Regional Committee endorses EPI targets for the Western Pacific Region

The World Health Organization’s Regional Committee for the Western Pacific, at its fifty-sixth session in New Caledonia in September 2005, endorsed the plan to eliminate measles and control hepatitis B by 2012. This plan could help to avert almost 30,000 measles-related deaths among children and eventually approximately 350,000 deaths related to hepatitis B every year.

The Regional Committee followed the path laid at its fifty-fourth session in 2003, supporting the use of measles elimination and hepatitis B control strategies to strengthen the Expanded Programme on Immunization (EPI) and other public health programmes. It is clear that the Region faces financial and operational challenges in some areas, as was noted in the 15th Technical Advisory Group meeting. Recognizing the positive impact of poliomyelitis eradication on EPI and wider health programmes, the Regional Committee felt that this burden could be significantly reduced (or in the case of measles, eliminated) by use of available vaccines that are safe, effective and inexpensive.

The Regional Committee decided that the Region should aim by 2012:

- to eliminate measles
- to reduce the seroprevalence of HbsAg to less than 2% in five-year-old children as an interim milestone towards the final regional goal of less than 1% HbsAg.

The Regional Committee urged Member States:

1. to develop or strengthen national plans for measles elimination and hepatitis B control, as part of comprehensive overall plans for immunization services to enable achievement of the twin regional goals;
2. to regularly monitor the implementation of activities under measles elimination and hepatitis B control plans;
3. to maintain polio-free status by sustaining high-quality acute flaccid paralysis surveillance and high immunization coverage of polio vaccines.

The Regional Committee requested the Regional Director:

1. to further strengthen technical cooperation with Member States and seek the additional resources required to support country and area activities to achieve the measles elimination and hepatitis B control goals; and
2. to report regularly to the Regional Committee on progress towards measles elimination and hepatitis B control.

“Setting a target date for the two diseases will provide a clear framework and facilitate focused efforts and political commitment on the part of both national and international partners,” Dr Shigeru Omi, WHO Regional Director for the Western Pacific told the governing body of WHO.

Almost 30,000 children die each year from measles in the Western Pacific Region, nearly all of them in five countries: Cambodia, China, the Lao People’s Democratic Republic, Papua New Guinea and the Philippines. In June 2005 a WHO Technical Advisory Group acknowledged that it would be a challenge to eliminate measles in every country in the Region by 2012, but that this is a goal that the Region can accomplish and should aim to achieve.
A meeting on surveillance strengthening was held from 22 to 24 August in Geneva with the goal of agreeing on the major measles surveillance indicators and developing a vision/ framework for surveillance of vaccine-preventable diseases within the context of Global Immunization Vision & Strategy (GIVS). Participants discussed the historical progression of global measles goals (a follow-up to the October 2003 Cape Town meeting of “Monitoring the Interruption of Indigenous Measles Transmission”), partnering with donors and capacity-building efforts.

Considerable time was allocated to defining the major global measles surveillance indicators in collaboration with regional measles control or elimination goals, in particular the indicators of timeliness and quality. The following were suggested for further development into global indicators:

- number of countries having case-base surveillance;
- completeness and timeliness of reporting;
- sensitivity of measles surveillance, e.g. 1-2 suspect measles cases per 100 000 population;
- adequacy of epidemiological investigation, e.g. > 80% of suspected cases have an adequate investigation within 48 hours of reporting;
- laboratory testing- serum samples adequate for detecting measles IgM, should be collected within <28 days of rash onset on at least 80% of suspected measles cases.

A work group with representatives from each WHO region and WHO Headquarters is tasked with finalizing the primary surveillance indicators by January 2006. The definitions discussed at this meeting, and those of the Cape Town meeting in 2003, are to be used as a basis for future work.

Although the WHO Western Pacific Region has made great progress in measles surveillance, some countries have not yet addressed these issues. It is hoped that greater emphasis can now be placed on quality surveillance as defined by such globally agreed indicators.

A recommendation was made that WHO should undertake to evaluate the comparability of data coming from regions in terms of strategic goals, epidemiological situations, data needs/ formats and to provide feedback to the regions. One example is the limitations and inconsistency between different reporting sources on measles deaths, which are important given the universally accepted goal of measles mortality reduction, and for donor participation in the effort to reduce measles-related deaths. For the Western Pacific Region, this focus may allow greater donor support.
The measles laboratory network in the Western Pacific Region has made substantial progress in the past half year. In collaboration with the Victorian Infectious Diseases Reference Laboratory (VIDRL), WHO has held a hands-on workshop in May 2005 to train laboratory technicians how to conduct IgM enzyme linked immunosorbent assays (ELISA). The participants also learned how to work with dried blood spots (DBS), which are considered to be a promising alternative to serum sampling. Although serum samples should remain the “gold standard”, DBS could be utilized in remote areas with logistical challenges.

