The Seventeenth Meeting of the Technical Advisory Group (TAG) on Immunization and vaccine Preventable Diseases (VPDs) in the Western Pacific Region was held from 7 to 11 July 2008 in Manila, Philippines. The 17th meeting was divided into three sessions: the first two sessions, the Laboratory Network Meeting and the Vaccine Preventable Diseases (VPDs) Surveillance Workshop, were held concurrently from 7 to 9 July; the advisory session was held from 10 to 11 July and addressed technical issues related to various aspects of expanded programme on immunization (EPI) in the Western Pacific Region. The meeting of the Regional Interagency Coordinating Committee (ICC) was organized along with the TAG meeting as in previous years.

The key objectives of the meeting were to review surveillance needs for disease eradication, elimination and control; review performance of regional reference and network laboratories and discuss algorithms for poliomyelitis, measles and Japanese Encephalitis (JE); update recommendations on measles elimination, hepatitis B control, and maintaining poliomyelitis-free status; review technical and programmatic aspects of new and underutilized vaccine introduction; and to update recommendations on strengthening routine immunization services in the context of the Global Immunization Vision and Strategy (GIVS).

The TAG endorsed the recommendations and action points proceeding from the VPD surveillance and laboratory network workshops. Moreover, the TAG endorsed the Global Framework for Immunization Monitoring & Surveillance (GFIMS) and recommended that Member States strengthen both programme monitoring and surveillance according to this framework. Also, the TAG encouraged greater communication and collaboration between EPI, Surveillance and Laboratory staff to update epidemiologic and lab data and reconcile discrepancies and to use unique epidemiologic identification (EPID) numbers to reliably track case patients.

The TAG recommended that the Strategic Plan for Measles Elimination by 2012 be revised based on recommendations during the meeting and distributed to partners, that national governments in turn update national and sub-national plans, and that these plans be used to mobilize needed resources. The TAG emphasized the benefits of providing a second dose of measles containing vaccine (MCV) in the second year of life combined with a mandatory school entry check of immunization status.

The TAG recommended intensification of Hepatitis B control activities at the regional and country levels, particularly in the five countries with <80% Hepatitis B vaccine (HepB) birth dose (BD) coverage and/or <60% HepB3 coverage. Countries may use HepB vaccine out of the cold chain provided vaccine vial monitors are used, and collaboration with maternal and child health programme staff was encouraged. Programme performance should be monitored using standard indicators, and evaluations conducted within 12 months for the five low-performing countries. Universal policies of HepB vaccination of health care workers should be adopted. Validated laboratory assays were recommended for all countries conducting serosurveys, and sampling should include disadvantaged populations when serosurveys are done for certification purposes.

The TAG endorsed the Regional Strategic Plan for Maintaining Poliomyelitis-Free Status: 2008-2012, and suggested it be shared with national immunization programmes and partner representatives for comments.
before finalization. Countries and areas were reminded to maintain high polio immunization coverage, conduct high quality AFP surveillance, and maintain national inventories of materials potentially infected with wild poliovirus. Countries that have not achieved elimination of maternal and neonatal tetanus should review risk indicators by district and implement a mix of strategies to achieve elimination. Child, adolescent and adult immunization with Td should be considered where applicable.

The TAG endorsed the seven key strategic areas outlined in the Regional Strategic Plan for New and Underutilized Vaccines: 2009-2015. The TAG further encouraged GAVI-eligible countries to avail themselves of opportunities for new vaccine introduction, and for non-GAVI eligible countries, to identify internal and external resources to support new vaccine introduction. Disease burden and cost effectiveness analyses may be useful to guide country decision making in this regard.

The TAG recommended development of a Regional Strategic Plan for Accelerated Control of Rubella and Congenital Rubella Syndrome (CRS), and that those countries with good immunization systems introduce rubella containing vaccine (RCV) in combination with MCV. Countries and areas were also encouraged to develop surveillance systems for CRS.

