

NOW, MORE THAN EVER: STOP POLIO FOREVER.



Partners in the Global Polio Eradication Initiative

Conclusions and recommendations of the Advisory Committee on Poliomyelitis Eradication Geneva, 11-12 October 2005

The Second Meeting of the Advisory Committee on Poliomyelitis Eradication (ACPE) was convened in Geneva, Switzerland, on 11-12 October 2005, to provide the World Health Organization (WHO) and the Global Polio Eradication Initiative with expert advice on:

- programme priorities and policies for interrupting wild poliovirus transmission worldwide;
- limiting the international spread of circulating polioviruses, including mechanisms to operationalize the ACPE *Standing Recommendations for Responding to Circulating Poliovirus in Polio-Free Areas*;
- refining the programme of work for eventual cessation of immunization with oral poliovirus vaccine (OPV) following interruption of wild poliovirus transmission.

1 Interrupting wild poliovirus transmission

1.1 Strategic priorities

As of 12 October, paralytic polio cases due to wild poliovirus (WPV) had in 2005 been reported from 15 countries (including 5 of the 6 countries endemic for indigenous wild poliovirus in January 2005). Progress in restricting wild poliovirus transmission has been substantial in all endemic countries except Nigeria. In the endemic reservoirs in India, Pakistan, and Afghanistan wild poliovirus transmission has been reduced by 50% compared to the same period in 2004. Egypt has reported no polio cases due to WPV in 2005 and the last environmental sample positive for WPV was collected in January 2005. Over 60% of all polio cases reported to date globally in 2005 have been from outbreaks in previously polio-free countries following importations of wild poliovirus; some of these outbreaks have continued from 2004. Of particular concern are ongoing outbreaks in Indonesia, Yemen, countries in the Horn of Africa (Ethiopia, Eritrea, Somalia), and Angola.

The ACPE noted that considerable progress had been made in addressing the recommendations of the first ACPE meeting in September 2004. In particular, the development, licensing, and use of monovalent OPV type 1 has had, and will continue to have, a major positive impact on the elimination of wild poliovirus in endemic countries, and the control of outbreaks following importations.

Recommendations:

- The 2005-2006 strategic priorities for accelerating and securing the interruption of wild poliovirus transmission globally should be to (a) expand the use of mOPVs for polio campaigns in infected areas, (b) achieve and sustain AFP rates of ≥ 2 in all infected areas and high risk areas, with weekly tracking of specimen processing, (c) reduce outbreak response time to < 4 weeks from confirmation of the index case, (d) reduce the time for laboratory confirmation of cases, and (e) enhance and maintain routine immunization against polio globally. Specific recommendations for each priority are outlined in subsequent sections of this report.
- Ongoing poliovirus transmission in Nigeria constitutes the single greatest risk to the ultimate success of the eradication initiative as the burden of polio disease is an order of magnitude greater than that in any other endemic country, the rate of decline of new cases is slower than expected, and it is the only country in the world in which 2 serotypes continue to circulate over a large geographical area. Consequently, the ACPE should closely monitor progress in that country and be informed of key strategic decisions.
- Given the increasing burden of disease due to the circulation of imported polioviruses, and the need to markedly enhance the speed and intensity of response to such events, the World Health Organization should seek the endorsement of its governing bodies to communicate immediately to the highest levels of government in a re-infected country the international importance and implications of the importation, the need for appropriate response activities, and the availability of international expert technical assistance for planning and implementing the response.
- Recognizing that the quality of supplementary immunization activities is of fundamental importance to monitoring and guiding the Global Poliomyelitis Eradication Initiative, comparable data on SIA quality across polio-infected countries should be accessible to the ACPE on at least a quarterly basis (i.e. independent SIA monitoring data; immunization status of non-polio AFP cases).

1.2 Enhancing the impact of SIAs: mOPV Use in Endemic Areas

India, Egypt, Pakistan, and Afghanistan have all implemented SIAs using mOPV1 and Afghanistan and India plan to implement rounds in selected areas using mOPV3 in the coming months. The ACPE notes that there is early but very encouraging evidence of a positive impact of mOPV1 in restricting or eliminating WPV transmission in endemic reservoir areas of Egypt and India.

