



ZIKA VIRUS DISEASE, MICROCEPHALY AND GUILLEIN-BARRÉ SYNDROME

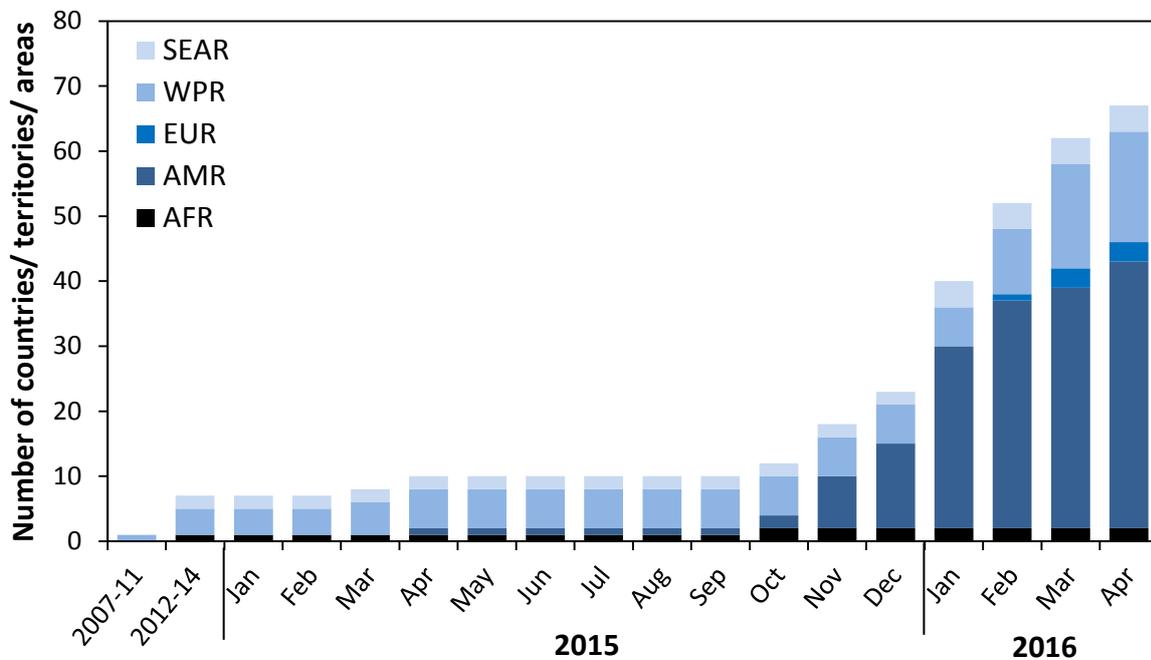
- As of 27 April, 55 countries and territories report continuing mosquito-borne transmission; for 42 countries this is their first documented Zika virus outbreak (Fig. 1).
- Mosquito-borne transmission (Table 1):
 - 42 countries are experiencing a first outbreak of Zika virus since 2015, with no previous evidence of circulation, and with ongoing transmission by mosquitos.
 - 13 countries reported evidence of Zika virus transmission between 2007 and 2014, with ongoing transmission.
 - Four countries or territories have reported an outbreak since 2015 that is now over: Cook Islands, French Polynesia, ISLA DE PASCUA – Chile and YAP (Federated States of Micronesia).
- Person-to-person transmission (Table 2):
 - Nine countries have reported evidence of person-to-person transmission of Zika virus, probably via a sexual route.
- In the week to 27 April, no additional countries reported mosquito-borne Zika virus transmission. Canada is the latest country to report person-to-person transmission.
- Microcephaly and other fetal malformations potentially associated with Zika virus infection or suggestive of congenital infection have been reported in six countries or territories (Table 3). Two cases, each linked to a stay in Brazil, were detected in Slovenia and the United States of America. One additional case, linked to a brief stay in Mexico, Guatemala and Belize, was detected in a pregnant woman in the United States of America.
- In the context of Zika virus circulation, 13 countries and territories worldwide have reported an increased incidence of Guillain-Barré syndrome (GBS) and/or laboratory confirmation of a Zika virus infection among GBS cases (Table 4).
- Based on research to date, there is scientific consensus that Zika virus is a cause of microcephaly and GBS.
- The global prevention and control strategy launched by the World Health Organization as a Strategic Response Framework encompasses surveillance, response activities and research. Key interventions are being undertaken jointly by WHO and international, regional and national partners in response to this public health emergency (Table 5).

