Arboviral Surveillance and Response Capacity Survey 2021

Section I: Respondent details

1. Country

Viet Nam

2. Respondent/person to be contacted for clarification, if needed (last name, first name, e-mail address)

3. Professional title and affiliation

4. Date (dd/mm/yyyy)

28/5/2021

Section II: Arboviral disease surveillance system

5. Which arboviruses have circulated in your country at any time since the year 2000? This refers only to arboviruses with autochthonous i.e., local mosquito-borne transmission.

Chikungunya	Yes
Dengue	Yes
Yellow fever	Not selected
Zika	Yes

6. Do you have any written arbovirus surveillance and control plan(s) and/or guideline(s) for your country?

Yes, we have arbovirus-specific plans(s) or guidelines(s)

6b. For which of the following arboviruses do you have written surveillance and control plans for your country? Please choose all that apply.

Chikungunya	Not selected
Dengue	Yes
Yellow fever	Not selected
Zika	Not selected

6c. Please upload surveillance and control plan(s) or protocol(s), or guideline(s)

1 file(s) submitted

7. Is there a specific national programme for arboviral diseases surveillance or is it integrated in another programme? Please select the appropriate answer:

Specific programme

7b. Please specify the programme into which arboviral diseases is integrated

8. For which level of the health structure are individual and aggregated data available? (Select all relevant levels)

	Individual level	Aggregated
Primary health care level	Not selected	Not selected
District level	Not selected	Not selected
Regional level	Not selected	Yes
National level	Not selected	Yes

9. What are the tools used for recording case data for surveillance purposes? Select all that apply

National	Électronic

10. Which training has been provided to the staff working on arboviral disease surveillance data?

One-time basic training on data capture and analysis (MS Excel, MS Access, EpiInfo) and/or geographic information systems (GIS)	Not selected
Repeated/continuing basic training on data capture, analysis, and/or GIS	Not selected
One-time advanced training on statistical software for data analysis (e.g. STATA, R, SAS, Tableau, etc)) and GIS	Not selected
Repeated/continuing training on advance statistical software for data analysis (eg STATA, R, SAS, etc) and GIS	Yes
No training	Not selected

11. Is reporting mandatory for any arboviral disease cases in your country?

Yes

11b. For which of the following arboviral disease cases is reporting mandatory in your country?

Chikungunya	Mandatory reporting of all suspect cases
Dengue	Mandatory reporting of all suspect cases
Zika (non-congenital)	Mandatory reporting of all suspect cases

11c. For which other arboviral diseases is reporting mandatory?

11d. Please upload document(s) containing surveillance case definitions used for reporting of arboviral diseases

1 file(s) submitted

12. In the last 2 years, did your country conduct national epidemiological surveillance for human cases of arboviral disease?

Yes

12b. How frequently are surveillance data reported to the national level?

Weekly

12c. What type of national epidemiological surveillance was conducted?

Combination of active and passive

For reference, here are the relevant definitions:

Active surveillance is defined as having dedicated systems and staff that routinely and with effort survey for cases of disease or detection of vectors and associated pathogens by the public health department.

Passive surveillance is defined as having a reporting system where physicians, laboratories, mosquito control districts, academic institutions or others routinely report cases of disease or detection of vectors and associated pathogens to the public health department.

12d. If available, please upload the most recent report(s) on arboviral surveillance in humans

0 file(s) submitted

13. Does your country provide regular training sessions for healthcare workers on notification of *Aedes*-borne arboviral diseases?

Yes : annual training

14. What do the arboviral disease surveillance staff perceive as factors contributing to the a) success and b) barriers/challenges to arboviral disease surveillance in humans?

success: system across the country, monitor, detect and handle dengue outbreaks as soon as they are detected, community mobilization. barriers/challenges:dont have enough resources and funds

Section III: Arbovirus laboratory capacity

15. Is arbovirus diagnostic laboratory testing performed for confirmation of suspected cases in your country? (Please select the applicable option during outbreak periods and during non-outbreak periods, respectively)

Outbreak periods	Subset of suspect cases tested
Non-outbreak periods	Subset of suspect cases tested

15b. On average, for what percentage of suspected arboviral disease cases your country is laboratory confirmatory testing performed? Please indicate for outbreak and non-outbreak periods, respectively

Non-outbreak (routine) percentage in a year	7
During outbreaks percentage per identifed cluster	7

16. In the last two years, were the positive cases of arboviruses confirmed by a national reference laboratory?

Yes, but only for some arboviral infections. Please specify them:

NA

16b. If your country does not have capacity to type and serotype arboviruses, do you send samples for typing to other countries?