A similar workshop, which will cover measles virus isolation, will be held in October 2005 at the Chinese Center for Disease Control and Prevention in Beijing for provincial measles laboratories. This same workshop will be held in January 2006 at the Government Virus Unit in Hong Kong (China) for laboratories throughout the Region.

The measles laboratory network has put in place regular reporting of laboratory results. Data collected will show how countries in the Region are progressing towards measles elimination. Readers of the Bulletin are encouraged to facilitate regular reporting.

The network has also set up an accreditation scheme for quality assurance. Laboratories that have satisfied certain criteria, inclusive of marking a sufficient score on a proficiency test, will be accredited. To commence and accelerate the accreditation process in the Region, proficiency-test panels are systematically delivered throughout the Region by the VIDRL measles laboratory team.

In addition, the group agreed that measles outbreak data should also be sent monthly to the Regional Office for the Western Pacific to be forwarded on to WHO Headquarters. The following data on outbreaks will also allow greater measurement of progress and direction of efforts for the Region and its partners. This data should include:

- number of measles cases;
- number of measles deaths;
- number of samples with specimens submitted for laboratory confirmation;
- number of laboratory-confirmed measles cases; and
- location of outbreak, date of onset of first case, current status, primary groups affected.

In keeping with the recommendations proposed at this meeting, the Regional Office is requesting countries to submit completed measles outbreak forms in a timely manner (Table 1).

The group also suggested that WHO Headquarters should finalize the guidelines on measles outbreaks.

<table>
<thead>
<tr>
<th>Table 1. Measles Outbreaks - Western Pacific Region</th>
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<tbody>
<tr>
<td>Country</td>
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The group agreed that current requirements of the Data Exchange Format (DEF) files on case data could be maintained and that case data reports should be submitted monthly to WHO Headquarters. The current requirements include the total number of clinically confirmed measles cases (which include epidemiologically linked cases) and the number of laboratory confirmed measles cases.
The World Health Organization (WHO) has recommended that Solomon Islands and Vanuatu conduct measles supplementary immunization activities (SIA) in 2006, to lessen the risk of a future measles outbreak and assist the Pacific islands region maintain its status as being “measles free”.

The measles virus has had a huge impact on both the people and history of the Pacific islands. A measles epidemic in Fiji in 1875 nearly wiped out the indigenous population of Fiji. Since that time, until the late 1990s, circulation of the measles virus and measles outbreaks were common occurrences in the Pacific, with an average of four outbreaks every year. In the late 1990s, the nations of the Pacific collectively decided to interrupt measles transmission within their region. The initial strategy was Pacific-wide coordinated mass measles vaccination campaigns conducted in 1997-1998, targeting all children up to age 15 years. This has been followed by either conducting regular measles SIA in countries that provide only one routine dose of measles vaccine, or maintaining high two-dose measles vaccine coverage in the others, with supplemental measles SIA to address coverage gaps.

This strategy has proven to be extremely successful. At the same time, an increasing measles-free buffer zone in the Pacific Rim countries of Australia, New Zealand and the United States of America has provided added protection by reducing the risk of virus importation. Up until 2003, there had been only small limited measles outbreaks (French Polynesia and Guam) in the Pacific, which were controlled to a large extent through pre-existing high measles immunization coverage. However, the Marshall Islands’ measles outbreak in 2003 shows how fragile this protection can be if high immunization coverage levels are not maintained and how enormous the cost and impact of a measles outbreaks can be.

Measles vaccine was introduced in both Solomon Islands and Vanuatu in 1982. Both countries are two of the remaining Pacific nations that still have a single-dose measles immunization schedule (both at nine months of age). This alone places them at increased risk of a measles outbreak unless immunity gaps (due to either missed vaccination or lack of vaccine effect) are mopped up through the provision of a second measles vaccine dose.

Immunization coverage rates for Solomon Islands and Vanuatu for the scheduled measles doses are less than ideal. For Solomon Islands, first-dose measles coverage was 72% (2004). Since the first dose of measles vaccine is given at 9 months when the vaccine effectiveness is approximately 85%, the vaccination coverage of 71% equates to an immunity level of approximately 60%. This means that one birth cohort of children with no protection to measles builds up approximately every two and a half years. The situation is similar, if not worse, in Vanuatu, with reported measles immunization coverage of less than 50% in recent years, offering minimal population protection, and a birth cohort of children susceptible to measles building up rapidly at a rate of roughly every two years.

Estimates of measles population immunity (based on reported vaccination coverage data by the WHO Regional Office for the Western Pacific and the United States Centers for Disease Control and Prevention [CDC]) suggest that by 2006 up to 20 000 children aged from one to five years in Solomon Islands will have no protection to measles virus. For Vanuatu, an estimated 17 000 children lack immunity to measles, which is of a similar scale to that of Solomon Islands, despite Vanuatu’s smaller population size. This is partly due to non-immune children being spread over a wider age cohort (one to nine years) and is a result of poorer immunization coverage in the past.