- WHO has developed new advice and information on diverse topics in the context of Zika virus.¹ WHO's latest information materials, news and resources to support risk communication, and community engagement are available online.²

Risk assessment

Overall, the global risk assessment has not changed since April 21. Zika virus continues to spread geographically to areas where competent vectors are present. Although a decline in cases of Zika infection has been reported in some countries, or in some parts of countries, vigilance needs to remain high. At this stage, based on the evidence available, WHO does not see an overall decline in the outbreak.

Figure 1. Cumulative number of countries, territories and areas by WHO region³ reporting Zika virus transmission in years, 2007-2014, and monthly from 1 January 2015 to 27 April 2016.



¹ <http://www.who.int/csr/resources/publications/zika/en/>

² <http://www.who.int/risk-communication/zika-virus/en/>

³ <http://www.who.int/about/regions/en/>

Table 1. Countries reporting vector-borne Zika virus transmission

Classification	WHO Regional Office	Country / territory / area	Total
Category 1. Countries experiencing a first outbreak of Zika virus since 2015, with no previous evidence of circulation, and with ongoing transmission by mosquitos.	AFRO	Cabo Verde	1
	AMRO/PAHO	Aruba, Barbados, Belize, Brazil, Bolivia (Plurinational State of), BONAIRE – Netherlands, Colombia, Costa Rica, Cuba, Curaçao, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Nicaragua, Panama, Paraguay, Puerto Rico, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Sint Maarten, Suriname, Trinidad & Tobago, United States Virgin Islands, Venezuela (Bolivarian Republic of)	35
	SEARO	Maldives	1
	WPRO	American Samoa, Fiji, Marshall Islands, Samoa, Tonga	5
Subtotal			42
Category 2. Countries where there is evidence of Zika virus transmission from 2007 to 2014, with or without ongoing transmission; or countries where an outbreak since 2015 is reported to be over.	AFRO	Gabon	1
	SEARO	Bangladesh, Indonesia, Thailand	3
	WPRO	Cambodia, Cook Islands, French Polynesia, Lao People’s Democratic Republic, Malaysia, Micronesia (Federated States of), New Caledonia, Papua New Guinea, Philippines, Solomon Islands, Vanuatu, Viet Nam	12
	PAHO	ISLA DE PASCUA - Chile	1
Subtotal			17
Total			59

