

Report on the

**Eighth meeting of the Technical Advisory  
Group (TAG) on Poliomyelitis Eradication  
in Egypt**

Cairo, Egypt  
1–2 June 2005



World Health Organization  
Regional Office for the Eastern Mediterranean

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## EXECUTIVE SUMMARY

The eighth meeting of the Technical Advisory Group on Poliomyelitis Eradication in Egypt was convened in Cairo, Egypt on 1–2 June 2005. The meeting was held during an important period for the national eradication programme, as wild polioviruses had not been detected for a 3-month period and monovalent oral poliovirus vaccine type 1 (mOPV1) had recently replaced trivalent OPV for use in the national polio immunization campaigns.

The TAG was impressed that 12 months have elapsed since the last confirmed wild polio virus case, with 3 months since the last positive environmental sample. The increasing time between detected wild poliovirus isolations, in the presence of high quality surveillance, clearly shows that the intensity of transmission is dropping rapidly due to the continued improvements in the quality of polio supplementary immunization activities. Recognizing the strong commitment of the Government of Egypt, the extraordinary mobilization and participation of the people of Egypt, and the recent introduction of innovations such as monovalent oral poliovirus vaccine type 1 (mOPV1), the TAG strongly believes that the elimination of all indigenous wild polioviruses in Egypt is feasible in 2005. The TAG cautions that given the very high levels of population immunity now being achieved, any residual transmission of poliovirus may only be detectable with the onset of the high transmission season from June 2005 onwards.

### Recommendations

1. The first strategic priority should be to secure the final interruption of indigenous wild polioviruses. A secondary priority should be to limit the risk resulting from importations from polio-infected countries which have strong linkages with Egypt (e.g. Sudan, Yemen) and to prevent resultant poliovirus transmission.
2. Surveillance in the reservoir areas (Minya/Assiut and high-risk areas of Cairo/Giza) should be enhanced to utilize the opportunity afforded by the current high transmission season to detect and address any residual, low level virus transmission.
3. The TAG recommends that consideration be given to advocacy with the Heads of State at July 2005 Summits of the African Union and G8 leaders for the rapid completion of the global polio eradication initiative. This goal should also be promoted during the June 2005 meeting of African Health Ministers in Cairo.
4. To monitor the impact of improvements in supplementary immunization activities in high-risk areas, performance data should be regularly mapped and indicators reviewed, comparing high-risk areas with other areas. Consideration should be given to repeating vaccination in areas where evaluation shows that < 80% of houses are properly marked.
5. Three NIDs with mOPV1 should be conducted in July, September and October 2005, with a further two rounds in the first quarter of 2006 (possibly using tOPV). If wild virus is reported in June or July, a large-scale emergency mop-up should be conducted in August.

## 1. INTRODUCTION

The eighth meeting of the Technical Advisory Group on Poliomyelitis Eradication in Egypt was convened in Cairo, Egypt on 1–2 June 2005. The meeting was held during an important period for the national eradication programme, as wild polioviruses had not been detected for a 3-month period and monovalent oral poliovirus vaccine type 1 (mOPV1) had recently replaced trivalent OPV for use in the national polio immunization campaigns.

The meeting was opened by Dr Y. El Mazrou, Chairman of the TAG, who welcomed His Excellency Dr Mohammed Awad Tag-El-Din, Minister of Health and Population of Egypt, along with members of the TAG and representatives of various agencies and partners. Dr Tag-El-Din thanked the TAG members and polio eradication partners for their ongoing support to the programme. He reaffirmed the very high priority that the Government of Egypt was giving polio eradication, as demonstrated by the patronage of Her Excellency Mrs Suzanne Mubarak, First Lady of Egypt, the full engagement of the governors, the support of the national press, and the ongoing participation of both governmental and nongovernmental organizations. On behalf of Dr Gezairy, WHO Regional Director for the Eastern Mediterranean, Dr M.H. Wahdan, Special Adviser to the Regional Director on Poliomyelitis Eradication, commended the Government of Egypt's ongoing commitment to polio eradication, noting that the last detected clinical polio case had occurred 12 months ago, with the most recent positive environmental sample collected in mid-January 2005. He noted in particular the tremendous work by the Government of Egypt to ensure the rapid development and licensing of mOPV1, a model of international collaboration in health.

