

Report on the

**Second meeting of the Technical Advisory  
Group on Poliomyelitis Eradication in the  
Republic of Yemen**

Sana'a, Republic of Yemen  
21–22 June 2006



**World Health  
Organization**

Regional Office for the Eastern Mediterranean

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## EXECUTIVE SUMMARY

Of the 21 previously polio-free countries which were reinfected during the period 2003–2005, the Republic of Yemen experienced a particularly devastating epidemic, with a total of 479 laboratory-confirmed cases of paralytic poliomyelitis among children during a period of 12 months, the most recent case having onset on 2 February 2006 in Ibb governorate.

In response to this epidemic, the Government of Yemen supported by polio partners launched and implemented an extraordinary response, conducting 8 full rounds of national immunization days (NIDs) and 2 subnational immunization days (SNIDs). The NIDs generally reached over 95% of target children using mostly mOPV1. Reported routine immunization coverage increased substantially during 2005 as the government and partners provided financial and logistic support for a substantial scale-up of outreach activities.

The Technical Advisory Group on Poliomyelitis Eradication (TAG) in Yemen held its second meeting on 21–22 June 2005. The TAG identified 3 main epidemiological risks to the progress that has been made towards interrupting wild poliovirus transmission in the Republic of Yemen.

- *Undetected, ongoing transmission of poliovirus.* Insufficient AFP surveillance performance in the highest risk areas, a slower than anticipated improvement in routine coverage in the first six months of 2006, and a 5% decline in coverage during the April and May mop-ups compared with the December NID, are behind this risk.
- *New importation from Somalia.* This constitutes the second highest risk, but appears to be declining as the epidemic is now coming under control in that country. In addition, in Yemen itself routine and/or campaign coverage and AFP surveillance are all generally strong in the major port areas receiving Somali migrants.
- *New importation arising from Nigeria.* Although this risk is currently low, it must be carefully monitored in the light of approaching the season of population movements from areas where the virus is circulating.

## Recommendations

### *Surveillance for acute flaccid paralysis*

1. Efforts should focus on rapidly achieving an AFP rate of > 2 per 100 000 children under 15 years in each governorate as outlined in 2006 by the Health Assembly in resolution WHA 59.1. The TAG feels that this is the highest priority at this stage of the programme in Yemen and should be achieved by September 2006.
2. Particular attention should be given to enhancing active searches for AFP cases, beginning with the highest risk governorates where virus was last detected and/or governorates reporting AFP rate < 2 per 100000 children under 15. All districts with

large populations should have active surveillance sites, and the completeness of planned visits to priority reporting sites must be monitored to facilitate the targeting of corrective measures.

3. Recognizing the need to rapidly improve surveillance to protect the polio-free status of Yemen, a senior responsible officer and additional qualified staff should be designated for surveillance to strengthen national surveillance capacity for EPI/Polio. This will be fundamental to ensuring that efforts for rapid polio eradication in Yemen are based on a sound foundation of data.
4. Additional staff should also be designated at governorate level to strengthen AFP performance and performance should be reported on a monthly basis to H.E. the Minister of Public Health and Population to facilitate advocacy as needed with priority governorates. The National Poliomyelitis Eradication Committee should be kept informed.

#### *Routine immunization*

5. Because high routine immunization coverage is demonstrated to be the only way to prevent the spread and epidemic potential following importations, the Republic of Yemen should continue to give very high priority to the strengthening of fixed and outreach routine immunization services.
6. The TAG strongly urges the Ministry of Public Health and Population to give high priority to ensuring that all existing health facilities are staffed, trained and equipped to perform routine immunization services, with quarterly reporting of governorate-level performance to H. E. the Minister of Public Health and Population.
7. Recognizing that routine immunization coverage reached only 61% in the first quarter of 2006, in part due to the delayed release of designated government funds for outreach, the TAG kindly requests H.E. the Minister of Public Health and Population to facilitate the necessary measures to ensure the timely release of these funds.

#### *Supplementary immunization activities*

8. The TAG highlights the importance of monitoring the national, regional and global epidemiological situation to guide decisions on future polio campaigns in Yemen. Recognizing the constraints on global polio eradication financing and vaccine availability, for the time being the following recommendations are made for supplementary immunization activities in Yemen:
  - 8.1 If wild poliovirus is again detected in Yemen, 3 rounds of supplementary immunization should be initiated immediately, as per ACPE recommendations (plan within 72 hours, first round within 4 weeks), at least 2 of which should be nationwide.

