Communicable diseases

Poliomyelitis eradication

In 2016, only three countries in the world, Afghanistan, Pakistan and Nigeria, reported cases of polio due to wild poliovirus; all three countries are still considered endemic. The number of poliomyelitis cases reported, 37, was the lowest ever recorded globally. All of these cases were due to serotype 1 (WPV1).

Afghanistan and Pakistan reduced the number of WPV1 cases by 50%, from 74 in 2015 to 33 in 2016, despite complex security challenges, continuing the trend in the reduction of cases in the Region since 2014. There was also a significant reduction in the geographical spread of the virus in 2016 compared with the previous three years and a shift in the epidemiology of poliomyelitis with the suppression of the usual increase of cases during the annual high transmission season, typically from June to December. These trends together generate optimism that Pakistan and Afghanistan can both interrupt transmission of poliovirus in 2017.

The reduction in poliovirus transmission in the two countries is a result of the consistent implementation of each country's national emergency action plan for polio eradication. The activities under these plans have led to improvements in the quality of supplementary immunization activities, improved capacity to detect poliovirus through surveillance for acute flaccid paralysis (AFP) cases and environmental surveillance, and effective outbreak response in non-reservoir areas. Recent sero-surveys of children in poliovirus reservoir areas show an average of 95% immunity against WPV1 in children 6 to 11 months of age, demonstrating the impact of immunization on raising the immunity even in very young children.

While the main focus of the polio programme in the Region in 2016 was on supporting Pakistan and Afghanistan, considerable work was also done to reduce the risk of outbreaks should poliovirus be imported into polio-free countries, and to update and improve outbreak response planning and preparedness. In addition to supplementary immunization activities in Afghanistan and Pakistan, a further 10 countries in the Region carried out such activities at national or subnational level, and 45 major supplementary immunization rounds were conducted to achieve high levels of population immunity and reduce risk. In total in the Region, more than 400 million doses of oral poliovirus vaccine were given to more than 80 million children. Despite the fact that many of the supplementary campaigns were carried out in severely security compromised settings, evidence of the immunization status of children under five years shows that these campaigns were successful in maintaining high levels of immunity against polio in children under five.

Other mitigation measures to counter the risks of outbreaks in polio-free countries included detailed risk assessments, especially of conflict-affected areas; reviewing and updating outbreak response plans and conducting 23 polio outbreak simulation workshops in 17 countries of the Region; monitoring of primary immune deficient children in Egypt and the Islamic Republic of Iran to determine the risks of long-term excretion of poliovirus; the establishment of environmental surveillance in Jordan and Lebanon; and oversight of country documentation and progress

Photo: ©WHO

↑ Supplementary immunization campaigns were conducted in Syria to prevent the spread of polio

Photo: ©WHO

↑ HE President Mohamed Abdullahi Mohamed of Somalia recognized the support of WHO and partners during a celebration to mark 3 years polio free in Somalia

Photo: ©WHO

↑ Despite serious security challenges in Taiz governorate, Yemen, female vaccinators are dedicated and committed to vaccinating children against polio

by the Regional Commission on Certification of Poliomyelitis Eradication.

As part of achieving the Global Polio Strategic Plan, all countries of the Region successfully switched from trivalent to bivalent oral poliovirus vaccine in April and May 2016. This was a tremendous coordinated effort by the countries of the Region to identify and destroy all remaining stocks of trivalent vaccine. In some settings, isolated use of trivalent vaccine has probably continued, and it is imperative that all countries fully report on the validated switch process and destroy any remaining oral polio vaccine containing Sabin 2 as part of phase I of the Global Action Plan (GAP III) for poliovirus containment. Since the switch, there have been isolations of vaccine-derived poliovirus type 2 (VDPV2) in 2016 in Afghanistan, Pakistan, Somalia and Yemen; however, in only one instance, in Pakistan, was there evidence of circulation of a VDPV2. That situation was addressed through a planned immunization response using monovalent OPV2. The regional programme is closely monitoring poliovirus

type-2 isolations through the surveillance and laboratory network.

