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**PARTICIPATION AT A MEETING  
TO DISCUSS THE EVALUATION  
OF THE POLIO ERADICATION ACTIVITIES  
IN NIS COUNTRIES**

February 26, 1996

Atlanta, Georgia

Robert Steinglass

BASICS Technical Directive: 000 NS 01 022  
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## **ACRONYMS**

<b>AFP</b>	<b>Acute Flaccid Paralysis</b>
<b>BASICS</b>	<b>Basic Support for Institutionalizing Child Survival</b>
<b>CAR</b>	<b>Central Asian Republics</b>
<b>CASA</b>	<b>Clinic Assessment Software Application</b>
<b>CDC</b>	<b>Centers for Disease Control and Prevention</b>
<b>COSAS</b>	<b>Coverage Survey Assessment Software</b>
<b>IEC</b>	<b>Information, Education and Communications</b>
<b>LQAS</b>	<b>Lot Quality Acceptance Survey</b>
<b>MECACAR</b>	<b>Mediterranean, Caucasus, and Central Asian Republics</b>
<b>MOH</b>	<b>Ministry of Health</b>
<b>NID</b>	<b>National Immunization Day</b>
<b>NIS</b>	<b>Newly Independent States</b>
<b>OPV</b>	<b>Oral Polio Vaccine</b>
<b>PASA</b>	<b>Purchase Authorization Service Agreement</b>
<b>SCSES</b>	<b>State Committee for Sanitary Epidemiological Surveillance</b>
<b>SNID</b>	<b>Sub-National Immunization Day</b>
<b>Td</b>	<b>Tetanus-diphtheria Vaccine</b>
<b>TDY</b>	<b>Tour of Duty</b>
<b>USAID</b>	<b>United States Agency for International Development</b>
<b>USG</b>	<b>United States Government</b>
<b>WHO/EURO</b>	<b>World Health Organization/European Regional Office</b>

## **I. EXECUTIVE SUMMARY**

This report describes the results of a meeting held to “Discuss the Evaluation of the Polio Eradication Activities in NIS Countries,” in Atlanta, Georgia, at the Centers for Disease Control and Prevention (CDC) on February 26, 1996, as well as the discussions held on the following morning, February 27, 1996. The meeting was a brainstorming session to: develop recommendations for MECACAR evaluations in the NIS; discuss the use of remaining reported polio cases as sentinels for systems evaluations; determine the most appropriate method to confirm vaccination coverage (e.g., cluster survey, clinic assessment, lot quality acceptance sampling) achieved during MECACAR in the NIS; and review criteria for “mopping-up” activities in the NIS.

This meeting was convened in response to a request by WHO/EURO to the CDC to advise on the evaluation activities after Operation MECACAR. The writer also participated in some smaller sessions to review BASICS and CDC collaboration on diphtheria and polio in the NIS.

## **II. TRIP ACTIVITIES**

The writer participated in a one-day meeting to “Discuss the Evaluation of the Polio Eradication Activities in NIS Countries.” The meeting objectives and agenda are in Appendix A and B, respectively. The list of background papers is in Appendix C. A participant list was not prepared but is reconstructed in Appendix D by the writer. (However, some people were unknown to the writer and never introduced, so they are not listed.) The meeting was chaired by Roland Sutter and opened by Steve Cochi. The CDC staff in attendance at the morning session on February 27, 1996, to discuss BASICS-CDC collaboration concerning diphtheria in Russia were: Melinda Wharton, Bob Baldwin, Roland Sutter, Peter Strebel, George Stroh, Chuck Vitek, David Gittleman, and Kris Bisgaard. Following the discussions on diphtheria, BASICS-CDC collaboration on polio in Russia was discussed with the following CDC staff: David Gittleman, Bob Baldwin, Roland Sutter, George Stroh, and Bob Keegan.

## **III. PURPOSE OF THE VISIT**

The writer attended the CDC meeting to:

- develop recommendations for the MECACAR evaluations in the NIS;
- discuss the use of remaining reported polio cases as sentinels for systems evaluations;
- determine the most appropriate method to confirm vaccination coverage (e.g., cluster survey, clinic assessment, lot quality acceptance sampling) achieved during MECACAR in the NIS; and
- review criteria for “mopping-up” activities in the NIS.

The writer also participated in some smaller sessions to review BASICS and CDC collaboration on diphtheria and polio in the NIS.

#### **IV. RESULTS**

The meeting results and the discussions on the following day are combined in this section, since one flowed into the other. As much as possible, the writer has organized this section by the principal person presenting on each topic.

**Polio Cases as Sentinels for Systems Evaluations, Roland Sutter:** The European Region of WHO reported 200 cases of poliomyelitis in 1995, of which 169 were from the NIS, 28 from Turkey, and three from other countries. The incidence of reported polio declined dramatically in Central Asia after the NIDs in 1995. The Uzbekistan data are in Appendix E. In Central Asia, only Turkmenistan has had some lingering transmission after the NIDs.

WHO/EURO is interested in the outcome of this meeting. They have also asked the CDC to assist with an evaluation in Azerbaijan, which is a high priority for WHO. However, the CDC cannot participate in such an evaluation due to USG prohibitions on assistance to Azerbaijan.

WHO/EURO would like some independent assessment of immunization coverage, especially in high-risk areas, in Russia. An assessment should help to identify areas suitable for mopping up after the NIDs. The CDC has funds for a single two-week TDY in connection with assessments of NIDs.

Areas which are considered at-risk for special investigations include areas:

- where polio virus still circulates;
- where immunization coverage is low;
- where serologic immunity is low;
- where special groups live such as migrants, refugees and minorities;
- along high-contact routes; and
- adjacent to polio endemic areas.

**Experience with Cluster Surveys in the Ukraine, Linda Schultz:** The diphtheria coverage survey in Ukraine used village populations as the first stage for population proportionate sampling. It was easy to obtain village populations. An alternative would be to use a two-stage sampling process based on polyclinics and pediatric zones (for polio evaluations). Lists of buildings existed, so finding the starting household was easy. The WHO coverage survey module was adapted and translated into Russian for the Ukraine survey. Twelve percent of urban households refused to open the doors for the surveyor. A belief in the safety, efficacy and need for diphtheria vaccine was positively predictive for receiving a dose of this vaccine.

**Experience with Clinic Assessments in Russia, Chuck Vitek:** None of the 298 cases of diphtheria in Novgorod were homeless people. Transient people have an interest in registering in their new geographic area, since this is a prerequisite for getting any governmental services. Chuck's data on diphtheria incidence and characterization of the vaccinated and unvaccinated persons are in Appendices F and G. He believes that the decision in Novgorod to begin immunization with DT at six years of age was important in contributing to the earlier decline in incidence experienced there. Catch-up vaccinations in the seven to 10 year age group was also important.

**The Virologist's View, Olen Kew:** The Caucasus is a reservoir for wild polio virus. Easter Turkey is another reservoir. Wild virus is being imported into Russia along the very long porous border, particularly from the Indian sub-continent. Surveillance is weak in the Caucasus. The problem is not laboratory analysis, but the lack of a functioning surveillance/reporting network.

Galina Lipskaya: Improved virologic surveillance is needed, including cluster serological and virological surveys. Tashkent and Almaty are developing virological laboratories for Central Asia, with Tashkent serving Uzbekistan, Tajikistan, and Turkmenistan. Almaty will serve Kazakstan and Kyrgyzstan. Moscow is hoping to set up nine sub-regional laboratories, but this is unlikely.