Dr Nick Ward, Member of the TAG, noted the changing global polio epidemiological situation, requesting that the TAG's agenda include an update on the external risks to Egypt's polio-free status and that the TAG's deliberations be expanded to consider these risks.

Dr Nasr El Sayed, Undersecretary for Preventive Affairs, reported on the status of implementation of the recommendations of the seventh TAG meeting detailing the exemplary work of the Ministry Health and Population in this regard. All recommendations had been fully implemented, with planning ongoing to address the potential risks, if any, posed by long-term excretors of vaccine-derived polioviruses.

The programme and list of participants of the eighth TAG meeting are attached as Annexes 1 and 2, respectively.

## 2. CURRENT EPIDEMIOLOGICAL SITUATION

The increasingly sensitive AFP and environmental surveillance data in 2004 and 2005 (to date) shows further strong progress in the national effort to eliminate poliovirus.

The TAG was particularly impressed that 12 months had elapsed since the last confirmed wild poliovirus case of polio, with 3 months since the last positive environmental sample. The increasing length of the time between wild poliovirus isolations, whether in the

environment, clinical cases or contacts, clearly shows that the intensity of wild poliovirus transmission is dropping rapidly. This is further reaffirmed by the decreasing biodiversity of the wild poliovirus isolates since the onset of the last high transmission season in 2004.

Of the two remaining known reservoirs of type 1 wild poliovirus in the country, the most recent virus from the predominant Cairo/Giza lineage (lineage E) was isolated from an environmental specimen collected in Fayoum on 13 January 2005; the most recent virus from the predominant Minya/Assiut lineage (lineage H) was isolated in from an environmental specimen collected in Sohag on 10 January 2005.

The TAG noted that as the work to interrupt indigenous wild poliovirus transmission progresses successfully in Egypt, the risk of importations from polio re-infected countries that have strong linkages to Egypt (e.g. Sudan, Yemen) is gaining increasing importance. To evaluate this risk, the TAG received updates on the status of the ongoing outbreak control activities in west and central Africa, the Horn of Africa and Yemen.

In summary, poliovirus transmission is currently at an all-time low in Egypt. The TAG cautions, however, that given the very high levels of population immunity now being achieved, residual low-level poliovirus transmission may only be detectable with the onset of the 2005 high transmission season from June onwards. The TAG anticipates that a full 12 months of polio-free data, from both certification-standard AFP surveillance (including cases and contacts) and environmental sampling, will be needed to have confidence that indigenous poliovirus transmission has been interrupted.

Because of the current status of poliovirus transmission, the very high supplementary immunization coverage being achieved, and the recent introduction of mOPV1, the TAG strongly believes that the elimination of all indigenous wild polioviruses in Egypt is very feasible by the end of 2005. Critical to achieving this goal will be the further heightening of surveillance and the rapid response to any virus isolation.

### **Recommendations**

1. The first strategic priority of the national polio eradication programme should be to secure and confirm the interruption of transmission of indigenous wild polioviruses. Given the recent re-infection of countries with important linkages with Egypt (e.g. Sudan, Yemen), a secondary priority should be to limit the risk resulting from possible importations from such areas.
2. Recognizing the important opportunity provided by the onset of the season of increased transmission and high polio incidence from June 2005 onwards, the highest operational priority should be to further enhance surveillance in the known reservoir areas (Minya/Assiut and high risk areas of Cairo/Giza) to detect any residual indigenous wild poliovirus and to ensure the capacity to rapidly respond to any detected wild poliovirus.
3. To minimize the risks associated with importations, the Government of Egypt should continue to: a) request that travellers to and from other polio-infected areas are

appropriately immunized against polio; b) recognize that geographical areas where visitors from such countries congregate are at higher risk of poliovirus and target them for active surveillance activities and particular attention during supplementary immunization activities; c) regularly review and update, as needed, the national preparedness plan for importations; and d) treat all AFP cases among visitors and residents from polio-infected countries as hot cases.