The TAG recommended ensuring vaccine quality and immunization safety by ensuring functionality of National Regulatory Authorities, especially licensing and adverse events following immunization (AEFI) surveillance for countries that procure vaccines through UNICEF. Cold chain storage capacity should be assessed carefully prior to new vaccine introduction, and single use syringes only should be used by national immunization programmes.

Recommendations for the Inter-Agency Coordinating Committee meeting included development of financing plans jointly with strategic and annual work plans by national governments, and to include EPI priorities as line items in national budgets. Partners were also encouraged to invest in VPD eradication, elimination and control as public goods benefiting the entire international community.

CONCLUSIONS AND RECOMMENDATIONS

3.1 Strategic direction of immunization in the Western Pacific Region: 2008-2012

At its 16th meeting in June 2006, the TAG recommended that the conceptual framework of Global Immunization Vision and Strategy (GIVS) be operationalized in national multiyear plans. In its deliberations the TAG also suggested that GIVS be incorporated into the overall regional workplan of EPI. In this context the TAG welcomes the work in progress on developing the WHO document “Strategic Direction of Immunization in the Western Pacific Region: 2008-2012” and encourages the Regional office to continue its comprehensive review process that includes consultation with relevant EPI partners and Member States. The TAG agrees that recent developments on new and underutilized vaccine introduction and the progress towards measles elimination and hepatitis B control goals that were established in 2003 and targeted for 2012, warrant a summary review of the current situation and articulation of the Region’s strategic direction for immunization during the next five years.

3.1.2 Recommendations:

(1) The TAG recommends that the WHO Regional Office rapidly complete the work of finalizing the Strategic Direction document. The document should serve as a clear statement of, first, the Region's progress and, second, the Region's immunization goals, objectives, strategies and priorities. The document may also serve as a tool for advocacy and resource mobilization. For this reason, TAG recommends that the Regional Office consult with communications experts to ensure that key messages are clear and expressed in non-technical language.
(2) Comments and feedback to WPRO should be submitted by TAG members and partners by the end of July so the document can be finalized for availability to the Regional Committee in September 2008.

3.2 Measles elimination by 2012

Measles elimination and mortality reduction efforts have made great progress in the Region: from 2000 to 2007, the reported number of annual measles cases decreased by 97% if China's cases are not included in the analysis; estimated deaths from 2000 to 2006 (including China data) decreased by 80%. This was attributable to successful implementation of WHO recommended strategies for achieving high population immunity through routine immunization with two doses of measles containing vaccine and large scale, wide age-range supplementary immunization activities (SIAs). Nevertheless, measles incidence in the Region is still too high largely because of the many cases reported from countries with large populations, such as China and Japan.

WHO’s draft Strategic Plan for Measles Elimination by 2012 in the Western Pacific Region, 2008-2012 has been shared with national counterparts and partners for comment. Estimated budget requirements for which donor support is needed, excluding China which has a separate plan and budget estimate, total approximately US$ 31.8 million for 2008-2012, of which approximately US$2.5 million is needed for 2009, including US$1.1 million for SIAs in nine PICs and US$1.1 million to strengthen surveillance throughout the Region.

3.2.1 Recommendations:

(1) The TAG agrees that the need for resource mobilization to fund future measles elimination activities is urgent and encourages WHO to share widely a finalized Strategic Plan and projected budget with national governments and partners as soon as possible so that funding may be secured for activities that are needed in 2009.

(2) The TAG recommends that the current draft Strategic Plan be revised, then finalized as soon as possible, addressing the comments requested from national counterparts and partners with particular attention to the following points:

(a) that each of the proposed surveillance performance indicators for achieving high quality measles surveillance be further reviewed in consultation with national counterparts and partners.

(b) that countries should strive to achieve indicator targets in a phase-wise manner, recognizing that countries with extensive measles virus transmission should prioritize their current activities towards achieving population immunity.

(c) that clarification be given regarding expected measles virus importations causing residual, self-limited transmission following "elimination".

(3) The TAG encourages all countries to update or develop national strategic plans and annual workplans for measles elimination reflecting the current national and sub-national status of measles elimination and based in principle on the Regional Strategic Plan. These plans should be integrated into overall national EPI and child health plans.