Polio serotypes in Central Asia are related to India, while the Caucasus serotypes are related to Turkey strains. Chechnya and Ukraine strains were related to India and the Moscow isolate was related to Turkey. No samples have been collected and analyzed from Turkmenistan, which lacks both laboratory staff and equipment.

Walter Dowdle: Laboratories need to be evaluated at the same time as the surveillance system, since both services need to be integrated to realize their potential for polio eradication.

**Experience in Romania, Peter Strebel:** Sub-national Immunization Days will be conducted in March and May 1996 in the lower half of the country, which includes transport routes from the Black Sea through Bucharest to Hungary. In the latter half of 1996, the northern half of the country may be covered. Criteria are needed to determine whether or not SNIDs are needed in 1997. Funds for the SNIDs will come from Rotary (\$150,000 for vaccine and social mobilization), the MOH (\$170,000 for field operations), the CDC/WHO (\$5,000 for evaluation), and UNICEF (\$20,000 for outreach). Most isolates over the years have come from the gypsy population. No wild virus has been detected since 1992. Many cases of vaccine-associated polio paralysis have been reported over the year, including in the past few years when wild virus has not been detected. These cases have been associated with a high number of injections in the 30 days prior to onset of paralysis.

**Lot Quality Acceptance Sampling, George Stroh:** LQAS is a form of stratified random sampling. It is an attractive sampling method when it is easy to draw a random sample from the population, as in the NIS. Results from the surveys can be combined with greater precision than

30-cluster coverage surveys. LQAS is useful for routine monitoring. One could select 30 clinic records randomly from a 1000 records, for example, to accept or reject a given level of coverage. LQAS methodology allows disaggregation into sub-units (by age, sex, etc.) to answer simple "yes-no" questions. CDC will conduct a five-week course starting March 1, 1996, for health staff from the NIS, including the CAR, on biostatistics, epidemiology, and scientific communication. Standard 30-cluster coverage surveys are not sufficiently precise in areas with high immunization coverage.

The CDC will conduct a three-week training course from April 15, 1996, in Moscow and from May 27, 1996, in Perm. The course will introduce field epidemiological methods based on sound sampling design. The course presents a timely opportunity to test LQAS methods to see how well they work after the first round of the NIDs. The Moscow training session may be pushed back one week, since President Clinton's visit to Russia in April 1996 will likely result in a restriction of non-essential USG travel until April 20, 1996.

The CDC meeting in Tashkent in May 1996 will be used as an opportunity to promote the importance of AFP surveillance for polio eradication.

**BASICS' Experience with Evaluation in the NIS, Robert Steinglass:** The writer's presentation was based on the notes which are in Appendices H and I

**Other Significant Findings for BASICS' Activities:**

**Memorandum of Understanding:** The CDC is uncomfortable with the Memorandum of Understanding, signed by USAID/Moscow and the MOH/SCSES, which calls for an evaluation in September 1996. This is premature. Also their Russia PASA ends in August 1996. BASICS should also be uncomfortable with a September evaluation, since a quantitative assessment of the impact of the IEC campaign cannot be done so soon.

**IEC/Diphtheria Control:** George Stroh is looking for a subject on which to collect quantitative data as an exercise in the epidemiological training in Moscow and Perm. He has offered to use immunization as the subject of a quantitative survey. He is agreeable to explore physician attitudes toward child immunization. This survey could generate some useful information to guide the BASICS' IEC qualitative research in May 1996. George will rely on BASICS to suggest some appropriate questions. BASICS might also solicit the opinion of Steve Hadler.

The CDC would like to see BASICS evaluate its IEC effort on the success of reducing the outstanding number of adults who have not received the first (and second, third) dose of diphtheria vaccine. Chuck Vitek agreed to prepare interpretative notes based on his team's findings in the target oblasts in order to guide BASICS in its IEC focus. He will also characterize the unvaccinated population to guide the IEC efforts.

Vitek will also suggest ways of locating the unimmunized and the “refuse-niks,” based on his knowledge of the record-keeping systems in place in the oblasts, so that the BASICS team can assemble focus groups more quickly upon arrival. For example, nurses maintain a log book of the unvaccinated adults within their service delivery areas. However, it would be important to double-check to see that the unimmunized individuals selected for the focus group discussion, based on their absence from the log books, had not in fact been vaccinated at the work place. Sometimes work place vaccinations are not entered into individual records and log books, as required.

Vitek believes that the priority for IEC for diphtheria control is to reach the remaining 10 to 20 percent of adults with the first dose of Td vaccine. Since physicians are trying to convince people to get immunized, he feels that an important group for focus group discussions, besides the “refuse-niks,” are the physicians themselves. He feels that such discussions will help to identify the reasons perceived by physicians to be at the root of public resistance. It would also provide an opportunity to determine how well physicians motivate the public to get immunized.

The priorities stated by Vitek for BASICS collaboration with the CDC are as follows:

- qualitative research and message development targeting the currently unimmunized;
- support for message dissemination; and
- qualitative research and message development targeting immunized adults for additional doses.

**Caucasus:** The writer briefly engaged Scott McNabb in a discussion about BASICS’ potential role in Armenia on diphtheria control. He felt that a survey might be appropriate. Two senior participants from the MOH in Yerevan will attend the epidemiology training course that begins on March 1, 1996, in Atlanta, Georgia. The writer will need to contact McNabb again once the Armenians have arrived to discuss BASICS’ involvement there.

In Georgia, the CDC and UNICEF will conduct a coverage survey of children and adults in April 1996, with a focus on diphtheria and polio, even though the second round of the polio NIDs will not have taken place.

**Moldova:** The writer shared the results from the Moldova campaign against diphtheria. The CDC staff were very interested in the dramatic decline in cases.

**Contraindications Seminar:** Steve Hadler agreed, in principle, to serve as a faculty member on the BASICS’ seminar “Balancing Science and Practice for Child Immunization in Russia and the USA.” The writer left a copy of the draft *precis* describing the seminar.

**Hepatitis:** Contingent on the infectious disease earmark from USAID, the CDC is planning to conduct a Hepatitis Control conference in Budapest in October 1996.

**Polio and Diphtheria Evaluation:** WHO/EURO is apparently planning a meeting June 2-4, 1996, in Berlin to discuss polio and diphtheria evaluation.

**Polio Evaluation:** From its various pots of funds, the CDC will be able to fund a staff member to participate in an evaluation exercise of the polio NIDs in Russia. The CDC would like to collaborate with BASICS on this activity.

## **V. CONCLUSIONS**

The group reached a consensus on the essential point regarding the type of evaluation which is useful for the NIDs in Russia. Surveillance of AFP is the ultimate evaluation method to confirm the effectiveness of polio eradication activities. Reporting of coverage by administrative methods at each level should be a routine part of any monitoring of the immunization activities. LQAS has a role to play in validating reported coverage and identifying areas where coverage targets were not achieved. The LQAS method would not to be operationalized and simplified.

Community 30-cluster coverage surveys do not have a routine role to play in evaluating polio eradication activities. "Summary and Recommendations" of the meeting are in Appendix K. The writer has suggested that the following additional point be included: "Where lists of eligible children are normally maintained, updated as part of NID preparation, and used for tracking individual children, rayon health authorities are encouraged to monitor immunization coverage achieved during the NIDs by local health area, so that low-performing areas can be identified and coverage rapidly improved during the NID."