- 8.2 If no wild poliovirus is detected in Yemen, but the risk of importation increases due to either spread from Nigeria to the Sudan or an escalation of the epidemic in Somalia, an initial round of nationwide supplementary immunization should be conducted with mOPV1 (ideally as early as possible after either of these triggers occurs). Further rounds would depend on the evolving epidemiological situation.
  - 8.3 If no further wild poliovirus is detected in Yemen despite improvements in surveillance, and the risk of importations remains low or declines further, emphasis should be given to further strengthening the routine immunization services with trivalent OPV, supplementing this with targeted campaigns in very low performing areas, rather than large-scale NIDs or SNIDs.
  - 8.4 The Ministry of Public Health and Population should develop a media management plan to ensure each of these contingencies can be rapidly and effectively communicated to health workers and the general public population to sustain confidence in the programme and ensure high coverage if further campaigns are required.
9. Given that type 1 is currently the only wild poliovirus serotype circulating in the region, any supplementary immunization activity that is conducted should use mOPV1 subject to availability of supplies.

Recognizing the rapidly evolving epidemiological situation internationally, the TAG would be pleased to review these recommendations on supplementary immunization activities by e-mail or teleconference in late August or early September and advise the Government of Yemen accordingly.





## 1. INTRODUCTION

The Technical Advisory Group on Poliomyelitis Eradication (TAG) in Yemen held its second meeting in Sana'a, Republic of Yemen on 21 and 22 June 2006. It was attended by TAG members, Officials from the Ministry of Public Health and Population and representatives of polio eradication initiative partners. The programme and list of participants are attached as Annexes 1 and 2, respectively.

Dr Yagoub Al Mazrou, Chairman of the TAG, opened the meeting. He welcomed H.E. Dr Abdulkarim Rasa'a, Minister of Public Health and Population, members of the TAG and other participants. He pointed out the critical importance of completing the necessary efforts to ensure that Yemen becomes free from the wild poliovirus that was introduced last year and emphasized the need to give special attention to routine immunization.

Dr Hashim Elmoussaad, WHO Representative, delivered a message from Dr Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean. In his message, the Regional Director praised the efforts and commitment of the Government of Yemen towards polio eradication, which had enabled them to successfully and rapidly contain the epidemic of poliomyelitis. He reiterated the need to avoid relaxation in the efforts until evidence of complete freedom from the invading virus. He also emphasized the need to address the reason behind the epidemic, which was essentially the immunity gap in the population because of weak routine immunization. The Regional Director referred to the important lessons learned from the epidemic and the need to keep them in mind in order to maintain success and guard against any future setbacks.

Dr Gezairy acknowledged the support extended to the polio eradication programme by the polio partners and UN agencies working in Yemen.

In his address to the meeting, H. E. Dr Abdulkarim Rasa'a, Minister of Public Health and Population, welcomed members of the TAG and thanked them for their continued support. He highlighted what was done by the Ministry of Public Health and Population following the importation of the virus in early 2005, namely conducting several NIDs and strengthening surveillance and efforts to improve routine immunization. Dr Rasa'a acknowledged with thanks the support of the polio partners and friendly countries, UN agencies and national societies. He then wished the meeting success and requested TAG guidance with respect to three specific issues:

- the number of supplementary immunization activities required for 2006 and future years;
- the type of vaccine to be used; and
- recommendations to address any future possible importations.

## **2. STATUS OF IMPLEMENTATION OF THE RECOMMENDATIONS OF THE FIRST TAG MEETING**

The TAG was in general impressed with the degree to which the recommendations of its first meeting were implemented, particularly in the areas of routine immunization, polio supplementary immunization activities and social mobilization. The TAG was concerned, however, by the disproportionate deficiencies in implementing its recommendations on surveillance. Of particular concern is the deficiency in implementing active surveillance, engagement of the private sector, tracking of surveillance performance and systematic targeting of activities to rectify residual gaps in surveillance sensitivity.

## **3. EPIDEMIOLOGICAL SITUATION AND SURVEILLANCE PERFORMANCE**

The TAG reviewed the epidemiology of polio in Yemen. A total of 479 cases of confirmed polio occurred between 25 February 2005 and 2 February 2006 with all but one governorate experiencing cases. The most recent case had onset in the governorate of Ibb, but was genetically related to the cases previously detected in Marib and Hadramot Sayeun, raising the probability of relatively widespread transmission as recently as February 2006.