No

17. Overall, what arboviral testing capacity(ies) is(are) available in your country? Please check all applicable boxes

	Antigen testing	IgM antibody testing	IgG antibody testing	Neutralizing antibody testing	Virus isolation	RT-PCR or other nucleic acid amplification test	Viral gene/genome Sequencing
Chikungunya	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dengue	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yellow fever							
Zika	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other							

18. Which additional resources are most needed for your country to perform adequate testing for arboviral diseases? Please describe what would be needed for each checked resource in the adjacent comment field

19. Do you perform virological surveillance on humans, ie, tracking of prevailing genotypes/serotypes? Please select all that apply

Yes, using virus isolation: NA

Yes, using RT-PCR: NA

Yes, using serological testing. Please specify: NA

19b. Which samples do you use for virological surveillance?

Samples from suspected arboviral diseases routinely notified	Yes
Samples routinely collected from patients with fever of unknown origin	Yes

19c. For which viruses do you perform virological surveillance? (check all that apply)

Chikungunya virus	Not selected
Dengue viruses	Yes
Yellow fever virus	Not selected
Zika virus	Not selected

19d. Does your country provide regular training sessions for healthcare workers on arboviruses virological surveillance?

Yes

20. What do the arboviral diagnostic laboratory staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to laboratory testing for arboviral infections?

only 3-7% of suspected cases are confirmed by laboratory testing due to lack of funding Vietnam in Dengue endemic countries for many years, so doctors are experienced in diagnosis and treatment

Section IV: Management of arboviral disease cases

21. Does your country have clinical guidelines for healthcare workers on diagnosis and clinical management of cases and severe cases of *Aedes*-borne arboviral diseases?

Yes

21b. Please upload the clinical guideline(s) for arboviral disease management

0 file(s) submitted

22. Are severe cases of arboviral diseases managed in a special area (part of the hospital, isolation beds)?

No. If so, where are patients with severe disease treated? Please specify in comments field.

Department of Infectious Diseases

23. How many hospital beds are available per 100,000 population?

24. Does your country provide regular training sessions for healthcare workers on clinical diagnosis and management of *Aedes*-borne arboviral diseases?

Yes, specific training is provided. If so, please specify:

Epidemiological surveillance diagnosis and treatment

25. What do the arboviral disease surveillance/clinical staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to case management?

only 3-7% of suspected cases are confirmed by laboratory testing due to lack of funding Vietnam in Dengue endemic countries for many years, so doctors are experienced in diagnosis and treatment

Section V: Routine vector surveillance and control

26. Is there a disease programme, agency, or service in charge of arbovirus vector surveillance in your country?

Yes. If so, please specify in the comment field.

NA

27. Which institution/department is in charge of reporting entomologic surveillance data to the national ministry of health/health department? (Check all that apply)

State/provincial health agencies	Yes
Other national agency	Not selected
City/country health departments	Not selected
Local mosquito control districts or similar organisations	Not selected
Universities or academic institutions	Not selected
Private companies	Not selected
Other	institute of hygiene and epidemiology/pasteur

28. For the last 2 years, did your country conduct entomologic surveillance for arboviral infections in mosquito vectors?

No

28b. Please upload the most recent national vector surveillance report

28c. Did the entomologic surveillance entail country wide programmes or was it restricted to specific locations?

28d. How many sentinel surveillance sites do you have?

28e. How often was the surveillance conducted? Please choose one of the following:

29. Do you conduct adult mosquito surveillance?

Yes

30. Do you conduct larval/pupal mosquito surveillance?

Yes

31. Are trapped mosquitoes identified to species?

Yes

32. Does your country either calculate minimum infection rates (MIR) for any *Aedes*-borne arboviruses with your mosquito data or receive such data from other agencies? Please choose only one of the following:

Don't know

33. Which laboratories performed testing for arboviruses on mosquito pools collected in your country in the last two years? (check all that apply)

National public health laboratory	Not selected
State/provincial/regional public health laboratory	Yes
Local health department laboratory	Not selected
University or academic institution	Not selected
Local MCD (if different from county health dep't)	Not selected
Mosquito surveillance done, but no testing done on mosquito pools	Not selected
Not applicable (no mosquito surveillance done)	Not selected

34. Is there a record of *Aedes aegypti* or *Aedes albopictus* being found in your country in the past 5 years? Please choose only one of the following

Yes, both *Aedes aegypti* and *Aedes albopictus*

34b. Please describe the potential public health threat from *Aedes aegypti* in your country

34c. Please describe the potential public health threat from *Aedes albopictus* in your country

Aedes albopictus populations are abundant and arbovirus(es) is (are) circulating

35. Over the past two years, did your country use any of the following vector control methods in local jurisdictions (either using government staff and resources, or subcontracting to a different entity to do so)? Please select all that apply

Adulticiding (insecticide application against adult mosquitoes)	Yes
Larviciding	Yes
Insect growth regulators (eg , pyriproxyfen)	Yes
Wolbachia method	Yes
Sterile insect release	Not selected
None	Not selected

35b. Would your country have conducted or financially supported adulticiding/larviciding or source reduction activities in the last two years if sufficient funding were available?