## **VI. FOLLOW-UP ACTION**

- Roland Sutter will write up the findings from the CDC meeting.
- George Stroh will put into simple operational terms the LQAS method for use as an evaluation tool for NIDs in Russia. This will include a community-based add-on where the clinic records are validated to ensure that the OPV was received. One could then visit a few nearby children to see if they are registered in the clinic.
- Mark Weeks will coordinate with the CDC on the timing and nature of the workshop on evaluation options for NIDs.
- Chuck Vitek will interpret his team's diphtheria findings to guide the BASICS IEC effort and he will suggest ways to assemble focus groups of "refuse-niks" and unimmunized people.
- Robert Steinglass will contact Mark Weeks before his visit to Moscow to brief him on the findings of the Meeting.
- Robert Steinglass will contact Scott McNabb to discuss BASICS' role in Armenia on diphtheria control.

- David Gittleman will explore whether the CDC will be able to send a staff member to participate in the IEC work of BASICS in the target oblasts in May 1996.
- David Gittleman will contact Mark Rasmuson to collaborate on a short joint work plan with a time line and narrative section, which can be shared with the Russian counterparts who apparently requested it.

## **APPENDICES**

**APPENDIX A**

**OBJECTIVE OF THE MEETING**

**INFORMAL MEETING**  
February 26, 1996  
Corporate Square  
Building 11, 2nd Floor Conference Room

Objectives:

- (1) To develop recommendations for MECACAR evaluations in NIS;
- (2) To discuss the use of remaining reported polio cases as sentinels for systems evaluation;
- (3) To determine most appropriate method to confirm vaccination coverage (e.g., cluster survey, clinic assessment, lot quality acceptance sampling) achieved during MECACAR in NIS.
- (4) To review criteria for "mopping-up" activities in the New Independent States;

**APPENDIX B**

**AGENDA**

Draft agenda:

09:00 am	Welcome	Steve Cochi
<u>First session: "NIDs evaluation":</u>		
09:10 am	Overview – objectives/methods	Steve Cochi
09:20 am	Polio cases as sentinels for systems evaluation	Roland Sutter
09:40 am	Experience with cluster surveys in the Ukraine	Linda Schultz
10:00 am	Experience with clinic assessments in Russia	Chuck Vitek
10:20 am	Discussion	
10:45 am	Coffee break	
<u>Second session: "Mopping-up":</u>		
11:00 am	Use in the Americas	Steve Cochi
11:10 am	The virologist's view	Olen Kew/Mark Pallansch
11:20 am	Country examples: Romania Colombia	Peter Strebel Bob Keegan
11:40 am	Discussion	
12:15 pm	Lunch break	
<u>Annex to first session because of availability of speaker:</u>		
01:15 pm	Lot quality acceptance sampling	George Stroh
01:30 pm	Discussion	
<u>Third session: "Develop recommendations":</u>		
01:45 pm	BASICS experience with evaluations in NIS	Robert Steinglass
02:00 pm	NIP evaluations of NIDs	Robb Linkins/Bob Keegan
02:15 pm	IHPO perspectives on NIDs evaluations	TBA
02:30 pm	Discussion	
03:00 pm	Coffee break	
03:15 pm	Developing recommendations	Group
05:00 pm	Adjourn	

**APPENDIX C**

**WORKING PAPERS FOR THE MEETING**

## Notebook

1. Purpose of meeting
2. Agenda
3. List of documents
4. Polio incidence in European Region. WHO/EURO/Copenhagen  
Update on MECACAR planning. WHO/EURO/Copenhagen
5. Reichler M. Evaluation of vaccine delivery during the first round of the 1994 National Immunization Days in Pakistan. Unpublished report.  
Reichler M et al. Evaluation of NIDs in Pakistan. Manuscript (submitted to JID)
6. Reichler M. Evaluation of vaccine delivery during National Immunization Days in Egypt -- 1995. Unpublished report.  
Linkins RW et al. Evaluation of house-to-house versus fixed site oral poliovirus delivery strategies in a mass vaccination campaign in Egypt. Bull WHO 1995;73:589-595.
7. Deshevoi S. BASICS. Trip report. National Immunization Days in Tajikistan, April 2-7 and May 11-15, 1995.
8. Bassett D. Guidelines. People's Republic of China. Sub-national Immunization Days. December 1993-January 1994. Unpublished report.  
Keegan R. Trip Report. People's Republic of China. November 6-23, 1993.  
Cochi SL. Trip Report. People's Republic of China. December 2-10, 1993.  
Hinman AR. Trip Report. People's Republic of China. January 4-8, 1994.
09. Ion-Nedelcu I, Strebel P. Status of poliomyelitis control in Romania and Plan for Sub-national Immunization Days in the Spring of 1996. Unpublished report.
10. WHO. Manual for conducting cluster sample surveys. Geneva, 19??.
11. Stroh G. An example of lot quality acceptance sampling (LQAS) used to evaluate immunization coverage at the local level. Unpublished report.  
Lemeshow S, Stroh G. Quality assurance sampling for evaluating health parameters in

developing countries. *Survey Methodology* 1989;15:71-81.

12. Schultz L. Training Manual: Community survey to assess vaccination coverage -- Ukraine, 1995. Unpublished report.

Schultz L. Diphtheria vaccination coverage survey, Ukraine, 1995.

13. CDC. Assessing vaccination levels of the 2-year-old population. Guidelines. US Department of Health and Human Services, Public Health Service, Atlanta, Georgia (October 1992; reprinted August 1995)

Additional (for those interested):

Birmingham M. Field Guide for Supplementary Activities Aimed at Achieving Polio Eradication. WHO, Geneva, 1995.

Clinic Assessment Software Application. CASA User's Guide, Version 3.0. U.S. Department of Health & Human Services, Public Health Service, Centers for Disease Control and Prevention.

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**APPENDIX D**

**LIST OF CDC PARTICIPANTS AT THE MEETING**

## APPENDIX D

### LIST OF CDC PARTICIPANTS AT THE MEETING\*

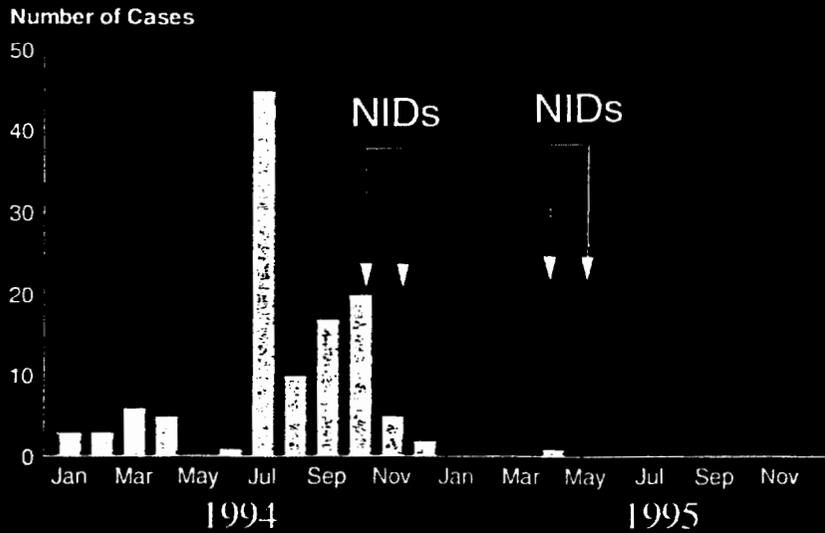
Roland Sutter  
Peter Strebel  
George Stroh  
Chuck Vitek  
David Gittleman  
Galina Lipskaya  
Bob Keegan  
Anne-Renee Heningburg  
Elias Drury  
Steve Cochi  
Hamid Jafari  
Rob Linkins  
Rose Marie Sales  
Joe Williams  
Olen Kew  
Walter Dowdle  
Linda Schultz  
Scott McNabb

