13th Meeting of the Expert Review Committee (ERC) On Polio Eradication & Routine Immunization in Nigeria

Abuja, Nigeria

8 - 9 November 2007

Oyewale TOMORI 09/11/07

UMARU SHEHU 09/11/2007

F.D. ADU 9/11/2007

Engr I.H. ITIAH 9.11.2007

DR. SALAU B 9/11/2007

Prof G Okonjor 09/11/07

Dr B.A. TOURE .09/11/07

Z. Bruce AYLWARD 09/11/07.

DR. M. COSTALES 09/11/07

DR. STEPHEN COCHI 09/11/07

CHRIS MAHER 09/11/07

SAM ORIOKOR 09/11/07

Executive Summary

The Expert Review Committee on Polio Eradication & Routine Immunization (ERC) in Nigeria was convened for its 13th meeting at a particularly significant time, just 1 week after the Honourable Minister of Health challenged the country to interrupt poliovirus transmission by 29 May 2008, given the progress to date in 2007.

Highlights of this progress include an 90% decline in type 1 polio (the most virulent serotype), the decline in biodiversity of both types 1 and 3 polio, and the 50% reduction in 'never-reached' (0-dose) children in northern states. A striking development has been the strong ownership of eradication efforts by the infected states. The ERC noted that this progress was especially remarkable as it was achieved while new governments took office at the state and federal levels, the immunization programme was merged with the National Primary Health Care Development Agency, and a circulating vaccine-derived poliovirus (cVDPV) was detected in north Nigeria.

The ERC concluded that the widespread, though low-level, transmission of types 1 and 3 wild virus and the emergence of a type 2 cVDPV, demonstrate that the ambitious new target can only be achieved if the remaining infected states rapidly reach and vaccinate the substantial number of children who remain susceptible. *Fully 74% children who suffer polio are still unimmunised or underimmunized.*

Major Recommendations:

1. the highest strategic priority for the infected states must be to reduce immediately the proportion of 0-dose children to <10% by:
   a) improving operations to reach all communities, especially rural and border areas that are still poorly covered, and
   b) systematically analyzing the reasons for 'absent' or 'non-compliant' children and adapting strategies to reach, find and immunize these children.

2. Borno should be considered and assisted as a very high risk state, given its regular exportation of wild poliovirus to neighbouring states and countries (Chad, Cameroun).

3. to fully exploit the new mOPVs, the choice of vaccine for upcoming IPD rounds is:
   - Nov: SIPD with mOPV1 in northern states (mOPV1 or 3 in mop-up states)
   - Jan/Feb: Jan IPDs with mOPV1; Feb IPD with mOPV3
   - Apr/May: SIPDs, with vaccine guided by epidemiology (WPV & cVDPV).

4. states should formally engage their Council of Chiefs and Traditional Leaders to secure broad community support for the intensified effort to complete eradication.

5. IPDs should be supplemented with large-scale mop-ups as required to interrupt importations and break-through transmission in areas on the verge of eradication.

6. for planning purposes a full schedule of 2 NIDs and 4 SNIDs should be planned for 2008 and 2009, with provision for large-scale mop-up rounds as required.

7. given the ambitious new eradication target and the need to refine strategy as the epidemiology evolves, the ERC recommendations should be presented to the Interagency Coordinating Committee, the ICC should monitor progress monthly, and consideration should be given to reconvene the ERC in mid-March 2008.

Introduction:

The 13th Expert Review Committee for Polio Eradication and Routine Immunization was convened from 8 - 9 November 2007, in Abuja. At the time of the previous ERC meeting, in May 2007, transitions were occurring in the national government of Nigeria, and in the national management of immunization and polio eradication. Those transitions have been successfully made. The current meeting took place in the context of dramatic progress towards polio eradication in Nigeria, and the clear commitment of the Federal Government to polio eradication, as emphasized by the Honourable Minister of Health in her press conference in early November.

The ERC was welcomed by the Executive Director of the NPHCDA, who reaffirmed the commitment of the Government of Nigeria to strengthen routine immunization and eradicate polio, and who then participated in the full deliberations of the ERC. The ERC was also very pleased to have representatives of the 12 states at highest risk of ongoing wild poliovirus transmission participate fully in the meeting, given the central importance of these states in the Global Polio Eradication Initiative. Representatives of partner agencies attended and expressed their continued strong support. At this critical stage of polio eradication in Nigeria, the continued strong leadership of the Federal Government, and of State Governments, is essential.