35c. Which adulticides and/or larvicides (brand and product name) were used?

Deltamethrine Permethrine Malathion Piryproxyfen Temephos

36. Does your country provide regular training sessions for staff in charge of vector control and vector surveillance?

Yes, for both

37. For the last two years, did your country have a plan for mosquito-borne disease control that includes a threshold (eg, level of vector mosquito abundance or minimum infection rate) that would result in a recommendation for mosquito adulticiding/other mosquito reduction measures?)

37b. Which indicator(s) is(are) used as threshold(s)?

38. Overall, are data on any of the following arboviral outbreak risk factors routinely collected and analysed? (Select all that apply)

House Index	Not selected
Breteau Index	Yes
Container Index	Not selected
Temperatures	Not selected
Rainfall	Not selected
Migration of a non-immune population	Not selected
None	Not selected
Other	BI, DI

39. Is there a surveillance system in place for monitoring *Aedes* resistance to the insecticide(s) used?

Yes

40. What do the vector surveillance staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to vector surveillance and control in the country?

a) success: system from central to local
b) barriers/challenges: lack of experienced and skilled staff, very limited funding or no money

Section VI: Animal surveillance

41. During the last 2 years, did your country conduct national epidemiological surveillance for arboviral disease in animals (eg, epizootic surveillance for yellow fever in endemic areas)?

I don't know

41b. How often was the animal surveillance conducted?

41c. What type of surveillance was conducted in animals?

41d. Please upload a report on the animal surveillance

42. Does your country (or local jurisdictions within the country) perform sentinel animal surveillance or epizootic surveillance, eg, for yellow fever in nonhuman primates in endemic regions?

I don't know

42b. For which viruses is sentinel surveillance conducted and in which animal species?

42c. Please upload the most recent report(s) on sentinel animal surveillance

Section VII: Community sensitization and participation

43. Does your country have a community outreach program that also covers arboviral diseases?

I don't know

43b. What entity(ies) is(are) in charge of the outreach program in your country?

43c. What is the geographical coverage of the outreach program in your country?

43d. Is the community outreach/social mobilization program sufficiently funded to cover staff time, prevention and outreach activities as needed?

43e. Which resources would help ensure adequate capacity?

44. Did your national arboviral disease program issue notifications to the public about local transmission risk and/or possible vector-control activities (eg larviciding, adulticiding, community mobilization and participation, etc) as a prevention message for arboviral diseases within last 2 years? (Check all that apply)

	During outbreaks	During non-outbreak periods
Issued by national public health agency	Yes	Not selected
Issued by state/local health agencies	Yes	Yes
No risk in the past two years	Not selected	Not selected
No notifications even though risk was present	Not selected	Not selected

44b. Which means does your program use for community sensitization, mobilisation and acceptance of interventions in your country? (Check all that apply)

Press releases to electronic and printed media	Yes
Public service announcements on television or radio	Yes
Passive distribution of informational brochures	Yes
Active distribution of informational brochures	Yes
Town, community, or neighborhood meetings	Yes
Posting information on the home page of your agency's website	Yes
Social media outlets (Facebook, Twitter, etc)	Not selected
Door-to-door outreach in selected locations	Yes
Participation in community clean-ups	Yes
Modification of messages for all local languages	Yes

45. Does your country provide regular training sessions for staff in charge of community sensitization, mobilisation and acceptance of interventions dedicated to control arboviral diseases?

Yes. If yes, please describe in comments field:

NA

46. What do the community outreach staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to community participation

we have collaborators in provinces but now it has been interrupted due to lack of funding

Section VIII: Preparedness for arboviral outbreaks/epidemics

47. Is there either a surveillance and outbreak response committee in your country, or a steering committee for that purpose?

Yes

48. Does your country have a contingency plan to organize healthcare services during an outbreak (including outbreaks of arboviral diseases)?

Yes

48b. Please upload the contingency plan

0 file(s) submitted

49. Are there defined or established criteria for declaring an outbreak of arboviral disease outbreak in your country?

Yes. If so, in the comments field, please briefly describe the criteria or reference the document in which those are sta

NA

50. Do you have established collaborations with national/regional research institutions / international agencies that are planned to be activated in case of arboviral outbreak?