\* incomplete, reconstructed from memory by the writer

**APPENDIX E**

**POLIO CASES BY MONTH, UZBEKISTAN 1994 - 1995**

## Poliomyelitis Cases, by Month, Uzbekistan, 1994-1995



\* National Immunization Days

\* "Mopping-up"

\* Surveillance

### Meeting to Discuss the Evaluation of Polio Eradication Activities in NIS Countries

February 26, 1996

Polio Eradication Activity  
National Immunization Program  
Centers for Disease Control and Prevention  
Atlanta, Georgia

**APPENDIX F**

**DIPHThERIA DATA FROM CHUCK VITEK ON RUSSIA**

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### Diphtheria cases, Russian Federation, 1992-95

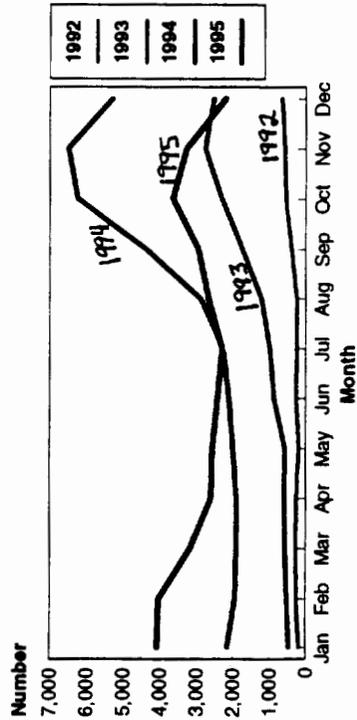


Figure 1

### Diphtheria cases NIS countries, 1991-95

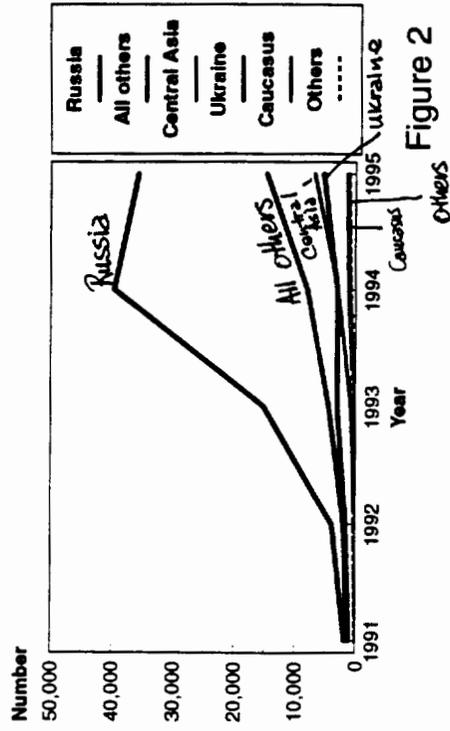


Figure 2

### Diphtheria incidence by age-group Vladimir and Voronezh oblasts, Novgorod City, 1994-95

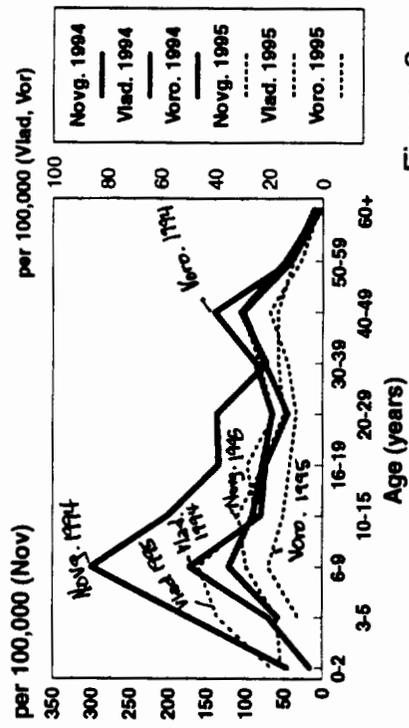


Figure 3

### Diphtheria cases by age Voronezh & Vladimir Oblasts, Novgorod City 1994-95 (n=1800)

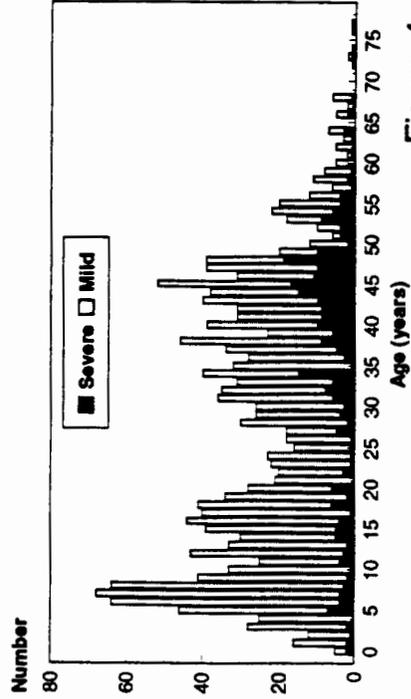


Figure 4

*Diphtheria Incidence by sex*  
**Proportion ~~saves~~ cases by age-group and year**  
 Vladimir and Voronezh oblasts, Novgorod City,  
 1994-95

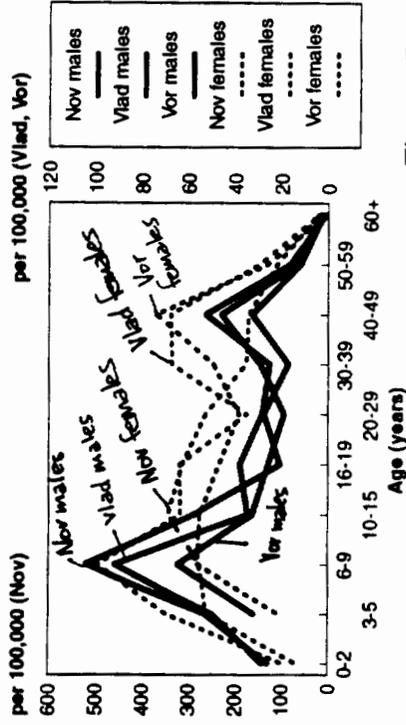


Figure 5

**Diphtheria incidence by age-group and sex**  
 Novgorod City, 1994 vs 95

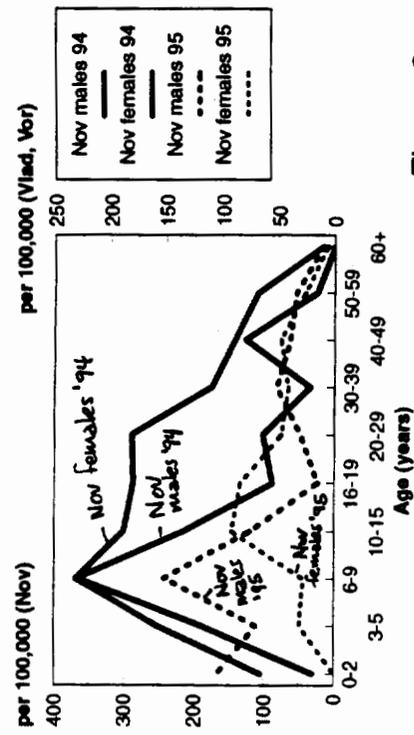


Figure 6

**Proportion of vaccinated among cases of diphtheria by age-group. Vladimir and Voronezh oblasts, Novgorod City, 1994-95**

