first cases of measles in organized groups (room, dormitory, barracks, etc.), all persons up to 25 years of age who have not suffered from measles and have not been vaccinated against this infection are to be vaccinated with live measles vaccine promptly, within 2 days.

#### 5. Vaccinations against diphtheria.

5.1. The times for primary vaccination with three doses of DPT before the age of one year and the first revaccination before the age of two years have been kept as before.

In the presence of contraindications to the whooping cough component, it is necessary to conduct three vaccinations with DT toxoid, regardless of the country of origin of the vaccine.

The Td vaccine is not suitable for primary immunization.

5.2. Later revaccination is performed at the age of 6-7 years, before the children enter school, with the DT vaccine preparation, and at the age of 16-17 years, before graduation from school, with the Td vaccine.

5.3. In the light of the high incidence of diphtheria among school children, the revaccination of children at the age of 12 years with monovalent diphtheria toxoid (D<sub>7</sub> vaccine containing 2 Lf) has been included. If the D<sub>7</sub> vaccine is not available, Td vaccine may be used instead. The schedule of three booster doses (at the ages of 6-7, 12 and 16-17 years) is to be used for a short time, until the epidemic has been halted. After the epidemic is under control, the vaccination schedule can go back to 2 doses (at 6-7 and 16-17 years of age).

5.4. Children more than seven years old and adults who have not previously been vaccinated are to be vaccinated as follows - two vaccinations with a four-week interval with Td vaccine, and a third vaccination after six months.

Subsequent revaccinations are performed by age according to the vaccination schedule.

5.5. Individuals who have suffered from diphtheria are to be vaccinated before discharge according to the following system:

- those who have not been vaccinated previously are to receive a dose of vaccine containing diphtheria toxoid (preferably Td vaccine) immediately and to complete a primary course of vaccination later;
- partially vaccinated individuals are to complete the primary course of vaccination in accordance with the vaccination schedule;
- fully vaccinated individuals are to receive a single dose of Td vaccine, if the last dose of vaccine has been administered five years or more previously.

5.6. For providing emergency immunization in the presence of trauma, Td vaccine is to be used instead of monovalent tetanus toxoid (TT), which increases the population immune to diphtheria.

6. Vaccination coverage.

The level of vaccination coverage of children of the ages specified is to be at least 95%.

7. The interval between vaccinations.

7.1. The simultaneous administration of different vaccines is permitted. If the vaccines have not been administered on the same day, an interval of at least four weeks between live vaccines is to be maintained. Intervals between live and killed vaccines are not adhered to.

7.2. The administration of measles and mumps vaccines is to be delayed for at least three months after immunoglobulin or blood preparations have been administered; DPT, DT, BCG and OPV vaccines may be administered without an interval.

7.3. Immunoglobulins are to be administered two weeks or more after measles, mumps, poliomyelitis and BCG vaccines have been administered. An interval after DPT and DT is not required.

8. Tactics for immunization of children not vaccinated according to age.

Regardless of age, a child who has not previously been vaccinated is to receive a primary complex of vaccinations against tuberculosis, diphtheria, poliomyelitis and measles. A preliminary study of the immune status of the child is to be performed in the presence of diagnostics.

9. The legal basis for immunization.

The law of the Republic of Kazakhstan concerning "The sanitary and epidemiological welfare of the population" was enacted by decree of the Supreme Soviet of the Republic of Kazakhstan on 8 July 1994. Article 34 of the law confirms the obligation to conduct prophylactic vaccinations.

The citizens of the Republic of Kazakhstan are obliged to receive prophylactic vaccinations against infectious diseases.

The procedures and times for the performance of vaccinations and the population groups subject to vaccinations are to be determined by the Ministry of Public Health of the Republic of Kazakhstan.

