GLOBAL VECTOR CONTROL RESPONSE 2017–2030 (GVCR)

A strategic approach to tackle vector-borne diseases

Mosquitoes, flies, bugs and other vectors transmit viruses, parasites and bacteria that infect millions of people globally. They cause many diseases, including malaria, dengue, leishmaniases, Chagas disease and Zika virus disease.

The World Health Organization (WHO) has developed a new strategy to strengthen vector control worldwide. Member States welcomed this integrated approach at the 2017 World Health Assembly and adopted a resolution to support the strategy.

VECTORS CAN CAUSE NUMEROUS DISEASES IN HUMANS

- **Mosquitoes (various species):** chikungunya, dengue, Japanese encephalitis, lymphatic filariasis, malaria, yellow fever, Zika virus disease, Rift Valley fever, West Nile fever
- **Fleas:** murine typhus, plague
- **Flies (various species):** onchocerciasis, human African trypanosomiasis
- **Ticks:** borreliosis (Lyme disease), Crimean-Congo haemorrhagic fever, tick-borne encephalitis, typhus
- **Fleas:** murine typhus, plague
- **Mites and lice:** rickettsialpox, typhus
- **Snails:** schistosomiasis
- **Sandflies:** the leishmaniases (cutaneous, mucocutaneous and visceral)
- **Triatomine bugs:** chagas disease

Rapid unplanned urbanization, changing land use patterns and increased international travel and trade bring humans into more frequent contact with vectors, while climate and other environmental changes fuel their spread worldwide.

Vector-borne diseases that mainly occurred in tropical and subtropical areas have headed into new territory. Zika virus disease rapidly spread worldwide in 2015-2016. Others cause ongoing disease or outbreaks across all WHO regions.

**RISK**
80% of the world’s population is at risk of one or more vector-borne disease

**BURDEN**
17% of the global burden of communicable diseases is due to vector-borne diseases

**MORTALITY**
Over 700,000 deaths are caused by vector-borne diseases annually
AMBITIOUS TARGETS

The strategy aims to reduce the burden and threat of vector-borne diseases through **effective locally adapted sustainable vector control**. Success will depend on the ability of countries to re-align and strengthen their vector control and surveillance programmes with necessary staff and financial resources. National strategic plans need to be revised and country-specific targets defined.

THE GLOBAL VECTOR CONTROL RESPONSE 2017-2030

Reducing the burden and threat of vector-borne diseases that affect humans

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<th>Milestones 2020</th>
<th>Milestones 2025</th>
<th>Targets 2030</th>
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<tbody>
<tr>
<td>Reduce mortality due to vector-borne diseases globally relative to 2016</td>
<td>By at least 30%</td>
<td>By at least 50%</td>
<td>By at least 75%</td>
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<tr>
<td>Reduce case incidence due to vector-borne diseases globally relative to 2016</td>
<td>By at least 25%</td>
<td>By at least 45%</td>
<td>By at least 60%</td>
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<td>Prevent epidemics of vector-borne diseases*</td>
<td>In all countries without transmission in 2016</td>
<td>In all countries</td>
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*Rapid detection and curtailment of outbreaks to prevent spread beyond the country.

KEY TO REDUCING POVERTY

Vector-borne diseases thrive in conditions of poverty and exact their heaviest toll on the poorest people. In addition to making more than half a billion people sick and causing hundreds of thousands of deaths each year, they impede development by interfering with education and the capacity to work. In many countries, these diseases have a significant impact on economic opportunities, such as tourism.

The **Global vector control response 2017–2030** outlines a broad approach aligned with the **2030 Agenda for sustainable development**. Implementation will contribute directly to achieving Goals 1, 3, 6, 11, 13 and 17.

INVESTMENT FOR THE FUTURE

Shifting the focus to integrated and locally adapted vector control will save money.

The global price tag of the strategy is US$ 330 million annually – or about 5 cents per person at-risk each year. This includes the cost of strengthening workforce, coordination and surveillance capacity.

This represents less than 10% of what is currently spent each year on vector control interventions to combat malaria, dengue and Chagas disease alone.
A GAME-CHANGING APPROACH

Key priority actions are outlined that will increase capacity, improve surveillance and better coordinate and integrate action across sectors and diseases.

1. Strengthen inter- and intra-sectoral action and collaboration
   - Re-align programmes so that staff are equipped to address multiple vectors and diseases and integrate efforts for greater efficiency and effectiveness.
   - Broaden collaborations within and beyond the health sector.

2. Engage and mobilize communities
   - Enable communities to lead and sustain vector control activities, such as eliminating vector habitats from their environment and improving housing.

3. Enhance vector surveillance, and monitoring and evaluation of interventions
   - Strengthen and integrate national surveillance systems for vectors, interventions and diseases.
   - Coordinate surveillance and action between neighbouring countries.

4. Scale up and integrate tools and approaches
   - Ensure vector control methods are selected and combined appropriate to the local setting.
   - Integrate innovations as recommended by WHO.

Foundation

A. Enhance vector control capacity and capability
   - Increase the number of public health entomologists worldwide.
   - Ensure appropriate field and laboratory capacity to strength vector surveillance and control.

B. Increase basic and applied research, and innovation
   - Aggressively pursue research on promising innovations to build strong evidence base.
   - Investigate better ways to implement existing tools and strategies.

Enabling factors

Country leadership
Advocacy, resource mobilization and partner coordination
Regulatory, policy and normative support
WHAT IS COMPREHENSIVE VECTOR CONTROL?

For most vector-borne diseases, prevention by targeting vectors is the first and best approach. Millions of people have already benefitted from vector control, with recent major reductions in malaria, Chagas disease and onchocerciasis. But vector control has not been used to its full potential or sustained for maximum impact on other diseases. A comprehensive approach is required that enables:

INCREASED CAPACITY

BETTER COORDINATION

IMPROVED SURVEILLANCE

INTEGRATED ACTION

Effective proven vector control approaches include:

- INSECTICIDE-TREATED BED NETS deployed on a mass scale
- COMMUNITY-WIDE SPRAYING of insecticides inside houses on surfaces where vectors rest
- USE OF LONG CLOTHING AND TOPICAL REPELLENTS for personal protection
- COVERING, EMPTYING AND CLEANING OF CONTAINERS used for domestic water storage
- ELIMINATION OF OLD TYRES AND CONTAINERS by good solid waste management/clean up campaigns by local communities
- HOUSE IMPROVEMENTS by installing window screens, plastering walls or changing from thatch roofs
- DRAINAGE OR TREATMENT OF STAGNANT WATER with chemical or biological larvicides

Promising new approaches on the horizon include:

- RELEASE OF MODIFIED, TRANSGENIC OR STERILE VECTORS to suppress or replace wild populations
- SPATIAL REPELLENTS to stop vector entry into households and other areas
- VECTOR TRAPS AND TARGETS with or without toxic baits for control/surveillance
- NEW INSECTICIDES with different modes of action
- MORE EFFECTIVE COMBINATION of vector control with medicines and vaccines

FOR MORE INFORMATION
www.who.int/vector-control

READ THE FULL GLOBAL VECTOR CONTROL RESPONSE AT
www.who.int/vector-control/publications/global-control-response/