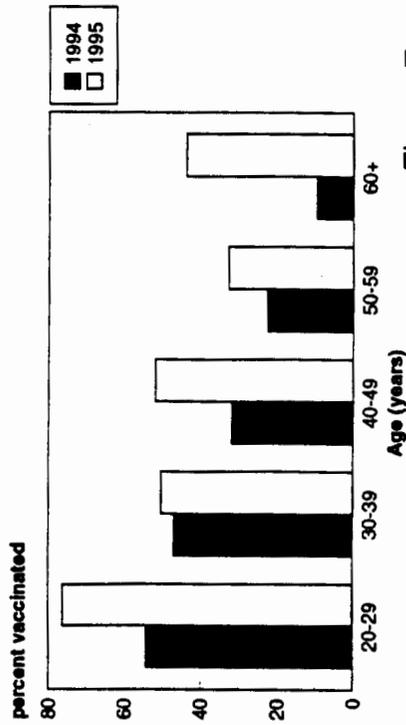


Figure 7

**Vaccine efficacy curves for 30-40 yr olds**

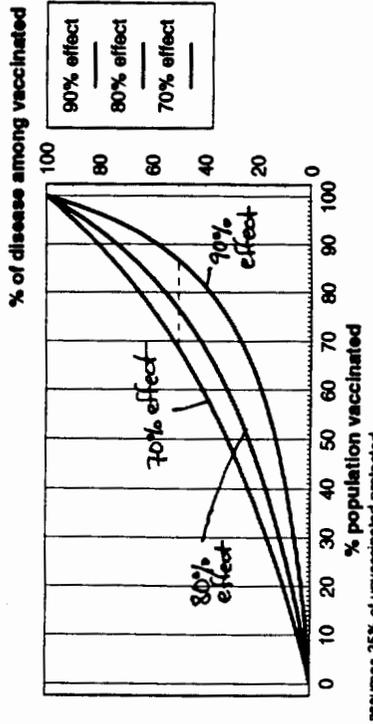


Figure 8

### Vaccine efficacy curves for 40-50 yr olds

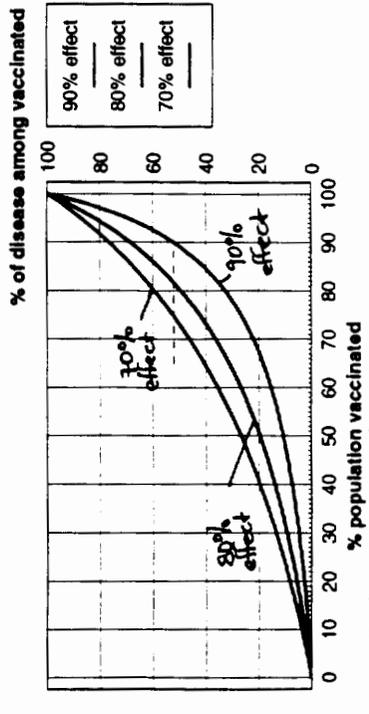


Figure 9

### Proportion of vaccinated among close contacts of cases of diphtheria by age-group, Novgorod City, 1994 vs. 95

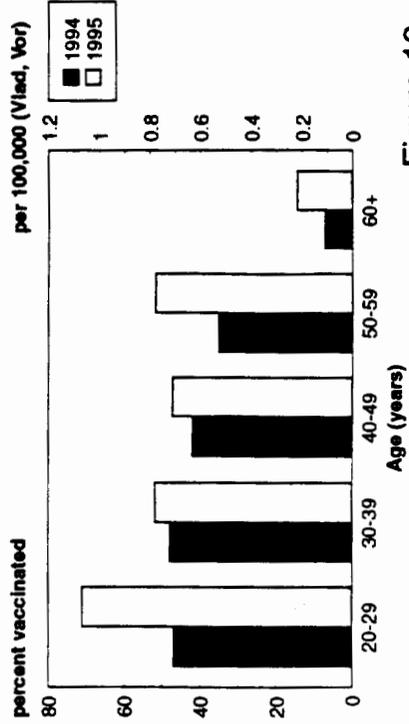


Figure 10

**APPENDIX G**

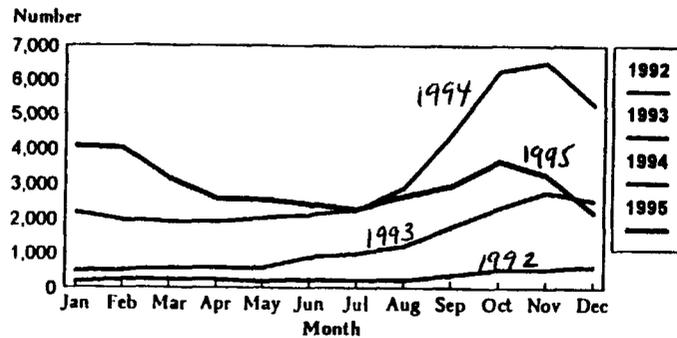
**CDC-BASICS COLLABORATION IN DIPHTHERIA  
CONTROL IN THE RUSSIAN FEDERATION  
(Chuck Vitek's data)**

## CDC-BASICS Collaboration in Diphtheria Control in the Russian Federation

## Agenda

1. Review of background data
2. CDC priorities
3. Description of planned BASICS activities
4. Discussion
5. Dissemination of results
6. Other IHPO item