The polio eradication programme is large and complex, and as the final eradication and certification processes come closer, more thought is being put into how the assets, skills, and experience of polio eradication can be transitioned in such a way as to benefit broader public health initiatives. Transition planning has started at the regional level and in four priority countries with a significant presence of polio assets and infrastructure: Afghanistan, Pakistan, Somalia and Sudan. It is expected that the planning process will accelerate in 2017.

The polio programme is completely funded from voluntary funds, and has benefited tremendously from the strong support of donors from both within and outside the Region, who have provided funds through WHO to support the regional and country programmes. In 2016, these supporters included the Bill & Melinda Gates Foundation, the Governments of the United Arab Emirates, Saudi Arabia, the United States, the United Kingdom, Canada, and Germany, Rotary International, and the Islamic Development Bank.

The overriding priorities for 2017 are to complete the eradication of all types of poliovirus in Afghanistan and Pakistan through supporting both countries in the effective implementation of their national emergency action plans, and to stop the outbreak of circulating vaccine-derived poliovirus in the Syrian Arab Republic. The protection of countries and areas at high risk from outbreaks of WPV and circulating vaccine-derived poliovirus will continue to be addressed through supplementary immunization activities in the highest risk countries, and all countries will be supported in ensuring that all high-risk groups, particularly migrants, refugees, internally displaced populations and populations living in conflict-affected areas, are fully immunized against polio. The strengthening of AFP and environmental and special surveillance systems will aim to ensure early warning and rapid response, and there will be a continued emphasis on outbreak response planning and capacity-building.

HIV, tuberculosis, malaria and tropical diseases

Although the Eastern Mediterranean Region has the lowest HIV prevalence among WHO regions, the disease incidence has increased. The number of people living with HIV (PLHIV) in the Region reached 360 000 by the end of 2016, with 37 000 new HIV infections of which 2300 were among children. Progress was made in improving access to antiretroviral therapy, and the number of PLHIV receiving such therapy doubled from 2013, reaching 54 000 in 2016. In spite of this achievement, the overall coverage of antiretroviral therapy in the Region remains as low as 15%. Limited access to HIV testing remains the biggest obstacle against access to care and treatment. In 2015, 89% of the HIV cases reported in the Region were identified through HIV testing among key populations. However, over two thirds (68%) of the testing took place outside voluntary counselling and testing services and health care settings, particularly among migrant workers and premarital couples.

Stigma related to HIV remains widespread in the Region, including within the health sector. To address this challenge, the Regional Office dedicated the World AIDS Day campaign for 2016 to fighting stigma and discrimination,

under the slogan “Dignity Above All”. Fourteen Member States engaged in activities related to the campaign and initiated work on policies to end stigma and discrimination in health care settings.

The way forward will focus on rolling out global HIV testing and treatment guidelines, conducting epidemiological analysis, programme reviews, strategic planning and resource mobilization, and promoting strategies to address HIV testing gaps.

Viral hepatitis remains a significant cause of mortality in the Region, with an estimated 21 million and 15 million people chronically infected with hepatitis B and hepatitis C, respectively. New hepatitis B and C infections result primarily from medical procedures and unsafe injections, followed by injecting drug use. Eighty per cent of viral hepatitis C infections occur in Pakistan and Egypt.

In 2016, the Regional Office continued support to countries in developing their national strategic plans based on the regional action plan to combat viral hepatitis developed in 2015. Support was also provided to Egypt in developing a strategy for hepatitis C screening. Morocco was supported in conducting an assessment of the economic impact of hepatitis C treatment. Countries will be supported in developing national action plans and guidelines on testing and treatment and rolling out monitoring and evaluation systems to follow up on the impact of treatment.

