Provisional agenda item 6(i)

EUR/RC60/16
(+EUR/RC60/Conf.Doc./9)
23 July 2010
101614
ORIGINAL: ENGLISH

Poliomyelitis eradication in the WHO European Region

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World Health Organization
REGIONAL OFFICE FOR Europe

Regional Committee for Europe
Sixtieth session

Moscow, 13–16 September 2010

EUROPE

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Certification of the WHO European Region as poliomyelitis-free in 2002 was the result of concerted activities by all Member States to ensure that all children are protected through vaccination, and that high-quality surveillance for poliovirus is maintained until global poliomyelitis eradication (the interruption of wild poliovirus transmission globally) is declared.

The Region reached this goal of polio-free status by implementing certification-standard surveillance and immunizing all children against poliovirus. However, eight years on, the quality of surveillance has declined and immunity gaps are widening in subnational areas as a result of fatigue, a lower perception of disease risk, and an increasing number of competing public health priorities. This decline has led to the exposure of susceptible children to poliovirus and to the possibility of lifelong disability or death, as seen in the polio outbreak after importation of wild poliovirus into Tajikistan. Therefore, Member States are requested to commit to strengthening surveillance and vaccination coverage and to ensuring sufficient financial and human resources to sustain polio-free status in the Region.

This paper provides background information on these commitments and on the progress made towards sustaining polio-free status in the Region. It provides an update on achievements and challenges, including the recent importation of wild poliovirus into Tajikistan, and describes actions to be taken to sustain the Region's polio-free status.

The Regional Committee is requested to adopt the resolution to sustain polio-free status in the WHO European Region by strengthening immunization systems to reach underserved populations, enhancing the quality of acute flaccid paralysis surveillance, preserving supplementary surveillance where needed, and ensuring that Member States have well-defined preparedness plans in the event of importation of wild poliovirus.

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Executive summary

In 2002, the WHO European Regional Certification Commission for Poliomyelitis Eradication declared that the transmission of indigenous wild poliovirus was interrupted in all countries of the WHO European Region and the Region was declared polio-free. Maintaining this goal and sustaining the gains made have been the focus of immunization efforts in the Region since the declaration eight years ago. However, the recent importation of wild poliovirus into Tajikistan demonstrates that this status is fragile until global poliomyelitis eradication[1] is declared. All strategies implemented to reach polio-free status must be sustained. The achievements in controlling vaccine-preventable diseases are built on the success of strong immunization programmes. However, immunization has become a victim of its own success. In the absence of disease, with the mounting concern in some groups about the side effects of vaccines and the emergence of competing public health priorities and changes in health care delivery, human and financial resources have been refocused. These actions have led to a declining trend in high-quality surveillance for vaccine-preventable diseases and an increase in immunity gaps at subnational levels. In the three polio-free regions (the Americas, Europe and the western Pacific), the performance of certification-level surveillance[2] is low, with only 25 of 80 countries meeting the performance indicators.

Member States are requested to strengthen their engagement and oversight in order to keep the Region polio-free and to provide sustained political commitment and financial support for the polio eradication programme in the Region. There should be a strong emphasis on increasing population vaccine coverage, especially among high-risk and vulnerable populations, and on ensuring certification-standard level surveillance. Furthermore, Member States are requested to develop or update preparedness plans in the event of the importation of wild poliovirus, in order to be able to respond rapidly and contain established or re-established indigenous transmission.

The WHO Regional Office for Europe, in collaboration with its key partners in the Region, including the United Nations Children's Fund (UNICEF), the European Commission, European Union institutions such as the European Centre for Disease Prevention and Control (ECDC), and global partners such as Rotary International and the United States Centers for Disease Control and Prevention (CDC), is advocating for political commitment and providing a strategic vision and technical guidance to Member States. Special efforts are focused on Member States considered to be at high or intermediate risk for importation of wild poliovirus.

