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 1990 levels. Routine measles immunization coverage is a key indicator for measuring progress towards attainment of this goal.

Implementation of measles mortality reduction strategies in the African Region has led to major achievements, notably a reduction of estimated measles deaths by 92% between 2000 and 2008. Despite the progress made, renewed commitment by countries is required to attain the pre-elimination targets and subsequently reach the ultimate goal of measles elimination by 2020.

Countries will need 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 approach. Gaps in the mobilization of resources have had a negative impact on the ability of countries to attain and sustain a high level of routine immunization and supplemental immunization activities coverage. Countries will also need 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.

THE EFFORT TO ATTAIN MEASLES PRE-ELIMINATION TARGETS BY 2012 AND TO ELIMINATE MEASLES IN THE AFRICAN REGION BY 2020

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RÉSUMÉ

La réduction de la mortalité due à la rougeole contribue de manière significative à la réalisation de l'Objectif du Millénaire pour le développement N° 4 (OMD 4), qui vise à réduire globalement les décès des enfants de moins de cinq ans des deux tiers d'ici à 2015, par rapport aux niveaux de 1990. La couverture de la vaccination systématique contre la rougeole est un indicateur clé pour mesurer les progrès en vue de la réalisation de cet objectif.

La mise en œuvre de stratégies de réduction de la mortalité due à la rougeole dans la région africaine a conduit à d'importantes réalisations, notamment une réduction des décès provoqués par la rougeole de 92% entre 2000 et 2008. Malgré les progrès réalisés, l'engagement renouvelé par pays est nécessaire pour parvenir aux cibles de pré-élimination et, par la suite, atteindre l'objectif ultime de l'élimination de la rougeole d'ici à 2020.

Les pays devront renforcer leurs systèmes de vaccination en s'assurant que les services de vaccination de qualité touchent les populations difficiles à atteindre et, en complément, augmenter la mise en œuvre des approches et des stratégies qui ont fait leurs preuves telles que l'approche "Atteindre chaque district". Les lacunes au niveau de la mobilisation des ressources ont eu un impact négatif sur la capacité des pays à atteindre et maintenir un niveau élevé de vaccination systématique et de couverture des activités de vaccination de complément. Les pays devront aussi adopter une approche progressive en vue de la réalisation de l'objectif visant à éliminer la rougeole d'ici à 2020, en commençant par la réalisation en 2012 des cibles proposées de pré-élimination.

SUMÁRIO

A redução da mortalidade por sarampo contribui significativamente no alcançe do 4º Objectivo de Desenvolvimento do Milénio (ODM 4), que pretende reduzir, até 2015, a mortalidade em crianças menores de cinco anos em dois terços em comparação com os níveis de 1990. A cobertura de imunização de rotina contra o sarampo representa um indicador chave para a medição do progresso no alcance deste objectivo.

A implementação de estratégias para a redução da mortalidade relacionada com o sarampo na Região Africana resultou em avanços importantes, nomeadamente na redução de 92% das mortes estimadas provocadas pelo sarampo entre 2000 e 2008. Apesar dos progressos obtidos é preciso um compromisso renovado dos países para atingir os objectivos de pré-eliminação e, subsequentemente, atingir o objectivo final da eliminação do sarampo até 2020.

Os países têm de reforçar os seus sistemas de imunização, assegurando que além de reforçar a implementação de abordagens e estratégias comprovadas como, por exemplo, o objectivo de atingir todos os distritos (Reaching-Every-District), os serviços de imunização também abrangem as populações mais difíceis de atingir. Falhas na mobilização de recursos resultaram num impacto negativo na capacidade dos países atingirem e manterem os elevados níveis de imunização de rotina e em suportarem actividades suplementares de cobertura de imunização. Além disso, os países têm também de adoptar uma abordagem passo-a-passo para atingir a meta da eliminação do sarampo até 2020, começando com a realização dos objectivos de eliminação propostos para 2012.

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

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); ESTABLISHING CASE-BASED SURVEILLANCE WITH LABORATORY CONFIRMATION; AND IMPROVING CASE MANAGEMENT.