A total number of 527 639 tuberculosis cases (all forms) were notified in the countries of the Region during 2016. The case detection rate increased in 2016 to 70%, a much lower rate than the global target of 90% but a slight increase as compared to 2015 (63%). The treatment success rate for the new and relapse cases registered during 2015

↑ *World AIDS Day 2016*

was 91%, which is in line with the global target. Five countries in the Region are considered high burden countries for tuberculosis: Afghanistan, Morocco, Pakistan, Somalia and Sudan.

Management of multidrug-resistant tuberculosis continues to be a challenge. The Region is responsible for about 6% of the global burden of rifampicin-resistant (RR) and multidrug-resistant tuberculosis (MDR-TB). An estimated 4.1% of new tuberculosis cases and 17% of previously treated cases developed rifampicin or multidrug resistance in 2015 in the Region, which is equal to 19 000 RR/MDR-TB cases among notified pulmonary tuberculosis cases. During 2016, only 25% of the estimated drug-resistant tuberculosis cases in the Region (4713 rifampicin- or multidrug-resistant and 152 extensively drug resistant cases) were confirmed by laboratory test, compared to 21% in 2015. Of these, 4055 cases were put on treatment. Limited resources and weak capacity to manage MDR-TB are major impediments in countries.

The main challenge for tuberculosis control continues to be the low tuberculosis case detection rates (all tuberculosis cases and MDR-

TB) with a slight increase in estimated incidence in the Region due to the introduction of new diagnostic tools and better collaboration with the private sector in Pakistan. Ongoing emergency situations in many countries and lack of resources continue to expose national tuberculosis control programmes to bigger threats. Syrian refugees in Jordan and Lebanon require considerable support, placing additional strain on overstretched health systems. Similarly, the presence of internally displaced populations in Iraq, Libya, Syrian Arab Republic and Yemen is impeding the timely and effective implementation of national strategic plans for tuberculosis control. A new Global Fund grant will support managing of tuberculosis and multidrug-resistant tuberculosis in five countries in the Region.

National tuberculosis programmes were reviewed in five countries and the multidrug resistance component in eight countries, with the recommendations of the reviews subsequently incorporated into the national strategic plans. Four countries updated their national strategic plans in line with the End Tuberculosis strategy, and three countries started planning to implement shorter treatment regimens for MDR-TB.

Membership of the Regional Green Light Committee was updated and the committee continued to support country implementation of the new advances in the management of drug resistance through capacity-building, technical support and monitoring and evaluation.

The Regional Office will support countries to apply a comprehensive package to reach the missed tuberculosis cases, and address MDR-TB. Additionally, it will continue support to countries to accelerate the response to tuberculosis and HIV co-infection, ensure rapid uptake of innovations and implement the tuberculosis elimination initiative.

Malaria remains endemic in eight countries in the Region. Two countries, the Islamic Republic of Iran and Saudi Arabia, are implementing elimination strategies and are close to reaching the target. However, Saudi Arabia witnessed an increase in the number of local cases in 2016 due to increasing population movement and difficult access to border areas with Yemen (Table 1). WHO estimates that the incidence of malaria in the Region decreased by 70% between 2000 and 2015. The year 2016 witnessed further progress but also outbreaks in some countries and an increased number of cases in Afghanistan, Pakistan, Somalia and Yemen (Table 2).

Malaria-endemic countries have access to quality medicine and the use of rapid diagnostic tests has increased significantly in recent years. However, rates for parasitological confirmation of suspected malaria cases and treatment of cases with quality medicine are still far below the universal coverage target. Confirmation rates in other high-burden countries range from 5% in Pakistan to 72% in Yemen. Coverage of vector control interventions has increased, although not at the same level for all countries. Sudan is reporting 100% operational coverage for long-lasting insecticidal nets (LLINs) in most states.

