

Guidelines title [In English]

**Plan nacional de preparación y respuesta frente a enfermedades transmitidas por vectores - Parte I: Dengue, Chikungunya y Zika**  
**[The Spanish National Plan for Preparation and Response to Diseases Transmitted by Vectors - Part I: Dengue, Chikungunya y Zika]**

Year of edition

2016

Summary

Objectives:

The purpose of this plan is to prevent, control and eliminate the indigenous transmission of dengue, chikungunya and Zika in Spain.

Specific objectives in entomological surveillance are: 1) Detect the presence of competent vectors to prevent/control arbovirolosis outbreaks as quickly as possible. 2) Identify the variables that allow evaluating the risk to human health from vector presence.

Targeted mosquito species:

Invasive mosquitoes of the genus *Aedes*. In 2016, the only non native *Aedes* species was *Aedes albopictus* so the recommendations of this plan are mainly focus in this species. Although, some differential remarkable aspect is added for other invasive species such as *Aedes aegypti*.

Methods:

- Surveillance methods:
  1. To improve epidemiological surveillance and response systems against these diseases at the local, regional and national levels.
  2. Strengthen the entomological surveillance of competent vectors to identify their presence in a locality and the environmental conditions that support it. Early detection can be carried out through an active (monitoring the mosquitoes during active vector period) and passive (like professional communication, social media, citizen collaboration, etc.) search for the presence of the vector. When the risk of transmission of *Aedes*-borne diseases is estimated as possible or when local cases do occur (see below level 2 to 5) the vector surveillance includes entomological inspection in the surroundings of arboviruses case, even in private properties. A brief annex about monitoring methods (oviposition traps, BG-Sentinel traps, human bait catches and larvae sampling) and entomological parameters are included.
  3. Establish the criteria for the integral management of the vector in its diagnostic phase (including the environmental conditions that favor the existence of the vector), the management and evaluation to minimize risk.
  4. Strengthen the coordination and communication mechanisms between the agents and administrations involved and support the development of regional and local response plans.
  5. Strengthen risk communication to the population to motivate their participation.
- Risk level ranking:

The Spanish population is mainly susceptible and the virus is periodically introduced into Spain through travelers returning from endemic countries. The vector that transmits the virus from one person to another is present in many municipalities along the Mediterranean coast, including much of the Balearic Archipelago. The risk of indigenous cases, which varies between regions, provinces and municipalities, is limited to the areas where the only identified competent vector *Ae. albopictus* is established.

The risk is measured in a scale from 0 to 5 that indicate the possibility of new cases or outbreaks of arbovirolosis depending on entomological and epidemiological surveillance:

Level	Risk of transmission	Epidemiology	Entomology
0	None	No cases	No vectors
1	Remote	Imported case: Non viremic or viremic in no favorable season for vectors	Vector established
2	Possible	Imported case: Viremic in favorable season for vectors	Vector established
3	Probable	One autochthonous case	Vector established
4	Outbreak	Two or more autochthonous cases in defined area	Vector established
5	Epidemic	Many autochthonous cases widely distributed	Vector established

- Period of activation:  
The plan is annual, taking into account the period of activity of the tiger mosquito in each region. In general, it is limited to spring, summer and middle autumn, although winter activity of *Ae. albopictus* has also been detected in southern Spain.  
The plan is only really activated in regions where the target species have been identified. Surveillance should be implemented in all regions, to achieve early detection, but it is not the case. In practice, when the presence of the vector is detected in a locality, the public health authority of the autonomous community proposes the creation of a regional committee for control and monitoring of vector-borne diseases.
- Other:  
According to the risk of transmission shown above, the document includes a series of interventions (which would require having an entomological surveillance system in place). The activities include epidemiological surveillance actions, environmental vector management, individual protection and public awareness and information.

**Audience:**

This document targets the competent authority in terms of Public Health at national level and at Autonomous Community level (regional level in Spain). However, once a regional committee is created, a coordination among different sectors involved is necessary, so the audience of this document may be broader.

**Scale (national/local):**

Spain has a devolved political system and the regions, known as autonomous communities in Spain, have the health management as a shared devolved power. Therefore, in the Spanish legal framework, a national plan for vector-borne diseases could not be really developed by the Ministry of Health but it is an agreement with and between the regional governments. Then, this document is the starting point from which the regions should develop their own programmes. For this reason, although the national plan is in force, more than half of the regions of Spain have not yet their own plan in force and the municipal systematic surveillance is implemented in very few regions.

A multidisciplinary committee in each region should be established to lay out the regional plan and coordinate the subsequent actions of epidemiological and entomological surveillance, prevention, control, dissemination, education, etc. Control competences are mostly at municipality level, so regional plans will promote and facilitate the creation of local committees in the municipalities with vector presence to manage transmission prevention and control activities.

**Technical annexes:**

Annex 1. Sampling methods and entomological parameters (2 pages)

Annex 2: Legal considerations regarding the actions of mosquito control in private areas (1 page).

**Specificities:**

The current plan was under revision in 2019 but, due to the actual COVID-19 epidemic situation, the new version is on hold for the time being.