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TOWARDS THE ELIMINATION OF MEASLES IN THE AFRICAN REGION BY 2020

Report of the Regional Director

Executive Summary

1. Reduction in measles mortality contributes significantly towards attaining the Millennium Development Goal 4 (MDG 4) which aims to reduce overall under-five childhood deaths by two-thirds by 2015 compared with the 1990 level. Routine measles immunization coverage is a key indicator for measuring progress towards attainment of this goal.

2. Implementation of measles mortality reduction strategies in the African Region has led to major achievements, notably a remarkable reduction of estimated measles deaths by 89% between 2000 and 2007. Despite the progress made, renewed commitment by Member States is required to attain the pre-elimination targets and subsequently reach the ultimate goal of measles elimination by 2020.

3. Major gaps in the mobilization of resources have had a negative impact on the ability of Member States to attain and sustain a high level of routine immunization and SIA coverage, using proven measles mortality reduction strategies.

4. Member States are requested to strengthen their immunization systems through ensuring that quality immunization services reach the hard-to-reach populations in addition to scaling up implementation of proven approaches and strategies such as the Reaching-Every-District (RED) approach. Furthermore, countries are being requested to adopt a stepwise approach towards achieving the measles elimination goal by 2020, beginning with the attainment by 2012 of the proposed pre-elimination targets.

5. The Regional Committee is invited to examine and adopt the actions proposed for achieving measles elimination by 2020.

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BACKGROUND

1. Measles mortality reduction contributes to attaining the Millennium Development Goal 4 (MDG 4).[1] MDG 4 aims to reduce overall under-five childhood deaths by two-thirds by 2015 compared with the 1990 level. Routine measles immunization coverage is a key indicator in measuring progress towards attaining this goal.

2. Measles causes a significant number of childhood deaths. Measles mortality in the year 2000 is estimated at 750 000 worldwide, of which 395 000 (53%) were in the African Region.[2] Four-fifths of these deaths were estimated to have occurred among children below five years of age.

3. In 2001, responding to this high measles mortality rate, Member States adopted the Regional strategic plan for immunization (2001 – 2005) which included a measles mortality reduction goal of reducing measles deaths by 50% by 2005 as compared to 1999 estimates.[3] Subsequently, in 2006, a revised Regional EPI Strategic Plan (2006–2009) was adopted with the goal of reducing measles deaths by 90% by 2009 as compared to 2000 estimates.[4]

4. The strategies being implemented to attain the measles mortality reduction goals include: increasing routine immunization coverage; providing a second opportunity for measles immunization through catch-up and follow-up Supplemental Immunization Activities (SIAs);[5] establishing case-based surveillance with laboratory confirmation; and improving case management.

5. The Measles Initiative, launched in 2001, is a partnership committed to reducing measles deaths globally and is spearheaded by the American Red Cross, the United Nations Foundation, CDC, UNICEF, and WHO. Under the Initiative, US$ 400 million has been mobilized to support the African Region since 2001, and technical support and advocacy have been provided for the fight against measles.

6. The WHO Region of the Americas achieved measles elimination in 2002. Three other WHO regions have also set elimination goals: Eastern Mediterranean Region (2010), European Region (2010) and Western Pacific Region (2012). The WHO South-East Asia and African Regions have yet to set their measles elimination goal.

7. Between 2001 and 2008, major achievements were made in implementing strategies in the African Region. These achievements include the attainment of an average of 81% regional measles immunization coverage in 2008, up from 52% in 2001. In 2008, 11 of 45 countries achieved measles

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[1] The Millennium Development Goals report 2008.

[2] Progress in global measles control and mortality reduction, 2000–2007. Weekly Epidemiological Records. 2008, 83; 441–448

[3] WHO, Resolution AFR/RC52/R2: Regional strategy for immunization during the period 2003–2005. In: *Fifty-second Session of the WHO Regional Committee for Africa, Harare, Zimbabwe, 8–12 October 2002, Final Report*, Brazzaville, World Health Organization, Regional Office for Africa, 2002 (AFR/RC52/19), pp. 8-9.

[4] WHO, Resolution AFR/RC56/R1: The regional strategic plan for the Expanded Programme on Immunization 2006–2009. In: *Fifty-sixth Session of the WHO Regional Committee for Africa, Addis Ababa, Ethiopia, 28 August –1 September 2006, Final Report,* Brazzaville, World Health Organization, Regional Office for Africa, 2006 (AFR/RC56/24), pp. 7–10.

