



SUMMARY

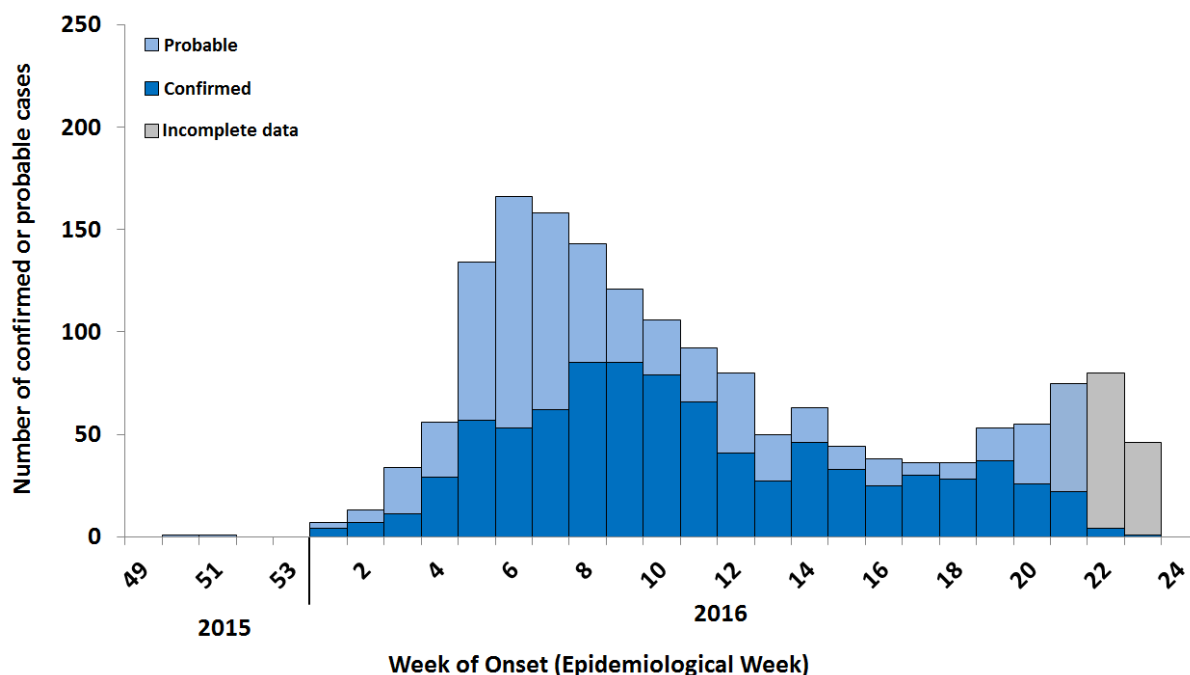
- In Angola the total number of notified cases has increased since early 2016. As of 17 June 2016 a total of 3294 suspected cases have been reported, of which 861 are confirmed. The total number of reported deaths is 347, of which 115 were reported among confirmed cases. Suspected cases have been reported in all provinces, and confirmed cases have been reported in 16 of 18 provinces and 79 of 123 reporting districts.
- Mass vaccination campaigns first began in Luanda and have now expanded to cover most of the other affected parts of Angola. Recently the campaigns have focused on border areas. Despite extensive vaccination efforts circulation of the virus persists.
- As of 20 June, in the Democratic Republic of The Congo (DRC), the total number of notified suspected cases is 1106, with 68 confirmed cases and 75 deaths. Cases have been reported in 22 health zones in five provinces. Of the 68 confirmed cases, 59 were imported from Angola, two are sylvatic and seven are autochthonous.
- Surveillance efforts have increased and vaccination campaigns in DRC have centred on affected zones in Kinshasa and Kongo Central.
- Two additional countries have reported confirmed yellow fever cases imported from Angola: Kenya (two cases) and People's Republic of China (11 cases). These cases highlight the risk of international spread through non-immunised travellers.
- Six countries (Brazil, Chad, Colombia, Ghana, Peru and Uganda) are currently reporting yellow fever outbreaks or sporadic cases not linked to the Angolan outbreak.
- Following the advice of the Emergency Committee (EC) convened on 19 May 2016, the WHO Director-General decided that urban yellow fever outbreaks in Angola and DRC are serious public health events which warrant intensified national action and enhanced international support. The events do not at this time constitute a Public Health Emergency of International Concern (PHEIC).