The Regional Office gives the highest priority to ensuring that the Region preserves its polio-free status. The Regional Director will continue to advocate sustaining Europe's polio-free status and increasing political and financial support for the Global Polio Eradication Initiative in the Region.

If high immunization coverage and effective disease surveillance are maintained, the Region will be able to sustain its polio-free status. The Regional Committee is therefore requested to adopt a resolution urging Member States to sustain their current strategies for maintaining the polio-free status of the Region. Member States should continue or enhance their political and

[1] Global certification of poliomyelitis eradication is defined as the absence of wild poliovirus isolated from suspect polio cases, healthy individuals or environmental samples in all WHO regions for a period of at least three years, in the presence of high-quality, certification-standard surveillance and the containment of all wild poliovirus stocks in laboratories.

[2] Acute flaccid paralysis (AFP) surveillance systems need to (a) detect at least one case of non-polio AFP per 100 000 population aged less than 15 years annually; (b) collect two adequate stool specimens from at least 80% of AFP cases; and (c) test all stool specimens for poliovirus at a WHO-accredited laboratory.

financial commitment to polio eradication by strengthening certification-level surveillance, addressing gaps in immunity through high routine immunization coverage, and conducting supplementary immunization activities aimed at high-risk groups and geographical areas. Urgent action is needed to: (a) stop the current outbreak in Tajikistan; (b) prevent its spread to other countries; and (c) provide evidence of the interruption of transmission of wild poliovirus in the Region.

Overview of polio-free status in the WHO European Region since 2002

Introduction

1. In 1988, the World Health Assembly adopted resolution WHA41.28 *(1)* on global eradication of poliomyelitis by 2000. At the end of 2008, four countries (Afghanistan, India, Nigeria and Pakistan) still had indigenous transmission of wild polioviruses, but the annual number of reported cases had declined by more than 99% since 1988. However, additional countries are experiencing cases of poliomyelitis due to imported polioviruses each year. In Angola and Chad, and possibly the Democratic Republic of the Congo and Sudan, transmission of the imported virus continued for more than 12 months. In 2008, the World Health Assembly called for a new strategy to eradicate poliomyelitis from the remaining affected countries (resolution WHA61.1 *(2)*) because an increasing number of polio-free areas were becoming re-infected.

2. During its 126th session, the Executive Board supported the proposal for a new three-year strategic plan to interrupt all wild poliovirus transmission globally. It requested that milestones be established and monitored at national and international levels to ensure accountability.

3. As a result, the Global Polio Eradication Initiative (GPEI) developed a strategic plan with a new budget covering the period 2010–2012 *(3)* for consideration by the Sixty-third World Health Assembly, which strongly endorsed it. The strategic plan proposes important changes in two major areas: 1) achieving the population-immunity thresholds needed to stop wild poliovirus transmission in each of the remaining poliovirus-affected areas of Africa and Asia; and 2) reducing the risks of international spread of poliovirus and re-infection in polio-free areas. The budget for the new strategic plan is US$ 2600 million, against which there is a global funding shortfall of US$ 1300 million, including a US$ 234 million shortfall for 2010 (as of 26 May 2010).

4. The WHO European Regional Certification Commission (RCC) declared on 21 June 2002 that, from the evidence provided by the national certification committees of all 51 Member States then in the European Region, the transmission of indigenous wild poliovirus was interrupted in all countries of the Region *(4)*. The WHO European Region was declared polio-free.

5. The Region has remained free from circulating wild poliovirus during the past 12 years, since the last indigenous case was detected in 1998. Immunization services are well-established in most countries, with high and stable coverage provided by three doses of polio vaccine in a majority of Member States. Only two countries (Georgia and Tajikistan) reported national coverage below 90% in 2008. However, in analysing subnational coverage, there are geographic areas in many countries where low immunization coverage is of great concern, especially in Armenia, Georgia, Tajikistan, Ukraine and Uzbekistan. Countries have been conducting outreach programmes for groups at high risk, such as geographically remote, socially isolated, nomadic, internally displaced and refugee populations.