(4) The TAG endorses recommendations regarding case-based measles surveillance contained in the report of the VPD Surveillance Workshop held as part of this TAG meeting.
(5) In determining optimal MCV1 and MCV2 schedules, countries and areas should refer to the recommendations given by the Strategic Advisory Group of Experts (SAGE). Providing MCV2 at 15-24 months of age in conjunction with school entry requirements for immunization would likely provide maximum population immunity and protection among children.

3.3 Hepatitis B Control by 2012

Since the last TAG meeting in 2006, a revised Regional Plan for Hepatitis B Control and certification guidelines were developed based on recommendations of the 3rd Hepatitis B Expert Consultation held in Tokyo in March 2007. These documents have been widely disseminated to national EPI managers and other stakeholders and are available on the WPRO EPI website. The WPRO Regional Director also sent the certification guidelines to those countries and areas that are believed to have achieved the goal of HBsAg prevalence of <2% among five-year old children with the suggestion to submit their data and documents for certification.

The Republic of Korea became the first country in the Region to be certified for achieving the final regional goal of <1%, and Macao (China) is in an advanced stage of review and is also expected to achieve the <1% goal. Many more countries are in the process of submitting their certification applications.

With these developments, the TAG concludes that substantial progress has occurred since its last meeting. However, the TAG is concerned by the pace of progress towards achievement of the 2012 goal. At current levels of activity, there is concern by the TAG that the 2012 goal may not be achieved, particularly in countries such as the Lao People’s Democratic Republic and Papua New Guinea that have not yet met Regional hepatitis B birth dose and routine coverage targets.

3.3.1 Recommendations:

(1) The TAG believes that intensification and acceleration of Hepatitis B control activities and support by WHO and partners are needed to achieve the 2012 goal. Such support may include:

(a) additional Hepatitis B expert staff in the Regional Office to focus on implementation of the Regional plan and provide extensive technical support to countries;

(b) identification and use of technical consultants (including the expert resource panel) to:

i. participate in country assessments
ii. assist in developing country action plans to improve HepB3 and birth dose timeliness and coverage
iii. support countries in development and implementation of certification procedures

(c) involving expert resource panel members early in discussions regarding certification with countries and areas;

(d) ensuring distribution to countries of a standardized application format and package for certification as was done for polio free certification;

(e) regional and national commitments to mobilize new resources and to more efficiently utilize existing financial resources to achieve Hepatitis B control.

(2) Countries with the <80% birth dose coverage, such as Lao People's Democratic Republic, the Philippines, and Papua New Guinea, should scale-up their efforts with increased WHO and key partner support as soon as possible to ensure birth dose delivery in all health facilities. For babies delivered at home, HepB vaccine with
vaccine vial monitors (VVMs) should be used in out of cold chain strategies in accordance with WHO guidelines. Efforts to increase birth dose coverage should involve collaboration with mother and child health (MCH) programmes and staff, and could include –

(a) additional training for hospital staff, midwives, and local health staff;

(b) advocacy, social mobilization and communication directed towards providers and pregnant women to increase birth dose coverage for both hospital and home births.

(3) Special efforts should be made urgently to increase routine immunization coverage of HepB3, with particular focus in the few countries (e.g., the Lao People's Democratic Republic, Papua New Guinea) that still report less than 60% HepB3 coverage. Specifically, countries and areas should –

(a) identify constraints to implementing recommended strategies as described in GIVS and try to address them in a sustainable manner; and

(b) monitor standard indicators of programme performance including district-wise HepB3 coverage, dropout rates, stock outs of vaccine or injection equipment, AEFI rates, etc.

(4) Programme evaluations in countries with low routine HepB3 and/or birth dose coverage should be conducted as national or international reviews within the next 12 months to assess the current status of hepatitis B control, identify constraints, and provide guidance for future planning.

(5) All countries should develop and implement policies to vaccinate health care providers who are engaged in direct patient care.

(6) At least one serosurvey with validated laboratory assays should be conducted in countries that have introduced HepB vaccine more than 15 years ago, even when the vaccine coverage levels are low, to galvanize action to improve their hepatitis B control programme.