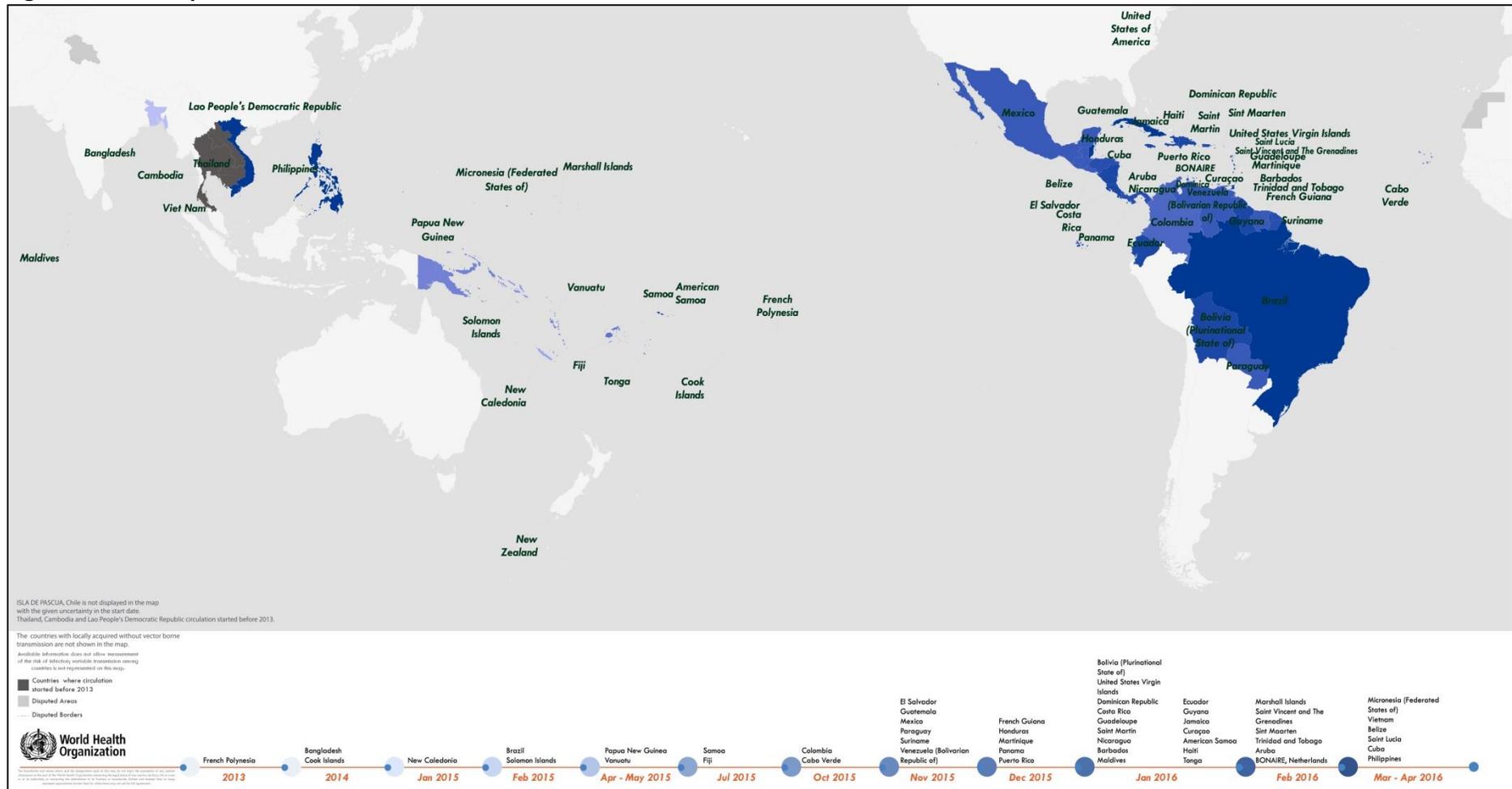
Categories are defined as follows:

- **Category 1. Countries experiencing a first outbreak of Zika virus, with no previous evidence of circulation, and with ongoing transmission by mosquitos:** countries where Zika virus has recently been introduced, with no evidence of circulation in the past and where there is ongoing transmission. These countries present a high risk of Guillain-Barré syndrome, microcephaly and other neurological disorders associated with Zika virus.
- **Category 2. Countries where there is evidence of Zika virus transmission prior to 2015, with or without ongoing transmission or where the outbreak is reported to be over:** this group includes countries that are not experiencing a first outbreak and where transmission has occurred at low levels in the past, and where transmission may or may not be ongoing or countries that have reported an outbreak since 2015 that is not over. This table lists countries that have experienced outbreaks after 2007, all countries with evidence of infection prior to 2007 are listed in http://www.who.int/bulletin/online_first/16-171082.pdf.

Table 2. Countries reporting non vector-borne Zika virus transmission

Classification	WHO Regional Office	Country / territory / area	Total
Countries with evidence of person-to-person transmission of Zika virus, other than mosquito-borne transmission	AMRO/PAHO	Argentina, Canada, Chile, Peru, United States of America	5
	EURO	France, Italy, Portugal	3
	WPRO	New Zealand	1
Total			9

Figure 2. Global spread of Zika virus, 2013-2016.