EPIDEMIOLOGICAL SITUATION

Angola

- From 5 December 2015 to 17 June 2016, the Ministry of Health has reported a total of 3294 suspected cases of which 861 are laboratory confirmed (Table 1). The total number of reported deaths is 347, of which 115 are reported among confirmed cases.
- The epidemic curve (Fig. 1) shows the total number of notified cases increased from early 2016 and the number of confirmed cases peaked in weeks 8 to 9 (22 February to 6 March). Surveillance efforts have been strengthened in most provinces.

Figure 1. National weekly number of probable and confirmed yellow fever cases in Angola, 5 December 2015 to 17 June 2016



Data provided by Angola yellow fever situation report published on 20 June 2016.¹ Data for the last three weeks is incomplete due to lags between onset of symptoms and reporting.

- Suspected cases have been reported in all provinces, and confirmed cases have been reported in 16 of the 18 provinces (Fig. 2). Confirmed cases have been reported in 79 of 123 districts (Table 2).
- Luanda and Huambo remain the most affected provinces as of 17 June with 1833 cases (489 confirmed) and 543 cases (127 confirmed), respectively (Fig. 3).
- Local transmission is now present in 44 districts in 12 provinces (Fig. 3). The case with the most recent date of symptom onset, 6 June, was reported in Cuango district, in Lunda Norte province.
- The majority of cases are among males aged between nine and 19 years.
- Three countries have reported confirmed yellow fever cases imported from Angola: DRC (59 cases), Kenya (two cases) and People's Republic of China (11 cases). These cases highlight the risk of international spread through non-immunised travellers.

¹ <http://www.afro.who.int/en/yellow-fever/sitreps/item/8747-situation-report-yellow-fever-outbreak-in-angola-20-june-2016.html>

Figure 2. Monthly time line of infected districts in Angola, December 2015 to 17 June 2016