(7) Serosurveys (with validated assays) planned for certification must include populations from disadvantaged geographical areas and should consider over-sampling of populations from these areas, as this will facilitate assessment and programme improvements in these areas.

(8) The Hepatitis B Expert Consultation group should be reconvened to consider establishment of a target date for reaching <1% prevalence.

3.4 Current status in maintaining the Region poliomyelitis-free and the Regional strategic plan for 2008-2012

The TAG shares the concerns expressed by the Regional Certification Commission (RCC) during its last meeting in December 2007 that despite the encouraging global progress in suppressing wild poliovirus type 1, wild poliovirus transmission continues in the four endemic countries and in several countries with outbreaks following importations, demonstrating the global interdependence of the polio eradication effort. The TAG noted that the Region has maintained its poliomyelitis-free status despite the persisting risk of wild poliovirus importation from endemic areas and despite the existence of areas in the Region with inadequate immunity levels. The TAG recognizes that interruption of wild poliovirus transmission globally will not occur until at least the end of 2009, and that global certification will not occur until the end of 2012 at the earliest.
3.4.1 **Recommendations:**

(1) To maintain the Region poliomyelitis-free, countries and areas should –

(a) sustain high poliomyelitis immunization coverage through adequate routine and supplementary immunization activities;

(b) conduct high-quality AFP surveillance that satisfies recommended performance indicators (including laboratory performance indicators) at the national and sub-national levels; and

(c) maintain a national inventory of wild poliovirus infectious and potentially infectious materials and an up-to-date list of biomedical laboratories in anticipation of requirements for the next phase of poliovirus laboratory containment.

(2) The TAG has reviewed the draft “Regional Strategic Plan for the Maintenance of Poliomyelitis-free Status: 2008-2012” and endorses its general principles and key areas for action. The Plan summarizes technical requirements, estimates resource requirements and serves as a tool for advocacy and fund raising for countries and partners. Before finalization, the WHO EPI Secretariat should ensure that National Immunization Programmes (NIPs) and key partners have the opportunity to review and provide their comments for consideration.

3.5 **Achieving Maternal and Neonatal Tetanus (MNT) Elimination**

The TAG noted that since 1999, 12 of 58 countries and 15 States of India achieved MNT elimination. In the Western Pacific Region, Viet Nam validated MNT elimination in 2005; Cambodia is targeting validation in 2009. China has committed to eliminating MNT by 2010 by increasing the percentage of clean and institutional deliveries. The Lao People's Democratic Republic, Papua New Guinea and the Philippines have implemented various strategies in the past and have some ongoing activities but have no current action plans towards MNT elimination. Validation of elimination would require achieving a district level indicator of less than one case of neonatal tetanus per 1000 live births.

3.5.1 **Recommendations:**

(1) Countries that have not yet achieved MNT elimination should review their MNT risk indicators by district level, implement a mix of relevant strategies to achieve MNT elimination and keep their national plans of action updated. Such strategies may include:

(a) strengthening routine immunization coverage with tetanus toxoid containing vaccine (e.g., TT, Td, Tdap);

(b) collaborating with antenatal care (ANC), neonatal care and safe motherhood initiatives;

(c) conducting SIAs using tetanus toxoid containing vaccines in targeted high-risk regions or areas and as special approaches (e.g. in factories).

(2) Where applicable, countries should regularly review their plans to maintain elimination status, including optimizing immunization schedules (e.g. shift from TT vaccination of pregnant women to providing Td booster childhood doses.

(3) TAG endorses the recommendations regarding MNT elimination contained in the report of the VPD Surveillance Workshop held as part of this TAG Meeting.
3.6 Routine Immunization

The TAG noted the strong focus the Region is placing on strengthening routine immunization through the individual disease eradication, elimination and control initiatives and through promoting use of GIVS strategies including Reaching Every District (RED), capacity building, optimizing immunizations schedules, and encouraging immunization beyond infancy. The TAG welcomed the Western Pacific Region's participation through its Member State, Malaysia, in efforts made by WHO to review and document national school-based immunization programmes.

