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**VACCINE PREVENTABLE DISEASES: MEASLES ELIMINATION,
HEPATITIS B CONTROL AND POLIOMYELITIS ERADICATION**

The Regional Committee for the Western Pacific adopted resolution WPR/RC54.R3 in 2003 and resolution WPR/RC56.R8 in 2005, calling for measles elimination and the reduction of chronic hepatitis B infection to less than 2% among 5-year-old children, as an interim milestone towards the final regional goal of less than 1%, by 2012. The Regional Committee further urged Member States to maintain poliomyelitis-free status by sustaining high-quality acute flaccid paralysis surveillance and high immunization coverage.

Regional progress in implementing measles elimination and hepatitis B control strategies has resulted in a dramatic decline in measles incidence and deaths and in hepatitis B infection among children. An estimated 25 countries and areas in the Region have likely eliminated measles, and 27 countries and areas will likely achieve the hepatitis B control milestone. The Region has remained free of poliomyelitis.

However, several countries in the Region continue to have inadequate coverage of routine or supplementary immunizations to eliminate measles, achieve the hepatitis B control milestone, and mitigate the risk for wild poliovirus importation. Additional political, human and financial resources are needed to implement fully the established strategies against these vaccine-preventable diseases.

The Regional Committee is requested to note progress in measles elimination, hepatitis B control and the maintenance of poliomyelitis-free status; urge Member States to sustain their commitment; and consider establishing a verification process for measles elimination in Member States and the Region.

1. CURRENT SITUATION

The Regional Committee for the Western Pacific in 2003 adopted resolution WPR/RC54.R3 establishing the regional goals of measles elimination and the reduction of chronic hepatitis B infection to less than 1% among 5-year-old children. In 2005, the Regional Committee adopted resolution WPR/RC56.R8 establishing 2012 as the target for measles elimination and for the reduction of chronic hepatitis infection to less than 2% among 5-year-old children, as an interim milestone towards the final regional goal of less than 1%. The Regional Committee further urged Member States to maintain poliomyelitis-free status by sustaining high-quality acute flaccid paralysis surveillance and high immunization coverage.

Measles elimination and rubella control

Countries and areas in the Western Pacific Region have made much progress in implementing WHO-recommended measles elimination strategies that call for high coverage with two doses of measles-containing vaccine through routine or supplementary immunization activities (SIAs), sensitive case-based surveillance for measles, and access to an accredited measles laboratory network.

As a result, the annual number of measles deaths in the Region is estimated to have decreased by 92% between 2000 and 2008. The annual number of measles deaths is currently less than 2000.¹ Reported confirmed measles cases decreased by 95%, from more than 1.3 million in 1980 to just over 61 000 in 2009, an all-time low. Measles incidence decreased by 58%, from 81.6 per million population in 2008 to 34.0 per million population in 2009. Epidemiological and virological surveillance data suggest that endemic measles virus transmission already may have been eliminated in 25 countries and areas. However, several countries are at risk for not achieving the measles elimination goal by 2012 due to problems with immunization coverage and the quality of surveillance.

In 2003, the Regional Committee in resolution WPR/RC54.R5 urged Member States to use measles elimination activities to help prevent other diseases, such as congenital rubella syndrome. As of 2009, 30 countries and areas in the Western Pacific Region have incorporated rubella-containing vaccine into their national immunization programmes, either as measles-rubella or measles-mumps-rubella vaccine. Nevertheless, from 2004 to 2008, the number of reported rubella cases in the Western Pacific Region increased from 27 124 to 126 534, largely as a result of improved measles-rubella surveillance. In 2009, the number of reported rubella cases dropped to 73 111.

¹ World Health Organization. Global reductions in measles mortality 2000–2008 and the risk of measles resurgence. *Weekly Epidemiological Record* 2009; 84, 509–516

Hepatitis B control

An estimated 27 countries and areas comprising 88% of the Region's population are likely to achieve the interim milestone of reducing chronic hepatitis B infection to less than 2% among 5-year-old children in 2012 based on reported immunization coverage data and existing prevalence data. The remaining countries have made progress but have not reached immunization coverage levels needed to achieve the 2012 interim milestone.

Poliomyelitis

The Region has remained free of poliomyelitis despite the persistent risk of wild poliovirus importation from endemic and reinfected areas. In 2010, this risk was highlighted by a large poliomyelitis outbreak in Tajikistan and the subsequent spread into the Russian Federation. China and Mongolia, respectively, share borders with those countries. This outbreak was the first in the WHO European Region since it had been certified poliomyelitis-free in 2002. Several countries in the Western Pacific Region also are at risk for importation-related outbreaks due to problems with immunization coverage and surveillance quality.