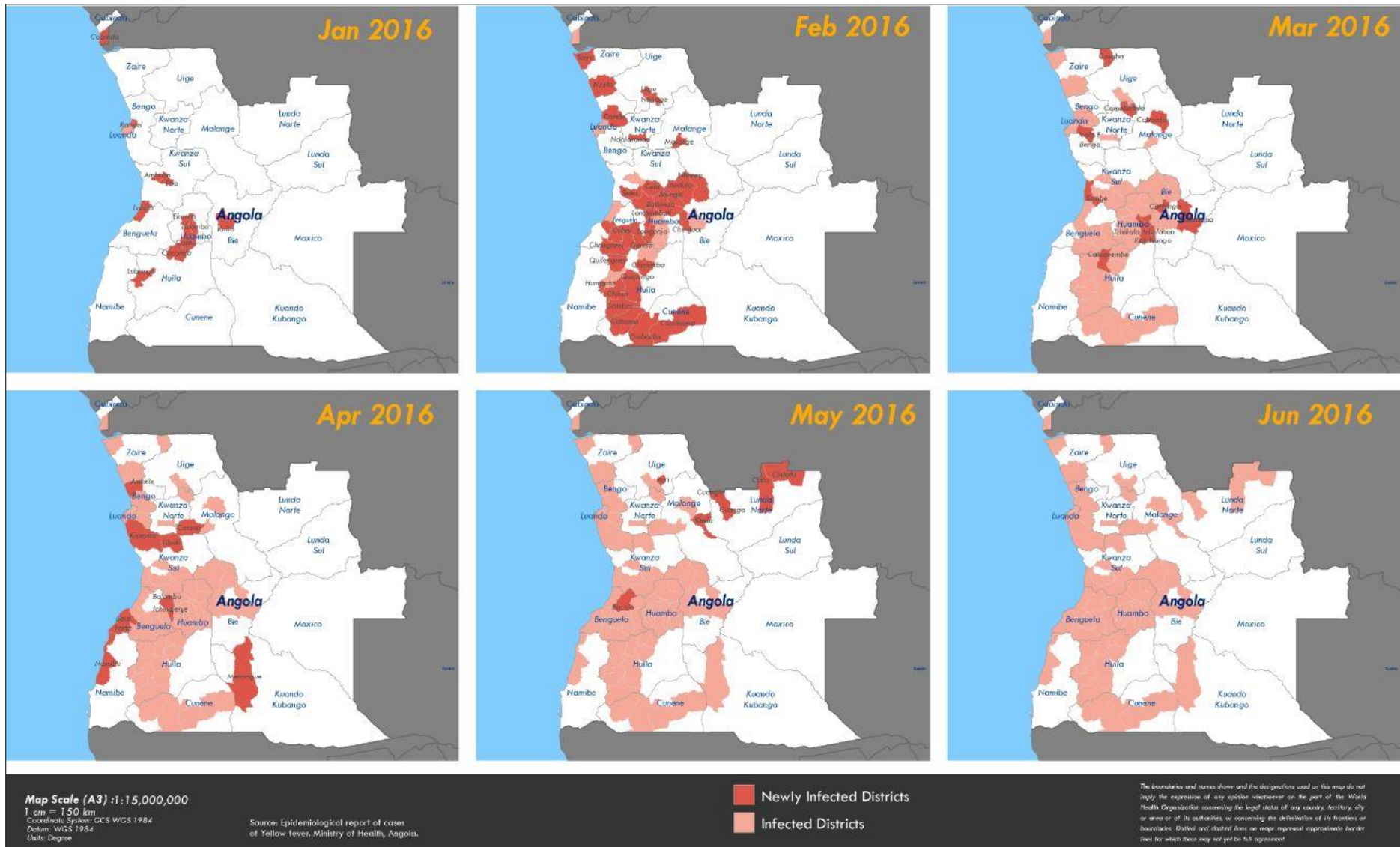
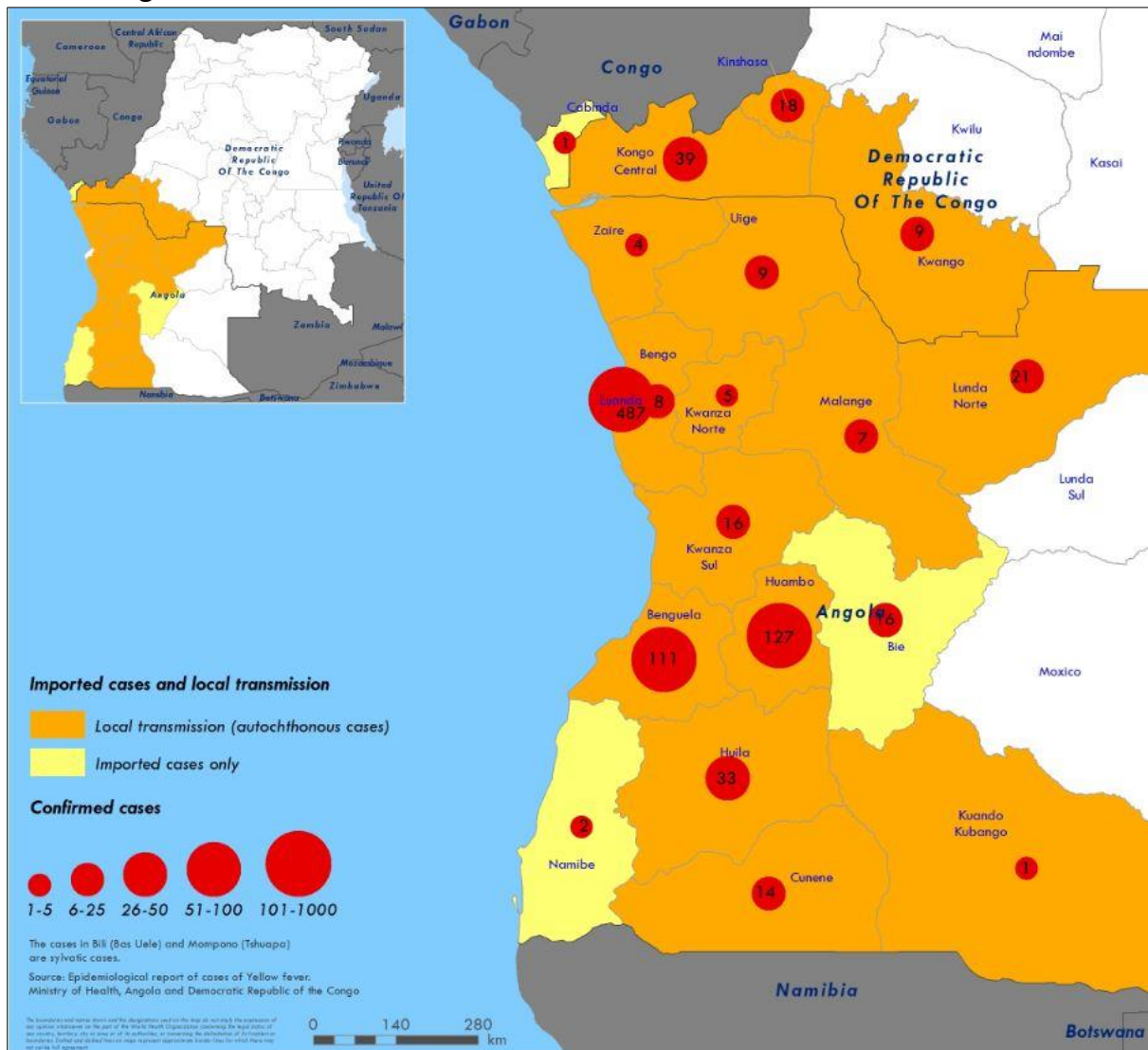


Figure 3. Distribution of yellow fever confirmed cases in Angola and Democratic Republic of The Congo



Data is as of 17 June for Angola and 21 June for DRC.