DEPUTY CHIEF OF THE STATE SANITATION  
AND EPIDEMIOLOGICAL ADMINISTRATION

[signed]

A. KURMANGALIYEV

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**APPENDIX M**

**Official Ministerial Decree Issued after the Seminar Revising Immunization Schedule and  
List of Medical Contraindications in Kazakstan (Russian)**

The Decree 1

КАЗАХСТАН РЕСПУБЛИКАСЫ  
ДЕНСАУЛЫҚ САҚТАУ  
МИНИСТРЛІГІ



МИНИСТЕРСТВО  
ЗДРАВООХРАЩЕНИЯ  
РЕСПУБЛИКИ КАЗАХСТАН

БҮЙРІК  
ПҮҚКАЗ  
Алматы

19-11 08 г.

№ 246

Согласован с Министерством  
профилактики и службам

За последние годы резко осложнилась эпидемиологическая ситуация по ряду детских инфекционных заболеваний, утяжеляется течение. Особую тревогу вызывает резкий рост заболеваемости дифтерией. Так, в 1992г. было зарегистрировано 45 случаев, в 1993г. - 82, в 1994г. - 489, за 5 месяцев текущего года заболело - 320 человек. Эпидемиальность - в 1993г. умерло 39, за 5 месяцев текущего года - 21.

Ежегодно регистрируются спорадические случаи заболевания холерой, выделяется полимикробная из внешней среды. До настоящего времени из Казахстана улет в вирусологические лаборатории болельцы с острой формой заболевания.

Остается высоким показатели заболеваемости корью, столбняком, эпидемическим паротитом.

Такая ситуация по "управляемым" инфекциям сложилась по причине снижения коллективного иммунитета, связанного с прививками детей.

С целью реализации Республиканской Программы иммунизации (РПИ), направленной на снижение и ликвидацию ряда инфекционных заболеваний П Р И К А З И В А Ю:

1. Утвердить и вводить с 1.07.1995г. в практику работы органов и учреждений здравоохранения новый календарь прививок (приложение №1), перечень медицинских противопоказаний к применению (приложение №2), структуру по разъяснению календаря прививок (приложение №3).

2. Отделу медицинской статистики Минздрава внести на рассмотрение в Госкомстат Казахстана в ф. № - годовая - отчет с контактных детей в вопросах прививок против инфекционных заболеваний - согласно нового календаря прививок.

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3. Руководителям отделов, управлений, департаментов здравоохранения областей и г. Алматы обеспечить:

3.1. Главному и проведение прививок в соответствии с новым календарем прививок и противопоказаниями.

3.2. Проведение областных, городских и районных семинаров для врачей, средних медицинских работников к осуществлению прививочной работы нового календаря прививок и перечня противопоказаний к БМ.

3.3. Соблюдение на всех уровнях режима "карантинной" зоны при транспортировке и хранении вакцин.

3.4. Не менее 85% охват детей прививками в дикретированные сроки.

3.5. Ответственности педиатров, а также всех врачей, ведущих прием в поликлиниках и врачей детских стационаров за своевременную иммунизацию детей.

3.6. Вакцинации новорожденных, госпитализированных в стационары второго этапа оказания помощи, отделения патологии новорожденных, другие специализированные отделения перинатальной - согласно календаря прививок.

3.7. Информирование руководителей здравоохранения о каждом случае необычной реакции на введение вакцины.

4. Главным Государственным санитарным врачом областей, г. Алматы, за календарным и коллуктивным транспортом обеспечить:

4.1. Контроль за полнотой охвата иммунизацией детей, особенно годовалых и на детей первых 2-х лет жизни.

4.2. Все лечебно-профилактические учреждения постоянного наличия вакцин.

5. НИИ педиатрии вести регистрацию, изучение особенностей реакций и осложнений, разработку методов лечения, мероприятия иммунодефицитных состояний.

6. НИИ эпидемиологии, микробиологии, инфекционной болезни, НИИ педиатрии обеспечить оказание научно-методической и практической помощи органам и учреждениям здравоохранения по вопросам иммунопрофилактики.

