Strategic issues

Immunization is a cost-effective public health intervention that has dramatically reduced disease, disability and death in the Western Pacific Region. As of 2011, the Region has remained free of poliomyelitis, regional measles incidence has decreased to 19 cases per 1 million population, more than 87% of the Region’s population live in countries and areas with less than 2% prevalence of chronic hepatitis infection among children, and 31 countries and areas have eliminated maternal and neonatal tetanus as a public health problem.

Demand is mounting for new and underutilized vaccines that prevent major causes of cervical cancer, diarrhoea, encephalitis, meningitis and pneumonia, accompanied by a growing need to assure vaccine quality, safety and adequate supply-chain management. Programme monitoring and high-quality surveillance, supported by an accredited laboratory network, are increasingly needed to demonstrate progress toward or achievement of disease eradication, elimination or control. Systematic expansion of surveillance for diseases targeted by new or underutilized vaccines is essential to guide decision-making and monitor impact.

Despite many successes, disparities remain in immunization coverage between and within countries, threatening the achievement of the regional goals of measles elimination and hepatitis B control, placing at risk the Region’s polio-free status and the achievement of maternal and neonatal tetanus elimination, and limiting the impact of new and underutilized vaccine introduction. To fully realize the benefits of immunization and help achieve the Millennium Development Goals, WHO has developed a strategic framework in line with the Global Immunization Vision and Strategy that has five objectives:

(1) ensure equitable access to vaccines of assured quality, including pandemic vaccines;
(2) achieve targeted disease eradication, elimination or control;
(3) promote the rational introduction of new vaccines;
(4) strengthen vaccine-preventable disease monitoring and surveillance systems, laboratory capacity, and data use; and
(5) strengthen communications, partnerships and advocacy to support immunizations and promote integration of immunization with other health interventions.

Action and results

A strong routine immunization system is the foundation for achieving the objectives of an immunization programme. To strengthen vaccine management systems, WHO organized and supported the installation of vaccination supplies stock management software and training for national and provincial immunization programme staff in the Lao People’s Democratic Republic, Mongolia, the Philippines and Viet Nam. Intercountry training on effective vaccine management was conducted for five priority countries to help them assess their vaccine supply chains and improve performance. Vaccine management training for national and provincial immunization programme staff and temperature-monitoring studies using data recording devices were conducted in Mongolia. A vaccine procurement assessment was conducted in Fiji in 2010, and a special session on vaccine security (forecasting and procurement) was conducted during the Sixth Pacific Immunization Programme Strengthening Workshop for 20 Pacific island countries and areas.
A WHO-led assessment of the national regulatory authority in China, which was carried out by experts from six countries, concluded in March 2011 that all of the functionality requirements of a vaccine regulatory system had been met. Pre-assessments were conducted in Japan and Viet Nam. WHO conducted training on surveillance and response for adverse events following immunization in the Philippines. A nationwide assessment of injection safety (including therapeutic injection) was conducted in the Lao People’s Democratic Republic. WHO also provided support to develop a policy on injection safety for Mongolia.

In response to pandemic influenza A (H1N1) 2009, WHO provided technical support to 17 low- and middle-income countries for the deployment and administration of 8.7 million doses of donated pandemic vaccine, and published a periodic bulletin providing feedback to Member States on the status of vaccine deployment. A workshop was conducted in May 2011 to review and share lessons from pandemic vaccine deployment and to update deployment plans to respond to new or recurring pandemics.

Inequities in routine immunization coverage were addressed through WHO-supported training on district-level immunization strengthening and development of national multi-year immunization plans that aspire to vaccinate hard-to-reach children. WHO also spearheaded efforts to observe Vaccination Week in the Western Pacific Region in April 2011. More than 30 countries and areas participated in the week-long event that included targeted outreach clinics, expanded clinic hours, and social mobilization and media campaigns.

WHO support helped the Region maintain its polio-free status and make progress towards measles elimination, hepatitis B control and maternal and neonatal tetanus elimination. To achieve universally high immunization coverage, supplemental immunization activities were conducted for polio in Cambodia, China and Mongolia, and for measles in Cambodia, China, Japan, the Federated States of Micronesia, Papua New Guinea, the Philippines, Tuvalu and Viet Nam. A routine second dose of measles vaccine is now administered in 31 countries and areas. Supplemental immunization activities using tetanus toxoid for women of childbearing age were conducted in Cambodia and the Lao People’s Democratic Republic. Most countries combined multiple vaccines during their supplemental immunization activities and integrated other health initiatives such as vitamin A supplements and deworming tablets.