2. ISSUES

Immunization coverage and surveillance

Two-dose measles immunization coverage is inadequate in some countries and is not uniform in many more countries, making it difficult to achieve and sustain measles elimination. Immunization coverage with three doses of hepatitis B vaccine and a timely birth dose is not high enough to achieve the milestone of less than 2% seroprevalence among 5-year-old children in nine Member States. Coverage with three doses of oral polio vaccine was less than 90% in 11 countries and areas in 2008 and 2009. Even when nationally reported coverage with these vaccines is high, areas within countries may have large numbers of unvaccinated children that will allow transmission of these diseases. Periodic high-quality SIAs may be needed to ensure uniformly high coverage to eliminate measles and maintain poliomyelitis-free status. Periodic measles SIAs should be conducted before the accumulation of susceptible children reaches the size of one annual birth cohort, targeting appropriate age groups.² School-entry immunization requirements and/or verification are extremely important to ensure very high immunization coverage before children enter school settings. Yet nine Member

² World Health Organization. Measles vaccines: WHO position paper. *Weekly Epidemiological Record*. 2009, 84: 349–360.

States, many of which are at risk for not achieving measles elimination, do not have these requirements or procedures.

In the context of elimination and eradication, high-quality, nationwide, case-based surveillance for suspected measles and acute flaccid paralysis (AFP) cases is critical to ensure timely identification of all possible measles and polio cases. Suspected measles and AFP cases, which may be caused by a number of different pathogens, should continue to be reported and investigated even in the absence of measles and the polio virus. Standard indicators exist to monitor the quality of measles and AFP surveillance. Of particular concern are: (1) low reporting rates at the national level in a few countries and at subnational levels in many more; (2) failure in some instances to conduct adequate and timely case investigations that include essential case-based data for some suspected cases; and (3) occasional failure to collect adequate specimens to confirm or discard suspected measles and polio cases and/or determine the virus genotype and sequence data to help determine importation status. Laboratory network performance must be sustained because of its critical role in the accurate classification of suspected measles and AFP cases and the identification of measles genotypes and poliovirus genetic sequences.

Adequate political, human resource and financial support is critical to address coverage gaps through routine and supplementary immunization activities and to improve surveillance quality. The need for detailed implementation plans to ensure high-quality routine and supplementary immunization services and case-based surveillance has been well established. As all countries and areas in the Region are interdependent in terms of achieving the regional goals of measles elimination, hepatitis B control and maintaining poliomyelitis-free status, regular and timely reporting of immunization coverage and surveillance data to the Regional Office for the Western Pacific will enable WHO to provide better technical support to Member States, provide periodic feedback on regional progress and needs, and help mobilize potential resources from donors and partners more effectively.

Verification process for measles elimination in Member States

While certification procedures exist in the Western Pacific Region for polio eradication and hepatitis B control, these do not exist yet for measles elimination. To address this need, government health leaders in the Region and global experts participated in a technical consultation in June 2010 to recommend procedures and provisional criteria for the verification of measles elimination. Recommendations from the consultation included establishing a regional verification commission and national verification committees that would be similar to those used for the certification of polio eradication.

The establishment of such commissions and committees would lead to an external, objective process to verify measles elimination. For countries and areas that may have eliminated measles, official verification of their success will serve to motivate other countries to eliminate measles by 2012. For countries and areas that have not yet eliminated measles, clear verification standards will help policy-makers and programme managers plan appropriate activities to verifiably eliminate measles.

Integration of measles elimination with rubella control and CRS prevention

Thirty countries and areas have incorporated rubella-containing vaccine (RCV), such as measles-rubella or measles-mumps-rubella vaccines into their national immunization schedules. Many of these countries and areas have used RCV during measles SIAs to accelerate reduction of rubella and congenital rubella syndrome (CRS) incidence. However, at least eight countries that plan to conduct SIAs against measles in 2010–2012 are not planning to use RCV, resulting in missed opportunities to reduce rubella and congenital rubella syndrome incidence at little marginal cost. Using measles elimination activities to control rubella and prevent CRS will result in cost-effective approaches before opportunities to combine such activities disappear.

Special concerns for maintaining poliomyelitis-free status

Not all countries currently have national wild poliovirus importation preparedness plans in place. External funding support to poliomyelitis-free regions remains low, and more pressing and better-resourced public health priorities reduce the focus on maintaining poliomyelitis-free status.

3. ACTIONS PROPOSED

The Regional Committee is requested to urge Member States to maintain their commitment to measles elimination, hepatitis B control and sustaining poliomyelitis-free status and to consider integrating rubella control and congenital rubella syndrome prevention into their plans.

The Regional Committee is also requested to consider the establishment of a verification process for measles elimination in Member States and the Region.