**Diphtheria cases, Russian Federation, 1992-95**



1994 = 39,703  
1995 = 35,716

Figure 1

**Diphtheria cases  
NIS countries, 1991-95**

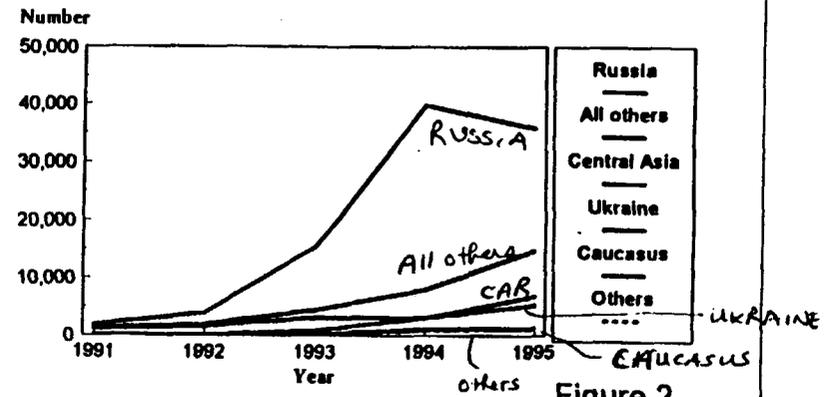
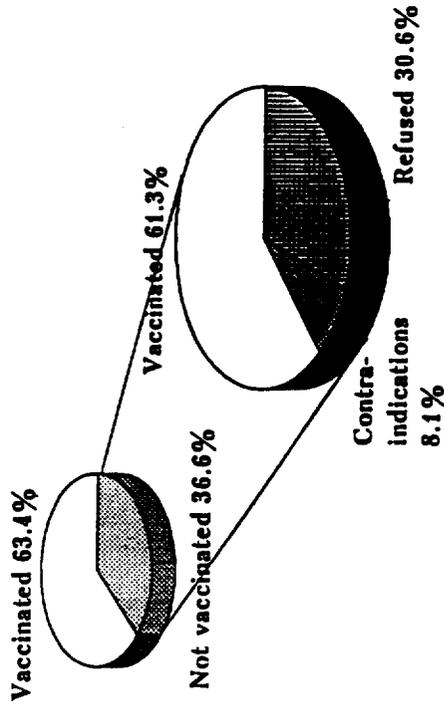
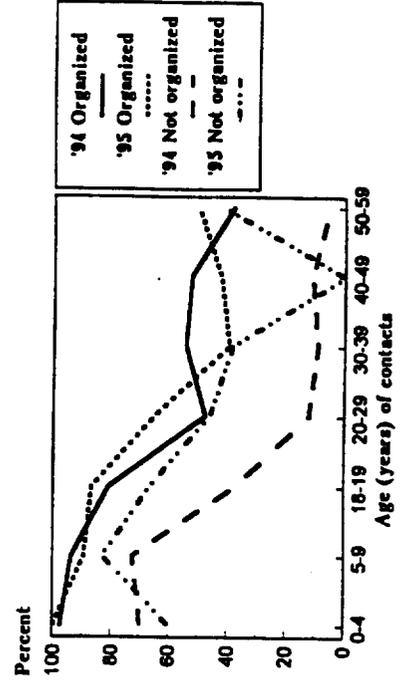


Figure 2

**Outcome of non-vaccinated close contacts after case-patient's diagnosis**  
Novgorod City (n=1278), 1994-9/95



**Percent vaccinated close contacts prior to case-patient's diagnosis, by organizational status**  
Novgorod City (n=1250), 1994-9/95



**Diphtheria incidence by age-group**  
Vladimir and Voronezh oblasts, Novgorod City, 1994-95

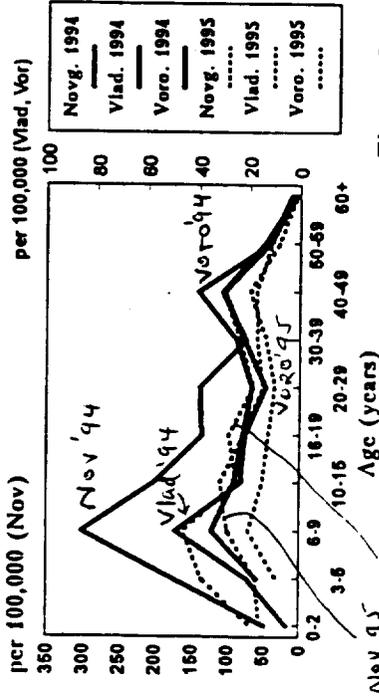
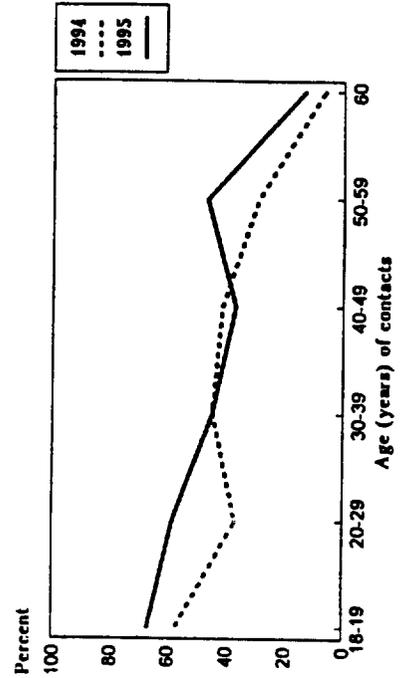
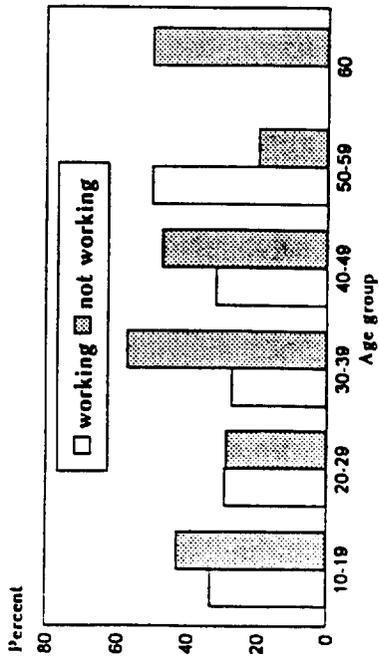


Figure 3

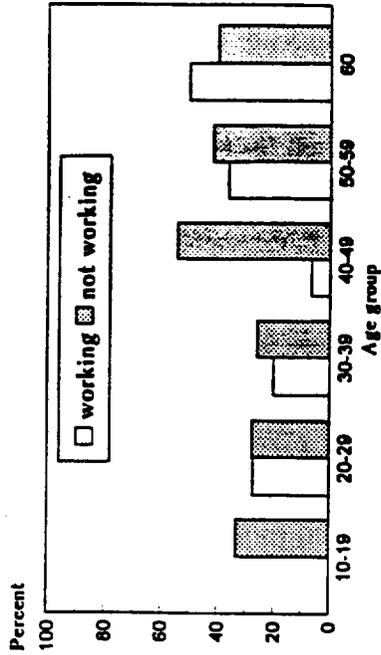
**Percent vaccinated close contacts prior to case-patient's diagnosis, by age group and year**  
Novgorod City (n=1250), 1994-9/95



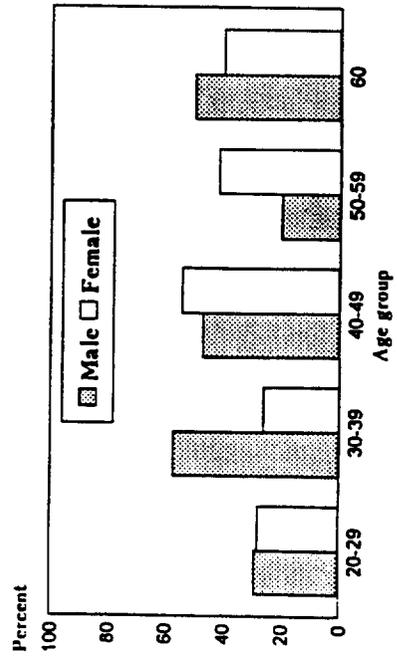
Proportion of refusal to vaccination among  
adult male contacts  
Novgorod City (n=199), 1994-9/95



Proportion of refusal to vaccination among  
female contacts  
Novgorod City (n=229), 1994 - 9/95



Proportion of refusal to vaccination among  
non-working adult contacts  
Novgorod City (n=205), 1994-95



### Priority studies

1. Description of the unvaccinated
2. Survey of providers for perceived reasons for refusal
3. Survey of the unimmunized for reasons for refusal
4. Further review of the surveillance data to identify other important factors
5. Collection of a case series

### **Desired BASICS collaboration**

1. Qualitative research and message development targeting the currently unimmunized
2. Support for message dissemination
3. Qualitative research and message development targeting immunized adults for additional doses