ISLA DE PASCUA –Chile is not displayed in the map given the uncertainty in the start date. Circulation of Zika virus in Thailand, Cambodia and Lao People’s Democratic Republic started before 2013. Countries where sexual transmission occurred are not represented in this map. Available information does not permit measurement of the risk of infection in any country; the variation in transmission intensity among countries is therefore NOT represented on this map. Zika virus is not necessarily present throughout the countries/territories shaded in this map

Table 3. Countries, territories and areas reporting microcephaly and /or CNS malformation cases potentially associated with Zika virus infection.

Reporting country or territory	Number of microcephaly and /or CNS malformation cases suggestive of congenital infections or potentially associated with a Zika virus infection	Probable location of infection
Brazil	1198 ⁴	Brazil
Cabo Verde	3	Cabo Verde
Colombia	7	Colombia
French Polynesia	8	French Polynesia
Martinique	3	Martinique
Panama	4	Panama
Slovenia ⁵	1	Brazil
United States of America ^{6,7}	2	Brazil; Mexico, Belize or Guatemala (undetermined)

Table 4. Countries, territories or areas reporting Guillain-Barré syndrome (GBS) potentially associated with Zika virus infection.

Classification	Country / territory / area
Reported increase in incidence of GBS cases, with at least one GBS case with confirmed Zika virus infection	Brazil, Colombia, Dominican Republic, El Salvador*, French Polynesia, Honduras, Suriname, Venezuela (Bolivarian Republic of)
No increase in GBS incidence reported, but at least one GBS case with confirmed Zika virus infection	French Guiana, Haiti, Martinique, Panama, Puerto Rico

* GBS cases with previous history of Zika virus infection were reported by the International Health Regulations (2005) National Focal Point in United States of America.

⁴ <http://combateaedes.saude.gov.br/noticias/599-saude-confirma-1-198-casos-de-microcefalia-no-pais>

⁵ <http://www.nejm.org/doi/pdf/10.1056/NEJMoa1600651>

⁶ <http://governor.hawaii.gov/newsroom/doh-news-release-hawaii-department-of-health-receives-confirmation-of-zika-infection-in-baby-born-with-microcephaly/>

⁷ <http://www.nejm.org/doi/full/10.1056/NEJMoa1601824>

Table 5. Strategic Response Framework and Joint Operational Response Plan: summary of key response interventions.

Objectives	Activities
Public health risk communication and community engagement activities	<ul style="list-style-type: none"> ▪ Coordinate and collaborate with partners on risk communication messaging and community engagement for Zika. ▪ Develop communication and knowledge packs and associated training on Zika virus and all related and evolving issues for communication experts. ▪ Engage communities to communicate risks associated with Zika virus disease and promote vector control, personal protection measures, reduce anxiety, address stigma, and dispel rumours and cultural misperceptions. ▪ Disseminate material on Zika and potentially associated complications for key audiences such as women of reproductive age, pregnant women, health workers, clinicians, and travel and transport sector stakeholders. ▪ Conduct social science research to understand perceptions, attitudes, expectations and behaviours regarding fertility decisions, contraception, abortion, pregnancy care and care of infants with microcephaly and persons with GBS. ▪ Support countries to monitor impact of risk communications.
Vector control and personal protection against mosquitoes	<ul style="list-style-type: none"> ▪ Regularly update and disseminate guidelines/recommendations on emergency <i>Aedes spp.</i> mosquito control and surveillance. ▪ Support insecticide resistance monitoring activities. ▪ Support countries in vector surveillance and control, including provision of equipment, insecticides, personal protection equipment (PPE) and training.
Care for those affected and advice for their caregivers	<ul style="list-style-type: none"> ▪ Assess and support existing capacity and needs for health system strengthening, particularly around antenatal, birth and postnatal care, neurological and mental health services, and contraception and safe abortion. ▪ Map access barriers limiting women’s capacity to protect themselves against unintended pregnancy. ▪ Develop guidance for: families affected by microcephaly, GBS or other neurological conditions; women suspected or confirmed to have Zika virus infection, including women wanting to get pregnant, pregnant women and women who are breastfeeding; health workers on Zika virus health care, blood transfusion services, tools for triage of suspected Zika virus, chikungunya and dengue cases; and for health services management following a Zika virus outbreak. ▪ Provide technical support to countries on health service delivery refinements and national level planning to support anticipated increases in service needs. ▪ Procure and provide equipment and supplies to prepare their healthcare facilities in provision of specialized care for complications of Zika virus for prioritized countries and territories.