7. Ректорам медицинских институтов, института усовершенствования врачей, директорам медицинских училищ рассмотреть программу подготовки по вопросам иммунопрофилактики в рамках РПИ.

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8. Республиканской ЦСБ:

8.1. Провести комплексные меры по обеспечению безопасности областей Казахстана.

8.2. Обеспечить ведение эпидемиологического учета вакцин в ряде областей, г. Алматы, доступных:

- согласно соглашения между Казахстаном и ЮНЕСКО;
- за счет протекторатных средств Минздрава;
- за счет средств области;
- по линии гуманитарной помощи;

9. Республиканскому Центру "Здоровье" проводить рекомендательную работу среди населения о значимости и важности прививок.

10. Связать утратившие силу приказы Минздрава Республики Казахстан № 72 от 5.03.1993г. "О мерах по дальнейшему развитию обязательности прививок в части выполнения сроков вакцинации, № 83 от 14.03.1994г. "О введении календаря прививок и медицинской противопоказаний к прививкам на территории Республики Казахстан".

11. Контроль за исполнением приказа возложить на заместителя начальника Главного санитарного управления Курмангалыку А.А. и начальника управления охраны взрослых и детей Замку А.А.

ЗАМЕСТИТЕЛЬ МИНИСТРА

А.И. КЕРЕГОВ

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Приказ № 11

№ 37 от 12

1995

Календарь прививок Республики Казахстан

Возраст	БЦЖ	ОПВ	АКДС	АДС	АК-М	АДС-М	Зарезин	Скарлатина
0-1 год	*	*						
2 месяца		*	*					
3 месяца		*	*					
4 месяца		*	*					
12 месяцев							*	*
18 месяцев			*					
6-7 лет	*			*			*	
12 лет						*		
15-17 лет						*		
Взрослые - каждые 10 лет								

1) В случае отсутствия АК-М используется АДС-М

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3. Состояние, не являющееся противопоказанием для вакцинации.

- нетяжелые формы (с T < 38,5 градус.) в острые реакции на предыдущую дозу вакцины;
- легкая болезнь с T < 38 градусов или диареей;
- текущая антибактериальная терапия или (для реконвалесцентных);
- лечение стероидами - местное, ингаляционное или системное умеренными или низкими (< 2 мг/кг/сутки) дозами или краткими курсами (< 7 дней);
- недомогательность; прививки проводятся в стандартные сроки или задерживаются от воли ребенка;
- беременность матери или других членов семьи;
- недавно перенесенные инфекционные заболевания;
- частые ОРЗ;
- кормление грудью; /
- аллергия на пищевые продукты, веро, эритроциты;
- бронхитальная астма, эозинофильная дерматит;
- хронические болезни сердца, легких, почек и др.;
- синдром внезапной смерти в семейном анамнезе;
- почечное питание, анемия, рахит;
- наличие в анамнезе задержек созревания, синдрома в др. болезней; - врожденные пороки развития; - перинатальная энцефалопатия (включая также диагноз как "гидроцефально-гипертонический синдром", "синдром повышенной возбудимости" и "судорожная готовность");
- гипонатриемия;
- наличие изменений в электрограмме, иногда трактуемых как "вторичный гиперкальциемия", но не свидетельствующих о наличии паратиреоидного гиперпаратиреоза, лекарственной гипокальциемии или ВИЧ-инфекции;

Начальник ЮСНБР

Завед. А.А.

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Протокол №  
к приказу №  
и  
от июня 1995г.

Инструкция  
по введению нового календаря прививок

При разработке нового календаря прививок руководствовались во основном следующими принципами:

- сокращение числа визитов детей и врачу для целей вакцинации путем одновременного введения разных вакцин;
- проведение торжественной серии прививок детям по возрасту, когда высок риск заболеть этой инфекцией, т.е. на ранних этапах жизни;
- взаимодействие с республиканскими и экономическими ведомствами.