4. Given that ongoing poliovirus transmission in sub-Saharan Africa and the Red Sea area of Sudan and the Horn of Africa poses an increasing risk to Egypt's progress towards polio eradication, the TAG recommends that consideration be given to advocacy with Heads of State at the July 2005 Summits of the African Union and G8 leaders, in the Libyan Arab Jamahiriya and Scotland respectively, for the rapid completion of the global polio eradication initiative. This goal should also be promoted during the June 2005 meeting of African Health Ministers in Cairo.

### **3. SUPPLEMENTARY IMMUNIZATION QUALITY AND COMMUNICATIONS**

The TAG was extremely impressed with the work of the Ministry of Health and Population, governorates and partners to further improve the quality of supplementary immunization activities in 2005. The new initiatives introduced in 2004 in the areas of microplanning, supervision, tally sheets, defaulter tracing and social mobilization have been sustained. In addition, valuable innovations have been introduced since May 2005, most notably the use of mOPV1 and finger marking of all children. The TAG recognized in particular the tremendous contribution of NODCAR and CAPA to the national, and indeed global, eradication effort, by expediting the testing and documentation review needed for the licensure of mOPV1.

Particularly important has been the careful, systematic work of the Ministry of Health and Population to identify areas at high risk for ongoing polio transmission or those with low quality supplementary immunization activities and to target corrective actions appropriately. A wide range of data is analysed as the basis for this exercise including all supplementary immunization activities performance data (from independent monitors, independent observers, supervisors and tally sheets), epidemiological data, risk of importations, and population density. High-risk areas are then targeted for additional central support, focused monitoring, central Task Force attention and increased numbers of teams and supervisors. Special attention is given to enhancing the microplans, human resources, training, supervision and monitoring in these areas. The TAG noted the improved quality of the supplementary immunization teams, especially through the large-scale engagement of nursing students, and feels that it will be critical to continue and expand their involvement.

Data from all of the abovementioned supplementary immunization monitoring mechanisms show that very high coverage (>95%) is continuing to be achieved on a regular basis in all governorates and most districts. The positive trend in the number of children immunized during NIDs has been sustained at approximately 11.1 million per round since October 2004. Even more importantly, the improved immunization rates of children aged less



than 12 months are also continuing at approximately 2.2 million per round; the recent increases in the key governorates of Cairo and Giza are being sustained. These trends are consistent with the quantitative SIA performance indicator data collected by independent monitors (e.g. >90% of teams trained; >90% of training includes role playing; 98% of teams going house-to-house; 80% of team registering defaulters; nearly 100% of teams doing finger marking). The TAG appreciated the data demonstrating widespread acceptance of mOPV1 and finger marking, reflecting the excellent preparations made by the Ministry of Health and Population for the introduction of these innovations. The TAG was grateful for the report on the serosurvey it had requested, which reaffirmed that in general very high coverage was now being achieved nationwide.

Of concern to the TAG was the finding that although the performance of supplementary immunization activities in the governorates of Cairo and Giza is markedly improved, it consistently lags behind that of other areas of the country. For example, independent observers suggest that correct house-marking in the highest risk areas of these governorates was as low as 60% in Cairo and 70% in Giza; this is particularly important given other data showing that coverage is usually 5%–6% lower in unmarked houses. The TAG also noted with concern recent declines in the quality of supplementary immunization activities in Minya. The TAG discussed the special efforts being taken by the Ministry of Health and Population to cover moving populations, high rise buildings and high-risk demographic populations and areas (including areas where populations from other polio-infected countries may congregate). The TAG paid special attention to the efforts to improve performance in poorly supervised or vaccinated areas.

The TAG was impressed with the comprehensive communications and social mobilization work that is a central element of the national polio eradication effort. The TAG fully endorsed the multi-pronged approach that is being implemented in this area, focusing on mass media, hard to reach populations, training of vaccination teams and building of national capacity in social mobilization. The 2005 Communications Survey demonstrated major gains in knowledge with, for example, over 90% of caregivers now understanding that there are no common side effects to OPV, the safety of multiple doses, and appropriate ages for NIDs immunization. The Survey also confirmed the very low proportion of missed children (1.5% nationwide), with the largest proportion being urban, poor children aged less than 1 year. The immediate challenges in communications and social mobilization were identified as: a) the declining reach of national versus satellite television; and b) the need for additional demographic data, ideally from the AFP surveillance system, to guide activities.