Although no cases of polio have been detected subsequently, the TAG noted that this may be due to deficiencies or gaps in surveillance sensitivity. The TAG was particularly alarmed that the AFP rates remained below 2 per 100 000 under 15 years of age for a number of governorates including the particularly high risk areas of Ibb and Marib. The TAG was also concerned that the surveillance strategies were not being properly implemented in all areas. There appears to be particular deficiencies in the areas of active surveillance, engagement of the private sector, monitoring and feedback.

The TAG identified 3 main epidemiological risks to the progress that has been made towards interrupting wild poliovirus transmission in the Republic of Yemen.

- *Undetected, ongoing transmission of poliovirus.* Insufficient AFP surveillance performance in the highest risk areas, a slower than anticipated improvement in routine coverage in the first six months of 2006, and a 5% decline in coverage during the April and May mop-ups compared with the December NID, are behind this risk.
- *New importation from Somalia.* Importation from Somalia constitutes the second highest risk, but appears to be declining as the epidemic is now coming under control in that country. In addition, in Yemen itself routine and campaign coverage and AFP surveillance are all generally strong in the major port areas receiving Somali migrants.
- *New importation arising from Nigeria.* Although this risk is currently low, it must be carefully monitored in the light of approaching the season of population movements from areas where the virus is circulating.

**Recommendations**

1. Efforts should focus on rapidly achieving an AFP rate of > 2 per 100 000 children under 15 years in each governorate as outlined in the 2006 Health Assembly resolution WHA 59.1. The TAG feels that this is the highest priority at this stage of the programme in Yemen and should be achieved by September 2006.
2. Particular attention should be given to enhancing active searches for AFP cases, beginning with the highest risk governorates where virus was last detected and/or governorates reporting AFP rate < 2 per 100 000 children under 15 years of age. All districts with large populations should have active surveillance sites, and the completeness of planned visits to priority reporting sites must be monitored to facilitate the targeting of corrective measures.
3. Zero reporting should be expanded and its timeliness and completeness should be monitored.
4. Recognizing the need to rapidly improve surveillance to protect the polio-free status of Yemen, a senior responsible officer should be designated for surveillance and additional qualified staff recruited to strengthen national surveillance capacity for EPI/Polio. This will be fundamental to ensuring that efforts for rapid polio eradication in Yemen are based on a sound foundation of data.
5. Given the importance of the private sector in identifying and rapidly reporting AFP cases, there should be a systematic effort to raise awareness through appropriate professional bodies with an offer to provide training as requested.
6. Additional staff should also be designated at governorate level to strengthen AFP performance and performance should be reported on a monthly basis to H.E. the Minister of Public Health and Population to facilitate advocacy as needed with priority governorates. The National Poliomyelitis Eradication Committee should be kept informed.
7. Detailed subnational analyses should be carried out on an ongoing basis (e.g. identifying silent areas which have not reported AFP cases, clusters of AFP cases and/or high risk areas with low coverage/suboptimal indicators) with appropriate mapping, feedback and action each month.
8. At its next meeting, a detailed report on the quality of implementation of the processes necessary to improve surveillance sensitivity, including the monitoring of completeness of active surveillance and the monthly feedback to governorates should be provided to the TAG.

#### **4. ROUTINE IMMUNIZATION**

The TAG was impressed with the reported increase in routine immunization coverage during 2005, which reached a reported 87% for 3 doses of the pentavalent vaccine. The TAG noted that 28% of that coverage was the result of a new emphasis on outreach activities as part of the “Reach Every District” (RED) strategy, which received strong political, technical and financial support from both the Ministry of Public Health and Population and its partners in immunization.

The fragility of this progress is already apparent by mid-2006, however, as the TAG learned that 2006 coverage was only 61% at the end of April. While the reasons for this decline in performance are many and diverse, the TAG noted that a delay in the release of designated government funds for outreach contributed substantially. The TAG was also concerned that because of a number of factors the outreach activities were not optimally spaced throughout the calendar year (e.g. every quarter).

This low rate of routine immunization is reaffirmed by the high percentage of zero dose children detected during the monitoring of supplementary immunization activities.