In 2016, support was provided to countries to update their national strategies in line with the Global Technical Strategy and to complete the first stage of risk mapping for malaria at the district level. The Regional Office continued to support existing regional networks for monitoring and response to antimalarial resistance that resulted in updating treatment policies when needed in some countries. The first regional external

Table 1
Parasitologically-confirmed cases in countries with no or sporadic transmission and countries with low malaria endemicity

Country	2014		2015		2016	
	Total reported cases	Autochthonous	Total reported cases	Autochthonous	Total reported cases	Autochthonous
Bahrain	100	0	87	0	106	0
Egypt	313	22	291	0	233	0
Iran (Islamic Republic of)	1238	376	799	187	706	94
Iraq	2	0	2	0	5	0
Jordan	102	0	59	0	51	0
Kuwait	268	0	309	0	388	0
Lebanon	119	0	125	0	134	0
Libya	412	0	324	2	370	2
Morocco	493	0	510	0	409	0
Palestine	0	0	0	0	1	0
Oman	1001	15	822	4	807	3
Qatar	643	0	445	0	493	0
Saudi Arabia	2305	51	2620	83	5382	272
Syrian Arab Republic	21	0	12	0	12	0
Tunisia	98	0	88	0	99	0
United Arab Emirates	4575	0	3685	0	3849	0

NA: not available

Table 2
Reported malaria cases in countries with high malaria burden

Country	2014		2015		2016	
	Total reported cases	Total confirmed	Total reported cases	Total confirmed	Total reported cases	Total confirmed
Afghanistan	290 079	83 920	350 044	103 377	392 551	190 161
Djibouti	9439	9439	9557	9557	13 804	13 804
Pakistan	3 666 257	270 156	3 776 244	202 013	2 115 941	318 449
Somalia	26 174	11 001	39 169	20 953	NA	NA
Sudan	1 207 771	1 068 506	1 102 186	586 827	974 571	566 015
Yemen[a]	122 812	86 707	104 831	76 259	144 628	98 701

NA: not available
[a]Data were collected from 20 governorates, with low reporting completeness

competence assessment for malaria microscopy was conducted. Support was provided to countries for strengthening integrated vector management including entomological surveillance and insecticide resistance monitoring. The regional framework for action on sound management of public health pesticides was updated.

National malaria programmes in high-burden countries have challenges with availability of quality technical staff either due to lack of resources, brain drain and structural reforms and frequent changes in programme leadership. Future support will emphasize advocacy and resource mobilization, targeting mainly regional donors, and building human resource capacity at all levels, particularly subnational level, in the six priority countries. Long-term support of malaria elimination targets and control of other vector-borne diseases will focus on moving towards integrated vector management.

In past years, leishmaniasis has seen a re-emergence in conflict-affected areas throughout the Region (e.g. Iraq and Syrian Arab Republic), with consequences for neighbouring countries as well due to population movements. In 2016, significant progress was made in closing the gap in anti-leishmanial medicines, strengthening the provision of health services to affected people at central and peripheral level and reinforcing the capacities of health staff on surveillance, control, diagnosis, management and data reporting, notably in Afghanistan, Iraq, Pakistan and Syrian Arab Republic (for cutaneous leishmaniasis), and in Somalia and Sudan (for visceral leishmaniasis).

For schistosomiasis, planning for surveys aimed at confirming interruption of transmission were carried out in Djibouti, Iraq, Jordan and Oman. In 2016, Egypt adopted a 5-year plan for elimination of schistosomiasis and mobilized domestic resources for its implementation. Yemen continued implementing mass treatment for schistosomiasis, whose elimination as a public health problem has now been achieved in several foci, and funds were successfully secured from international donors to sustain activities beyond 2017. Treatment was scaled up in Sudan and mapping for schistosomiasis was started in Somalia.

Elimination of lymphatic filariasis as a public health problem is nearly complete in Egypt and Yemen. Sudan scaled up mass treatment with WHO-donated medicines. Interruption of onchocerciasis transmission was demonstrated in a second focus in Sudan. In Yemen, over 162 000 people were treated with ivermectin through the first mass treatment implemented in the country.