Внесенные изменения

Учитывая защитный эффект БЦЖ до БЦЖ в отношении ранней и тяжелой формы туберкулеза (менингит, милиарный туберкулез), а также наличия эффекта повторных доз БЦЖ в более старшем возрасте:

1.1. Оставлена вакцинация возбудителями в период С-4 дни жизни в роддоме.

1.2. Дети с неразвивавшимся элементом БЦЖ получают повторную вакцинацию через 6 месяцев без предварительной пробы Манту.

1.3. Сохранена вакцинация детей в возрасте 6-7 лет перед оформлением их в школу. Без предварительной постановки реакции Манту.

1.4. Учитывая высокую заболеваемость туберкулезом временно сокращена вакцинация 1с еф в 12 лет в Актюбинской, Атырауской, Аманатской, Западн-Казахстанской, Кызылординской, Тургайской областях.

2. Туберкулезные пробы.

Основана ежегодная туберкулезная проба, проводимая методом реобенку. Воскомис/ ее введение по указанию лечащего врача ограничено.

3. Прививки против полиомиелита.

Оставлены 4 дозы вакцин для детей до года: в роддоме, затем в 2,3,4 месяца жизни. Дальнейшее проведение основными и связи с прове-

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днем двухуровневых массовых мероприятий детей до 6-летнего возраста  
в течение 1995-96-97 годов.

- если ребенок не получил 1-й дозы (в роддоме), то необходимо им  
вакцинировать 4-й дозой ОПВ совместно с первой прививкой в 1 год.

#### 4. Прививки против кори.

4.1. Учитывая высокую заболеваемость корью среди детей:  
до года - 6-10%, а также сокращение периода инкубации у детей до го-  
да, срок вакцинации перенесен с 6-го до 12-го месяца;

4.2. Сохранена реакция против кори в возрасте 6-7 лет при  
оформлении детей в школу.

4.3. При регистрации новых случаев кори в организованных коллек-  
тивах (комната, общежитие, казарма и т.д.) следует срочно в течение 1  
суток привить живой коревой вакциной всех лиц в возрасте до 25 лет, не  
совершивших корью и ее вакцинацию против этой инфекции.

#### 5. Прививки против дифтерии.

5.1. Сроки первичной вакцинации против дифтерии АКДС до года и первой  
ревакцинации до 2-х лет остаются прежними.

При наличии противопоказаний к инъекционному компоненту необходимо  
применять АДС-М аналогом 3-го класса качества от страны производи-  
теля вакцины.

АДС-М не пригоден для перивентрикулярной вакцинации.

5.2. Дальнейшую ревакцинацию проводить в 3-7 лет - перед оформле-  
нием детей в школу АДС препаратом и в 16-17 лет - перед окончанием  
школы АДС-М препаратом.

5.3. Учитывая высокую заболеваемость дифтерией среди школьников  
внесена ревакцинация детей в 12 лет мовалентным дифтерийным анаток-  
сином (АД-М, содержащим 2 ИГ). Из-за отсутствия АД-М препарата можно ис-  
пользовать АД-М препарат. Как-либо в бустерной дозе (в 8-7, 12,  
16-17 лет) будет использоваться в течение короткого периода до оста-  
новки экспедиции. После того как экспедиция будет взята под контроль, вак-  
цина будет заново введена в 2 дозы ( в 8-7 и 16-17 лет).

5.4. Ранее непривитые дети с 7 лет в возрасте должны прививаться  
по типу вакцинации - две прививки АД-М препаратом с интервалом 4 не-  
дели и третья прививка через 6 месяцев.

Последующие ревакцинации проводятся по календарю прививок со-  
ответственно возрасту.