Both Solomon Islands and Vanuatu have been protected in the past from measles outbreaks by a combination of SIA in 1997 and 2001, the increasing buffer against measles from neighbouring countries, particularly Australia and New Zealand, and to a certain extent good luck. However, measles virus circulation is still common in many countries in the immediate vicinity of Solomon Islands and Vanuatu, such as China, Indonesia, Japan, Malaysia, and Papua New Guinea. Extensive outbreaks are likely if virus importation occurs in either country, and on a scale that is considerably larger than was witnessed in the Marshall Islands in 2003.

The measles SIA in both Solomon Islands and Vanuatu are being supported under the Pacific Immunization Programme Strengthening (PIPS) initiative that includes WHO, United Nations Children’s Fund (UNICEF), CDC, Japan International Cooperation Agency (JICA), Australian Agency for International Development (AusAID), New Zealand International Aid and Development Agency (NZAID), Secretariat of the Pacific Community (SPC) and Rotary 2650.
Table 2. Regional Measles Monitoring of Country Surveillance Data (January-September 2005)*

<table>
<thead>
<tr>
<th>Country</th>
<th>Reported suspected cases</th>
<th>Classification</th>
<th>Incidence rate (Total confirmed)</th>
<th>Discarded</th>
<th>Pending</th>
<th>Suspected cases immunized</th>
<th>Latest date reported by country</th>
<th>Type of report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>9</td>
<td>Laboratory confirmed</td>
<td>0.22 (43) 0.05 (9)</td>
<td>0 0</td>
<td>33% (3)</td>
<td>07-Oct-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>9</td>
<td>Laboratory confirmed</td>
<td>2.33 (322) 0.65 (89)</td>
<td>93 0</td>
<td>35% (47)</td>
<td>10-Nov-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>182</td>
<td>Epi-linked</td>
<td>0.70 (49) 0.88 (61)</td>
<td>11 1</td>
<td>22% (16)</td>
<td>06-Oct-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>546</td>
<td>Clinical</td>
<td>0.00 (0) 0.00 (0)</td>
<td>5 0</td>
<td>38% (5)</td>
<td>17-Oct-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong (China)</td>
<td>73</td>
<td></td>
<td>1.07 (128) 0.10 (80)</td>
<td>36 0</td>
<td>42% (49)</td>
<td>26-Sep-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>279</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>14-Oct-05 aggregate</td>
<td></td>
<td></td>
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<tr>
<td>Lao People's Democratic Republic</td>
<td>7</td>
<td></td>
<td>4.71 (273) 6</td>
<td>0</td>
<td>33% (92)</td>
<td>06-Sep-05 aggregate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macao (China)</td>
<td>5</td>
<td></td>
<td>0.00 (0) 0.00 (0)</td>
<td>5 0</td>
<td>10% (4)</td>
<td>13-Oct-05 aggregate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>1,168</td>
<td></td>
<td>1.70 (422) 746</td>
<td>0</td>
<td>-</td>
<td>14-Oct-05 aggregate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>4</td>
<td></td>
<td>0.08 (2) 0.00 (0)</td>
<td>4 0</td>
<td>75% (3)</td>
<td>25-Oct-05 case data</td>
<td></td>
<td></td>
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<tr>
<td>New Zealand</td>
<td>13</td>
<td></td>
<td>0.50 (20) 0.25 (10)</td>
<td>0 3</td>
<td>38% (5)</td>
<td>17-Oct-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>116</td>
<td></td>
<td>1.57 (1282) 0.10 (80)</td>
<td>36 0</td>
<td>42% (49)</td>
<td>126-Sep-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>46</td>
<td></td>
<td>0.02 (9) 0.00 (2)</td>
<td>44 0</td>
<td>73% (33)</td>
<td>07-Oct-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>23</td>
<td></td>
<td>1.99 (85) 0.54 (23)</td>
<td>0 0</td>
<td>-</td>
<td>04-Oct-05 case data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>4300</td>
<td></td>
<td>0.07 (62) 0.02 (19)</td>
<td>3971 310</td>
<td>54% (2340)</td>
<td>18-Jul-05 case data</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pacific Island Countries:
- American Samoa
- Cook Islands
- Fiji
- French Polynesia
- Guam
- Kiribati
- Marshall Islands
- Micronesia, Federated States of
- Nauru
- New Caledonia
- Niue
- Northern Mariana Islands
- Palau
- Samoa
- Solomon Islands
- Tokelau
- Tonga
- Tuvalu
- Vanuatu
- Wallis and Futuna

| Western Pacific Region | 6764 | 247 | 79 | 662 | 4916 | 314 | 1 |

* Data are based on country reports and other sources available to EPI/Western Pacific Regional Office.

Incidence rate per 100,000 population (population figures from World Population Prospects: The 2004 Revision, New York, United Nations, 2005).

Suspected cases immunized does not distinguish between 1 or 2 doses.

Lab confirmed or epidemiologically linked to a laboratory confirmed case.

Sentinel surveillance system