MEASLES ELIMINATION

The Expanded Programme on Immunization (EPI) provides a sound foundation and a reliable indicator for comprehensive public health services. EPI in the Western Pacific Region has had important successes in controlling diseases. Notably, it was the second Region to achieve certification of polio-free status on 29 October 2000. The Region is the first to include hepatitis B immunization in every National Immunization Programme and the first to set a regional goal for hepatitis B control through universal childhood immunization.

To build on these achievements and to realize further potential health gains by strengthening EPI, the Regional Committee, at its fifty-fourth session, resolved to adopt goals for measles elimination and hepatitis B control. The task force on measles elimination formed following the recommendation of the 14th Technical Advisory Group (TAG) meeting in the Western Pacific Region suggested setting 2012 as the target date for regional measles elimination. The regional hepatitis B control plan published in 2003 set a target of reducing the HBsAg seroprevalence to less than 1% among 5-year-old children born after the start of vaccination programmes, with an interim goal of 2% for countries and areas with more challenging situations. However, no date was set for achieving these goals.

The 15th TAG meeting in June 2005 endorsed the task force recommendation for regional measles elimination by 2012. The meeting also proposed the same target date for hepatitis B control: reduction of seroprevalence of HBsAg, as an indicator of chronic hepatitis infection, from the current level of 8%-10% to less than 2% among 5-year-old children by 2012 as an interim milestone to the final regional goal of less than 1%.

The Regional Committee is requested to set 2012 as a target date for the twin goals of regional measles elimination and hepatitis B control.

1 Resolution WPR/RC54.R3.
1. CURRENT SITUATION

Measles continues to be one of the leading causes of vaccine-preventable morbidity and mortality in children in Western Pacific Region, despite a 95% reduction in deaths compared with the pre-vaccine era. A total of 91,765 cases were reported in the Region through the Joint WHO/UNICEF Reporting Forms 2004, with 99% of all cases being reported from eight countries. However, the data reported through the Joint Reporting Forms vastly underestimates the number of measles cases due to weak surveillance systems, especially in countries and areas with the highest disease burdens. WHO recently estimated that in 2002, the measles burden in the Western Pacific Region might be as high as 6.7 million cases, with nearly 30,000 deaths. The children who bear the brunt of measles disability and death are the poorest and most disadvantaged children in the Region who usually do not have access to health services and thus their cases are unreported.

The Region also bears a disproportionate burden of morbidity and mortality related to hepatitis B, with only 28% of the total global population but more than one half of the mortality due to hepatitis B. With almost 890 deaths per day or 20–22 deaths per 100,000 population, mortality due to hepatitis B is almost the same as that of tuberculosis. Universal childhood immunization with hepatitis B vaccine is the most effective way of controlling the disease and is already included in all the national EPI programmes. Only Cambodia and the Philippines are yet to introduce the vaccine nationwide. In 2004, 26 countries and areas either reported or were estimated to have achieved more than 80% coverage with three doses of hepatitis B vaccine.

1.1 The twin goals of regional measles elimination and hepatitis B control for the Western Pacific Region: Justification for a target date

Most of the countries and areas in Western Pacific Region are characterized by strong immunization systems, a similarity the Region shares with the Region of the Americas that achieved its measles elimination goal in 2003 and with the European Region and Eastern Mediterranean Regions that have had set an elimination goal of 2010. Twenty-four of the 37 countries and areas in the Western Pacific Region have incorporated two doses of measles in their routine vaccination schedules.

Some 84% of all districts in the Region reported more than 90% coverage with first dose of measles vaccine. Several countries and areas in the Western Pacific Region that have already

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2 These eight countries are China, Japan, Malaysia, the Philippines, the Lao People's Democratic Republic, Papua New Guinea, Cambodia, and Viet Nam in the order of number of cases reported.

3 Only countries with less than 80% coverage are: Cambodia, the Lao People's Democratic Republic, Marshall Islands, Nauru, the Philippines, Papua New Guinea, Solomon Islands and Vanuatu.
interrupted indigenous measles transmission remain under the threat of an outbreak due to potential importation of a virus from highly endemic neighbouring countries as illustrated by outbreaks in Mongolia (2000-2002) and in the Marshall Islands (2003). In addition, the awareness and political commitment towards measles elimination remains at an all-time high with the recent success of poliomyelitis control, and is clearly evident in many countries (e.g. Malaysia, the Philippines and Viet Nam) setting up national elimination goals. In 2003, the Regional Committee, at its fifty-fourth session, resolved to adopt measles elimination as a regional goal and to set a target date to achieve that goal at the earliest opportunity.

A similar situation exists for hepatitis B control in Member States. The awareness of the disease burden due to hepatitis B remains high in all the Member States. All countries and areas—except five countries that either introduced or expanded nationwide after 2001—have been providing hepatitis B vaccine through their national EPI for more than five years.

Twenty-two countries and areas have reported more than 80% coverage with three doses of vaccines for more than five years, and 10 countries and areas have achieved less than 1% HbsAg seroprevalence rate among children born after the start of vaccination programmes.