Surveillance for acute flaccid paralysis (AFP) and measles was strengthened through training, national reviews, financial support for operational costs, ongoing monitoring of surveillance performance and feedback through bulletins. However, surveillance performance still needs improvement. In 2010, out of 17 countries and areas (the Pacific island countries were considered as one epidemiologic block), nine achieved a non-polio AFP rate of at least 1 per 100,000 children under 15 years old, and seven achieved a discarded measles rate of at least
Measles
Elimination in
the Western
Pacific Region

Before the licensing of measles vaccines in the 1960s, virtually every child was likely to be infected with measles. On average, 1 in every 100 infected infants died from the disease or its complications. Concerted efforts beginning in the 1990s to reduce measles mortality, and—following a resolution by the Regional Committee for the Western Pacific in 2003—to eliminate measles have had dramatic results.

WHO-recommended measles elimination strategies include high coverage with two doses of measles-containing vaccine, either through routine or supplementary immunization; high-quality, case-based measles surveillance; and an accredited and accessible laboratory network. In 1980, approximately 1.3 million cases of measles were reported in the Region, but the actual number of measles cases was undoubtedly many times greater. Thanks to successful implementation of these strategies by Member States, only 48,471 cases were reported in 2010, a 96% decrease over three decades.

The Region has been making extraordinary efforts to achieve its 2012 measles-elimination goal. China’s historic campaign in September 2010 reached over 102 million children, and the country has continued to target areas with residual measles virus transmission in 2011. Japan’s five-year plan to eliminate measles by 2012 is proceeding well: coverage with a second dose of measles vaccine at 5–7 years of age steadily increased to 97% by 2010 following its introduction in 2006, and annual immunization of successive 13- and 18-year-old cohorts continues to reduce transmission among adolescents and young adults. Large-scale immunization campaigns have been conducted recently in Papua New Guinea, the Philippines and Viet Nam. Cambodia will conduct a second campaign in October targeting older children and the Lao People’s Democratic Republic will conduct an intensified measles and rubella immunization.

Joint efforts between WHO and Member States are bringing the Region closer to its 2012 goal; projections for 2011 indicate that regional measles incidence will decrease by more than two thirds compared to 2010. China is on track to reach its measles incidence target of less than 10 cases per million population in 2011 and elimination by 2012. Ongoing implementation of Japan’s five-year measles elimination plan has reduced measles incidence to 5 per million in 2011 on an annual basis. In Papua New Guinea, no confirmed measles cases have been reported in 2010 or 2011. Viet Nam’s 2010 campaign reduced measles incidence to less than 2 per million in 2011 on an annual basis, with only 13 laboratory-confirmed cases. While the impact of the high-quality campaigns conducted in Cambodia and the Philippines remains to be seen, the very high coverage achieved in both countries suggest drastic reductions in measles incidence are likely.

The Region’s 2012 goal of measles elimination is within reach. Future generations may not thank us for eliminating a disease they never knew. That in itself will be our reward.
2 per 100,000 population. Adequate stool specimens were collected from at least 80% of AFP cases in five countries, and adequate serologic specimens were collected from at least 80% of measles cases in five countries. Supplementary polio surveillance activities included environmental surveillance in Australia, China and Malaysia, and stool surveys of healthy children in China and Mongolia.

Risk assessments for the spread of potentially imported wild poliovirus were conducted for all countries and areas, and wild poliovirus importation preparedness plans were updated in almost all Member States. District-level risk assessments for maternal and neonatal tetanus were conducted in China and the Lao People’s Democratic Republic to guide elimination strategies.

The Regional Certification Commission for Polio Eradication continued its active oversight of Member States and concluded at its 16th meeting that the Region remained free of circulating poliovirus in 2010. The Regional Hepatitis B Expert Resource Panel continued its work of verifying achievement of the hepatitis B control milestone and goal. Verification has been completed for the Republic of Korea and Macau (China), and the process has been initiated in Hong Kong (China), Malaysia and Mongolia. As of 2010, 27 countries and areas that represent 87% of the Region’s population have achieved immunization coverage levels consistent with achieving the 2012 milestone of chronic hepatitis B infection rates of less than 2% among 5 year olds.