Democratic Republic of The Congo

- On 22 March 2016, the Ministry of Health of DRC, notified WHO of yellow fever cases in connection with Angola. The yellow fever outbreak in DRC was officially declared on 23 April.
- To date, DRC has reported 1106 suspected and 68 confirmed cases with 75 deaths (Table 1).
- The case with the most recent date of symptom onset, 12 June, was reported in Muanda health zone, Kongo Central province.
- Of the 68 confirmed cases, 59 are imported from Angola (reported in Kongo Central, Kinshasa and Kwango provinces), two are sylvatic cases in Northern provinces, and seven are other autochthonous cases. The seven autochthonous cases were reported in Ndjili, Kimbanseke and Kisenso districts (Kinshasa province), in Matadi district (Kongo Central province) and in Kahemba (Kwango province) (Fig. 3).

- The majority of the cases in DRC are male and they are mainly aged between 20 and 34 years.

Table 1: Reported yellow fever cases and deaths in Angola and Democratic Republic of The Congo

Cases and deaths	Angola		Democratic Republic of The Congo	
	Recent week (11 Jun – 17 Jun)	Cumulative (5 Dec – 17 Jun)	Recent week (16 Jun – 20 Jun)	Cumulative (22 Mar – 13 Jun)
Confirmed cases	1	861	5	68
Confirmed deaths	Not available	115	Not available	Not available
Reported cases	156	3294	43	1106
Reported deaths	2	347	Not available	75

Cases and deaths include both autochthonous and imported cases. Data is as of most recent week for which data is available. These numbers are subject to change due to ongoing reclassification, retrospective investigation and availability of laboratory results.

Table 2: Geographical distribution of yellow fever cases in Angola and Democratic Republic of The Congo

Geographical distribution of cases	Angola		Democratic Republic of The Congo	
	Recent week (11 Jun – 17 Jun)	Cumulative (5 Dec – 17 Jun)	Recent week (16 Jun – 20 Jun)	Cumulative (1 Jan – 20 Jun)
Districts/ health zones with confirmed cases	0	79	0	22
Districts/ health zones with documented local transmission	0	44	0	7
Provinces with confirmed cases	0	16	0	5*
Provinces with documented local transmission	0	12	0	3

*Includes sylvatic cases. Data is as of most recent week for which data is available. These numbers are subject to change due to ongoing reclassification, retrospective investigation and availability of laboratory results. Data for the most recent week represents newly affected districts/ health zones or provinces.

Other countries reporting yellow fever transmission

Republic of Congo

- Republic of Congo reported two suspected cases of yellow fever in Bouenza department last week. Further investigations and laboratory analysis are ongoing to assess whether these are confirmed cases, the vaccination statuses and the potential links to Angola.

Uganda

- On 9 April 2016, Uganda notified WHO of yellow fever cases in the south-western district of Masaka. As of 1 June, 68 suspected cases of yellow fever have been reported in seven districts. Of those, seven cases have been laboratory confirmed (five in Masaka, one in Rukungiri and one in Kalangala).
- According to sequencing results, the outbreak is not linked to Angola and indicates high similarities with the virus which caused the outbreak in this country in 2010.

Ethiopia

- In Ethiopia, no new suspected yellow fever cases have been reported since 18 May. All the 22 suspected yellow fever cases reported earlier from South Omo zone tested negative for yellow fever.

Ghana

- Ghana has reported four suspected cases from two regions: three in Brong-Ahafo region and one from Volta region. Investigations are ongoing to determine the vaccination status of the cases and to rule out a link with Angola or DRC. These are most likely sylvatic cases as these areas are known to be endemo-epidemic for yellow fever.

Chad

- Chad has reported a sylvatic case of yellow fever that had symptom onset back on the 15 January 2016.

Peru

- In Peru, as of 2 June, 54 probable cases of yellow fever have been reported including 43 confirmed cases and six deaths. Most cases are reported from Junin department (35), a known enzootic ecosystem area. Remaining cases were reported from Cusco and Lima departments. The transmission cycle is occurring in endemic-enzootic areas with a history of known transmission. This event is not linked to the Angolan yellow fever outbreak. Geographical spread to the pacific coast is considered unlikely.

Brazil

- In Brazil, in March 2016, one sporadic fatal yellow fever case was reported in São Paulo state. The case does not have a history of yellow fever vaccination.