**APPENDIX H**

**EXPERIENCE WITH EVALUATION IN THE NIS**

## APPENDIX H

### EXPERIENCE WITH EVALUATION IN THE NIS

(Presentation by Robert Steinglass)

#### BASICS' work on NIDs in NIS:

- NID preparedness: logistics, IEC, checklists for monitoring readiness
- NID evaluation: only the Deshevoi/Hoekstra assignment in Tajikistan (April-May 1995)

#### Three types of evaluation in Tajikistan during BASICS/WHO assignment:

- a) pre-NID survey: of two randomly selected polyclinics by medical students to determine knowledge of parents and physicians about the NID and polio eradication on the eve of the NIDs.
- b) CASA (Clinic Assessment Software Application): This was not done specifically for the NIDs. CASA was easy to use. Vaccination cards were randomly selected from one polyclinic and compared to reported coverage from the entire rayon. Large discrepancy found between clinic audit and reported data. CASA looks at coverage by age, unlike reported figures. One polyclinic does not represent entire rayon. Using CASA, measles was assessed inappropriately at 12 months, instead of at 24 months of age.
- c) Community cluster surveys: These were done in five areas after the NIDs. Coverage was high on both NID rounds, but lower than administratively reported. A substantial drop-out rate (up to 10%) was found among those who received the first dose on the first round and returned for the second dose on the second round. Concerns were expressed about substantial migration and greater than 100% coverage in some areas. Selection criteria for the five surveyed areas or the clusters and starting households were not explained in the report. Proportional population sampling was not used. Some surveys had fewer than ten clusters. Seven children aged ) to less than 5 years were surveyed in each cluster. An unanswered question is how important is it to distinguish on the second round tally sheets between those receiving their first or their second NID dose.

The writer explained the upcoming visit of BASICS' staff member Mark Weeks to Moscow on 4-5 March. The note from a discussion between the writer and Dr. Fedorov, which had taken place in Moscow on 6 February, concerning Week's visit, was described by the writer and handed out to the participants as a background document. It appears in Appendix I. One overhead prepared by the writer appears in Appendix J and explains the distinctive features of the NIS to consider when planning NIDs and NID evaluations.

**APPENDIX I**

**NOTE FROM DISCUSSION WITH DR. FEDOROV AND  
DR. TYMCHAKOVSKAYA AT THE MOH, MOSCOW,  
FEBRUARY 6, 1996**

**Note from discussions with Dr. Fedorov and Dr. Tymchakovskaya at the MOH, Moscow**

6 February 1996

I (Robert Steinglass) met with the above senior MOH authorities to discuss several topics. One topic was a continuation of a discussion begun briefly at the meeting in Istanbul in November of the Inter-agency Immunization Coordinating Committee. At that meeting, after announcing the decision of the MOH to conduct two national rounds of National Immunization Days (NIDs) against poliomyelitis in March and April, Dr. Fedorov had asked me whether BASICS would be interested in introducing the MOH to the options available for evaluating NIDs. The evaluation would begin in mid-May, about two weeks after the conclusion of the second round of the NID's.

At our meeting on 6 February, Dr. Fedorov reaffirmed his interest in having BASICS send a consultant for up to two working days. The proposed scope of work (terms of reference) for the visit appears below. As Mark Weeks will be finishing an assignment in Kyrgyzstan and Kazakstan at precisely the time that the MOH wants the visit to take place (late February or early March), I proposed that Weeks stop in Moscow on his return to the USA. Weeks has much experience applying and adapting the standard WHO community survey to measure immunization coverage.

I stated at the meeting that I believed that the best measure of the success of the NIDs was "Zero Polio" as determined by a complete, timely and sensitive surveillance system, which is capable of detecting and reporting all cases of acute flaccid paralysis (AFP). The strengthening of such a system is a priority. A community-based 30-cluster survey can provide useful information under certain circumstances. For example, when coverage data being reported from a district are either incomplete or dubious, then a community survey can help to validate the figures. However, it is best not "to kill sparrow with cannon". For the most part in Russia, it should be possible to use reported data to estimate immunization coverage after the NIDs. Dr. Fedorov explained that he was thinking to try out the coverage survey method after the second round of the NIDs in two oblasts, one with reported high coverage and one with reported low coverage during the NIDs, in order to compare reported versus surveyed results. At the national level, he explained that their interest in coverage extended only as far down as oblasts.

I stated that the standard survey should be adapted to the Russian context. As there was insufficient time at the meeting to go into much detail, some of the material which follows supplements the discussion. However, it is best for these topics to be explored in greater depth, so that any survey would be tailored most appropriately to the Russian context. Within the oblast or rayon selected for the survey, polyclinics could be randomly selected in the first stage of sampling, with "pediatric zones" in the second stage. Typically, in each of the thirty clusters which comprise the survey, the starting household is randomly selected (by means of a variety of methods, preferably from a list which contains all households) and neighboring homes are visited until seven children are surveyed. (There are a variety of ways in which households can be selected.)

Given the importance of reaching children during the NIDs who are less than 12 months old, as well as children 12-23 months old, then it might be desirable with little additional effort to survey seven children in each of these two age groups in each cluster. COSAS is the software which is used to analyze the survey.

Possible adaptations to the standard survey which might have relevance in Russia can be considered. There may be concern that in recent years families have been more transient than in the past. The survey could determine the extent to which surveyed children are still registered by the appropriate health facility. This mobility is a potential concern in Russia, where every child is supposed to be registered and actively followed for all health care needs.

The survey could be further adapted. Immunization records at the health facility for the children surveyed in the

community could be examined to determine levels of immunization coverage with each separate antigen (pertussis, diphtheria, etc.) by age. Since all visits to the health facility are routinely recorded, delays in immunization or missed opportunities for immunization can be noted on the survey questionnaire. Software called CASA is available to provide a profile of the immunization practices in the health facility.

The survey questionnaire can be designed to elicit information which may be of importance for the immunization service in Russia. Questions could be added to determine knowledge, attitudes and practices and to assist in implementation of future campaigns. Respondents could be asked where they receive their information about immunization, whether they would accept more than one injectable vaccination on the same visit if offered by the doctor, etc.

The questions below were developed last year by Steinglass for another country with diphtheria in mind. They are not in any particular order, nor are they worded very carefully, some are more important than others, and they are not complete. They are just some quick ideas to stimulate thinking on how a survey after the NIDs might be used to get additional information about diphtheria.

- how did you hear about the need to receive a shot against diphtheria?
- when did you hear about the diphtheria campaign for the first time?
- how long have you lived at your current address?
- do you know how many shots you need to prevent diphtheria?
- when is the most convenient day of week and time of day for you to get a shot?
- do you know anyone who has had diphtheria?
- why did you agree (not agree) to get the shot against diphtheria?
- do you know people who did not agree to get the shot? what is the reason they refused?
- if (series of famous persons) appealed on TV for all adults to get a shot, would it convince you to do so?
- how safe is the vaccine against diphtheria?
- is diphtheria a dangerous disease?
- how can children be protected against diphtheria?

As requested by Dr. Fedorov, BASICS can offer Mark Weeks for two days in early March. The dates which are proposed are 4 and 5 March.

More information can be found in Russian in "The Cluster Method in Conducting Epidemiological Research" by Sergei Litvinov, Andrei Lobanov, and A.N. Peregudov, which appeared in the Journal of Microbiology, Epidemiology and Immunology in November 1986 (volume 11), pages 78-84. A WHO module from the EPI Mid-level Managers training course also covers the topic of conducting vaccination coverage surveys.