6. Overall, surveillance for polioviruses remains strong in the Region, with 43 countries conducting acute flaccid paralysis (AFP) surveillance, 38 relying on enterovirus surveillance and 21 conducting environmental surveillance. However, there is a trend towards declining rates of AFP, indicating a decline in the performance of surveillance systems. The quality of enterovirus and environmental surveillance has improved.

7. Concerns for the Region include the lack of timely provision of immunization and underperforming districts in several countries, the slowly declining quality of AFP surveillance, and the declining quality of the work of the national certification committees.

8. The Region's priorities are:

- to ensure continuous political commitment and financial support
- to maintain high-level immunity against poliomyelitis, supplemented by additional doses through targeted supplementary immunization activities (SIAs)
- to sustain high-quality AFP surveillance
- to preserve and expand (as necessary) supplementary virological surveillance for polioviruses
- to assure appropriate responses to possible importation of wild poliovirus or detected circulating vaccine-derived poliovirus (cVDPV)
- to meet requirements for laboratory containment of wild polioviruses
- to prepare for the cessation of oral polio vaccine (OPV)
- to assure appropriate financial and human resources.

9. The RCC meets annually to review:

- the regional status of polio eradication and national plans of action to sustain polio-free status
- annual updated certification documentation on poliomyelitis submitted by all Member States
- the current status of regional laboratory containment
- the current status of sustaining polio-free status in selected Member States, which are defined to be in the high and intermediate risk groups, and to recommend actions required to assure sustainability of polio-free status within countries of the Region.

10. In 2010 the RCC will also assess the epidemiological situation and control measures implemented by Tajikistan to interrupt transmission of imported wild poliovirus type 1.

11. A crucial priority at the regional level is to expand collaboration and establish a broader partnership. The comparative advantages of all partners must be defined and best utilized for advocacy at national and subnational/national levels, for resource mobilization and for ensuring access to all areas at risk of wild poliovirus transmission in the Region.

Surveillance, routine immunization and supplementary immunization activities in the Region

12. In the WHO European Region, surveillance performance indicators include the non-polio AFP surveillance index[3] at national and first subnational levels, the non-polio AFP rate, the percentage of cases with at least one faecal specimen within 14 days of onset, the percentage follow-up within 60–90 days and the percentage of cases for which an immunization history was recorded. Additional indicators include surveillance for wild poliovirus in AFP cases (number of non-polio enterovirus and poliovirus isolates) and supplementary surveillance for wild poliovirus (enterovirus surveillance and environmental surveillance).

[3] Index = non-polio AFP rate per 100 000 x proportion of cases with two faecal specimens collected within 14 days of onset and at least 24 hours apart.

13. The Regional Laboratory Network plays a central role in maintaining the polio-free status of the Region by documenting the absence of wild poliovirus and rapidly detecting any imported wild poliovirus or cVDPV. All Network laboratories are fully accredited and passed their annual laboratory proficiency test in 2007 and 2008.