YELLOW FEVER

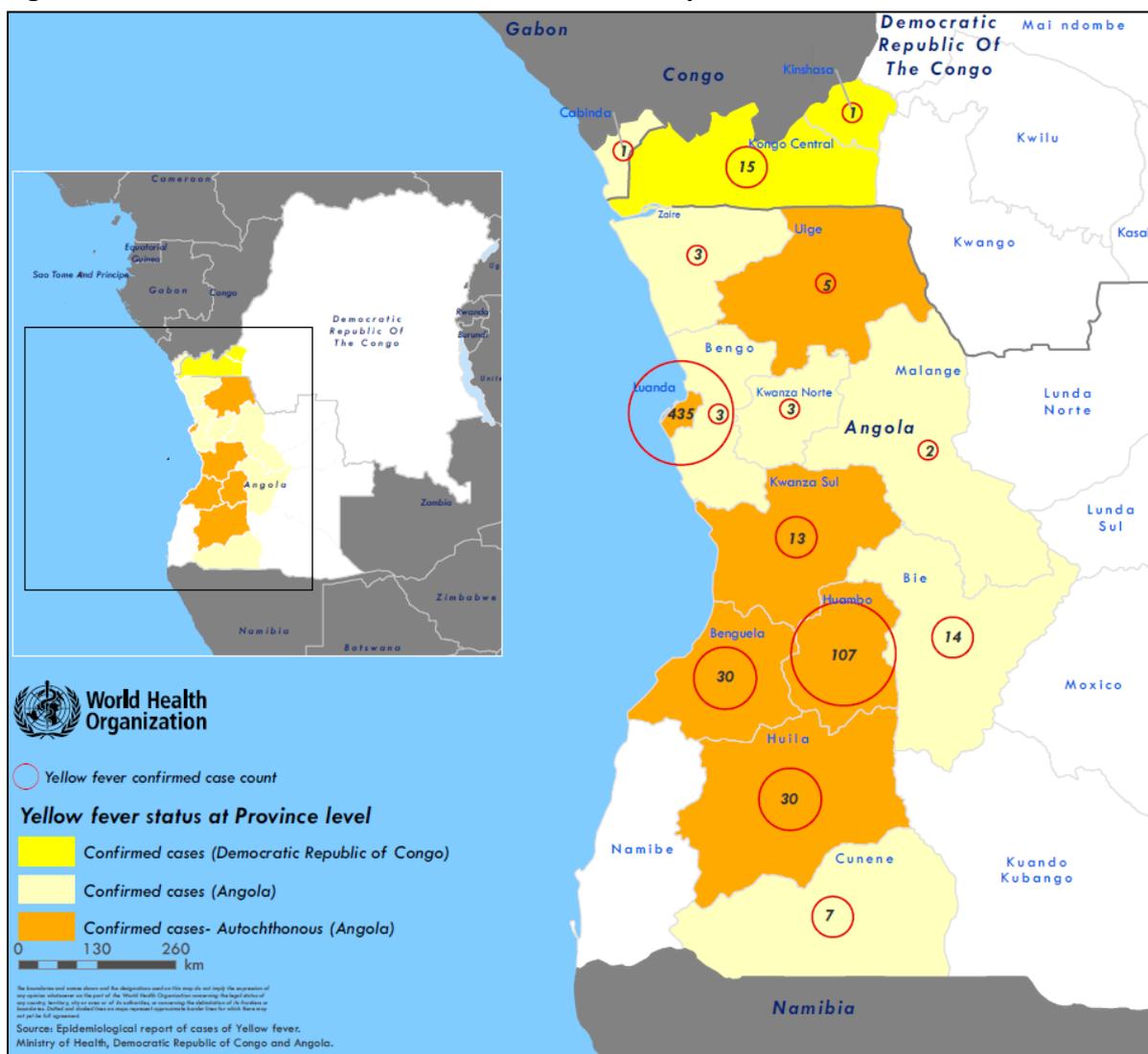
- A Yellow Fever outbreak⁸ was detected in Angola late in December 2015 and confirmed by the Institut Pasteur Dakar on 20 January 2016. A rapid increase in the number of Yellow Fever cases was observed since mid-January 2016.
- As of 26 April, a total of 2023 suspected cases and 258 deaths were reported in Angola, of which 653 were laboratory confirmed cases (70% were from Luanda province). In the week to 24 April, 115 new suspect cases, eight new deaths and 36 new confirmed Yellow Fever cases were reported.
- No suspected cases of Yellow Fever have been reported in Congo, Namibia or Zambia. Namibia and Zambia share a long and porous border with Angola and controlling population movements between the three countries will be challenging. These two countries requested assistance from WHO especially for the procurement of vaccines for travellers in cross border areas and to reassess the risk of Yellow Fever.
- Three countries have reported Yellow Fever cases exported from Angola: China (11 confirmed cases), Democratic Republic of The Congo (16 confirmed cases) and Kenya (two confirmed cases). These cases highlight the risk of international spread of Yellow Fever via non-immunized travellers.
