

# Communicable diseases

in the Eastern Mediterranean Region  
Prevention and control 2005–2009

## Executive summary



### Introduction

1. In the WHO Eastern Mediterranean Region, communicable diseases are among the major causes of mortality and morbidity and pose major impediments to social and economic well-being. This report provides an overview of the status of communicable diseases in the Region, and progress in disease control during 2005–2009 through six regional visions.

### Major achievements

2. Significant progress was made between 2005 and 2009 in controlling communicable diseases in the Region, in order to meet regional and global goals of eradication, elimination and control. Regional routine vaccination coverage reached 88% for the first time, with 16 countries achieving 90% coverage with DPT3 and four other countries approaching 90%. Since 1994, about 384 million children in the Region have been vaccinated against measles. The number of measles cases decreased by 80% between 1998 and 2009, and eight countries are approaching measles elimination. By 2007, the Region had achieved a measles mortality reduction of 90% compared with 2000 levels, three years ahead of the global

target. New vaccines for hepatitis B, *Haemophilus influenzae* type B (Hib), *Streptococcus pneumoniae* (pneumococcus), rotavirus and rubella continue to be introduced into the Region.

3. The Regional Office's commitment to eradicating dracunculiasis (guinea-worm disease) from southern Sudan, and therefore the world, is evidenced by a 25% decrease in incidence observed between 2008 and 2009. In addition, the case containment rate rose from 49% in 2008 to 83% in 2009. Dracunculiasis eradication programmes are now active in newly discovered endemic areas and surveillance and monthly reporting of cases are now possible.

4. Significant progress has been made in several countries regarding the understanding of the local HIV epidemic situation, in particular with regard to populations likely to be most at risk of infection. The number of countries that obtained data on HIV prevalence and risk behaviours among prisoners, injecting drug users, men who have sex with men and sex workers increased. Also, countries improved the quality of surveys by using the preferred probability-based sampling methodologies. These achievements show that even in a difficult cultural context, where these populations are hidden, highly stigmatized and discriminated against,

it is possible to conduct community-based surveys if confidentiality, respect for human rights and access to services for those in need are ensured. All countries now provide antiretroviral medicines free of charge for HIV. As a result, the number of people living with HIV (PLHIV) and receiving antiretroviral therapy almost tripled between 2006 and 2009.

5. Between 2005 and 2009, the number of reported cases of tuberculosis increased from 282 945 to 418 149, resulting in an increase in the case detection rate from 46% in 2005 to 63% in 2009. The treatment success rate of smear-positive pulmonary tuberculosis also increased from 83% to 88% during the same period.

## Visions for communicable disease control in the Region

**Vision 1** – Elimination and eradication of specific diseases

**Vision 2** – Expanding disease-free areas

**Vision 3** – Providing a safe vaccine for every childhood disease for every child

**Vision 4** – Curbing the HIV/AIDS epidemic

**Vision 5** – Halving the burden of tuberculosis – working towards elimination

**Vision 6** – Containing new and re-emerging disease threats.

### Vision 1

#### Elimination and eradication of specific diseases



*The vision for our Region encompasses the elimination of deadly and disfiguring diseases such as lymphatic filariasis, leprosy and diseases that can be prevented by childhood vaccination, such as measles and maternal and neonatal tetanus. We also envision the eradication of dracunculiasis (guinea-worm disease) from the Region.*

6. The elimination and eradication of communicable diseases are the ultimate goals of communicable disease control programmes. The global and regional targets for eradication and elimination are to:

- eradicate dracunculiasis by 2009 (regional and global target)
- eradicate poliomyelitis by 2012 (regional and global target)

- eliminate lymphatic filariasis by 2015 (regional target)
- eliminate leprosy by 2005 (regional and global target)
- eliminate measles by 2010 (regional target)
- eliminate maternal and neonatal tetanus by 2005 (regional and global target).

#### Dracunculiasis

7. In 2009, all 2733 new cases of dracunculiasis in the Region were in southern Sudan. This represents a 25% decrease from 2008 when 3618 cases were reported. The case containment rate rose from 49% in 2008 to 83% in 2009.

8. The global programme strategies for dracunculiasis eradication in the Region comprise four components:

- providing safe sources of drinking-water
- vector control
- village-based surveillance
- case containment.