The ACPE also notes that standard monitoring of SIA quality in endemic countries is now common practice. Efforts are ongoing to ensure that every eligible child is reached during each SIA, using proven strategies as recommended by the TAG for each of those countries.

Recommendations:

- The ACPE should be immediately apprised of the outcomes of each of the ongoing mOPV1 clinical trials investigating seroconversion and virus excretion following challenge.

- Based on the rapidly accumulating experience with mOPV1, and the available empirical data on its impact, mOPV use should immediately be expanded to interrupt transmission in all areas with circulating polioviruses.
- For endemic areas, the ACPE recommends the following:
 - where a single poliovirus serotype is circulating the appropriate mOPV should be used to enhance the impact of all SIAs.
 - in countries where two poliovirus serotypes circulate:
 - the SIA vaccine strategy should include mOPVs,
 - decisions on the appropriate area(s) for the use of each mOPV should be made on the basis of the epidemiologic situation,
 - in those areas where 2 serotypes may be circulating, interrupting type 1 poliovirus should be the priority due to its higher paralytic rate and greater potential for local and international spread.
 - for Nigeria, the ACPE makes the following recommendations, in keeping with the basic principles outlined above and in the ACPE report of September 2004, and with reference to the report of the Expert Review Committee for Nigeria of September 2005:
 - the greatest priority must be to increase the quality and number of routine and supplementary polio immunization contacts in the polio-infected (primarily northern) states,
 - mOPV1 should be introduced into supplementary polio immunization activities as early as possible in Nigeria as a complement to the ongoing work to improve SIA quality,
 - the use of mOPV1 must be accompanied by consultation with local stakeholders and complemented by appropriate programme communications work, exploiting the experience gained from mOPV1 introduction in other countries,
 - mOPV1 should be used in at least 2 rounds of supplementary immunization activities between November 2005 and end-February 2006 in all of the states in which wild poliovirus type 1 has been detected since 1 June 2005.
 - the further use of mOPV(s) in the subsequent SIAs in the first half of 2006 should be guided by the evolving epidemiology of polio in the country, the experience with mOPV1, and the experience with monovalent vaccines in other countries with two circulating serotypes (e.g. India, Afghanistan).
 - given the deep concern of the ACPE regarding the rate of progress in Nigeria, and the international consequences of continued transmission in that country, the ACPE requests that it be regularly apprised of

progress resulting from improvements in SIA quality and mOPV1 introduction.

- In polio-free countries bordering endemic areas or at high risk of wild poliovirus importations, a single round of supplementary immunization with mOPV should be considered if it provides epidemiologic and programmatic advantages to reducing the risk of importations.
- In all countries, trivalent OPV should continue to be used in routine immunization activities and, when appropriate, during SIAs in polio-free areas of infected countries.

1.3 Limiting the International Spread of Circulating Polioviruses

The importance of outbreaks due to wild poliovirus importations into polio-free areas has increased significantly in 2004 and 2005. Several outbreaks following an importation have led to further international spread. Over 60% of all cases reported globally to date in 2005 have been from outbreaks in previously polio-free countries. Poliovirus transmission in the areas of West and Central Africa which were re-infected in 2003 and 2004, is now stopping. Sudan, which has suffered a sustained outbreak following wild poliovirus importation in 2004, has not confirmed a further case since June 2005. However, more recent outbreaks remain a significant concern, including those in Indonesia, Yemen, countries in the Horn of Africa (Ethiopia, Eritrea, Somalia), and Angola.

With respect to outbreaks following importation of wild poliovirus in 2004 and 2005, the ACPE notes the tremendous efforts being made by national governments and partners to bring these outbreaks to cessation and to eliminate the risk of further spread. This response has included, or will include, the use of mOPV1 in Yemen, Angola, Ethiopia, Eritrea, Somalia, Sudan, and Nepal. However, the ACPE emphasizes that the risk of further national and international spread of WPV due to these ongoing outbreaks will remain until transmission is again stopped.

