

# DCD Bulletin

Division of Communicable Disease Control

## DCD Bulletin

This quarterly bulletin presents important news, events and announcements from programmes of Division of Communicable Disease Control in the World Health Organization (WHO) Regional Office for the Eastern Mediterranean. For details, please contact [dcdd@emro.who.int](mailto:dcdd@emro.who.int) inserting "DCD Bulletin" in the subject line.

## Issue highlights

- The challenge of emerging infectious diseases
- Chikungunya outbreak in Yemen
- World Tuberculosis Day 2011: On the move....
- Communicable disease—research highlights

## The challenge of emerging infectious diseases

In the last 20 years, there has been a dramatic increase in the incidence and geographic distribution of emerging infectious disease such as dengue/dengue haemorrhagic fever, both globally, and in the Eastern Mediterranean Region. Recently, there has also been the emergence of chikungunya fever in places never before reported. At the root of the emergence of these infectious diseases, as a major health problem, are changes in human demography and behaviour leading to unchecked populations of, and increased exposure to, the principal domestic mosquito vector *Aedes aegypti*. Modern transportation ensures a rapid transit of both viruses and mosquitoes. Uncontrolled urbanization and deterioration of public health infrastructure increase the probability that secondary transmission will occur after a virus is introduced. There is no evidence suggesting that these factors, which greatly facilitate transmission, will change in the near future.

While the current focus for a public health response to the emergence of these diseases should remain to control the epidemics, in the longer run, the emphasis should be on effective prevention strategies to reverse the recurrence. Today, the changing epidemiology of the disease warrants a shift in paradigm. Dengue prevention and control requires thinking outside the tropical box. An integrated vector management pro-

gramme with maximum and sustained community participation may hold the key to the prevention and control of such epidemics.

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## World Health Day 2011: Antimicrobial resistance: no action today, no cure tomorrow

We live in an era of medical breakthroughs with new wonder drugs available to treat conditions that a few decades ago, or even a few years ago in the case of HIV/AIDS, would have proved fatal. For World Health Day 2011, WHO will launch a worldwide campaign to safeguard these medicines for future generations. Antimicrobial resistance and its global spread threaten the continued effectiveness of many medicines used today to treat the sick and risks jeopardizing important advances being made against major infectious killers.

For details access: <http://www.who.int/world-health-day/en/>.

## Programme news

### Control of Tropical Diseases and Zoonosis

#### National leprosy programme managers' meeting, Beirut, 15–16 December 2010

The WHO Regional Office organized a meeting of national leprosy programme managers in Beirut, Lebanon from 15 to 16 December, 2010. The meeting was attended by programme managers from several countries of the Region, in addition to

representatives from the Nippon Foundation, International Federation of Anti-Leprosy Associations, nongovernmental organizations and experts. Dr Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean, and Mr Yohei Sasakawa, WHO Goodwill Ambassador for Leprosy Elimination and Chairman of the Nippon Foundation also participated in the meeting. The meeting discussed and deliber-

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National programme managers' meeting on leprosy elimination in Beirut, December 2010

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## Control of Tropical Diseases and Zoonosis (cont.)

ated upon the implementation of the Enhanced Global Strategy 2011–2015 to reduce the burden of leprosy. The meeting stressed upon countries the need to enhance the capacity of health workers through training and exchange of experience, encourage and promote leprosy treatment access and involve people affected by leprosy in awareness activities to reduce stigma and reduce delay in detection of cases.

## Surveillance, Forecasting and Response

### Chikungunya outbreak in Yemen

In January 2011, the Regional Office for the Eastern Mediterranean received a request from the Ministry of Public Health and Population in Yemen to investigate an outbreak of an “unknown disease” in one of its governorates. A technical mission later concluded that the outbreak was caused by chikungunya fever, a mosquito-borne illness caused by chikungunya virus which causes acute fever, rash and intense joint pain. The disease, first reported in 1952 in Tanzania, has been attributed to many outbreaks in a number of countries, including many African countries. This was the first time that Yemen had reported an outbreak of chikungunya fever. The mission recommended a number of specific public health measures. The outbreak is currently on the decline (Figure 1) and steps have been intensified by local health authorities to contain the outbreak and prevent its geographic spread.