9. In Sudan, infrastructure has been established for the guinea-worm eradication programme and logistical support has been provided to allow surveillance and monthly reporting of cases. Village volunteers and supervisors were trained on case management, case containment, data collection and analysis, social mobilization

activities and organization of active surveys in high-risk areas.

**10.** Through sustained and targeted efforts by the country programmes, the Regional Office and associated partners, the elimination of dracunculiasis from the Region is expected to be achieved in coming years.

### *Lymphatic filariasis*

**11.** The Eastern Mediterranean Region contributes only 1% of the global burden of lymphatic filariasis. It is endemic mainly in Sudan and some parts of Egypt and Yemen.

**12.** In line with the aims of the Global Programme to Eliminate Lymphatic Filariasis, the Region's two major aims are for the interruption of transmission and the prevention and alleviation of disability and suffering. Lymphatic filariasis elimination is possible through mass drug administration (MDA) programmes, which can reduce the transmission of the disease to almost zero.

**13.** Significant progress has been made in eliminating lymphatic filariasis in Egypt and Yemen, however, elimination in Sudan remains a major challenge. MDA has not begun, and little information exists about the distribution and burden of the disease in southern Sudan. The target of regional lymphatic filariasis elimination by 2015 is attainable if a strong elimination programme in Sudan can be established.

### *Leprosy*

**14.** Regional leprosy incidence declined from 4665 cases in 2002 to 3820 in 2009. The prevalence increased from 4240 in 2008 to 4967 cases in 2009.

**15.** The global goal for leprosy was to eliminate the disease as a public health problem at the national level in all countries by 2005. In the Eastern Mediterranean Region, all countries had attained this goal by 2000. Having also reached elimination at the sub-national level in most endemic countries, the regional goal is now to eliminate leprosy at the district level and further reduce its transmission.

### *Measles*

**16.** Measles is one of the leading causes of death among young children. Malnourished children are especially at risk of infection and more than 95% of measles deaths occur in low-income countries with weak health infrastructure. In the Region, the number of confirmed measles cases decreased dramatically from about 88 000 in 1998 to 15 800 in 2009 and measles mortality reduced by 93% between 2000 and 2008.

**17.** In 2002, the World Health Assembly and the United Nations General Assembly Special Session (UNGASS) set a target to reduce measles deaths by 50% by 2005 compared to levels in 1999. Further, the WHO-UNICEF Global Immunization Vision and Strategy (GIVS) set the target of achieving 90% reduction of measles mortality by 2010 compared to 2000 levels. Both targets have been achieved.

**18.** In 2009, the regional coverage with one dose of the measles-containing vaccine reached 84%, with approximately 384 million children in the Region vaccinated through supplementary immunization activities (SIA) between 1994 and 2009. Of the 22 countries in the Region, 19 (86.4%) countries provided two routine measles doses.

**19.** The Region has made substantial progress towards measles elimination. Eight countries are approaching measles elimination, however, some still experience measles outbreaks. The Region can achieve measles elimination, but it will not attain the 2010 goal.

### *Maternal and neonatal tetanus*

**20.** Neonatal tetanus is responsible for about 1% of deaths in children aged under 5 years worldwide. In the Eastern Mediterranean Region, 1059 cases were reported during 2009, of which almost 90% of cases were reported from Pakistan and Sudan.

**21.** The global goal to eliminate maternal and neonatal tetanus by 2005 was set by the WHO, UNICEF and UNFPA in 1999. However, the target was not achieved and a new target date was not set.

**22.** At the end of 2009, 16 countries had achieved maternal and neonatal tetanus elimination. Afghanistan, Iraq, Pakistan, Somalia, Sudan and Yemen had not achieved elimination.



## Vision 2

### Expanding disease-free areas



*Our vision is to expand areas that are free of malaria, schistosomiasis and leishmaniasis, and achieve a region free of onchocerciasis and trypanosomiasis. This will release large numbers of people and whole communities in our Region from painful and often fatal diseases that can now be prevented.*

### Malaria

**23.** In the Eastern Mediterranean Region, about 55% of the population (295 million) lives at risk of contracting malaria. In 2008, there were an estimated 8.1 million cases of malaria (76% *Plasmodium falciparum*) and 38 000 deaths. Malaria is endemic in nine countries and most cases of malaria (95%) in the Region occur in Afghanistan, Djibouti, Pakistan, Somalia, Sudan and Yemen. Sudan alone accounts for more than 60% of the total estimated regional cases.