Recommendations:

- Recognizing the significance of large-scale outbreaks associated with imported polioviruses in areas of suboptimal population immunity, the risks these viruses pose to surrounding countries, and the recent WHO-commissioned 'consequence' assessment¹, the ACPE recommends that the Director-General of WHO consider declaring as a *'public health emergency of international concern'*:
 - the detection of a circulating poliovirus in any previously polio-free geographical area which (a) does not have survey confirmed routine childhood polio immunization coverage of > 90% and (b) has not conducted supplementary polio immunization campaigns within the previous 6-12 months.
 - any poliovirus outbreak which continues to expand geographically more than 60 days after confirmation of the index case.

¹ Fine PEM, Ritchie S. Consequences of release/reintroduction of polioviruses in different geographic areas after OPV cessation. Commissioned paper for the Advisory Committee on Polio Eradication, 11 October 2005, World Health Organization, Geneva, Switzerland.

- The ACPE welcomes rapid notification by WHO of the detection of a circulating poliovirus in a high risk polio-free area and, following the initial assessment, consultation on (a) whether the event constitutes a *public health emergency of international concern* (per the criteria above), and (b) the response plan.
- In both Indonesia and Angola, transmission of imported wild polioviruses has continued following the first nationwide polio immunization campaign conducted in response. Furthermore, both countries have needed to rely wholly or in part on tOPV for the response activities to date. Consequently, the ACPE urges the implementation of an additional nationwide polio immunization campaign in both countries in November 2005, incorporating mOPV1. The need for further polio mop-up activities should be guided by the presence and extent of further breakthrough transmission.
- Polio-free countries detecting circulating poliovirus should immediately implement the ACPE's standing recommendations, particularly the completion of an expert risk assessment and large scale response plan within 72 hours, immediate initiation of an in-depth epidemiological investigation, and implementation of local control measures according to national guidelines. Further to the September 2005 *ACPE Standing Recommendations for Responding to Circulating Polioviruses in Polio-Free Areas*, countries should plan to continue large scale mOPV polio campaigns until at least 2 full rounds have been conducted after the last virus is detected. The need for further activities will depend on the epidemiology of the outbreak and risk of further importation.
- WHO, UNICEF and partner agencies should immediately establish the mechanisms needed to fully support countries in implementing the ACPE's standing recommendations, including the capacity to (a) provide technical support for the expert risk assessment and response plan, (b) transfer funds directly to respective country offices to support activities, (c) order and deliver mOPV within 5 working days, and (d) rapidly deploy sufficient technical assistance to facilitate sub-national micro-planning and implementation.
- Consistent with their stated commitment to global polio eradication, all polio-free countries should maintain high quality surveillance systems, achieve and sustain high population immunity (particularly among high risk groups) through routine immunization programmes, and update their plans for detecting and responding to poliovirus importations in line with the *ACPE Standing Recommendations for Responding to Circulating Polioviruses in Polio-Free Areas*.
- The ACPE endorses the establishment of a Working Group on Accelerating Laboratory Confirmation of Poliovirus and the current programme of work focusing on (a) rapid shipment and closer tracking of specimens by country programmes, (b) expanding the number of LabNet facilities conducting intra-typic differentiation (ITD), (c) refining and introducing a shortened algorithm for specimen processing and virus identification, and (d) evaluating new technologies for potential use in the LabNet (e.g. IgM, stool antigen detection).
- Recognizing the epidemic potential of polioviruses, and the consequences of such epidemic spread in the post-OPV era, WHO and partner agencies should continue their work to significantly reduce the period from onset of paralysis of an index case

to the implementation of the first large scale supplementary immunization response campaign with mOPV.

- Based on emerging evidence demonstrating the capacity of some vaccine-derived polioviruses (VDPVs) to circulate and cause outbreaks of paralytic poliomyelitis, the ACPE recommends that the case definition for poliomyelitis within the International Health Regulations (2005) be updated to include circulating VDPVs.