### Resolution on infection prevention and control: A call for action

Following a resolution of the 57<sup>th</sup> Session of the Regional Committee for the WHO Eastern Mediterranean, a consultative meeting, which was planned in early February, has been rescheduled

for April, to develop a tool for assessment of national infection prevention and control programme in countries of the Region. The Surveillance, Forecasting and Response programme is taking the lead in this process with active engagement from other technical programmes, WHO headquarters and the WHO Collaborating Centre in Riyadh, Saudi Arabia. A training course on infection prevention and control for acute respiratory diseases is scheduled for 10 to 13 April to enhance the capacity of health care facilities in the Region to prevent and control infection from epidemic and pandemic prone acute respiratory diseases of unknown infections.

## International Health Regulations (IHR 2005)

### Implementation of the IHR in the Region

The International Health Regulations programme conducted assessment missions in Qatar and Bahrain in the last quarter of 2010. Steps taken to implement the IHR in both countries were evaluated and a way forward (plan of action) for monitoring progress in IHR implementation was developed. Keeping in view the 2010 floods situation in Pakistan and the status of devolution of health systems in the country, an IHR advocacy mission was carried out at the beginning of 2011. Two experts from the IHR Regional Roster of Experts, in partnership with NAMRU-3, were deployed in Djibouti in January 2011 to assess the core capacities required for IHR implementation.

## Vaccine Preventable Diseases and Immunization

### Introduction of pneumococcal vaccine in Yemen

Pneumococcal vaccine was launched in Yemen in January in the presence of H.E Professor Abdel-Kareem Rasea, the Minister of Public Health and Population, in addition to WHO officials led by Dr Naeema Al Gasseer, WHO Assistant Regional Director and representatives of GAVI, UNICEF, the Minister of Finance and parliamentarians of Yemen. The importance of immunization as one of the most cost-effective health interventions was emphasized by the speakers on the occasion. At the end of the ceremony the first child in

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Patient with chikungunya fever

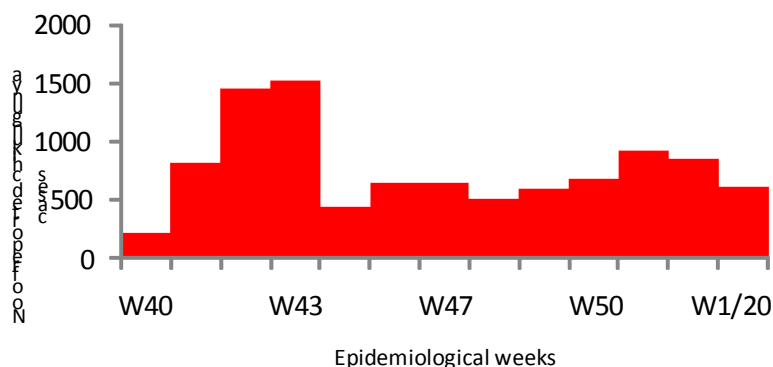


Figure 1. Epidemic progression of dengue/chikungunya fever in Al-Hodeida governorate, Yemen, 8 October 2010 to 7 January 2011

## Vaccine Preventable Diseases and immunization (cont.)

Yemen was vaccinated with pneumococcal vaccine. To effectively distribute and implement immunization, a guideline has been prepared by the Ministry of Public Health and Population, training of health care workers has been conducted and planning for medical waste was updated at health facilities. To increase coverage, a social mobilization campaign has been extensively carried out. In Yemen, it is estimated that pneumococcal infection is behind the occurrence of about 7% of deaths annually among children less than five years of age.