In summary, the TAG noted the impressive work to sustain the high number of children immunized during supplementary immunization activities, identify and support high risk areas, maintain high population awareness and participation, and introduce new innovations (especially mOPV1 and finger marking in 2005). The TAG concurred that the ultimate success in interrupting polio transmission will depend on the extent to which supplementary immunization activities performance gaps in high-risk areas, especially in Cairo, Giza and Minya can rapidly be addressed.

## Recommendations

1. The priority for supplementary immunization activities should be to further improve performance in the highest risk areas, particularly in Cairo, Giza and Minya. These high-risk areas are well recognized, but require continuous technical support to improve the quality of supplementary immunization activities until transmission is interrupted. As stated previously, such technical support could be provided by the temporary redeployment of high performing staff from other governorates and the provision of international consultants. This ongoing technical support must be combined with guaranteed high quality close supervision.
2. To track the progress being made in high risk areas, and allow the necessary strategy adjustments, district level performance data should be mapped over time and indicators regularly reviewed, comparing high-risk versus other areas.
3. The number of mobile children who are being immunized by special teams at major transit sites and on buses and trains should be monitored over time to determine the effectiveness of the efforts to reach mobile populations.
4. Recognizing that supplementary immunization coverage is consistently higher in houses that are marked, close supervisors and monitors should give special attention to this element of supplementary immunization activities. In view of the importance of house marking, assurance should be made that the stickers are of sufficient quality to remain in place for the duration of the campaign. Consideration should even be given to repeating vaccination in any area where the proportion of marked houses is less than 80%.

## 4. SUPPLEMENTARY IMMUNIZATION STRATEGY: JUNE 2005 TO JUNE 2006

In discussing potential supplementary immunization strategies for the period June 2005 to June 2006, the TAG reviewed the lessons learned in Egypt and other areas of highly efficient poliovirus transmission (e.g. Mumbai in India), the findings of the recent serological survey in Egypt and the potential for undetected residual low-level virus transmission in this country. The TAG also noted that it could not yet evaluate the impact of mOPV1 on poliovirus transmission and its potential implications for supplementary immunization activities strategy (e.g. number and extent of rounds). The TAG did reaffirm, however, that given the use of mOPV1 in supplementary immunization activities, it is even more important than ever that very high population immunity be maintained with trivalent OPV through routine immunization services.

## Recommendations

1. An additional 3 rounds of nationwide supplementary immunization activities should be conducted as planned during June–December 2005 (ideally in July, September and October).

2. If wild poliovirus is reported in June or July, an additional, large-scale, multi-governorate emergency 'mop-up' should be conducted in August in the area of detection of the virus as well as the reservoir area from which it derives. The TAG further reaffirms the recommendations on mop-up activities that were made during its sixth meeting.
3. Two rounds of nationwide supplementary polio immunization should be planned for the first quarter of 2006.
4. Monovalent OPV type 1 (mOPV1) should continue to be used in all supplementary immunization activities in 2005. The role of mOPV1 in 2006 should be reviewed in late 2005 based on the epidemiology of polio in Egypt and neighbouring countries.

## **5. AFP AND ENVIRONMENTAL SURVEILLANCE**

A strong and extensive AFP surveillance system has now been established which will further strengthen the infrastructure and capacity for communicable disease surveillance in general.

The TAG noted the sustained improvements in the sensitivity of AFP surveillance; the national annualized AFP rate has increased from 2.5 per 100,000 population under 15 years in 2003 to 2.8 in 2004, although it is currently at 2.4 for 2005. Particularly encouraging were the sustained gains in the governorates of greater Cairo, where the rates in Cairo and Giza increased to 2.5 and 3.0, respectively in 2004 (annualized rates for 2005 are 2.1 and 2.6). The TAG was concerned that after substantial progress in improving AFP rates in Upper Egypt, the 2005 annualized rate for the governorate of Minya had fallen to 1.8 as of May 2005. The TAG noted that corrective actions by the Ministry of Health and Population are ongoing and include the deployment of central level experts, additional case searches, and reorientation of clinicians.