Colombia

- Colombia has reported a sylvatic case of yellow fever that had symptom onset on 19 May 2016.

Risk assessment

- The outbreak in Angola remains of high concern due to:
 - Persistent local transmission despite the fact that nearly 11 million people have been vaccinated;
 - Local transmission has been reported in 12 highly populated provinces including Luanda.
 - The continued extension of the outbreak to new provinces and new districts;
 - High risk of spread to neighbouring countries. As the borders are porous with substantial cross border social and economic activities, further transmission cannot be excluded. Viraemic travelling patients pose a risk for the establishment of local transmission especially in countries where adequate vectors and susceptible human populations are present;
 - Risk of establishment of local transmission in other provinces where no autochthonous cases are reported;
 - High index of suspicion of ongoing transmission in hard-to-reach areas like Cabinda;
 - Enhanced surveillance is needed and further strengthening of surveillance is underway.
- In DRC, the outbreak has already spread to three provinces. Given the limited availability of vaccines, the large Angolan community in Kinshasa, the porous border between Angola and DRC, and the presence and the activity of the vector *Aedes* in the country, the outbreak might extend to other provinces in particular Kasai, Kasai Central and Lualaba.
- The virus in Angola and DRC is largely concentrated in main cities, however there is a high risk of spread and local transmission to other provinces in both countries. In addition, the risk is high for potential spread to bordering countries especially those classified as low-risk (i.e. Namibia, Zambia) and where the population, travelers and foreign workers are not vaccinated for yellow fever.
- Chad, Uganda and some countries in South America (e.g. Brazil, Colombia and Peru) are also facing yellow fever outbreaks or sporadic cases of yellow fever. These events are not related to the Angolan outbreak but there remains a need for vaccines in those countries which poses additional strain on the limited global yellow fever vaccine stockpile.

RESPONSE

- An Emergency Committee (EC) regarding yellow fever was convened by WHO's Director-General under the International Health Regulations (IHR 2005) on 19 May 2016. Following advice from the EC, the Director-General decided that the urban yellow fever outbreaks in Angola and DRC are serious public health events which warrant intensified national action and enhanced international support. The events do not at this time constitute a Public Health Emergency of International Concern (PHEIC).²

² <http://www.who.int/mediacentre/news/statements/2016/ec-yellow-fever/en/>

- Information on the current outbreak continues to be updated on the WHO website.³
- An information package is being prepared to communicate about the vaccine stockpile, ICG mechanism, vaccine supply and potential use of fractionated dose.
- WHO Strategic Advisory Group of Experts (SAGE) on Immunization reviewed existing evidence that demonstrates that using a fifth of a standard vaccine dose would still provide protection against the disease for at least 12 months and possibly much longer.⁴ This approach, known as fractional dosing, is under consideration as a short-term measure, in the context of a potential vaccine shortage for use in emergencies.
- In Angola, vaccination campaigns started first in Luanda province at the beginning of February, in mid-April in Benguela and Huambo, and on 16 May in Cuanza Sul, Huila and Uige provinces (Fig. 4). Vaccination campaigns have also started in Cuango district and are planned in Chitato district (Lunda Norte).
- As of 11 June, ICG approved 2.3 million doses of yellow fever vaccine for vaccination in 12 districts in nine provinces (Bie, Cunene, Benguela, Huila, Kuanza Norte, Uige, Namibe, Cuanza Sul, Cuando and Cubango).
- 243 690 vaccine doses will be sent to the border district of Soyo, in Zaire Province, for mass vaccination. The mass campaign is planned to start this week. An additional 1 036 500 doses of yellow fever vaccine were received and have been designated for Coango, Chitato and Soyo districts. Mass vaccination campaigns are underway in the border districts of Chitato and Coango in Lunda Norte province.
- In DRC, a vaccination campaign in 11 health zones finished on 4 June and reached around 2.1 million people. A new request for vaccines has been sent to ICG for a vaccination campaign in newly affected health zones in Kinshasa and Kwango provinces.
- In Uganda a reactive mass vaccination campaign in Kalangala has been completed with 93.5% vaccination coverage of the population. Vaccination coverage is 88% for Masaka and 97% for Rukungiri districts.
- The number of vaccines currently available for the emergency response is 5.2 million through the ICG. The amount of doses already allocated to respond to the outbreak is not included in this number.

³ <http://www.who.int/features/qa/yellow-fever/en/>

⁴ <http://www.who.int/mediacentre/news/statements/2016/yellow-fever-vaccine/en/>

Figure 4. Vaccination population coverage in Angola as of 22 June 2016