## Malaria control and elimination

### Malaria programme performance review and strategic planning

A workshop on malaria programme performance review and strategic planning was organized in Cairo, Egypt, from 13 to 15 December 2010. Malaria programme managers and monitoring and evaluation focal points from eight countries of the Region were invited. The workshop emphasized the importance of conducting periodic collaborative evaluation of national malaria control programmes for reviewing progress and performance of the country programmes within the national health and development agenda. The workshop was jointly organized by the Regional Office, the Global Malaria Programme, the Roll Back Malaria programme and the Global Fund.

### Malaria programme performance review, Islamic Republic of Iran

A technical assistance mission was sent to the Islamic Republic of Iran to build the capacity of malaria elimination programme authorities on conducting malaria programme performance review. The mission also assisted in preparations for the thirteenth regional course on malaria planning and management to be held in Bandar Abbas in Islamic Republic of Iran later this year. The mission met HE Minister of Health and Medical Education, other decision-makers and stakeholders and held discussions.

## Stop Tuberculosis

### World Tuberculosis Day 2011 commemorated across the Region

World Tuberculosis Day was commemorated in the last week of March across countries of the Region with the theme of 'On the move against tuberculosis - Transforming the fight towards elimination'. The campaign was part of the 2-year global campaign focusing on innovation in tuberculosis research and care. The campaign drew inspiration from the ambitious

new objectives and targets of the *Global Plan to Stop TB 2011–2015: Transforming the Fight - Towards Elimination of Tuberculosis*, which was launched by the Stop TB Partnership in October 2010. National events were led by prominent personalities from all walks of life reflecting commitment to tuberculosis care and pledging support to tuberculosis-affected patients and communities. Details are available at: [www.emro.who.int/stb](http://www.emro.who.int/stb).

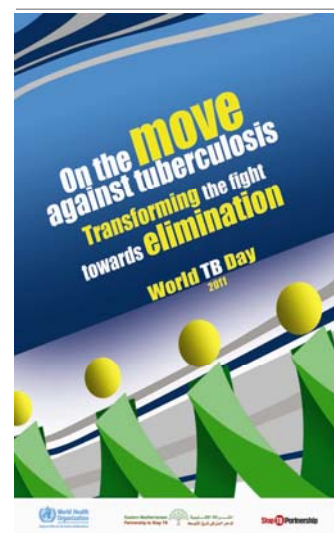
### Tuberculosis infection control training course, Cairo, 12–16 December 2010

The Stop Tuberculosis programme organized a five-day training course on tuberculosis infection control for countries of the Region in Cairo, Egypt, from 12 to 16 December 2010. The training included an introduction to tuberculosis transmission, pathogenesis and tuberculosis infection control, WHO tuberculosis infection control policy, managerial activities and administrative controls. Participants were also oriented on environmental and engineering controls, including air change per hour and how to use vanometer and respiratory protection. To provide hands-on experience to participants, field visits were also organized to an ambulatory treatment facility, hospital outpatient department and an inpatient health facility. The training concluded with the development and presentations of draft national tuberculosis infection control plans.

### Review of tuberculosis care in Pakistan

WHO Regional Office and partners, including the Federal Ministry of Health of Pakistan; provincial and district Departments of Health; Green Light Committee; Global Drug Facility; International Union Against Tuberculosis and Lung Diseases; KNCV; Global Fund to Fight AIDS, Tuberculosis and Malaria; Management Sciences for Health; and USAID conducted a joint review of tuberculosis care in Pakistan from 6 to 11 December 2010. The review noted progress in several areas, including strong political commitment from decision makers, national reference laboratory securing 100% proficiency in culture and first-line drug susceptibility testing, adaptation and introduction of revised recording and reporting system, initiation of disease prevalence survey and scale up of multidrug resistance tuberculosis management. The review identified a continued increase in case notifications with notification of

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## Stop Tuberculosis (cont.)

267 451 of all forms of tuberculosis in 2009 alone. The review identified critical areas of action, including suspect management, improving diagnosis, engaging care providers and community for enhanced case-finding, addressing high-risk groups and dealing with changes in the health system.