Much of the progress in refining the performance and quality of AFP surveillance activities is the result of weekly central level AFP Review Meetings at which subnational performance indicators are reviewed, results discussed and hot cases or hot viruses identified for priority treatment (10% of cases are now regularly flagged as 'hot cases'). The TAG applauded the improvement in the engagement of university, health insurance and military hospitals, and the deployment of additional technical support to lagging areas. The TAG noted that the high rate of final diagnosis confirmed that most reported AFP cases were indeed AFP.

The TAG was again impressed with the contribution that VACSERA continues to make to the national eradication effort, maintaining high proficiency and excellent timeliness despite a sharply increased workload. The high sensitivity of environmental surveillance has been restored and sustained since mid-2004; since then the non-polio enterovirus (NPEV) detection rate from such samples is consistently exceeding 85%, with Sabin virus detection exceeding 80% to date in 2005.

**Recommendations**

1. The highest priority in AFP surveillance should be to rapidly enhance sensitivity in Minya, followed by continued attention to the high risk areas of Cairo and Giza, then Assiut, Sohag and Fayoum to detect any residual wild poliovirus transmission during the 2005 high season. In all areas, month-to-month AFP rates should be expected to exceed 2 AFP cases per 100 000 children aged less than 15 years.
2. Governorates with NPEV rates below 10% in AFP cases or below 80% in environmental samples should be evaluated to determine whether this reflects a reduced sensitivity to detect poliovirus, with corrective action as appropriate.
3. Given the critical and special role that environmental surveillance plays in the detection of poliovirus transmission in Egypt, the sustainability of this capacity should be reviewed and, if appropriate, proposals for its further refinement to optimize efficiency be presented to the TAG. This is particularly important given that environmental surveillance will in the longer term be important during and after the eventual cessation of routine OPV use; the extent and strategy for environmental surveillance at that time will be directed by the evolving global policy in this regard.

**Annex 1****PROGRAMME****Wednesday, 1 June 2005**

- 08:30–09:00 Registration
- 09:00–09:30 Opening Session  
Message from Dr Hussein Gezairy, Regional Director, WHO/EMRO, by Dr M.H. Wahdan, Special Adviser to the Regional Director for Poliomyelitis Eradication  
Address by H.E. Dr M. A. Tag-El-Din, Minister of Health and Population  
Objectives and meeting agenda, Chairman of the TAG
- 09:30–10:00 Status of the implementation of recommendations of the seventh TAG meeting, Dr N. El Sayed, Ministry of Health and Population
- 10:00–10:15 Discussion
- 10:15–11:15 Current situation, surveillance data and indicators, Dr I. Moussa, Ministry of Health and Population
- 11:15–11:45 Virological surveillance (AFP–environmental), Dr L. Bassiouni, VACSERA, and Dr O. Kew, CDC/Atlanta
- 11:45–12:15 Discussion
- 12:15–12:30 Planning and implementation of spring 2005 NIDs/use of mOPV, Dr I. Barakat, Ministry of Health and Population
- 12:30–12:45 Progress in campaign quality (independent monitors), Dr A. Elkasabany, WHO/EMRO
- 12:45–14:00 Reports of independent observers, Dr A. Elkasabany, WHO/EMRO
- 14:00–14:30 Social mobilization activities/plans, Dr S. Hegazy and Dr F. El Kamel, UNICEF
- 14:30–15:00 Discussion
- 15:00–15:45 Report of the sero-survey study, Ms K. Hennesey, CDC/Atlanta
- 15:45–16:05 Report on the global situation and Yemen and Sudan epidemics, Dr Bruce Aylward, WHO/HQ, and Dr M.H. Wahdan and Dr F. Kamel, WHO/EMRO
- 16:05–16:20 Plans for supplementary immunization activities and questions to the TAG, Dr N. El Sayed, Ministry of Health and Population
- 16:20–16:50 Discussion
- 16:50–17:45 Closed meeting of the TAG members

**Thursday, 2 June 2005**

- 09:30–11:00 Closed meeting of the TAG members
- 11:00–12:00 Presentation of the Report and debriefing with H.E. the Minister of Health and Population
- 12:00–12:30 Closing session

**Annex 2**

**LIST OF PARTICIPANTS**

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