This report summarizes the main findings, deliberations and recommendations of the 13th meeting of the ERC.

Recommendations:

1. Building on the successful transition of management of the national programme for immunization and polio eradication, and to ensure that the 2007 gains are sustained and built on, the Federal Ministry of Health and NPHCDA should continue to give particular attention to the following critical functions:
   - provide overall strategic and technical leadership of polio eradication and immunization,
   - finalize the domestic financing commitment for IPDs in 2007 and 2008 to ensure that critical immunization activities can take place,
   - ensure continuity of vaccine procurement for the routine immunization programme through release of approved domestic financing for vaccines and coordination of procurement with UNICEF,
   - continue to provide strong advocacy with state, religious, traditional and other leaders for their direct engagement in routine immunization and polio eradication.

Report on the 12th ERC Recommendations:

The ERC noted the report on the status of implementation of the 12th ERC recommendations, noting that the majority of the recommendations had been fully or partly implemented.

Current epidemiological situation:

As of 8 November 2007, a total of 225 cases of paralytic poliomyelitis (polio) due to wild poliovirus have been confirmed in 23 states, compared with 992 cases in 18 states during the same period in 2006. Data up to the end of September is virtually complete; in the month of September 2007 only 17 wild poliovirus cases (WPV) have been confirmed, the lowest incidence in any month for the past 3 years. This otherwise remarkable progress is tempered by the fact that 23 states have reported cases in 2007, up from 18 in 2006.

The major contributor to the dramatic fall in cases in 2007 has been the decline in wild poliovirus type 1 (WPV1) which was noted by the ERC at its previous meeting, and which has been sustained; only 79 WPV1 cases have so far been confirmed in 2007, a 90% decline compared with the same period in 2006. This reduction is due to the use of monovalent OPV type 1 (mOPV1), although its use has been more limited in 2007, and to improvements in accessing children during immunization activities. The states of Kano, Jigawa, and Katsina, which reported the highest numbers of WPV1 in 2006 (more than 560 cases in total) have to date in 2007 reported only 12 cases. This must be counted a tremendous achievement since this area has consistently been the most endemic for WPV1 since surveillance began. The continuation of transmission in the north-east and north-west corners of the country indicates continuing failure to reach children with immunization in these areas, since the same number of IPD rounds have been carried out there as in those states which have significantly reduced transmission. Transmission in the north east has spread internationally, into neighbouring areas of Chad, and northern Cameroon must also be considered at risk.

Wild poliovirus type 3 (WPV3) cases are also below 2006 levels, and appear to have declined significantly in the third quarter of the year, with only 33 cases reported in the period July - September (22% of the total of 146 WPV3 cases in 2007 to date). Incidence of WPV3 month to month was fairly consistent in the period January to May, averaging around 20 cases per month, but since June case numbers have been dropping. Concentration of transmission of WPV3 is nearly the reverse of WPV1; two-thirds of all cases are in just 3 states, Kano, Katsina, and Jigawa. These states were the most highly endemic for WPV3 in 2006, and it is not surprising that transmission should continue given that type 3 containing vaccines were only periodically used in IPDs in 2006 and 2007. However, what is surprising is that WPV3 incidence is dropping even in these states. This may be partly due to the regular use of tOPV in IPDs in these states, and to the efforts made in these states and others in the north to target low-performing LGAs with tOPV and other antigens in Local Immunization Days (LIDs) in order to boost coverage. In late July an IPD round using mOPV3 was carried out in all high risk and very high risk states in Nigeria, and early indications are that this has further reduced transmission.

The reduction in cases is mirrored by the reduction in the number of LGAs infected; in 2007, the numbers of LGAs reporting cases in any given month has averaged between 25% and 30% of the numbers infected each month in 2006.

Epidemiological data is strongly supported by genetic data for WPV1 and WPV3. Only 10 genetic clusters of WPV1 have so far been detected in 2007, down from 27 in 2006 and 43 in 2005. Genetic diversity of WPV3 is also reduced, with the number of

separate genetic clusters identified in the third quarter of 2007 lower than any quarter for the past 2 years.

Despite the reduction in cases overall, the ERC noted that more than 90% of cases are still being reported from the 12 designated high risk states. Within those states, cases are increasingly being reported from LGAs bordering other states or other countries, or from LGAs which have difficult access areas or nomadic populations regularly passing through. There clearly remain large numbers of children in these areas who are not yet being reached with immunization, and these areas need to be identified and given special attention in the planning and conduct of immunization activities. Cross border transmission of WPV has occurred from Borno into neighbouring Chad, and continues to put northern Cameroon at risk.