- On 22 March 2016, the Democratic Republic of The Congo (DRC) Ministry of Health notified WHO of cases of Yellow Fever in connection with Angola. The Yellow Fever outbreak was officially declared by the national government on 23 April 2016.
- As of 26 April, a total of 37 Yellow Fever cases (16 confirmed and 21 probable) were reported in DRC (Figure 3). All 16 confirmed cases previously travelled to Angola. The results for the 21 probable cases are pending. In addition, at least two probable cases of locally acquired Yellow Fever infection have been reported in Kinshasa and in Matadi (Kongo central province).
- On 9 April 2016, Uganda notified WHO of Yellow Fever cases in the south-western district of Masaka. On 21 April, one Yellow Fever case was confirmed in the eastern district of Rukungiri. As of 27 April, 39 suspect cases of Yellow Fever cases have been reported in seven districts. Six cases have been laboratory confirmed (five in Masaka and one in Rukungiri). Based on available information, the clusters of Yellow Fever in Uganda do not seem to be epidemiologically linked to Angola.
- Vaccination campaigns in Huambo and Benguela have reached more than 59% and 70% of the target population for the last two weeks. The rate of administering vaccinations needs to be increased in order to interrupt virus circulation.
- DRC and Uganda are GAVI Alliance eligible countries thus the vaccination campaigns in these countries will be covered by GAVI Alliance.