## Tropical Disease Research

*Findings from recent research studies in communicable disease prevention and control in the Region*

### Pakistan national dog bite and rabies surveillance project, 2009–2011

A study was conducted in Pakistan over a 2-year period (February 2009–2011) in order to determine the burden of rabies in the country. Nine emergency centres were selected as sentinel surveillance sites. In the first two years, 9547 dog bites and 57 deaths were reported. Animal bite exposure resulted almost exclusively from dog bites among patients presenting at these surveillance sites. The majority of victims were male children of school age and young adult males. There was a significant difference in the wound management and application of vaccines and rabies immunoglobulins between urban and rural sites. Less than 3% of dog bite victims with category III wounds received rabies immunoglobulins, in contrast to 52% at urban sites. Rural patients were also far more likely to receive their first care at home rather than at a hospital, and relied heavily upon traditional remedies, such as the use of red chilli pepper on wounds. Even at emergency rooms, bite victims frequently did not have their wounds managed appropriately. The majority of rabies cases identified in the study came from urban areas, but this is likely a selection bias reflecting the limited access to health centres for rural populations.

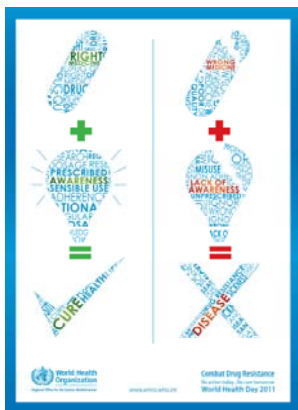
Access to medical care for dog bites and rabies suffers in Pakistan. Post-exposure prophylaxis at hospitals does not meet WHO guidelines. Relatively few hospitals administer the WHO recommended rabies immunoglobulin for patients with category III wounds. The continued use of the semple vaccine (5% sheep brain tissue suspension) and high cost of rabies immunoglobulins continue to contribute to this problem nationally.

Public sector and nongovernmental organizations need to establish local and national rabies control programmes. For this to be successfully implemented local civic authorities and nongovernmental organizations need to play a more active role in implementing animal birth control for unclaimed or stray dogs. The key to the success of such an approach lies in sterilizing 70% of the dog population of a particular area within 6 months before the start of the next reproductive cycle. More needs to be done to inform rural communities on how to manage animal bites at home. Emergency room staff need to be provided with appropriate vaccines and rabies immunoglobulins and trained on the WHO guidelines for wound management and treatment.

### Molecular epidemiology and genetic characterization of *Plasmodium vivax* populations in Islamic Republic of Iran, Afghanistan and Pakistan: implication for malaria control

A multicountry study on the molecular epidemiology and genetic characterization of *Plasmodium vivax* populations in Baluchistan province of Islamic Republic of Iran, Afghanistan and Pakistan was conducted in 2008. Genotyping of *pvmSP-1* revealed the presence of type 1, type 2 and recombinant type 3 allelic variants, with type 1 predominant, in all study areas. The sequence analysis of 57, 33 and 30 *P. vivax* isolates from Afghanistan, Pakistan and Islamic Republic of Iran identified 26, 16 and 16 distinct alleles, respectively. Genotyping of *pvcSP* gene also showed the presence of both VK210 and VK247 sequence types with the VK210 type predominant in three countries. Moreover, three major types of *pvmSP-3α* locus: type A, type B and type C, were distinguished among the examined isolates and type A was predominant among all examined isolates. PCR/RFLP products with *Hha I* and *Alu I* have detected 40 and 39 distinct variants among Pakistani and Iranian examined isolates, respectively. In addition, PCR/RFLP products with *Hha I* and *Alu I* have detected 30 and 22 distinct variants among Nangarhar and Herat isolates from Afghanistan, respectively. These results indicate that the *P. vivax* populations in the three countries are highly diverse. In fact, population movement among these three countries and also the presence of similar genetic make-up of *P. vivax* parasites and mosquito vectors species call for the establishment of a networking coordination for anti-malaria activities and standardization of control measures between the three countries, at least in border areas.

To download campaign material for World Health Day 2011 in different languages, please visit [www.who.int/world-health-day/2011/en/index.html](http://www.who.int/world-health-day/2011/en/index.html).



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