The excellent technical and human resources mobilized during polio eradication programme are still in place in the form of surveillance and laboratory networks. These resources can now easily be dovetailed into measles elimination and hepatitis B control programmes with minimal incremental cost. In addition, taking up this programme now will help maintain the momentum achieved in routine programmes with increased visibility and awareness during the polio eradication programme. Thus, through staggered efforts focused more towards countries and areas with the highest disease burden, regional measles elimination and hepatitis B control goals can be achieved. Such an approach would bring immense benefits for both sets of countries and areas—those that have achieved measles elimination or near elimination (by reducing the probability of outbreaks due to importation) and for the countries and areas with a high measles disease burden. Thus, this is an opportune time for Western Pacific Region to scale up measles elimination and hepatitis B control and set a target date to achieve these twin goals.

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4 Australia, Brunei Darussalam, Hong Kong (China), Mongolia, Malaysia, New Zealand, the Republic of Korea, Singapore, and 15 Pacific island countries and areas. Only five Pacific island countries and areas that have not reported more than 80% consistently in last five years are Kiribati, Nauru, the Marshall Islands, Solomon Islands and Vanuatu.


6 The countries with less than 1% carriage rate include: Australia, Japan, Macao (China), New Zealand, Singapore and five Pacific island countries and areas (American Samoa, Fiji, French Polynesia, the federated States of Micronesia, and Wallis and Futuna). In addition, Brunei Darussalam, Malaysia, New Caledonia and the Republic of Korea are also anticipated to have achieved less than 1% carriage based on their vaccine coverage data.
1.1 Towards the twin goals of regional measles elimination and hepatitis B control

The Fifty-sixth World Health Assembly adopted resolution WHA56.20 calling for a 50% reduction in measles mortality by 2005 compared with 1999 levels, in keeping with United Nations General Assembly Special Session on Children (2002). The fifty-fourth session of the Regional Committee for the Western Pacific, encouraged by the certification of polio-free status in the Region as well as the achievement of measles elimination in the Region of the Americas and adoption of regional measles elimination goals in the European Region and the Eastern Mediterranean Region by 2010, proposed measles elimination and hepatitis B control goals as the two initiatives, or pillars, to strengthen routine EPI systems in the Western Pacific Region.

Following resolution WPR/RC54.R3, the 14th meeting of Technical Advisory Group (TAG) on the Expanded Programme on Immunization and Poliomyelitis Eradication in the Western Pacific Region endorsed the idea of regional measles elimination and suggested a probable date of 2010 to 2015 for achieving that goal. The TAG also recommended the creation of a task force to review existing data and progress in measles control efforts on a country-by-country basis to suggest a more specific target date to help encourage and focus efforts on regional measles elimination. Accordingly, a task force was constituted and held its meeting in July 2004 and recommended 2012 as the target date for achieving the goal of regional elimination.

As for hepatitis B, the regional hepatitis B control plan published in 2003 set a target of reducing the HbsAg seroprevalence to less than 1% among 5-year-old children born after the start of vaccination programmes, with an interim goal of 2% for countries with more challenging situations. However, no date was set for achieving these goals.

In June 2005, the 15th meeting of Technical Advisory Group further reviewed the status of progress made towards measles elimination and hepatitis B control and recommended setting twin goals of regional measles elimination and hepatitis B control\(^7\) by 2012. The TAG also acknowledged that it will be a challenge to eliminate measles in every country in the Region by that date, especially in China where measles elimination may require more time and effort in some provinces.

\(^7\) As defined by achieving less than 2% seroprevalence in the interim and less than 1% eventually among children 5 years old born after the start of vaccination programme.
2. ISSUES

2.1 Need for greater visibility

Setting a target date for regional measles elimination and hepatitis B control will provide a clear goal and facilitate focused efforts and political commitment on the part of both national and international partners. The time frame provided by the date will help mobilize donors who can now invest in a time-specific goal. In short, the target date will align strategy and resources to achieve the twin goals in a defined time frame.

2.2 Operational issues

The efforts to reach the goal of eliminating measles and controlling hepatitis B centre on strengthening routine immunization systems to enable all countries and areas to achieve and maintain adequate population immunity to protect children from measles and hepatitis B.

2.2.1 Regional measles elimination

A three-pronged vaccination strategy for measles is recommended. The driving principle is to provide two doses of measles vaccination either through supplementary immunization activities or through special efforts made within routine immunization systems to cover hard-to-reach populations, not only to children who did not seroconvert at the time of their first administration (primary vaccine failure), but most importantly to vaccinate children who had never received a measles vaccination when they were eligible to receive it from the routine immunization system. To rapidly interrupt measles transmission, a one-time nationwide campaign targeting children aged 9 months to 14 years, a so-called catch-up campaign, is recommended. After this campaign, the interruption of measles virus transmission is maintained by keeping a high population immunity through the routine vaccination of eligible children, or a keep-up campaign, and through periodic supplementary immunization activities every three to four years (a follow-up campaign) targeting children aged 1 to 4, regardless of their vaccination status.