#### **Recommendations**

1. Because high routine immunization coverage is proven to be the only way to prevent the spread and epidemic potential following importations, the Government of Yemen should continue to give very high priority to the strengthening of fixed and outreach routine immunization services.
2. The TAG strongly urges that the Ministry of Public Health and Population gives high priority to ensuring that all existing health facilities are staffed, trained and equipped to perform routine immunization services, with quarterly reporting of governorate level performance to H.E. the Minister of Public Health and Population.
3. Recognizing that routine coverage achieved only 61% in the first quarter of 2006, in part due to the delayed release of designated government funds for outreach, the TAG kindly requests H.E. the Minister of Public Health and Population to facilitate the necessary measures to ensure the timely release of these funds.

#### **5. SUPPLEMENTARY IMMUNIZATION ACTIVITIES**

The TAG was very impressed with the number and quality of supplementary immunization activities that were conducted between April 2005 and May 2006, for a total of 8 NIDs and 2 SNIDs. The TAG was also impressed with the strong political support being given to the launching and implementation of these campaigns.

The TAG was most grateful for the availability of independent monitoring data and praised the Government of Yemen for promoting this valuable activity. The TAG noted the value of this information in independently reaffirming the high quality of government-

sponsored campaigns and highlighting emerging problems affecting performance and achievements, particularly, during recent mop-ups.

In general, campaign quality has been quite high. Aggregate NID coverage has generally been higher than 95% as verified by independent monitoring activities. However, the TAG took careful note of the decline in coverage during the most recent mop-up campaigns, from 97.2% in December 2005 NID to 92.7% in the May 2006 mop-up. Out of the 123 monitored districts, in May 2006 the coverage was less than 90% in 31 districts. Recognizing that this reflects in part an increasing community fatigue in some high risk areas, this decline reinforces the need to provide additional technical support, supervision and resources to these areas to overcome their particular challenges.

### **Recommendations**

1. The TAG highlights the importance of monitoring the national, regional and global epidemiological situation to guide decisions on future polio campaigns in Yemen. Recognizing the constraints on global polio eradication financing and vaccine availability, for the time being the following guidance is provided for Supplementary Immunization Activities in Yemen.
  - If wild poliovirus is again detected in Yemen, 3 rounds of supplementary immunization should be initiated immediately, as per ACPE recommendations (plan within 72 hours, first round within 4 weeks), at least 2 of which should be nationwide.
  - If no wild poliovirus is detected in Yemen, but the risk of importation increases either due to spread from Nigeria to Sudan or an escalation of the epidemic in Somalia, an initial one round of nationwide supplementary immunization should be conducted with mOPV1 (ideally as early as possible after either of these triggers occurs). Further rounds would depend on the evolving epidemiological situation.
  - If no further wild poliovirus is detected in Yemen despite improvements in surveillance, and the risk of importations remains low or declines further, emphasis should be given to further strengthening the routine immunization services with trivalent OPV, supplementing this with targeted campaigns in very low performing areas, rather than large-scale NIDs or SNIDs.
  - The Ministry of Public Health and Population should develop a media management plan to ensure each of these contingencies can be rapidly and effectively communicated to health workers and the general public population to sustain confidence in the programme and ensure high coverage if further campaigns are required.
2. Given that type 1 is currently the only wild poliovirus serotype circulating in the region, any supplementary immunization activity that is conducted should use mOPV1 subject to availability of supplies.

Recognizing the rapidly evolving epidemiological situation internationally, the TAG would be pleased to review these recommendations on supplementary immunization by e-mail or teleconference in late August or early September and advise the Government of Yemen accordingly.

## **6. SOCIAL MOBILIZATION AND COMMUNICATION**

The TAG noted the tremendous effort and attention that the Ministry of Public Health and Population gives to this fundamentally important element of polio and routine immunization activities. The Ministry presented its 2-pronged approach to strengthen social mobilization and communication activities, focusing on mass media and interpersonal communication, noting particular challenges in improving the latter. The TAG was pleased that the Ministry of Public Health and Population is working to integrate social mobilization for routine and supplementary immunization activities.

While recognizing the work being done in social mobilization and communication, the TAG stated that further strengthening requires the collection of additional evidence and data to develop and implement a comprehensive communication strategy using standardized communication indicators.