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. Four-fifths of these deaths were estimated to have occurred among children below five years of age.[1]

In 2001, countries in the African Region adopted the Regional Strategic Plan for Immunization (2001–2005) which included a goal of reducing measles deaths by 50% by 2005 as compared with 1999 estimates[2]. 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 with 2000 estimates.[3]

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);[4] establishing case-based surveillance with laboratory confirmation; and improving case management. The support from the Measles Initiative[5] had been crucial in terms of assisting the Region to implement these strategies.

Between 2001 and 2008, major achievements were made in implementing these strategies in the African Region, including the attainment of an average of 81% regional measles immunization coverage in 2008, up from 52% in 2001. (Figure 1). In 2008, 11 of the 46 countries achieved administrative measles coverage of 90% or more. However, of these 11 countries, only Seychelles has 100% of districts with coverage levels of at least 90%.

In addition, 425 million children were vaccinated through SIAs between 2001 and November 2009 in 43 countries.[6] (Figure 2).

In order to monitor the impact of the immunization strategies,

Figure 1: Reported measles first dose vaccination coverage levels (%), 1990–2008, in the African Region

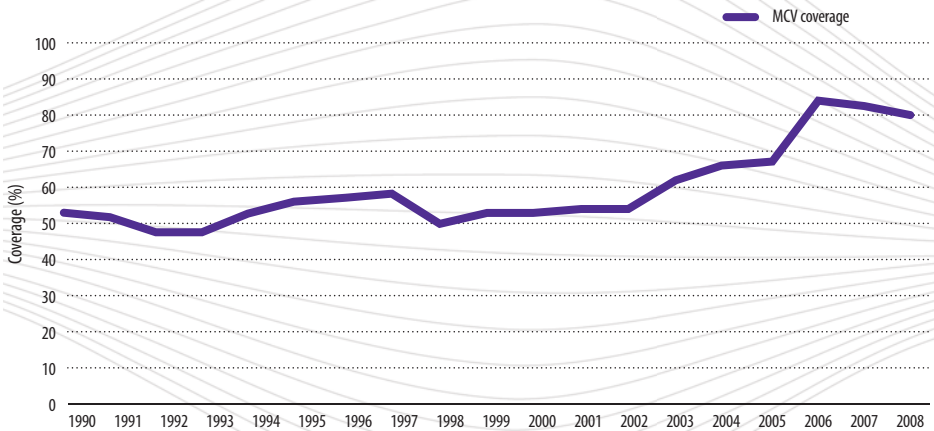
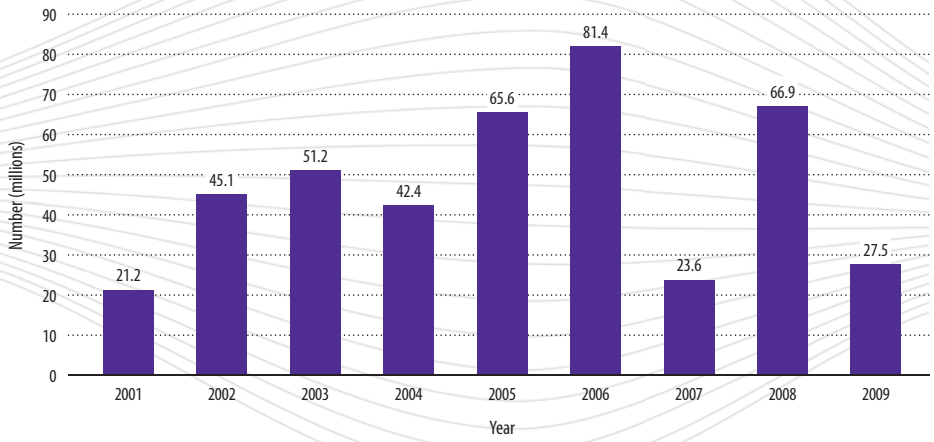


Figure 2: Numbers of children (in millions) reached through measles SIAs between 2001 and November 2009, by year, in the African Region