All low-income countries and areas in the Western Pacific Region were providing *Haemophilus influenzae* type b (Hib) vaccine as part of their national immunization programmes. WHO assisted four Member States in applying to the GAVI Alliance for pneumococcal conjugate vaccine and second-dose measles vaccine. Surveillance for meningitis and encephalitis in Cambodia, Mongolia, Papua New Guinea, the Philippines and Viet Nam found that 12%–30% of cases had vaccine-preventable causes. This surveillance will allow countries to measure the impact of Hib and pneumococcal conjugate vaccination in the next few years and to carry out the planned expansion of Japanese encephalitis vaccine use in several countries. In collaboration with the WHO South-East Asia Regional Office, a Fifth Biregional Workshop on Japanese Encephalitis Prevention and Control was held in May 2011 to develop action plans to strengthen surveillance and vaccination programmes for Japanese encephalitis. WHO-supported surveillance for severe rotavirus diarrhoea in eight priority countries continued in 2010. Some 25%–65% of the diarrhoea cases requiring hospitalization in these countries were caused by rotavirus, indicating a potentially significant impact if the rotavirus vaccine were to be introduced. In 2010 and 2011, four middle-income countries introduced vaccination against human papillomavirus, providing adolescent girls with protection against the cause of 70% of cervical cancer cases. WHO also supported national decision-making for immunization programme policies and new vaccine introduction by conducting a Workshop on National Immunization Technical Advisory Groups.
WHO support for programme monitoring and vaccine-preventable disease surveillance included supportive and corrective feedback on the WHO/UNICEF Joint EPI Reporting Form; development of and training on data management tools for traditional and new vaccine surveillance; development of models for monitoring/assessing low performance at national and subnational levels and epidemiological risk for diseases like polio and measles; and continuous supportive and corrective feedback on surveillance data quality. Divisions and units within the WHO Regional Office collaborated to improve various aspects of vaccine-preventable disease surveillance. Surveillance sensitivity was enhanced by integrating vaccine-preventable disease surveillance with event-based surveillance training in collaboration with the Emerging Disease Surveillance and Response unit at the Regional Office. Monitoring and surveillance feedback to countries was increased by publishing data in collaboration with the Health Information, Evidence and Research unit. Furthermore, countries were provided an opportunity to publish research on vaccine-preventable diseases through the online Western Pacific Surveillance and Research journal.

Laboratory networks for poliomyelitis, measles and rubella, and Japanese encephalitis continued to provide timely and reliable laboratory confirmation and virus identification. All poliomyelitis network laboratories and almost all measles and rubella network laboratories in the Region were fully accredited in 2010. The polio laboratory network introduced a new algorithm protocol that will shorten the interval between specimen collection and virus isolation. Real-time polymerase chain reaction for intratypic differentiation and the screening of vaccine-derived polioviruses was successfully implemented by the laboratory network during 2010. The WHO measles regional reference laboratory in Hong Kong (China) provided genotyping results for Cambodia, the Lao People’s Democratic Republic, Malaysia, Mongolia, the Philippines and Viet Nam. Regional capacity to conduct measles genotyping was enhanced after conducting two hands-on laboratory training sessions for measles network laboratories in November 2010.

The Japanese encephalitis laboratory network, established in 2008, continued to provide laboratory confirmation and implement quality assurance measures, such as proficiency and confirmatory testing. Following the polio and measles laboratory model, WHO accreditation of Japanese encephalitis laboratories using the WHO checklist has been in place since 2010. A second intercountry hands-on training workshop was held in Hong Kong (China) in November 2010 to further improve quality assurance of laboratory diagnosis for all network laboratories. Similarly, regional laboratory networks to support rotavirus and vaccine-preventable invasive bacterial diseases (VP-IBD) surveillance were formally established in September 2010 and measures to monitor quality assurance were introduced. In March 2011, the first regional laboratory training course on VP-IBD pathogens was held and an external quality assessment panel for rotavirus and bacterial meningal pathogens was distributed to regional reference laboratories.

The Second Meeting on Vaccine Preventable Diseases Laboratory Networks for polio, measles and rubella, and Japan encephalitis was organized in Manila in February 2010 to review the performance and identify challenges of network laboratories, and to identify ways to improve the quality of their performance. For all network laboratories, strengthening communications between network laboratories and immunization surveillance programmes was emphasized.

Future directions

WHO will continue to work with national counterparts to build capacity at the country level to improve immunization performance, describe and respond to epidemiological risk of vaccine-preventable diseases, and enhance synergies between immunization and other health programmes. WHO will support Member States in strengthening their routine immunization systems and in achieving global and regional disease eradication, elimination and control goals as well as Millennium Development Goals and goals contained within the Global Immunization Vision and Strategy. External certification and
verification commissions and expert resource panels will be used increasingly to monitor and validate progress towards global and regional immunization goals, and to provide added technical support for Member States. Introduction of pneumococcal and rotavirus vaccines and the prevention of measles infection will help decrease the burden of pneumonia and diarrhoea, moving the Region towards success in implementing the joint WHO/UNICEF Regional Child Survival Strategy.

As WHO works to realize the synergies of mutually reinforcing strategies and cross-programme collaboration, it must also address challenges in human and financial resources. Partnerships among governments, multilateral and nongovernmental organizations are critical. The Global Polio Eradication Initiative, the Measles Initiative, and the GAVI Alliance, among others, are key partnerships through which WHO will continue to support Member States to achieve global and regional goals.