⁸ <http://www.who.int/emergencies/yellow-fever/en/>

Risk assessment

- The outbreak in Angola remains of high concern due to:
 - Persistent local transmission in Luanda despite that fact that almost six million people have been vaccinated.
 - Local transmission reported in six highly populated provinces including Luanda.
 - High risk of spread to neighbouring countries. Confirmed cases have already travelled from Angola to China, DRC and Kenya.
- A field investigation concluded there is a high risk of local transmission of Yellow Fever in DRC.

Figure 3. Distribution of Yellow Fever cases as of 24 April 2016.



EBOLA VIRUS DISEASE

- The Public Health Emergency of International Concern (PHEIC) related to Ebola in West Africa was lifted on 29 March 2016. A total of 28 616 confirmed, probable and suspected cases have been reported in Guinea, Liberia and Sierra Leone, with 11 310 deaths.
- In the latest cluster suspected to be related to viral persistence, 7 confirmed and 3 probable cases of Ebola virus disease (EVD) were reported between 17 March and 6 April from the prefectures of N’Zerekore (9 confirmed and probable cases) and Macenta (1 confirmed case) in south-eastern Guinea. In addition, having travelled to Montserrado county (Monrovia), Liberia, the wife and two children of the Macenta case were confirmed as Ebola cases between 1 and 5 April (Table 6).
- The index case of this cluster (a female aged 37 from Koropara sub-prefecture in N’Zerekore) had symptom onset on or around 15 February and died on 27 February without a confirmed diagnosis. The source of her infection is likely to have been due to viral persistence in an Ebola survivor.
- More than 1000 contacts were linked to the 13 cases (including nine deaths) in Guinea and Liberia. The 21-day follow-up period for all contacts was completed on 27 April.
- In Guinea, the last case tested negative for Ebola virus for the second time on 19 April. In Liberia, one remaining hospitalized case (a 2-year-old) is reported to be healthy but a second consecutive negative test is needed before he is discharged.
- The 42-day (2 incubation periods) countdown must elapse before the outbreak can be declared over in Guinea and Liberia. In Guinea, this began on 19 April and is due to end on 31 May. In Liberia, it will begin following the second negative test of the last case.
- The response to this outbreak was supported in Guinea by vaccination of contacts and contacts of contacts. This campaign began on 22 March and vaccinated over 1500 people.

Risk assessment:

Although all of the previous outbreaks have been stopped, the performance indicators suggest that the three countries still have variable capacity to prevent (care for survivors), detect (epidemiological and laboratory surveillance) and respond to new outbreaks (Table 7). The risk of additional outbreaks remains.

Table 6: Confirmed and probable cases by prefecture/county from 14 March to 24 April 2016 in Guinea/Liberia.

Country	Prefecture/ County	Case Definition	Epidemiological Week						Date of end of contact follow up	Date of second negative test or safe burial of most recent confirmed case	Date of end of 42-day countdown
			11	12	13	14	15	16			
Guinea	N’Zerekore	Confirmed	2	2	2	0	0	0	27/04/2016	19/04/2016	31/05/2016
		Probable	3	0	0	0	0	0			
	Macenta	Confirmed	0	0	0	1	0	0			
Probable		0	0	0	0	0	0				
Total			5	2	2	1	0	0			
Liberia	Montserrado	Confirmed	0	0	2	1	0	0	26/04/2016		
		Probable	0	0	0	0	0	0			
Total			0	0	2	1	0	0			
Total			5	2	4	2	0	0			

Data are based on official information reported by ministries of health. These numbers are subject to change due to ongoing reclassification, retrospective investigation, and availability of laboratory results.

Table 7: Key performance indicators for managing residual risks in Guinea, Liberia and Sierra Leone in the three weeks to 24 April 2016.

Indicator	Guinea	Liberia	Sierra Leone
Objective 2: Prevent (Survivors)			
Number of registered survivors (dark blue) and number estimated survivors (light blue)			
Number and percentage of registered survivors who have ever accessed services [#]			
Number of male survivors' semen tested (light blue) and the cumulative number of initial positives (dark blue)			Data not available
Objective 2: Detect (Surveillance)			
Number of alerts (those for live alerts in light blue and for community deaths in dark blue)			
Number of new and repeat samples tested (those from live patients in light blue and from dead bodies in dark blue)			
Percentage of prefectures/ counties/ districts providing samples for testing			
Objective 2: Respond (Rapid response teams)			
Number of functional national and/or sub-national rapid response teams	Data not available		
Number of national simulation exercises conducted			

All data provided by WHO country offices. For definitions of key performance indicators see Annex 1 in previous Ebola Situation Reports.⁹
^{**}Number of estimated survivors not yet confirmed. [#]Services in Liberia currently include semen screening and counselling for male survivors, while services currently refer to eye care for survivors in Sierra Leone. *Data correspond to the three weeks ending 20 December 2015.

⁹ <http://apps.who.int/ebola/ebola-situation-reports>