Circulating cVDPVs have also shown a declining trend since May, and have persisted only in LGAs of poor performance and very low immunization coverage. The ERC noted that in 2007 cVDPVs were detected from children who were completely unimmunized with tOPV, and that many LGAs infected with cVDPVs were also infected with wild poliovirus, indicating the presence of significant numbers of unimmunized children. Following a peak of detections in May, cVDPV circulation has declined in incidence from June through to August, with only 2 cases detected in September. Genetic diversity has also declined, with only one genetic cluster currently surviving. In addition to the general levels of population protection provided by the tOPV IPD rounds in November 2006, and January and March 2007, the LID rounds referred to above seem to have had an impact, particularly in the lowest coverage areas. In September tOPV was used in SIPDs, in October further LID activities using tOPV were conducted in the highest risk areas. Both these activities are likely to have significantly impacted on cVDPV transmission. While continued attention will need to be paid to identifying any remaining areas of transmission, the ERC considers that this episode of cVDPV transmission is almost under control and that it will not be of epidemiological significance in coming months.

Analysis of the immunization status of wild poliovirus cases demonstrates that they continue to be overwhelmingly un-immunized or under immunized. Data from cVDPV cases is even more striking, showing that none of the 2007 cases had ever received a dose of tOPV. Clearly there remain large pockets of un-immunized and under-immunized children which must still be identified, reached, and immunized.

Recommendations:

2. The ERC considers the following to be the strategic priorities for polio eradication in Nigeria for the coming 6 months:
   - from a burden of disease perspective, priority must continue to be the *very high risk, high risk, and medium high risk* states, which still account for over 85% of cases and are the main source of poliovirus transmission
   - from an international perspective, attention must also be given to the northern and north-eastern states, from where virus continues to spread to neighbouring countries; Borno should therefore now be designated a very high risk state
   - from a virologic perspective, the highest priority should continue to be eradicating wild poliovirus type 1, which is by far the most virulent and prone to epidemic spread of the remaining two serotypes

- while cVDPV transmission is clearly on the decline, surveillance data should continue to be closely monitored to ensure that any remaining areas of transmission are mopped up and all transmission stopped

Supplementary Immunization Activities (SIAs)

At the 12th meeting the ERC had recommended an IPD schedule for the second half of 2007 which is being fully implemented. The introduction of monovalent OPV3 (mOPV3) in July 2007 was a major step which is already having an impact on WPV3 transmission.

The ERC reviewed available performance data from the rounds in 2007, including independent monitoring data, and noted that previous recommendations aimed at improving SIA quality had been implemented. NUMBERS While there remain important gaps in SIA performance, data from several sources indicate that in the high risk states there has been an overall improvement in coverage round by round in 2007, with the September SIPD round being the best to date. The improvement in accessing children with vaccine is consistent with epidemiological data showing declines in incidence, and with data on the immunization status of non-polio AFP cases.

The ERC continues to be impressed with the increasing ownership of polio eradication activities by states, LGAs and local communities, including traditional and religious leaders. Activities to mobilize and engage local communities are being widely conducted across all northern states.

While the continued improvements in quality are extremely encouraging, many children are still not reached during immunization activities. Independent monitoring data and non-polio AFP data show that certain areas have high levels of missed children, above 15%, and that non-compliance is now responsible for 50% of failure to immunize in some areas. Additionally, epidemiological data are showing that some hard to reach and nomadic communities are not being accessed at all during immunization rounds, and thus are not even covered by the monitoring process. The ERC stresses that to achieve the goal of eradicating polio it will be necessary to achieve high coverage consistently in all infected and high risk areas.

Recommendations:

3. The ERC endorses the proposed programme SIA schedule for the period November 2007 - May 2008 as follows:
   - November 2007:
     - SIPDs in the 12 Very High Risk, High Risk and Medium-High Risk States in November 2007 using mOPV1
     - Mop-ups in Adamawa and Taraba using mOPV1
     - Mop-ups in Lagos, Oyo, Ogun, Nassarawa, and Benue using mOPV3
   - January 2008: Nation-wide IPDs with mOPV1
   - February 2008: Nation-wide IPDs with mOPV3
   - April 2008: SIPDs in all high risk states using an appropriate OPV
   - May 2008: SIPDs in all high risk states using an appropriate OPV

4. Given the use of mOPV1 in November 2007, additional targeted activities in affected LGAs can be carried out in high risk states in December if WPV3 is reported.

