World Health Day 2014

VECTOR-BORNE DISEASES

SMALL BITE: BIG THREAT

A Regional Overview

World Health Organization
Regional Office for the Eastern Mediterranean
What are vectors?

- Vectors are organisms that transmit pathogens and parasites from one infected person (or animal) to another.
What are vector-borne diseases?

- Vector-borne diseases are illnesses caused by these pathogens (an agent that causes diseases) and parasites in human populations.

- They are most commonly found in tropical areas and places where access to safe drinking-water and latrines is problematic.
Why are vector borne diseases a problem?

- Some vector borne diseases can kill eg malaria, yellow fever
- Some vector borne diseases can cause social stigma eg. cutaneous leishmaniasis
- Some vector borne diseases lead to unproductive lives eg. lymphatic filariasis
- Increasing re-emergence of diseases in areas where they did not exist
- Increase in expansion and intensification of their transmission in existing areas
- Lack of vaccine for most diseases except yellow fever
- Increasing number of outbreaks in the region
WORLD HEALTH DAY 2014 at a Glance

Theme of campaign
Vector-borne diseases

Slogan
Small bite: big threat

Overall goal
The campaign aims to raise awareness about the threat posed by vectors and vector-borne diseases and to stimulate families and communities to take action to protect themselves. As vector-borne diseases begin to spread beyond their traditional boundaries, action needs to be expanded beyond the countries where these diseases currently thrive.
Risk factors: man-made and natural

- Globalization of trade
- Travel
- Agricultural/hydropower projects
- Use of chemicals in agriculture
- Environmental challenges (climate change)
- Population movement (during conflict)
- Uncontrolled urbanization.
Media Campaign
The 2014 campaign will spotlight some of the most commonly known vectors – such as mosquitoes, sandflies, bugs, ticks and snails – responsible for transmitting a wide range of parasites and pathogens that attack humans or animals.
Objectives and target audiences

- Families living in areas where diseases are transmitted by vectors know how to protect themselves;
- Travelers know how to protect themselves from vectors and vector-borne diseases when travelling to countries where these pose a health threat;
- In countries where vector-borne diseases are a public health problem, ministries of health put in place measures to improve the protection of their populations; and
- In countries where vector-borne diseases are an emerging threat, health authorities work with environmental and relevant authorities locally and in neighboring countries to improve integrated surveillance of vectors and to take measures to prevent their proliferation.
WORLD HEALTH DAY 2014 at a Glance

Overarching messages

- Mosquitoes, flies, ticks, bugs and freshwater snails can spread diseases that cause serious illness and death.
- Diseases such as malaria, dengue, leishmaniasis and yellow fever are preventable yet they have the biggest impact on some of the world’s poorest people.
- More than half of the world’s population is at risk of these diseases. Increased travel, trade and migration make even more people vulnerable.
- You can protect yourself and your family by taking simple measures that include sleeping under a bed net, wearing a long-sleeved shirt and trousers and using insect repellent.
Estimated regional burden of vector-borne diseases
Disability Life Adjusted Years for 2015

- Malaria: 971,063
- Leishmaniasis: 150,535
- Dengue: 12,422
- Lymphatic filariasis: 42,155
- Onchocerciasis: 6,408
- Schistosomiasis: 84,235

Source: Global burden of disease, Health statistics and Informatics Department, WHO, Geneva, Switzerland, Oct 2008
Malaria

A child with cerebral malaria

Motor posturing and possible seizure in a child with cerebral malaria
Distribution of confirmed malaria cases (per 1000 population)
Leishmaniasis

Anthropoonotic Cutaneous leishmaniasis (Afghanistan)

Female sandfly taking a bloodmeal during its bite

Zoonotic cutaneous leishmaniasis

Visceral leishmaniasis
Distribution of anthroponotic visceral leishmaniasis cases in the EMR countries (2012)

- 3165 cases
- 410 cases
Distribution of anthroponootic cutaneous leishmaniasis cases in the EMR countries (2012)

- 52,983 cases
- 32,384 cases
- 3,905 cases
- 5,377 cases
- 153 cases

Small bite, big threat

Vector-borne diseases
Distribution of zoonotic cutaneous leishmaniasis cases in the EMR countries (2012)
Schistosomiasis

Hepatosplenic schistosomiasis is a consequence of a fibrotic reaction around egg granulomas in the liver.

Sudaneses kids showing red (with blood) urine due to urinary schistosomiasis.
Schistosomiasis endemic countries

- High endemicity
- Egypt <1% prevalence
- Free
Lymphatic filariasis

Chronic lymphoedema
Lymphatic filariasis endemic countries
Onchocerciasis
Onchocerciasis endemic countries
Dengue
Dengue outbreaks

Countries, which have reported dengue cases
No cases reported
Rift valley fever outbreaks

Countries, which have reported rift valley fever cases
No cases reported
Crimean Congo hemorrhagic fever outbreaks

Countries, which have reported CCHF cases
No cases reported
Yellow fever outbreaks since 2000
Chikungunya

- In 2010, chikungunya was first reported in the Yemen with over 15,000 suspected cases and 104 deaths resulting from severe cases although the reasons for these deaths could not be established.

- In 2012, Yemen recorded its second outbreak from chikungunya with over 230 suspected cases.
### What can communities do?

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## What can decision makers do?

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What is integrated vector management?

**Definition:**
A rational decision-making process for the optimal use of resources for vector control

**Key elements:**
- Advocacy, social mobilization (school children, religious leaders, CBOs, CSOs) and legislation
- Collaboration with the health sector and with other sectors (agriculture, municipalities)
- Integrated approach
- Evidence-based decision making
- Capacity building
Global policy commitment to control vector-borne diseases

2007
World health Assembly resolution (WHA60.13) - urging Member States in which leishmaniasis to undertake actions to deal with the major factors underlying the failure to control the disease.

2009
World health Assembly (WHA62.1) - prevention of avoidable blindness and visual impairment, endorsing the Action plan for the prevention of avoidable blindness and visual impairment.

2013
World Health Assembly resolution (66.12) - Member states urged to expand and implement as appropriate interventions against neglected tropical diseases.
Global policy commitment to eliminate vector borne diseases

1997
World Health Assembly Resolution (50.29) - encourages Member States to eliminate lymphatic filariasis as a public-health problem.

2012
World health Assembly resolution (WHA65.19) - on the elimination of schistosomiasis, through strengthened health systems and preventative measures.
Regional policy commitment to control vector borne diseases

2005
EM/RC52/R.6 - shift to a genuine integrated vector management approach.

2006
EM/RC54/R.3 - Neglected tropical diseases: an emerging public health problem in the Eastern Mediterranean Region

2007
EM/RC54/R.4 - Growing threat of viral hemorrhagic fevers in the Eastern Mediterranean Region: a call for action

2011
EM/RC58/R.4 - Dengue: call for urgent interventions for a rapidly expanding emerging disease
Regional policy commitment to eliminate vector borne diseases

2000
EM/RC47/R.11 - Elimination of Lymphatic Filariasis in the Eastern Mediterranean Region

2008
EM/RC55/R.9 - Malaria elimination in the Eastern Mediterranean Region: vision, requirements and strategic outline
Conclusions

- Vector borne diseases are expanding
- Countries need to be vigilant through strengthening surveillance systems to detect emerging outbreaks at an early stage.
- Political will is crucial to address the technical, policy and managerial challenges at all levels
- Integrated vector management offers an opportunity to tackle vector borne diseases efficiently.