40 countries in the Region[7] have been supported to establish case-based surveillance for measles with laboratory confirmation. Surveillance performance is monitored regularly, and 16 of those 40 countries attained the targets for the two main surveillance performance indicators in 2008.[8]

Despite these successes, the incidence of measles remains high in the Region. In 2008, the average incidence was 22 cases per million inhabitants. Even though 28 countries reported incidence rates of five cases or fewer per 1 million inhabitants, surveillance quality was inadequate in 10 countries. The six countries 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.[9]

With regard to the 90% measles mortality reduction goal for 2009, a reduction of 92% has been achieved in estimated measles deaths between 2000 and 2008. This reduction accounted for 60% of the global reduction of estimated measles deaths by 2008.

Following these successes in reducing measles deaths in the Region, the African Regional Task Force on Immunization (TFI) requested the 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.

The pre-elimination goal consists of achieving all of the following targets: more than 98% mortality reduction by 2012 compared to estimates for 2000; measles incidence of less than 5 cases per1 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 SIAs 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 the elimination goal. 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: 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 one confirmed measles case per million inhabitants per year.

CHALLENGES

A number of challenges remain to be addressed in order to sustain the gains in measles mortality reduction and prepare for the ultimate goal of measles elimination in the African Region.

NATIONAL COMMITMENT AND LEADERSHIP

Strong commitment and leadership is crucial to sustaining the mortality reduction and subsequent attainment of measles elimination. So far, countries 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.

INADEQUATE ACCESS TO IMMUNIZATION SERVICES

While countries 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 (RED) approach to strengthen immunization coverage, services have not expanded adequately to ensure enough coverage of the hard-to-reach populations in all districts. Health service providers still miss opportunities for measles vaccination of eligible children in areas accessible to service delivery. The community linkages necessary for the success of immunization services are not well established in many countries, leading to coverage gaps at sub-national levels.

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.

CONTINUED HIGH INCIDENCE IN SOME COUNTRIES

Despite the significant reduction in measles deaths, an estimated 28,000 children died from measles in the African Region in 2008. 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. 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 9,415 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 30 November 2009, Burkina Faso reported a huge outbreak of measles involving 59 of its 63 districts, with a total of 53,188 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.

SUB-OPTIMAL 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.[10] 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.

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.

THE WAY FORWARD

It is essential that countries take the following actions to attain the pre-elimination targets by 2012 and prepare for the ultimate goal of measles elimination by 2020.

- STRENGTHEN HEALTH SYSTEMS: Countries need to strengthen their health systems, particularly their immunization systems. This requires scaling up the implementation of proven approaches and strategies such as the RED approach, and ensuring adequate immunization logistics support.

- NATIONAL OWNERSHIP AND COMMUNITY PARTICIPATION TOWARDS MEASLES ELIMINATION BY 2020: Countries need to ensure that measles elimination is included as a key item in the national health agenda. It will be important to allocate the necessary human and financial resources and to 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.

- ATTAINING HIGH ROUTINE COVERAGE AND IMPLEMENTING HIGH QUALITY MEASLES SIAS: Countries also need to improve and sustain high immunization coverage levels through routine services, through periodic activities to intensify support for routine immunization and through SIAs. Coverage gaps between districts should be kept minimal in order to maintain low disease incidence levels and avoid outbreaks. The attainment of at least 95% SIAs coverage in all districts will also be crucial.

- ADDRESSING SURVEILLANCE PERFORMANCE AND THE QUALITY OF IMMUNIZATION MONITORING DATA: Countries need to strengthen surveillance performance by allocating the necessary resources in order to better monitor the impact of disease control efforts. The introduction of systematic and regular data quality assessment exercises within the immunization framework will be important to improve the quality of immunization monitoring data.

It is also critical that the Measles Initiative and other global partners continue to mobilize the necessary resources to support countries in addressing the challenges to the attainment of the Regional measles elimination goal.

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4 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.

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. The Initiative has been providing financial, technical and advocacy support to the African Region for the fight against measles.

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 & 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 Angola, Chad, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Liberia, Mozambique, Rwanda, Sierra Leone, Tanzania and Zimbabwe.