5. The highest strategic priority for the remaining infected states must be to immediately reduce the proportion of 0-dose children to less than 10% by:
   a) improving operations to reach all communities, especially rural and border areas that are still poorly covered, and
   b) systematically analyzing the reasons for 'absent' or 'non-compliant' children and adapting strategies to reach, identify, and immunize these children.

6. Continued efforts should be made to ensure the quality of work of immunization teams through:
   - high quality training for all teams, including IPC training
   - identifying additional committed, capable supervisors and monitors, from medical schools or other appropriate institutions and sources,
   - targeting the best possible supervisors from states, LGAs, and partner agencies to the most vulnerable areas and high risk LGAs.

7. End-process monitoring and out-of-house monitoring must continue to guide efforts to improve the quality of work; the monitoring process must be carefully supervised to ensure that data are reliable and an accurate indication of the true situation.

8. In the coming months, rapid response to polio importations into polio-free states will be critical to ensure that local transmission does not become re-established in non-endemic areas. ***Following any detection of WPV in states not designated as high risk, emergency outbreak response/mop-up rounds should be implemented per previous ERC recommendations and the May 2006 World Health Assembly Resolution.***

9. For the purposes of planning by the federal and state governments of Nigeria, and their international partners, a minimum of 2 SIPDs, supplemented by mop-ups as appropriate, should be planned for the second half of 2008, with the timing, extent and vaccine of choice depending on the epidemiology.

10. For planning purposes a full schedule of 2 NIDs and 4 SNIDs should be planned for 2009, with provision for large-scale mop-up rounds as required.

Surveillance & Laboratory

The ERC noted that there has been a slight decline in the overall detection of AFP cases in 2007 compared to 2006, particularly in the north-west zone. However, overall detection rates remain very high, at between 5 and 6 per 100,000. Surveillance quality continues to remain generally high and consistency of quality has further improved, with all 37 states meeting the indicators for both AFP detection (2 per 100,000 children under 15 years of age) and specimen collection (80% of cases to have 2 samples within 14 days of onset) in 2007. Additionally, the proportion of LGAs achieving both indicators increased from 70% in 2006 to 77% in 2007.

Some gaps remain, as shown not just by those LGAs failing to meet the indicators, but by the presence of so-called orphan viruses (i.e. viruses more than 1.5% genetically divergent from their nearest common relative) which suggest that circulation may have been missed for some time. Although the absolute number of orphan viruses is low in 2007, they clearly show surveillance gaps which need to be addressed.

The laboratory performance indicators remain high, and timeliness of results has further improved following the introduction of the new testing algorithm. As at the time of the ERC meeting, full results were available for AFP cases with onset up to the end of September, a remarkable situation compared to previous years. The laboratories should be congratulated on improving timeliness despite the higher workload created by the new algorithm.

Recommendations:

11. Local surveillance reviews should be carried out in any area where there may be indications of surveillance weakness, including failure to meet surveillance indicators, or the detection of longer chain (orphan) viruses. Particular attention should be paid to areas with significant mobile or nomadic populations.
12. Given the cross border transmission of wild poliovirus between Borno and Chad, and between other northern states and Niger, particular attention should be given to ensuring that surveillance quality is of very high standard in these areas.

Social Mobilization and communications for polio eradication

ERC was pleased with the progress made towards implementing recommendations previously made for social mobilization, in particular the presentation of data related to impact of community dialogues on accessing children; the expansion of engagement of local traditional and religious leaders; the expansion of engagement of Quranic school teachers, both male and female, and immunizations in schools; the systematic approach to IPC training for vaccinators and supervisors; and other innovations including the recruitment of youth groups in certain areas. The ERC also noted that the country communication review took place in June 2007.

The expansion of training in IPC for vaccinators and supervisors is a particularly welcome step as the ERC has previously pointed out that lack of knowledge and inter-personal communication skills has significantly hindered team performance in the past. The ERC looks forward to receiving further data on the impact of this training as they becomes available.

The tools and mechanisms now exist to address many of the remaining social mobilization and communications issues around polio eradication; what is key is how and when those tools are applied. It is impossible to carry out intensive, time consuming activities everywhere and thus interventions need to be targeted to where they can do the most good. In order to do this, it is critical for epidemiological and programme data, particularly data on missed children, to be used to guide social mobilization and communications efforts.