WHO continued to donate medicines to implement de-worming for soil-transmitted helminthiasis in several countries in the Region. Egypt and Syrian Arab Republic launched their first deworming campaign. WHO provided medicines to UNRWA to treat schoolchildren in all fields of operation in Jordan, Lebanon, Palestine and Syrian Arab Republic. A nationwide epidemiological survey was completed in Pakistan in view of the launch of mass treatment.

Five countries (Egypt, Pakistan, Somalia, Sudan, Yemen) still have pockets of intense leprosy transmission. Scaled up field activities aim at ensuring that all new cases are timely detected and managed with multidrug therapy, and that all former patients are offered rehabilitation and disability care. Experts from the Region were instrumental in developing and finalizing the global leprosy strategy 2016–2020, its operational manual, and its monitoring and evaluation guide.

In 2016, Morocco was successfully validated as having eliminated trachoma as a public health problem, the second country in the Region, and globally, after Oman. Planning and implementation of the trachoma SAFE strategy (surgery, antibiotics, facial cleanliness and environmental improvements) progressed throughout the Region, notably in Egypt, Pakistan and Sudan. Trachoma mapping was planned in Somalia and resources were mobilized to this effect.

Sudan is the only country in the Region which remains to be certified free from dracunculiasis. No cases have been reported since 2014. Field visits aimed at assessing the status of surveillance and awareness of the disease were carried out in 2016, in preparation for the start of the certification process.

In May 2016, the World Health Assembly adopted a resolution (WHA69.21) addressing the burden of mycetoma. The resolution was sponsored by the Government of Sudan and advocated for recognition of this disfiguring and debilitating condition as a new neglected tropical disease. Mycetoma is known to affect several other countries of the Region, including the Islamic Republic of Iran, Somalia and Yemen. Steps were taken towards the delineation of a WHO strategy to reduce the burden of mycetoma.

Immunization and vaccines

In 2016, the regional average DTP3 vaccination coverage was estimated at 80%, compared to 79% in 2015. While 14 countries have maintained the target of achievement of ≥90% routine DTP3 vaccination coverage (WHO-UNICEF estimates, 2016), the estimated DTP3 coverage in the Syrian Arab Republic increased slightly to 42% in 2016

Photo: ©WHO

↑ In 2016 Morocco was officially recognized by WHO as having eliminated trachoma

compared to 41% in 2015. An estimated 3.7 million children missed their DTP3 in 2016, 92% of whom were in six countries facing emergencies: Afghanistan, Pakistan, Iraq, Somalia, Syrian Arab Republic and Yemen.

Twelve countries achieved ≥95% coverage with first dose of measles-containing vaccine (MCV1) compared to 10 countries in 2015, and 21 countries provided the routine second dose of measles-containing vaccine with variable levels of coverage. Measles case-based laboratory surveillance is being implemented in all countries; 20 countries perform nationwide case-based surveillance and two countries (Djibouti and Somalia) are conducting sentinel surveillance. Fourteen countries reported very low incidence of measles (fewer than five cases per million population), four of which continued to achieve zero incidence and are ready for verification of elimination.

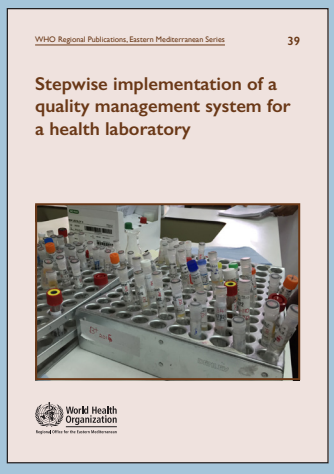
With regard to new vaccines, Djibouti and Iraq successfully introduced inactivated polio vaccine

in 2016. Elimination of maternal and neonatal tetanus was validated by WHO in Punjab province of Pakistan. Djibouti, Sudan and Yemen updated their comprehensive multi-year plans (cMYP).

In 2016, technical support was provided to the countries with low coverage to intensify outreach activities, implement coverage acceleration campaigns and sustain cold chain and vaccine management capacity. Afghanistan developed its cMYP and planned for undertaking a comprehensive programme review. Pakistan focused on data quality improvement, Syrian Arab Republic on supplementary multi-antigen immunization, Oman on improving vaccine management and Qatar on micro-planning for a MMR campaign.