### **Recommendations**

1. A comprehensive communication plan for polio and routine immunization should be developed that a) addresses listener/audience habits, effective and appropriate sources of information (e.g. written versus oral versus visual), the different needs of urban/rural audiences, and the underlying reasons for refusal or non-participation; and b) optimizes the timing, frequency and branding of messages.
2. Communication strategies should include sustaining participation, reducing drop-outs, addressing fatigue, and increasing community dialogue, especially with women's groups and professional associations. Particular attention should be given to the needs of illiterate and special populations and/or underserved communities.
3. The Ministry should establish a media management plan for future outbreak response and/or supplementary immunization activities.

## **7. CROSS-CUTTING RECOMMENDATIONS**

The TAG noted that a number of issues were common to all areas of work on polio eradication, including AFP surveillance, polio campaigns, routine immunization and social mobilization and made the following recommendations in this regard.

1. Special attention should be given to inaccessible and insecure areas as well as refugee camps/settlements to ensure full implementation of the necessary surveillance and immunization activities, using locally-appropriate solutions. Given the potential importance of such areas to the overall success of this programme, progress in these areas should comprise an integral part of the reporting.
2. Consideration should be given to convening a special Interagency Coordinating Committee (ICC) meeting to present the findings and recommendations of the TAG,

particularly given the need for additional, local financing to implement “preventive” campaigns.

3. Review the composition of both the National Certification Committee and the National Expert Group and facilitate necessary steps to ensure their effective performance.

The TAG requests that an update on follow-up of polio cases in terms of assessment and rehabilitation be presented at the next TAG meeting.

**Annex 1**

**PROGRAMME**

**Wednesday 21 June 2006**

08:30–09:00	Registration
09:00–09:30	Opening session <ul style="list-style-type: none"><li>• Message of Dr Hussein A. Gezairy, Regional Director, WHO/EMRO</li><li>• Address by H.E. Dr Abdul Karim Kasa'a, Minister of Public Health and Population</li><li>• Objectives of the meeting/ Dr Yagoub Al Mazrou, Chairman</li></ul>
09:30–10:30	Implementation of the recommendations of first TAG Meeting Dr Ali Al Mudhwahi/ Dr Abdel Hakim Al Kohlani
10:30–11:30	Review of the epidemiological situation AFP surveillance/ Dr Abdel Hakim Al Kohlani Discussion
11:30–12:30	Review of immunization activities <ul style="list-style-type: none"><li>• Achievements (routine, supplementary immunization)/ Dr Mohammed Al Emad</li><li>• Evaluation by independent monitors/ Dr El Waleed Sid Ahmed</li></ul>
12:30–14:00	Social mobilization/ Dr Ali Al Mudhwahi
14:00–14:30	Future plans 2006 – 2007/ Dr Mohammed Al Emad
14:30–15:15	Discussion
15:15–17:00	Meeting of TAG Members

**Thursday, 22 June 2006**

08:30–10:30	Meeting of TAG members
10:30–11:30	Presentation and discussion of recommendations
11:30–12:00	Closing

**Thursday, 22 June 2006**

08:30–10:30	Meeting of TAG members
10:30–11:30	Presentation and discussion of recommendations
11:30–12:00	Closing



**Annex 2**

**LIST OF PARTICIPANTS**

**Members of the Technical Advisory Group**

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Dr Abdul Wahab Al Haifi  
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### **Country representatives**

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Under Secretary of Primary Health Care  
Ministry of Public Health and Population

Dr Ali Al Modhawahi  
Director General of Family Health Care  
Ministry of Public Health and Population

Dr Abdel Hakim Al Kohlani  
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Ministry of Public Health and Population

Dr Mohamed El Emad  
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**United Nations Development Programme (UNDP)**

Ms Dena Assaf  
Deputy Resident Representative  
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**WHO Secretariat**

Dr Hashim Elmoussad, WHO Representative, Yemen  
Dr Faten Kamel, Medical Officer, Poliomyelitis Eradication Programme, WHO/EMRO  
Dr Hala Safwat, Technical Officer, Poliomyelitis Eradication Programme, WHO/EMRO  
Dr Liliane Boualam, Technical Officer, Poliomyelitis Eradication Programme, WHO/HQ  
Dr Ahmed Darwish, Medical Officer, Poliomyelitis Eradication Programme, WHO/PAK  
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Dr Osama Mere, STP, Epidemiological Preventative Diseases and Immunization, WHO/YEM  
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Ms Wallaa El Moawen, Secretary, Poliomyelitis Eradication Programme, WHO/EMRO