Proposed SOW for BASICS' Consultant Mark Weeks in Russia

4-5 March 1996

(principal contacts for Mark Weeks: Dr. Y.M.Fedorov and I.M. Tymchakovskaya in the MOH)

- introduce health officials in Moscow to various evaluation options for the National Immunization Day (NID) for polio eradication
- provide copies of COSAS and CASA software and manuals, and the WHO module on conducting vaccination coverage surveys

- in case community-based immunization coverage surveys have a limited role in carefully selected geographic areas:
  - guide authorities on implementation issues (including logistics, training, analysis, and financing) in conducting surveys in the context of Russia
  - guide authorities in adapting the survey method to meet local needs
  - explain sample selection, questionnaire design, field survey methods, data analysis (including use of COSAS) and interpretation, and presentation of findings in the Russian context.
- prepare report.

## **APPENDIX J**

### **DISTINCTIVE FEATURES OF THE NIS TO CONSIDER WHEN PLANNING NIDS AND NID EVALUATIONS**

## APPENDIX J

### DISTINCTIVE FEATURES OF THE NIS TO CONSIDER WHEN PLANNING NIDS AND NID EVALUATIONS

(Presented by Robert Steinglass)

- catchment population known for each health facility
- pediatric zones defined
- home visiting routine
- pre-NID registration lists prepared
- lots of staff and health facilities
- absence of parent-held vaccination cards
- NID vaccinations recorded afterwards on clinic-based records
- NID occurs at health facilities for first day(s) and then moves house-to-house to reach unimmunized children

Recommendation: Use administrative data, calculated at oblast, rayon and polyclinic levels since it is cheap, doable and “actionable.”

no

**APPENDIX K**

**EVALUATION OF POLIO ERADICATION ACTIVITIES  
IN NIS COUNTRIES, SUMMARY AND  
RECOMMENDATIONS FROM AN INFORMAL  
MEETING AT THE CDC,  
FEBRUARY 26, 1996**

## Summary and Recommendations

An informal one-day workshop was held on February 26, 1996 in Atlanta to discuss different evaluation options for National Immunization Days (NIDs) in the NIS. The agenda attempted to bring together polio-specific issues and experiences with immunization coverage assessments in the New Independent States of the former Soviet Union (attachment 1: Agenda). Participation from BASICS; the International Health Program Office, Centers for Disease Control and Prevention (CDC); and different organizational units from the National Immunization Program (NIP), CDC (attachment 2: List of participants).

The objectives of the workshop were as follows:

- (1) To develop recommendations for MECACAR evaluations in NIS;
- (2) To discuss the use of remaining reported polio cases as sentinels for systems evaluation;
- (3) To determine the most appropriate method(s) to confirm vaccination coverage (e.g., cluster survey, clinic assessment, lot quality acceptance sampling) achieved during MECACAR in NIS.
- (4) To review criteria for "mopping-up" activities in the New Independent States;

### Recommendations

The two major components in evaluating the successes of NIDs, process evaluations and outcome evaluations, were discussed in detail.

#### Surveillance:

There was unanimous agreement from the group that the most effective way to evaluate NIDs is through surveillance of AFP/polio cases in the months following NIDs. In order to take advantage of this method with a high degree of confidence, an adequate epidemiologic and virologic surveillance system must be in place. Adequate surveillance in polio-endemic countries would mean a rate of AFP cases  $\geq 1$  per 100,000 population under 15 years of age, the timely investigation of cases, and the collection and processing of stool specimens for polioviruses. The use and monitoring of surveillance indicators is helpful to determine whether such surveillance can be considered adequate.

#### Recommendation 1:

The determination whether surveillance is adequate for polio eradication purposes in individual NIS countries remains the highest priority. Any external evaluation of NIDs should focus on surveillance as the major component of evaluation.

#### Recommendation 2:

Such an evaluation would also focus on the remaining reported cases of AFP (or polio) as a starting point for evaluating the performance of surveillance at the local, rayon and oblast level. Analysis of the characteristics of the remaining cases (by time, place, person) could provide insight into sub-population groups still not adequately reached with OPV, and into specific areas where shortcomings in program performance can be overcome.

### National Immunization Days (NIDs):

Process evaluations should also be used by national health authorities to monitor the success of NIDs. Detailed guidelines and sample forms are provided in the Field Guide for Supplementary Activities Aimed at Achieving Polio Eradication (WHO/EPI/ GEN/95.1). This field guide has been translated into Russian and is being distributed widely in the Russian Federation.

### Recommendation 3:

NIS countries should characterize the exact target populations and report NID OPV coverage by rayon, oblast and national level for each round by age group. Where lists of eligible children for NIDs are maintained and updated as part of NID preparation, rayon health authorities are encouraged to monitor immunization coverage achieved during each round of the NIDs by local health area (polyclinic), so that low performing areas can be identified in the first round of NIDs and coverage be improved during the second round.

### Recommendation 4:

The use of population-based methods (e.g. cluster sample surveys) to independently verify national vaccination coverage is time- and labor-consuming and should not be used routinely for NIDs.

### Recommendation 5:

Certain groups can be defined as “high-risk” for potentially sustaining and amplifying poliovirus circulation based on previous case reporting, low vaccination coverage, and other characteristics, including minority populations, high contact with polio-endemic areas (e.g., migrant groups, etc.), bordering polio-endemic countries, etc. Limited verification of coverage achieved by NIDs may be necessary in selected high-risk areas. The most appropriate method to verify coverage in a clinic catchment area may be lot quality acceptance sampling (LQAS), a method which is not time- or labor-intensive.

### Recommendation 6:

Virologic surveillance should be intensified during and following NIDs. There are first-class laboratories in several NIS countries, especially in the Russian Federation, and virologists should participate in all discussions on how to evaluate NIDs.

### Recommendation 7:

The Russian MOH and State Committee should be approached to discuss the feasibility of external participation (e.g., WHO, CDC, BASICS) and observation of NID activities, particularly during the second round of NIDs.

### Recommendation 8:

As part of improving all vaccination efforts, there is a need to contrast vaccination coverage reported by the routine system with population-based survey findings. A limited effort to contrast routine coverage (and coverage achieved during each round of NIDs) from one or two oblasts with coverage obtained through population-based methods

(cluster sampling surveys) may be useful. However, such a special study should not be considered part of the external evaluation of NIDs.

Mopping-up activities:

Mopping-up has been an essential end-stage strategy to eliminate the last remaining reservoirs of wild poliovirus transmission in the region of the Americas by delivering OPV house-to-house in special campaigns. High risk rayons are those where poliovirus has recently circulated, is still circulating or is likely to circulate (see Field Guide). These include rayons where polio cases occurred in the last 36 months and/or which have: (1) low immunization coverage; (2) transient populations; (3) densely populated urban and/or peri-urban areas and poor sanitation; and (4) poor access to health care.

Recommendation 9:

The mopping-up strategy requires adaptation to the special circumstances in NIS countries. Depending on local assessments and circumstances, large contiguous areas may be selected for mopping-up or sub-national days. There may be particular value in synchronized efforts across national borders. Several countries were mentioned for activities in the Fall of 1996, including Ukraine, Moldova, Romania, and Yugoslavia, in addition to countries participating with Operation MECACAR.