2 Refining the programme of work for cessation of the use of OPV

2.1 IPV Use Prior to and During OPV Cessation

The ACPE notes the further development of long term policy on IPV use in routine immunization programmes, as outlined in the proposed *Supplement to the WHO Position Paper on IPV for OPV-Using Countries (IPV Following OPV Cessation)*. The ACPE notes in particular the proposed requirement for routine IPV use in countries that will constitute an international biosafety risk in the post-eradication, post-OPV era, due to the storage and handling of poliovirus.

Recommendations:

- The ACPE reaffirms that the guidance outlined in the current *WHO Position Paper on IPV for OPV-Using Countries* remains appropriate.
- The ACPE endorses the general direction of the proposed *Supplement to the WHO Position Paper on IPV for OPV-Using Countries*² with the following comments:
 - The supplement to the WHO IPV position paper should be fully aligned with the major directions of the 3rd edition of the Global Action Plan for the Laboratory Containment of Polioviruses (GAP III).
 - The post-OPV immunization requirements for countries storing or manipulating wild polioviruses may need to be as stringent as those for countries with IPV production sites if such countries constitute as great an international bio-safety risk.
 - The underlying assumptions regarding the time-limited risk of cVDPV emergence, and the capacity to manage these risks in the OPV cessation period, should be made explicit in the position paper. These assumptions and their implications for IPV use should continue to be assessed, and the position paper revised as appropriate.
- WHO should continue investigating the potential use of fractional doses of IPV to reduce costs associated with large scale public sector use in the post-OPV era.
- Recognizing the potential role that Sabin-strain IPV could play in reducing the risks and consequences associated with poliovirus amplification in the post-OPV era, WHO should:

² This WHO position paper will constitute a supplement to, rather than a replacement of, the existing *WHO Position Paper on IPV for OPV-Using Countries*.

- continue monitoring and supporting Sabin-strain IPV development work which may include developing a D-antigen potency assay for Sabin virus, comparing the D-antigen content and immunogenicity of Sabin and Salk products, and facilitating evaluation of the neurovirulence of Sabin viruses following large scale amplification.
- evaluate the economics of Sabin-IPV vs. Salk-IPV for new and existing manufacturers based on factors such as relative virus yields, antigen content, production and containment processes, presentation, and costs associated with licensing and/or relicensing of products.

2.2 Further Actions to Refine the Programme of Work for OPV Cessation

The ACPE notes the progress made in addressing the recommendations of the September 2004 meeting on the Programme of Work for Eventual OPV Cessation. While the programme of work is progressing, the information required to inform fully policy and planning is continually evolving.

Recommendations:

- Recognizing that assumptions regarding VDPVs underpin the entire strategy for OPV cessation, and that knowledge in this regard is continuing to evolve, highest priority must be given to the ongoing work to better characterize the incidence and behaviour of these viruses, particularly in areas of low population immunity.
 - The ACPE endorses the WHO plan to convene an Ad Hoc Advisory Group to provide (a) oversight to the development of policies for the containment of all polioviruses and (b) guidance on policy implementation to relevant facilities, governments, certification commissions and technical bodies. This group should include relevant expertise on biosafety, vaccine production, international verification schemes and risk management.
 - The full draft of the 3rd ed. of the WHO Global Action Plan for Laboratory Containment of Polioviruses (GAP III) should be disseminated for wide public comment by the second quarter of 2006. To facilitate the process of international comment and consensus-building on GAP III, relevant elements of the plan should be circulated as they are completed.
 - The composition of the mOPV stockpile, both in terms of total vaccine available and the proportion in finished product vs. bulk, should continue to be updated based on the emerging understanding of the incidence and consequences of VDPVs by serotype.
 - To facilitate the timely development and implementation of policies relevant to OPV cessation, an ACPE meeting to review of the full body of work in this area should be planned for mid-2006, contingent on progress towards wild-type poliovirus eradication.
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