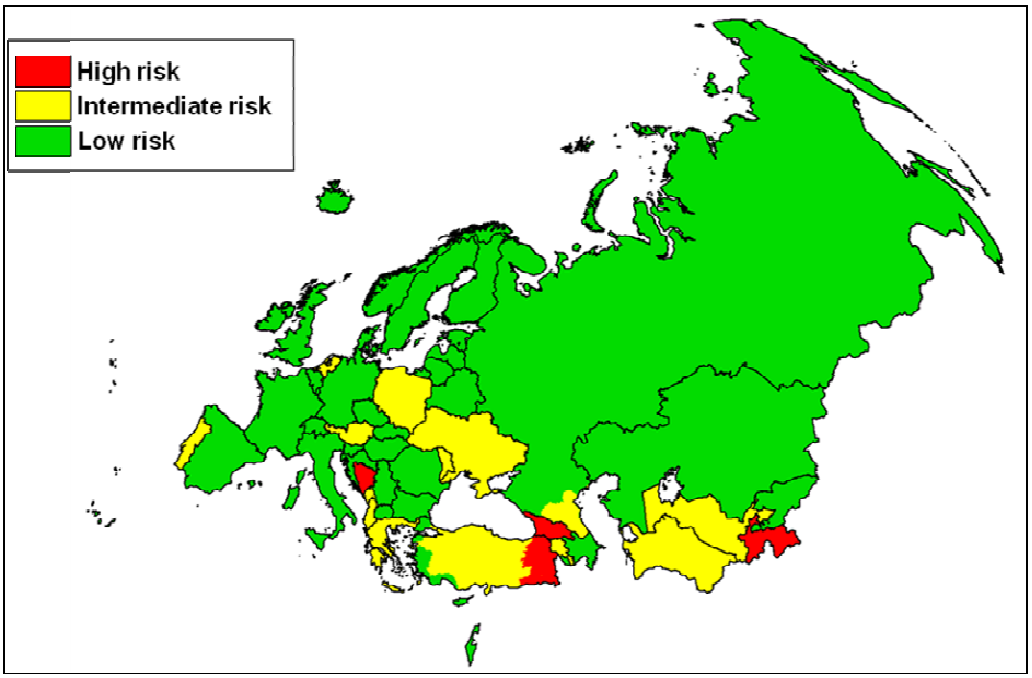
14. Overall, the non-polio AFP rate has declined since 2004 to 0.59 in 2009 (the target is 1). The stool collection rate is stable at 83%; however, notification of AFP cases after onset and follow-up of AFP cases 60-90 days after onset of symptoms is low and has declined over the years *(5)*.

15. While the non-polio AFP surveillance index is high for the eastern part of the WHO European Region, it has declined and varies among central and western parts of the Region. Further analysis of the AFP surveillance index at subnational level reveals even larger disparities and demonstrates areas with lower-quality surveillance.

16. The RCC, which meets annually to review updated certification documentation on poliomyelitis in all Member States, has noted that some Member States do not have well-established preparedness plans to control the importation of wild poliovirus, and many plans do not address the target group for vaccination and which vaccine would be used in the event of an importation.

17. The WHO Regional Office for Europe, with the RCC, annually prepares an assessment on the risk of establishing transmission after importation of wild poliovirus. The following criteria are used for the assessment: health system (very good, good, and satisfactory), routine immunization coverage (high and stable), presence of high risk groups, surveillance (high-quality and stable), preparedness planning and stable health authority support to sustain polio-free efforts. The high and intermediate risk countries in 2009 are shown in the map below.

Risk of transmission following importation of wild poliovirus, WHO European Region, 2009



Update on the outbreak in Tajikistan and the response to date[4]

18. Since being informed of an increase in AFP cases in Tajikistan in early April, the WHO Regional Reference Laboratory in Moscow has confirmed a large polio outbreak (wild poliovirus type 1 related to virus from Uttar Pradesh, India). As of 7 June, 610 AFP cases have been reported by Tajikistan, with 210 laboratory-confirmed and 21 negative for wild poliovirus. In response to the outbreak, WHO deployed a multidisciplinary team of experts to conduct an outbreak investigation and implement rapid response measures. Four rounds of nationwide SIAs will have been conducted by 19 June: two rounds in children aged <6 years and two in children aged <15 years. The short-interval additional dose strategy was implemented using monovalent OPV type 1 to rapidly enhance population immunity and stop transmission. Reported vaccine coverage to date for the first two rounds has been over 98% nationally.