[5] Nationwide *catch-up* SIAs target all children in a particular age group (most frequently children aged 9 months to 14 years) and have the goal of eliminating susceptibility to measles in the general population. Periodic *follow-up* SIAs target all children born since the last SIA. *Follow-up* SIAs are generally conducted nationwide every two-to-four years and target children aged 9 to 59 months, with the goal of eliminating any measles susceptibility that has developed in recent birth cohorts as well as protecting children who did not respond to their first measles vaccination.

coverage of 90% or more. However, of these 11 countries, only Seychelles has 100% of districts with coverage levels of at least 90%.

8. In addition, 396 million children were vaccinated through Supplemental Immunization Activities (SIAs) between 2001 and 2008 in 43 Member States.[6] Out of the 103 SIAs conducted over that period, 70 attained administrative coverage of 95% or more, while 20 SIAs had coverage below 90%.

9. In order to monitor the impact of the immunization strategies as of December 2008, 40 countries[7] in the Region have been conducting case-based surveillance for measles with laboratory confirmation. Furthermore, surveillance performance is monitored regularly, and 16 of those 40 countries attained the targets for the two main surveillance performance indicators[8] in 2008.

10. Despite these successes, the incidence of measles remains high in the Region. In 2008, the average incidence was 22 cases per million inhabitants. Twenty-eight countries had incidence rates of 5 or less cases per 1 million inhabitants. However, surveillance quality in 10 countries was inadequate. The six countries[9] with the highest disease burden make up 37% of the population of the Region and had incidence rates ranging from 20 to 65 measles cases per 1 million population.

11. With regard to the 90% measles mortality reduction goal for 2009, the African Region achieved a remarkable reduction of 89% in estimated measles deaths between 2000 and 2007, mainly as a result of the SIAs conducted in the Region.[10] This reduction accounted for 63% of the global reduction of estimated measles deaths by 2007.

12. Following the significant reduction in measles deaths in the Region, the African Regional Task Force on Immunization (TFI) requested the African Regional Measles Technical Advisory Group (TAG) to review the progress and the feasibility of adopting elimination goals for the African Region. The TAG proposed the adoption of a pre-elimination goal to be met by 2012, and this was endorsed by the TFI in December 2008.

13. The pre-elimination goal consists of the following targets of achieving: more than 98% mortality reduction by 2012 compared to estimates for 2000; measles incidence of less than 5 cases/1 million inhabitants per year in all countries; more than 90% routine first dose measles immunization coverage at national level and at least 80% in all districts; 95% or more SIA coverage in all districts; and achievements by all countries of the targets for the two main surveillance performance indicators. The attainment of the pre-elimination goal by 2012 will bring the African Region closer to adopting an elimination goal.

14. Measles elimination is defined as the absence of endemic measles cases for a period of twelve months or more, in the presence of adequate surveillance, and when the following criteria are met:

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[6] All countries in the African Region except Algeria, Mauritius and Seychelles.

[7] These 40 countries include all Member States in the African Region except Algeria, Comoros, Guinea-Bissau, Mauritius, Sao Tome and Principe and Seychelles.

[8] The two main surveillance performance indicators are; Non-measles febrile rash illness rate (target of at least 2 per 100 000 population) and the proportion of districts that have investigated at least one suspected case of measles with blood specimen per year (target of 80% or more per year).

[9] Benin, Burkina Faso, Cameroon, Equatorial Guinea, Ethiopia, Niger, and Nigeria.

[10] Progress in Global Measles Control and Mortality Reduction, 2000–2007. MMWR December 5, 2008/Vol. 57/No. 48.

achieving and maintaining at least 95% coverage with both first dose measles vaccination and the second opportunity of measles vaccination in all districts and at the national level; having less than 10 confirmed cases in 80% or more of measles outbreaks; and achieving a measles incidence of less than 1 confirmed measles case per million inhabitants per year.

15. The next section of this technical document highlights the remaining challenges to be addressed in order to sustain the gains in measles mortality reduction and prepare for the ultimate goal of measles elimination.

REMAINING CHALLENGES TOWARDS THE ELIMINATION OF MEASLES

16. **Continued high incidence in some countries:** Despite the significant reduction in measles deaths, an estimated 45 000 children died from measles in the African Region in 2007.[11] Some countries continue to experience relatively high measles incidence. For example, in 2008, 12 countries representing 46% of the regional population had measles incidence levels of more than 5 cases per million inhabitants.