Future support to Member States will focus on increasing immunization coverage, improving supply chain, data quality and surveillance for vaccine-preventable diseases, implementation of measles campaigns, establishing regional verification commissions for elimination of measles/rubella and hepatitis B. The regional technical advisory group for routine immunization will be reconstituted in 2017.

The evaluation, licensure, control, and surveillance of vaccines and other biological medicinal products are major challenges for national regulatory authorities in the Region. WHO is supporting countries to strengthen the required regulatory functions such as through assessment workshops (five countries) and global learning opportunities on vaccine quality for regulators in vaccine-producing countries and countries supported by the Pandemic Influenza Preparedness Framework. The WHO collaborative registration procedure for WHO prequalified vaccines was introduced in order to accelerate the registration process by national regulatory authorities. Support was provided to countries for improvement of pharmacovigilance and surveillance for adverse events following immunization.



↑ ***Technical guidance on quality management for health laboratories***

Antimicrobial resistance

In September 2016, all heads of state at the United Nations General Assembly renewed their political commitment for implementation of the global action plan on antimicrobial resistance. WHO supported the development of national action plans on antimicrobial resistance and identified a roster of experts in relevant fields of human and animal health to assist the countries in this exercise. Technical support was provided to six countries in initiating national surveillance for antimicrobial resistance. Protocols for prevalence surveys of health care-associated infections were piloted in two countries.

The response to antimicrobial resistance is challenged by lack of effective intersectoral collaboration, fragmented planning and implementation, weak laboratory capacity at the national level for testing, lack of reliable

↑ ***Strategic frameworks for strengthening health laboratory services and for blood safety and availability***

information on the burden of antimicrobial resistance and limited financial resources. WHO will continue to support countries in development and implementation of national action plans on antimicrobial resistance and in mobilizing domestic and international resources. Countries need to enrol in the global antimicrobial resistance surveillance system and start reporting to the global antimicrobial resistance surveillance platform.

Public health laboratories

In October 2016, the 63rd Session of the Regional Committee endorsed the regional strategic frameworks for strengthening health laboratory services 2016–2020 and for blood safety and availability 2016–2025. The frameworks lay a solid foundation for strengthening laboratory systems and blood transfusion services across the Region and will inform and guide the efforts by Member States to provide high-quality, equitable and affordable services in a sustainable manner.

All countries were supported throughout 2016 to lay the groundwork for implementation of the strategic frameworks, with some countries receiving targeted support based on their specific needs. Six countries received strong support in the area of biosafety/biosecurity and biorisk management; at least four countries were supported for development of national regulatory frameworks for laboratory services, implementing quality management systems and developing laboratory accreditation mechanisms; and 11 countries received various types of support to strengthen their laboratories for surveillance of antimicrobial resistance. WHO will continue providing comprehensive guidance and support for implementation of the strategic frameworks, with a focus on strengthening leadership and governance of the laboratory and blood services, building national and regional laboratory referral networks, enhancing quality and biorisk management systems, improving blood donor management, and establishing haemovigilance systems.

Blood safety

Due to injuries related to violence and conflict, the demand for blood and blood products has

increased in countries affected by humanitarian emergencies. In these countries, the health systems have been weakened or destroyed and health workers provide health services in insecure areas and under difficult circumstances, which makes delivery of these lifesaving products challenging. An extensive assessment of the situation of blood transfusion during humanitarian emergencies was conducted, followed by a regional consultation that agreed on recommendations, including integration of blood transfusion services in the overall national emergency preparedness and response, collection and dissemination of updated information on factors affecting provision of blood transfusion during humanitarian emergencies, provision of technical and financial assistance to support blood transfusion, strengthening mechanisms for coordination and collaboration among different parties, and developing a regional emergency blood services system and management expertise.