**24.** The regional goals by 2015 are to prevent re-establishment of malaria transmission in areas where there is no transmission, interrupt malaria transmission in 50% of districts with low and focal transmission, and continue reducing the incidence of malaria in endemic high transmission areas such that levels are 75% less than in 2000.

**25.** Significant progress has been made to reduce the burden of malaria. The estimated malaria incidence decreased from 15 million in 2000 to 8.1 million in 2008. An estimated 43% reduction of the regional malaria incidence occurred between 2000 and 2008. Similarly, estimated mortality decreased from 59 000 to 38 000 in 2008.

**26.** Of the 22 countries in the Region, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Libyan Arab

Jamahiriya, Morocco, Oman, Palestine, Qatar, Syrian Arab Republic, Tunisia and United Arab Emirates are malaria-free. Certification of malaria elimination by WHO was granted to United Arab Emirates in 2007.

### Schistosomiasis

**27.** Schistosomiasis is prevalent in tropical and sub-tropical areas, especially in communities without access to safe drinking water and adequate sanitation. In the Eastern Mediterranean Region, the disease is mainly endemic in Somalia, Sudan and Yemen.

**28.** In May 2001, the World Health Assembly endorsed a resolution urging countries to ensure access to essential drugs against schistosomiasis in endemic areas, with the goal of attaining regular administration of drug treatment to at least 75% of all school-age children at risk by 2010.

**29.** The sustained control and elimination of schistosomiasis remains a challenge in Somalia and Sudan. Yemen launched national campaigns for the elimination of schistosomiasis in 2008 and recently finalized a multi-partner, mid-term intervention (2010–2015) to ensure that coverage is scaled up, and the operational and technical capacity of the national programmes are strengthened.

### Leishmaniasis

**30.** Each year, about 500 000 new cases of leishmaniasis infection are reported worldwide, resulting in more than 50 000 deaths.

**31.** The regional goal is to expand areas that are free of leishmaniasis, particularly in countries with residual foci of anthroponotic cutaneous leishmaniasis and to decrease the morbidity and mortality of leishmaniasis in endemic countries.

**32.** The need for increased capacity to deal with cutaneous leishmaniasis has been addressed and national guidelines were revised for the highly endemic countries of Afghanistan and Iraq.

### Trypanosomiasis

**33.** Human African trypanosomiasis, or sleeping sickness, threatens over 60 million people in 36 countries of sub-Saharan Africa. The estimated

number of cases is currently between 50 000 and 70 000. The one remaining endemic country in the Region is Sudan.

**34.** The Regional Office supported trypanosomiasis centres by providing specific medicines and reagents for screening, diagnosis and treatment of the disease, as well as making available draft maps of trypanosomiasis in Africa to the Sudanese Ministry of Health.

### Vision 3

#### Providing a safe vaccine for every childhood disease for every child



*Our vision is that every child will receive a safe vaccine for each childhood vaccine-preventable disease. New and improved vaccines of regional importance will be added to the vaccination schedule as soon as they become available. This is the gateway for our ultimate goal: "No child will die from a vaccine-preventable disease in our Region".*

**35.** An estimated 1 275 511 children aged under 5 years died in 2008 in the Eastern Mediterranean Region. About 25% of those deaths could be attributed to vaccine-preventable diseases.

**36.** The WHO/UNICEF Global Immunization and Vision Strategy aims to administer DPT3 to at least 90% of the population, with at least 80% coverage in every district by 2010 or earlier.

**37.** In all countries of the Region, the Expanded Programme on Immunization (EPI) provided at least the DPT or DPT-containing vaccine, oral polio vaccine, hepatitis B vaccine, measles vaccine, and tetanus toxoid vaccine to pregnant women to prevent maternal and neonatal tetanus.

**38.** The reported regional immunization coverage with DPT3 increased from just below 80% in 2005 to just below 90% in 2009. Fifteen countries and northern Sudan have achieved the target of 90% coverage and five other countries are approaching the target. Despite considerable progress in 2009, DPT3 coverage is still low in Somalia (52%) and southern Sudan (43%). DPT3 coverage in Afghanistan increased from 66% in 2004 to 83% in 2009, while in Pakistan coverage increased from 65% in 2004 to 85% in 2009.