3.6.1 Recommendations:

(1) The TAG recommends that countries and areas strengthen routine immunization monitoring systems in a manner consistent with the Global Framework on Immunization Monitoring and Surveillance (GFIMS) framework.

(2) WHO, together with Member States and partners, should continue to identify and share lessons learned and best practices in strengthening routine immunization to reach all children and women with quality vaccines.

3.7 Vaccine Quality & Immunization Safety

Ensuring vaccine quality is necessary to protect children from vaccine preventable disease. Immunization safety, which addresses injection safety, AEFI surveillance, and safe waste disposal, is important to reduce programmatic error and address community concerns regarding vaccines. National Regulatory Authority (NRA) oversight, is a critical component of ensuring both vaccine quality and immunization safety.

3.7.1 Recommendations:

(1) All member countries and areas should ensure functionality of their NRA in accordance with WHO guidelines so it can play a leading role in ensuring vaccine quality and immunization safety. For countries introducing new and underutilized vaccines, NRAs should have capacity in licensing and post marketing surveillance, including AEFI surveillance, and establish clear vaccine introduction guidelines.

(2) Countries introducing new or underutilized vaccines should ensure there is adequate cold chain storage capacity to properly accommodate these vaccines and ensure vaccine quality. Renewed emphasis should be given on maintaining all vaccines under proper conditions to avoid damage from freezing and heat exposure.

(3) All countries should ensure single use of syringes for SIAs and routine immunization. The TAG recommends use of AD syringes in accordance with WHO/UNICEF/UNFPA policy.

(4) AEFI reporting and investigation, including checking for programme error, should be strengthened, especially for measles SIAs.

(5) Countries and areas should pay special attention to safe waste disposal policies and employ short and medium-term solutions such as incinerators that meet WHO health care waste management guidelines until more environmentally-friendly waste disposal methods are developed for the long term.
3.8 Introduction of new and underutilized vaccines

Vaccines against S. pneumoniae, Hib, Japanese encephalitis virus, and Rotavirus have the potential to substantially reduce morbidity, disability and mortality among children from meningitis, pneumonia and diarrhea. Use of a new vaccine against HPV in adolescents or children is likely to substantially reduce cervical cancer incidence among adult women in the long term. In this regard, HPV vaccine is similar to HepB vaccine in that the objective is to reduce long term morbidity and mortality.

3.8.1 Recommendations:

(1) TAG endorses the seven key strategic areas outlined by WHO in the proposed Strategic Plan for New and Underutilized Vaccines for 2009-2015. These strategic areas include –

(a) knowledge management and strategic dissemination of information;
(b) surveillance for diseases targeted by new and underutilized vaccines;
(c) economic analyses;
(d) advocacy with national, regional and global stakeholders to mobilize both national and external resources;
(e) providing support on different programmatic areas related to new vaccine introduction;
(f) ensuring immunization safety; and
(g) promoting vaccine research.

(2) TAG endorses the recommendations regarding surveillance and monitoring related to new and underutilized vaccines contained in the report of the VPD Surveillance Workshop held as part of this TAG Meeting.

(3) TAG urges GAVI-eligible countries to avail opportunities provided by GAVI for new vaccine introduction at the earliest. Efforts should be intensified to generate disease burden data and economic analyses, if needed, to facilitate country-specific decisions.

(4) National EPI staff and national and regional partners should work proactively to mobilize both internal and external resources to support new and underutilized vaccine introduction, especially in lower-middle income countries that are not currently eligible to receive assistance from GAVI.