Yes. If so, please specify institutions/agencies in the comments field:

NA

51. What vector control interventions are deployed in case of an emergency?

chemical spray

52. For the last 2 years, which of the following government levels had an emergency fund or a specified emergency funding mechanism for arbovirus outbreak response?

National level	Not selected
State/local level	Not selected
None	Yes

53. Does your country provide regular training sessions for staff/committee in charge of preparedness for arboviral outbreaks/epidemics?

I don't know

54. What do the arboviral disease surveillance staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to preparedness of arboviral diseases epidemics in your country?

a) success: national dengue program; system from central to local
b) barriers/challenges: lack of staff, lack of funds

Section IX: Arboviral disease surveillance data

55. Please provide total number of cases and deaths for the following arboviral diseases from 2015 to 2020 (if available).

	Dengue	Chikungunya	Yellow fever	Zika
2015 Cases	97476	NA	NA	NA
2015 Deaths	61	NA	NA	NA
2016 Cases	122020	NA	NA	NA
2016 Deaths	43	NA	NA	NA
2017 Cases	172212	NA	NA	NA
2017 Deaths	38	NA	NA	NA
2018 Cases	142155	NA	NA	NA
2018 Deaths	20	NA	NA	NA
2019 Cases	334664	NA	NA	NA
2019 Deaths	54	NA	NA	NA
2020 Cases	133274	NA	NA	NA
2020 Deaths	23	NA	NA	NA

(NA = Not Available)

55b. Were cases of other mosquito-borne arboviruses, not listed in the previous question, reported in your country from 2015-2020?

I don't know

55c. Please select any of the following other mosquito-borne viruses that have been reported in your country from 2015-2020

55d. Please provide total number of cases and deaths due to each of the following other arboviruses that you selected from 2015-2020

56. Please provide the number of cases of locally acquired, mosquito-borne *Aedes*-borne arbovirus infections by case classification for 2020 and, if not available, for 2019

	Suspect cases	Probable cases	Confirmed cases	Deaths
Chikungunya	133274	NA	NA	23
Dengue	NA	NA	NA	NA
Yellow Fever	NA	NA	NA	NA
Zika	NA	NA	NA	NA

57. Do arbovirus surveillance staff have any perceived reasons for increasing trends in arboviral disease incidence? Check all answers that apply.

Climate change (as evidenced by changes in meteorological data)	Yes
Construction activities	Yes
Population migration (within the country or between countries)	Yes
Increased availability of peri-domestic water-bearing containers suitable for mosquito egg deposition	Yes

Section X: Surveillance staffing

58. During 2019 (prior to the Covid-19 pandemic), indicate below the number of arbovirus surveillance staff at the national level.

	Number of personnel
Clinicians	1
Epidemiologists	1

59. Indicate below how many total staff persons are needed at the national level in your country to achieve full epidemiology and laboratory capacity* to conduct arbovirus surveillance.

	Number of personnel
Clinicians	1
Epidemiologists	1

60. Optional comments to explain responses to questions 58 and 59 above

we have 1 focal point to monitor dengue fever at national level at regional institutes, we have staff about: surveillance, epidemiology, entomology, laboratory

61. The national health authority/ministry of health has access to expertise in clinical management of arboviruses (Check all that apply)

Within the ministry of health (eg, public health medical officers, clinicians in state hospitals)	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Not selected
Private hospitals	Not selected
Does not have access	Not selected

62. The national health authority/ministry of health has access to expertise in arbovirus epidemiology (Check all that apply)

Within the ministry of health	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Not selected
Does not have access	Not selected

63. The national health authority/ministry of health has access to expertise in arbovirus laboratory diagnosis (Check all that apply)

Within the ministry of health (e.g., public health laboratory scientists)	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Not selected
Does not have access	Not selected

64. The national health authority/ministry of health has access to expertise in entomology (Check all that apply)

Within the ministry of health	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Not selected
Does not have access	Not selected

65. Optional comments to explain responses to any of Questions 61-64

Data are collected from provinces, provinces have to report to regional institutes, and then institutes have to report to the Ministry of Health; weekly (cases), monthly (vector, PCR, MAC-ELISA).

Section XI: Survey conclusion

66. If you have any further comments to add regarding arbovirus surveillance and control in your country, including whether arboviruses other than *Aedes*-borne arboviruses are of higher priority, please do so in the text field below

In Vietnam, the main vectors are Aedes agypti and Aedes albopictus, we focus our resources to control these 2 vectors. However, resources for dengue prevention are very limited, especially the insect monitoring team is very weak and inexperienced.