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5.5. Перед выездом дифтерией перед выездами должны вакцинироваться  
по следующей схеме:

- ранее невакцинированные лица должны получить сразу же до вы-  
езда сывороточный дифтерийный анатоксин (лучше АД-М), а также включить  
первичный комплекс вакцинации;

- частично вакцинированные лица должны закончить первичный ком-  
плекс вакцинации в соответствии с календарем прививок;

- полностью вакцинированные лица должны получить одну дозу АД-М,  
если последние дозы вакцин вводились 5 и более лет назад.

5.6. Для оказания экстренной помощи при травмах использовать  
АДС-М препарат вместо мовалентного дифтерийного анатоксина (АД), что  
позволяет увеличить число прививок к дифтерии.

#### 6. Оказание помощи.

Оказание помощи прививкам в вакцинированные возраста должно состо-  
ять не менее 25%.

#### 7. Интервал между прививками.

7.1. Разрешается одновременное введение разных вакцин. Если вакци-  
ны не вводились в один и тот же день, то следует соблюдать интервал  
между живыми вакцинами не менее 4-х недель. Интервалы между живыми и  
убитыми вакцинами не соблюдаются.

7.2. После введения иммуноглобулина или препаратов крови, введения  
коревой и паротитной вакцин откладывается минимум на 3 месяца, без  
интервала вводится АКДС, АДС, БЦЖ, ОПВ вакцинами.

7.3. После введения коревой, паротитной, полиомиелитной и БЦЖ вак-  
цин иммуноглобулин вводится через 2 и более недель. Не требуется со-  
блюдение интервала после АКДС, АДС препаратов.

#### 8. Таблица вакцинации детей по прививкам по возрасту.

Неизвестно от возраста, ребенок ранее не привитой должен получить  
первичный дифтерийный комплекс против туберкулеза, дифтерии, полиоме-  
лита, кори. При наличии диагностических проводить предварительное изу-  
чение иммунного статуса ребенка.

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С. Дроздовская оскопа ласушваецаи.

Костнокал-дзвек Верховного Совета Республики Кавказстан от 9 мая 1984 г. введен в действие Закон Республики Кавказстан "О санитарно-эпидемиологическом благополучии населения". Статья 34 данного Закона утверждает обязательность проведения профилактических прививок.

Граждане Республики Кавказстан обязаны получать профилактические прививки против инфекционных заболеваний:

Бремя, сроки их проведения и группы населения, подлежащие прививкам, определяются Министерством здравоохранения Республики Кавказстан.

ЗАКОН РЕСПУБЛИКИ КАЗАХСТАН

*Handwritten signature* А. С. ШИШЕНКО

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**APPENDIX N**

**Child Immunization Calendars in Selected Countries of the Former Soviet Union (1994)**

## Immunization Calendars (0-17 years) in Countries of Former Soviet Union (1994)

Country Schedules	BCG	DPT	OPV	Measles	Mumps	DT	Td	hepatitis B
Kazakhstan (current)	3-4d 6m 12y 17y 4	2m 3m 4m 18-24m 4	3-4d 18m 2m 24m 3m 7y 4m 7	8m 7y 2	15m 1	9y 1	15y 1	0
Kazakhstan (proposed) [Accepted as of 28 June 1995]	0-4d 7y 2	2m 3m 4m 18-24m 4	0-4d 2m 3m 4m 4	12m 7y 2	12m 1	7y 1	12y** 17y 2	0
Kyrgyzstan	3-4d 6-7y 16-17y 3	2m 3.5m 5m 2y 4	3-4d 16m 2m 18m 3.5m 6-7y 5m 7	12m 6-7y 2	(18m) discontinued 1	6y 1	11y 16y 2	3-4d } * 2m } 5m } 3
Uzbekistan	3-6d 7y 12y 16-17y 4	2m 3m 4m 16m 4	3-6d 16m 2m 18m 3m 7y 4m 16-17y 8	9m 16m 2	18m 1	0	7y 16-17y 2	0
Turkmenistan	3-5d 6y 16-17y 3	2m 3m 4m 18m 4	3-5d 18m 2m 20m 3m 6y 4m 7	9m 6y 2	20m 1	6y 1	16-17y 1	0
Tajikistan	3-5d 6-7y 16-17y 3	2m 3m 4m 18m 4	3-5d 18m 2m 6-7y 3m 4m 6	9m 3y 2	18m 1	0	6-7y 16-17y 2	0

\*not yet implemented

\*\*monovalent diphtheria vaccine at 12 years of age, if available

d = day    m = month    y = year

h.p.