A strong surveillance system, especially a case-based system, is required to identify and confirm cases and to monitor the progress during elimination phase. As countries approach elimination status, it becomes important for every suspect case of measles to be reported and included in the national database. In addition, case-based surveillance also allows for the analysis of measles epidemiology to guide elimination efforts. In the Western Pacific Region, 11 Asian countries and

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8 Many of the endemic countries (Cambodia, the Philippines, the Republic of Korea and Viet Nam) have already implemented nationwide catch-up campaigns.
areas and the majority of the Pacific island countries already have instituted case-based surveillance for measles. The infrastructure created for acute flaccid paralysis (AFP) surveillance can be used for measles surveillance as well, without creating additional structures.

It is also clear that laboratory support of surveillance is an indispensable element of the programme. Efforts are under way to help ensure that all the countries and areas in the Region will be served by reliable measles laboratories, satisfying WHO criteria for accreditation. Again, efforts are being made to expand the laboratory network as created under polio surveillance and to further integrate it with laboratory requirements of other programmes, especially with Japanese encephalitis, which is a Region-specific problem.

2.2.2 Hepatitis B

There are three major issues with respect to hepatitis B control through universal childhood immunization: (1) increasing the coverage of children under 1 with three doses of hepatitis B vaccine; (2) delivering the first dose of vaccine within 24 hours of birth; and (3) monitoring the progress towards the hepatitis B control goal.

While increasing coverage with three doses of hepatitis B vaccine depends on the overall strengthening of routine systems, delivery of the first dose within 24 hours of birth to prevent perinatal transmission provides a special challenge as the vaccine may need to be delivered in a different setting by a different health worker and may not follow the current approach of “immunization sessions/days”. The challenge is much more in countries and areas having a substantial proportion of births at home without the supervision of a trained health worker. Although it is a challenge, it provides an excellent opportunity to link maternal health care with EPI, and may have positive spin-off effects on access to trained maternity care—an important Millennium Development Goal.

Because of the long time between infection and the manifestation of disease, disease surveillance of acute or chronic liver disease is not very useful to monitor the immediate impact of the vaccination programme. Accurate and reliable vaccine coverage data, on both three doses and a first dose within 24 hours, are very important programmatic indicators. The coverage data can be indirectly used to assess the impact on disease by modelling the anticipated infection rates if vaccine efficacy has not been compromised by programmatic factors, such as vaccine freezing. The regional plan recommends validating the HBsAg prevalence modelled from coverage data with at least one

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9 As births take place 24 hours a day, 7 days a week.
10 Example for, the proportion of births that take place outside health facilities is 66% in Cambodia, 79% in the Lao People’s Democratic Republic and 44% in the Philippines.
large, nationally representative sero-survey. Where possible, these surveys should be undertaken as part of other national surveys.

2.3 Cost-effectiveness and financial issues

Although there is wide consensus that measles elimination is operationally, programmatically and technically feasible, countries and areas need to be convinced that they are making correct decisions in prioritizing their public health problems. However, even when the programme is shown to be highly cost-effective, it still requires high-level political commitment and sustainable financing. Many countries and areas, especially those that with severely limited resources and the highest disease burdens, are dependent on external support for vaccines and for meeting the day-to-day operational costs of the routine programme. In this scenario, adding a second dose of measles to the routine programme, conducting supplementary immunization activities, or making special efforts within the routine programme to cover hard-to-reach populations, will require not only political commitment from national governments but also substantial financial commitments from donor partners.

Ensuring vaccine security and financing for special efforts to increase the coverage of the birth dose is also an important issue with hepatitis B. Many countries such as Cambodia, China, the Lao People’s Democratic Republic and Viet Nam introduced or expanded the vaccine nationwide with support from the Global Alliance for Vaccines and Immunizations. The Philippines is still not able to mobilize domestic or international resources to procure vaccine to meet its all requirements. In addition, efforts to improve birth dose coverage, may require additional resources for training, in securing alternative formulation of vaccine, etc.

Setting a target date for the regional elimination goal will help to bring visibility to the programme and may in turn facilitate the consolidation of donor support for the programme. EPI is in the process of developing an Asian-Pacific Immunization and Measles Elimination partnership. An important aspect will be financial support for the less developed countries and areas of the Region where lack of resources means that regular health services, including immunization services, do not reach substantial parts of the population, in most cases the most disadvantaged sectors of the population.

3. ACTIONS PROPOSED

The Regional Committee is asked to endorse the target date of 2012 to achieve the twin goals of regional measles elimination and of reducing HbsAg seroprevalence to less than 2% among children 5 years old.
The following actions by Member States are proposed for consideration by the Regional Committee:

(1) to strengthen or develop national plans of action for measles elimination and hepatitis B control, as part of a comprehensive multi-year plan for EPI, to enable achievement of the twin goals by 2012;

(2) to regularly monitor the implementation of activities under measles elimination and hepatitis B control plans; and

(3) to report on progress towards measles elimination and hepatitis B control regularly to the Regional Committee.