17. **Large-scale measles outbreaks:** A few countries continue to experience relatively large scale outbreaks even after their catch-up and follow up SIAs. For example, in 2008, Nigeria reported a total of 9415 confirmed measles cases, most of whom were unvaccinated young children from the Northern States which did their catch-up SIAs in 2005. Between 1 January and 20 May 2009, Burkina Faso reported an outbreak of measles involving 59 of its 63 districts, with a total of 38 967 cases. These outbreaks were linked to multiple pockets of low coverage in routine immunization and SIAs, leading to a critical build-up of susceptible populations.

18. **National commitment and leadership:** Strong commitment and leadership is crucial to the attainment of mortality reduction and subsequent elimination of measles. Member States have provided the leadership that has led to the current attainment of the mortality reduction goals. However, renewed commitment will be needed to scale up implementation in order to attain the pre-elimination targets and subsequently reach the ultimate goal of measles elimination by 2020.

19. **Inadequate access to immunization services:** While Member States have made considerable progress in improving routine immunization coverage, 25 of the 46 countries (54%) have failed to raise and sustain coverage beyond 80%. Despite the introduction of the Reaching-Every-District approach to strengthen immunization coverage, services have not expanded adequately to ensure enough coverage of the hard-to-reach populations in all districts in the Region.

20. **Inadequate quality of immunization services:** Health service providers still miss some opportunities for measles vaccination of eligible children in areas accessible to service delivery in many countries. The community linkages necessary for the success of immunization services are not well established in many countries, leading to coverage gaps at subnational levels.

21. **Quality of immunization coverage monitoring data:** The unexpected occurrence of large-scale and protracted measles outbreaks in countries reporting high measles immunization coverage levels indicates problems in immunization monitoring data quality. This is linked to the underestimation of target populations and gaps in the coverage monitoring system in a number of countries.

[11] Progress in global measles control and mortality reduction, 2000–2007. Weekly Epidemiological Records. 2008, 83; 441–448.

22. **Suboptimal surveillance performance:** In 2008, 11 of the 40 countries in the measles case-based surveillance network did not meet the targets for the two main surveillance performance indicators.[12] Disease surveillance activities are under-funded and under-staffed in many countries. In addition, the strategic and operational linkages between surveillance information and the immunization programme remain weak.

23. **Resource mobilization:** Major gaps persist in the mobilization of resources to finance the implementation of proven measles mortality reduction strategies. These resource gaps have had a negative impact on the ability of Member States to attain and sustain high routine immunization and SIAs coverage levels.

24. In order to attain the pre-elimination targets by 2012 and prepare for the ultimate goal of measles elimination by 2020, the following actions are proposed.

ACTIONS PROPOSED

Member States

25. **Strengthen health systems:** Member States should strengthen their health systems, and in particular their immunization systems, especially by ensuring that quality immunization services reach the hard-to-reach populations. This includes scaling up the implementation of proven approaches and strategies such as the Reaching-Every-District (RED) approach, and ensuring adequate immunization logistics support.

26. **Attaining high routine coverage and implementing high quality measles SIAs:** Member States should improve and sustain high immunization coverage levels through routine services and SIAs and ensure that coverage gaps between districts remain minimal in order to maintain low disease incidence levels and avoid outbreaks. Member States are requested to improve the quality of SIAs with a view to achieving 95% coverage in all districts.

27. **Addressing surveillance performance and the quality of immunization monitoring data:** Member States are requested to strengthen surveillance performance by allocating the necessary resources in order to better monitor programme implementation. In addition, Member States should develop methods for more accurate estimation of target populations for monitoring purposes. It is critical that countries systematically introduce regular conduct of data quality assessment exercises within the immunization framework.

28. **National ownership and community participation towards measles elimination by 2020:** Member States should ensure that measles elimination is included as a key item in the national health agenda. Countries should allocate the necessary human and financial resources and facilitate the coordination of partners and the participation of communities in support of national plans to fully implement the proposed operational strategies for the attainment of the ultimate measles elimination goal.

[12] Angola, Chad, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Liberia, Mozambique, Rwanda, Sierra Leone, Tanzania and Zim babwe.

29. **Adopting a regional measles elimination goal:** Member States should adopt a measles elimination goal to be attained by 2020. However, this calls for a stepwise approach requiring the attainment by 2012 of the proposed pre-elimination targets.

Partners

30. The Measles Initiative and other global partners are requested to continue to mobilize the necessary resources to support Member States in addressing the challenges to the attainment of the regional measles elimination goal.

31. The Regional Committee is invited to examine and adopt the actions proposed for measles elimination by 2020.