**39.** Since the introduction of the hepatitis B vaccine, the proportion of children born in the Region that have received three doses of it has increased from 64% in 2004 to almost 86% in 2009.

**40.** New vaccines for hepatitis B, *Haemophilus influenzae* type B (Hib), *Streptococcus pneumoniae* (pneumococcus), human papilloma virus (HPV), rotavirus and rubella have been introduced into the Region.

**41.** Due to difficult and emergency situations, progress has not been satisfactory in Somalia and southern Sudan. Varying technical and managerial capacity at the national level, and an inability to deal with multiple priorities, have been the major challenges in reaching the targets set for the Region.

### Vision 4

#### Curbing the HIV/AIDS epidemic



*Antiretroviral therapy is now available to all. The comprehensive package for prevention and care for HIV/AIDS is now complete. Our vision is to curb the epidemic by adopting this comprehensive package in all countries of the Region.*

**42.** In 2009, an estimated 75 000 (61 000–92 000) people in the Region became infected with HIV, and 24 000 (20 000–27 000) AIDS-related deaths occurred. The total number of people living with HIV in the Region at the end of 2009 was estimated to be 460 000 (400 000–530 000). Generalized epidemics exist in Djibouti, parts of Somalia and southern Sudan while concentrated epidemics exist among injecting drug users in Afghanistan, Egypt, Islamic Republic of Iran, Libyan Arab Jamahiriya and Pakistan, and there is concern that HIV is spreading among injecting drug users in Morocco and Oman.

**43.** In line with MDG 6, the regional goal is to reduce the transmission of, vulnerability to and impact of HIV/AIDS and sexually transmitted infections through a comprehensive, effective and sustainable health-sector response to the epidemic.

**44.** All countries in the Region increased coverage for HIV treatment between 2005 and 2009. The number of people living with HIV (PLHIV) on ART increased from 5209 in 2006 to 15 483 in 2009. All countries provided antiretroviral medicines free of charge to those PLHIV.

**45.** Sixteen countries reported progress in coverage with HIV services among people in need and all countries now provide HIV treatment and care services in their capital city, and most have expanded access to peripheral hospitals.

**46.** Most countries in the Region have not taken the necessary steps to estimate the size of their at-risk population. Stigma and discrimination against PLHIV remain prevalent and act as barriers against more people accessing testing and counselling services. Countries with the highest burden of HIV in the Region are also those that have weaker public health systems.

## Vision 5

### Halving the burden of tuberculosis – working towards elimination



*Our immediate vision is to halve the number of cases and deaths from tuberculosis in our Region. In the long term, we will strive to eliminate tuberculosis in the lifetime of the first child born in this millennium. We must achieve these targets in order to play our role in the global efforts to reverse the expansion of this preventable and curable disease.*

**47.** The Region contributes about 7% of tuberculosis cases worldwide. Approximately 660 000 new tuberculosis cases emerged in 2009. The estimated number of tuberculosis deaths in 2009 was 99 000, with five countries contributing to 88% of the deaths.

**48.** The regional Stop TB plan focuses on improving the quality of DOTS, the basic package that underpins the Stop TB strategy, encouraging new approaches such as public–private mix, managing multidrug-resistant tuberculosis, strengthening health systems and suspect management through the Practical Approach to Lung Health strategy and supporting HIV/tuberculosis collaborative activities.

**49.** All national tuberculosis programmes have adopted the Stop TB strategy and most have developed national strategic plans. DOTS population coverage reached 98%, laboratory coverage has expanded and culture services and drug susceptibility testing have improved. Notification of new cases increased from 141 748 in 2000 to 418 149 in 2009, and the notification rate improved significantly, reaching 70 per 100,000 in 2009. The regional average of treatment success rate was 88%, which is higher than the global target of 85%.



**50.** Between 1997 and 2009, more than 2 million tuberculosis patients were cured. By 2009 the incidence of tuberculosis had been reduced compared to 1990 levels, and the mortality rate had been almost halved. During the same period, the tuberculosis prevalence rate decreased by over one-third.

**51.** Limited involvement of the private sector is reducing the ability of some countries to report tuberculosis cases. In many countries, the quality of diagnosis is poor and the quality of laboratory diagnosis is not always assured. Low financing for tuberculosis control programmes is a concern, with most high-burden tuberculosis countries relying on external funding. Complex emergencies, including natural disasters and conflict, are also an important challenge in the Region.