Recommendations:

13. The ongoing efforts to engage communities and community leaders (religious, traditional and political) should continue to be pursued and expanded with priority given to the highest risk LGAs, i.e. those with transmission of WPV or cVDPVs, or other evidence of a high proportion of missed children. These efforts should continue to be documented and evaluated to assess impact.

14. Continued attention should be given to strengthening the IPC skills of vaccinators and supervisors, building on the training done to date. Repeated trainings should be planned and conducted, especially in high risk wards, to address the challenge of changing teams.

15. Epidemiological and programme data must be used to guide social mobilization and communications interventions; evidence of WPV or cVDPV circulation is evidence of missed children, and additionally programme monitoring data on missed children can identify critical areas for input.

Routine Immunization

In general the ERC considers that significant activities are being made to improve routine immunization coverage, with gains being made in particular in the quality of monitoring and in developing the infrastructure of the programme. Efforts to increase routine immunization coverage have included IPDs, Local Immunization Days (LIDs), and the Reaching Every Ward (REW) strategy, which has now been rolled out in all states. Generally coverage is reported to be improving slightly in 2007 compared to 2006, (although the efforts to improve data quality have resulted in the downward rationalization of reported coverage for both measles and DPT in 2007, which is a welcome indication of programme honesty and transparency).

However the ERC also believes that there is a massive amount of work to be done to put routine immunization on a firm footing. There is not yet a robust programme for the routine delivery of immunization services in several states. Despite improvements in monitoring, vaccine stock outs remain common. This is the most critical issue for the programme, as all other improvements will have no effect if vaccine is not available at the point of use.

While encouraged by the programme of work for the various elements of routine immunization strengthening, ***the ERC remains convinced that a more stable and reliable delivery system for immunization is critical both to ensure the maintenance of polio-free status in the longer term and for the control of other vaccine preventable diseases.***

Recommendations:

16. The ERC would like to see at it's next meeting a progress report on the status of REW implementation at LGA level, and any evidence of impact on session frequency and coverage.

17. The Federal Government of Nigeria should ensure the timely release of funds for vaccine procurement to minimize the risk of vaccine stock-outs early in each calendar year. Vaccine distribution should be closely monitored through the new

monitoring system to ensure vaccine moves appropriately from national to state and LGA levels.

18. The planned Mid-Level Manager (MLM) training programme should be completed by mid- 2008 as planned.

19. Monitoring of immunization sessions and vaccine availability should continue, with results fed back to State and local governments to identify and prioritize for action, those areas where routine fixed site and outreach sessions are inadequate.

Measles Control Activities

The ERC received a report on the substantial progress in measles control and mortality reduction as a result of the measles catch-up campaigns conducted in 2005 and 2006 covering more than 55 million children. The NPHCDA presented plans to conduct an integrated follow-up measles campaign in 2008 in the northern states targeting children 9 -59 months including other child survival interventions (OPV, vitamin A and LLINs).

Recommendations:

20. The ERC endorses and support the preliminary plan for the 2008 integrated measles follow-up campaign in the northern states. The lessons from previous campaigns should be applied to improve quality of the proposed campaign.

21. Planning for inclusion of the other interventions should ensure timely availability of sufficient quantities of the commodities and additional resources for logistics, and distribution, communications, training, monitoring and evaluation.

Next ERC Meeting

Given the rapid but fragile progress in routine immunization strengthening and polio eradication, and the need for further decisions on the extent and vaccine of choice for SIAs after February 2007, the ERC proposes that its next meeting should be scheduled for 12-13 March 2007.

Conclusions

The ERC believes that the reduction in WPV transmission in Nigeria is dramatic, and real. The commitment of high and very high risk states is in general good. The circulation of cVDPVs is declining and does not pose a longer term threat. To achieve the ambitious goal set for interruption of wild poliovirus transmission in Nigeria, the planned activities are carried out with appropriate attention to quality, particularly in the highest risk areas, and rapidly reducing rates fo zero-dose children to less than 10%. The ERC believes that successfully eradicating polio will have a major impact on the perception of public health in Nigeria, and calls on the Federal and State Governments, and all partners to redouble their efforts in this critical period to achieve the goal making Nigeria, Africa, and the world free from polio as quickly as possible.