19. In response to the outbreak, WHO alerted all Member States, as required under the International Health Regulations, and has provided regular updates through the reporting system. WHO asked all European Member States to strengthen surveillance for polio to be able to detect any importation on time, to review immunization status at subnational levels, with a focus on high-risk geographical areas and population groups, and to be prepared for an immediate response in case of an importation. There were no recommendations for restrictions on international travel and trade. However, WHO recommended vaccination of travellers to and from the polio-infected area until the polio outbreak is determined to be interrupted.

20. The Regional Office also conducted a rapid and comprehensive risk assessment including an analysis of surveillance, laboratories, and immunization for ten countries, on the basis of which it defined high-risk areas and provided recommendations for an appropriate response.

21. The first priority is to stop the outbreak in Tajikistan; the second is to prevent further spread in the Region. This risk has been shown to be real with the report of two isolated cases imported to the Russian Federation. In line with this action, the neighbouring countries of Uzbekistan, Kyrgyzstan, Turkmenistan and Kazakhstan have prepared or already conducted SIAs. Thereafter, AFP surveillance needs to be strengthened in countries not meeting certification-standard surveillance and evidence for interrupting the transmission should be provided. These actions are short-term and long-term efforts for the next 12–18 months.

The way forward

22. The WHO European Region has been certified as polio-free since 2002. With the recent importation of wild poliovirus into Tajikistan, there is evidence that the polio-free status is a fragile state which requires continued efforts until polio eradication is declared globally.

23. While immunization coverage is sufficiently high (>90%) to prevent poliovirus transmission in most areas of the Region, some areas have become susceptible to reintroduction of imported wild poliovirus or vaccine-derived poliovirus. These geographical areas and/or subpopulations with low immunization coverage must receive particular attention from the public health authorities.

24. At this time, all efforts must be made to stop the outbreak in Tajikistan by conducting short-interval additional dose SIAs to reach all children aged less than six years. Plans to reach underserved populations need to be developed and implemented with local leaders, as feasible.

[4] An annex will be provided with updated data on the outbreak prior to the Regional Committee session in September 2010.

25. Secondly, actions to prevent further spread in the Region need to be implemented by all Member States, according to their level of risk of transmission. Member States in the European Region have a responsibility to maintain high population immunity and certification-standard surveillance. Current surveillance activities need to be sustained until global eradication is achieved.

26. Therefore, and in accordance with the core capacity requirements of the International Health Regulations, Member States are requested to strengthen or maintain high-quality AFP surveillance, to preserve supplementary virological surveillance for polioviruses, as applicable, and to place greater emphasis on immunizing susceptible populations, especially high-risk and vulnerable populations. In some settings, underserved populations, that do not have access to or are not utilizing health care services, can play an important role in acquiring disease and transmitting polio due to their highly mobile nature.

27. Immunization systems should be strengthened to prevent transmission if poliovirus is imported. Systematically assessing the vaccination status of children and identifying potential gaps at the national and subnational levels will improve the quality of services and increase coverage for existing and new vaccines.

28. Member States are requested to ensure that they are able to mount an appropriate response to a possible importation of wild poliovirus or detected cVDPV by developing or updating their preparedness plans and vaccine policy, and by identifying target groups to be immunized.

29. The current situation calls for strengthened engagement and oversight by political leaders at the national and subnational levels in all Member States to keep the European Region polio-free and to provide sustained financial support for the global polio eradication programme in the Region.

30. The WHO Regional Office for Europe, in collaboration with its key partners in the Region, including UNICEF, the European Commission, European Union institutions such as the European Centre for Disease Prevention and Control, and global partners such as Rotary International and the United States Centers for Disease Control and Prevention, is advocating for political commitment and will provide strategic vision and technical guidance to Member States. Special efforts will be focused on Member States considered to be at high or intermediate risk for importation of wild poliovirus.

31. The WHO Regional Office for Europe gives the highest priority to ensuring that the Region preserves its polio-free status. The Regional Director will continue to advocate sustaining Europe's polio-free status and increasing political and financial support for the GPEI in the Region.

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