## Vision 6

### Containing new and re-emerging disease threats



*With the extension of global air travel, neglected local disease threats can quickly spread and become global emergencies. Our Region must be prepared to respond rapidly to any emerging or re-emerging disease threats. The earlier a disease threat is identified, the easier it is to contain.*

**52.** Regional preparedness for new and re-emerging disease threats is important considering that the Region is at the centre of international travel related to trade, tourism and religion, and has a large turnover of expatriate workers.

**53.** The main objectives of regional communicable diseases surveillance and response programmes are to provide technical support to countries during public health emergencies and assist them

in achieving the minimum epidemiological and laboratory core capacities required for strengthening national and regional alert and response systems.

**54.** The Regional Office has made good progress in preparing the Region for disease outbreaks through establishing the Regional Alert, Surveillance and Detection of Outbreak Network (RASDOON), the Eastern Mediterranean Regional Network for Infection Control, the International Health Regulations Regional Task Force, and publishing the *Weekly Epidemiological Monitor*. As a result, many communicable diseases outbreaks were contained successfully.

**55.** In several countries, national surveillance and response preparedness was affected by the inadequate allocation of funds for surveillance, a lack of trained health personnel, internal conflicts and large numbers of refugees and internally displaced persons.

### Technical support for Global Fund-related activities

**56.** The Global Fund to Fight Aids, Malaria and Tuberculosis is the largest international donor for HIV/AIDS, tuberculosis and malaria care, to date approving 64 grants and with anticipated grants obligations of US\$ 1.5 billion to 14 eligible countries of the Eastern Mediterranean Region.

**57.** The Regional Office provided technical support for proposal development, grant negotiation and implementation, and participated actively in country coordination mechanisms.

### Support for operational research

**58.** Through the Small Grants Scheme, the Regional Office supports operational research that contributes to the prevention and control of communicable diseases, collaborates with control programmes in translating research results into policy and practice, or strengthens research capacity in the Region.

**59.** More than 1000 proposals were submitted during 2005–09 and around 14% were successful in obtaining support.

**60.** More than 100 articles, originating from Small Grants Scheme-supported projects, have been published in indexed journals and 33 articles were published in a special issue of the *Eastern Mediterranean Health Journal*.

### Major challenges facing the Region

**61.** Elimination and eradication of communicable diseases in Sudan is a major challenge. Mass drug administration for lymphatic filariasis and mapping of the disease in southern regions has not occurred. Sudan accounts for 60% of the Region's malaria burden and outbreaks still occur. Schistosomiasis, leishmaniasis and trypanosomiasis are endemic, there is a generalized HIV epidemic in southern Sudan and Sudan is considered a high-burden tuberculosis country. Sudan's preparedness to deal with emerging disease threats needs strengthening.

**62.** The weak capacity of malaria control programmes, limited coverage, low quality laboratory services, poor malaria surveillance systems and a lack of structures to deliver the interventions to marginalized and inaccessible populations are key programmatic and health system challenges in Afghanistan, Djibouti, Pakistan, Somalia, Sudan and Yemen.

**63.** Varying technical and managerial capacity at the national level, and an inability to deal with

multiple priorities, have been the major challenges in reaching the targets of the Expanded Programme on Immunization. In addition, ongoing conflicts in the Region are impeding the implementation of full-scale immunization programmes.

**64.** An inability to estimate the size of at-risk populations and therefore forecast the burden of new infections and plan for effective coverage with prevention programmes is hampering most countries in increasing coverage with quality HIV treatment and care services.

**65.** Low financing for tuberculosis control programmes is a concern, with most high-burden tuberculosis countries relying on external funding. In many countries, the quality of diagnosis is poor and laboratory diagnosis is not always extensive or accurate. Complex emergencies related to natural disasters and security issues have impeded the accessibility of tuberculosis care in some countries.

**66.** In several countries, containing new and re-emerging disease threats was affected by the inadequate allocation of WHO funds for surveillance, a lack of trained health personnel, internal conflicts and large numbers of refugees and internally displaced persons. The large population displacement due to war, internal conflict, drought and flooding in several countries increased the chance of outbreaks and hindered early detection and rapid response.

#### For further information and a copy of the full report, please contact

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