3.9 Rubella

Rubella incidence is high in the Region, with 85 200 reported cases in 2007 in spite of substantial under-reporting. Available data suggest that in countries that have not yet introduced rubella-containing vaccine (RCV), males and females are equally affected, and child bearing age women account for 15-25% of all cases. The incidence of CRS both in developing and developed countries in the pre-vaccine era was between 1-4 per 1000 live births during epidemic periods and 0.1-0.2 during endemic periods, suggesting the risk of CRS in many countries of the Region is high. Among eight countries that do not yet provide RCV, two (Mongolia and Philippines) are planning to do so in the near future. In June 2008, the GAVI Board agreed to consider rubella vaccine as one of the seven priority new or underutilized vaccines for GAVI support, and an investment case for RCV is now being developed. GAVI funding may therefore become available to support RCV introduction and/or SIAs. Measles elimination activities present an opportunity to combine administration of rubella vaccine.
3.9.1 **Recommendations:**

(1) TAG recommends that WPRO, in consultation with Member States and partners, prepare a Draft Strategic Plan for Accelerated Control of Rubella and CRS that includes guidelines for rubella vaccine introduction. The plan should elaborate a combination of selective and universal vaccination strategies to quickly and effectively reduce incidence of rubella and CRS, and include process indicators and targets to monitor performance and progress. WPRO is encouraged to provide additional data to the TAG to form the basis for establishing specific Accelerated Rubella Control targets at the next TAG Meeting.

(2) TAG recommends that Cambodia, Mongolia, Viet Nam, and the Philippines develop plans to introduce RCV into their programmes, and that all countries that have introduced or will introduce RCV in their routine programmes consider including RCV when conducting future SIAs (i.e., using MR instead of monovalent measles vaccine).

(3) TAG endorses recommendations regarding rubella and CRS surveillance contained in the report of the VPD Surveillance Workshop held as part of this TAG Meeting.

3.10 **VPD Surveillance**

The TAG reaffirms the critical importance of epidemiologic and laboratory-supported disease surveillance for effective immunization and disease control programmes. The TAG notes that these represent a small fraction of the total costs of the immunization programmes.

3.10.1 **Recommendations**

(1) The TAG urges national programmes, WHO and partners to provide appropriate financial and technical support to develop and/or maintain high quality surveillance for all VPDs.

(2) TAG endorses the GFIMS and recommends that Member States strengthen programme monitoring and VPD surveillance in accordance with this framework.

(3) TAG strongly urges frequent communication among EPI Managers, Surveillance Managers, and Laboratory Officials to compare epidemiologic and laboratory data and reconcile discrepancies. Unique Epidemiologic Identification (EPID) numbers should be used for each suspected case to facilitate comparison of data and prevent data errors.

(4) The TAG endorses the recommendations contained in the report of the VPD Surveillance Workshop held as part of this TAG Meeting.

3.11 **Laboratory Network meeting**

Laboratories play a critical role in identifying the true cause of disease in individual cases, in monitoring duration of chains of transmission and identifying potential geographic movements of specific virus and bacterial strains. As such, close and regular collaboration between national immunization programme officials, national epidemiologic surveillance officials and laboratory officials is critical to ensure timely appropriate decision making.

3.11.1 **Recommendations:**

(1) Increasing numbers of specimens and activities for the polio and measles laboratory networks and introduction of new vaccines in the Region has greatly increased the workload for regional laboratory
coordination. To meet these rapidly growing demands, two additional Regional laboratory network coordinators are needed: one with expertise in virology and one with expertise in bacteriology.

(2) TAG endorses the list of specific recommendations for the polio, measles and Japanese Encephalitis laboratory networks as enumerated in the Laboratory Network Meeting held as part of this TAG Meeting.

3.12 Inter-dependence and Partner’s Meeting

The Region experienced substantial reductions in partner financial support in 2008, and further reductions are anticipated in 2009 and 2010. A particularly substantial shortfall exists to implement planned measles elimination activities: US$1.2 million for 2009 and US$22.5 million through 2012.

3.12.1 Recommendations:

(1) National governments should develop financing plans together with strategic plans and annual work plans to ensure adequate financing of proposed budgets; line items should be included in budgets specifically addressing EPI and EPI priorities.

(2) Partners are encouraged to recognize that disease eradication, elimination and control are public goods; achievements in one country or area benefit all Member States.

(3) The WHO Regional Office should strengthen its advocacy role with existing and future partners, taking a more pro-active role in effectively communicating and marketing the distinct benefits EPI provides to the Region and the resources needed to achieve them.