## Immunization Calendars (0-17 years) in Countries of Former Soviet Union (1994)

Country Schedules	BCG	DPT	OPV	Measles	Mumps	DT	Td	hepatitis B
Moldova	4-7d 6-7y 2	3m 4.5m 6m 22-24m 4	3m 4.5m 6m 22-24m 6-7y 5	12m 1	12m 1	0	6-7y 14-15y 2	0-25d 1m 6m 3
Georgia	0-5d 5-6y 14-15y 3	2m 3m 4m 18m 4	3-5d 2m 3m 4m 18m 6-7y 6	9m 3y 2	18m 1	0	6-7y 16-17y 2	0

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**APPENDIX O**

**Number of Vaccinations and Contacts (0 - 17 Years) in the Former Soviet Union**

### Number of Vaccinations and Contacts (0-17 years) in FSU (1994)

Country Schedules	Number of Vaccinations			Number of Contacts		
	<= 24 months	>24 months	Total	<=24 months	>24 months	Total
Former Soviet Union	11	11	22	8	9	17
Kazakhstan (current)	13	7	20	8	6	14
Kazakhstan (proposed)*	11	5	16	6	3	9
Kyrgyzstan	11	8	19	8	4	12
Uzbekistan	14	7	21	7	3	10
Turkmenistan	13	6	19	7	3	10
Tajikistan	12	6	18	6	3	9
Moldova	11	4	15**	6	2	8**
Georgia	11	6	17	6	2	8

\* Accepted as of 28 June 1995  
 \*\*For comparability, excludes hepatitis B vaccine.

**APPENDIX P**

**Annual Cost Savings due to Revision of Immunization Schedules after 7  
MOH/USAID/WHO Policy Seminars, 1992-1995**

**Annual Cost Savings\* (US dollars) due to Revision of  
Immunization Schedules after 7 MOH/USAID/WHO Policy  
Seminars, 1992-1995**

Country	date of seminar	current cost per fully immunized child (0-16 years)	Annual savings due to revision of earlier immunization schedule	
			absolute	as %
Uzbekistan	12/92	4.46	\$119,000	3.8
Kyrgyzstan	12/92	4.32	40,000	6.7
Turkmenistan	6/93	4.08	73,000	11.9
Tajikistan	6/93	3.91	161,000	15.6
Kazakhstan	6/95	3.60	246,000	16.5
Moldova	11/93	3.08	107,000	33.5
Georgia	11/93	3.91	58,000	15.6
<b>Total</b>			<b>\$804,000</b>	

**\*Assumptions:**

- Costs assume procurement through UNICEF (for standardization) and include vaccines (BCG \$.07, DPT \$.09, OPV \$.09, measles \$.16, DT \$.10, and Td \$.10), vaccine wastage (BCG x 2, measles x 2, DPT x 1.5, OPV x 1.5, DT x 1.5, and Td x 1.5), syringes/needles (\$.05 for one syringe and one needle), and transport and fee (20% of value of goods).
- Costs exclude mumps vaccine and hepatitis B vaccine (used in Moldova).
- Costs exclude significant savings due to fewer contacts required in revised immunization schedules.
- Population of each cohort: Uzbekistan 700,000; Kyrgyzstan 130,000; Turkmenistan 133,000; Tajikistan 223,000; Moldova 69,000; Georgia 81,000; and Kazakhstan 347,000.
- Earlier schedule used for cost comparisons was the Soviet schedule, except for Kazakhstan where the comparison is with an earlier schedule in effect from early 1994.