



SUMMARY

- From the beginning of the outbreak on 15 December 2015 to 8 June 2016, Angola has reported 2954 suspected cases of yellow fever including 328 deaths. Among those cases, 819 have been laboratory confirmed. Despite extensive vaccination campaigns in several provinces, circulation of the virus persists.
- As of 8 June 2016 three new provinces in Angola have reported local transmission, bringing the total number of districts with local transmission to 33 in 11 provinces, including Luanda.
- The total number of reported cases in Angola increased from 11 April 2016 onwards, while the number of laboratory confirmed cases remains stable. This can be attributed to the intensification of surveillance activities in most provinces.
- From the beginning of the outbreak on 22 March 2016 to 8 June 2016, the Democratic Republic of The Congo (DRC) has reported three probable cases and 57 laboratory confirmed cases: 51 of those are imported from Angola, reported in Kongo Central, Kinshasa and Kwango provinces, two are sylvatic cases in Northern provinces, and four are autochthonous cases in Ndjili and Kimbanseke districts, in Matadi (Kongo Central) and in Kwango province.
- From the beginning of the outbreak on 9 April 2016 to 8 June 2016, the Ministry of Health of Uganda, has reported 68 suspected cases, of which three are probable and seven are laboratory confirmed. Confirmed cases have been reported from three districts: Masaka (five cases), Rukungiri (one case) and Kalangala (one case). According to sequencing results, those clusters are not epidemiologically linked to Angola.
- 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. There is also a high risk of potential spread to bordering countries especially those previously classified as low-risk for yellow fever disease (i.e. Namibia, Zambia) and where the population, travellers and foreign workers are not vaccinated against yellow fever.
- Three countries have reported confirmed yellow fever cases imported from Angola: DRC (51 cases), Kenya (two cases) and People's Republic of China (11 cases). This highlights the risk of international spread through non-immunised travellers.
- A further three countries have reported suspected cases of yellow fever: Ethiopia (one probable case), Ghana (four suspect cases) and Republic of Congo (one suspect case).

Investigations are ongoing to identify the vaccination status of the cases and determine if they are linked with Angola. The two suspect cases previously reported in Sao Tome and Principe have been discarded.

- Following the advice of the Emergency Committee (EC) convened on 19 May 2016, 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). The statement can be found on the WHO website.¹

SURVEILLANCE

Angola

- From 5 December 2015 to 8 June 2016, the Ministry of Health has reported a total of 2954 suspected cases with 328 deaths and 819 laboratory confirmed cases. There are confirmed cases in 16 of the 18 provinces (Fig. 1) and suspected cases are present in all provinces.
- Luanda and Huambo remain the most affected provinces with 1721 cases (482 confirmed) and 497 cases (124 confirmed) respectively as of 3 June 2016 (Fig. 2).
- For the first time since the beginning of the outbreak, Kuanza Norte province has reported local transmission. Four districts in three provinces documented new local transmission on the week to 8 June 2016, namely: Cahama and Cuanhama districts in Cunene province, Cazengo district in Kuanza Norte and Cacuso district in Malanje. Local transmission is now present in 11 provinces in 33 districts (Fig. 2), including Luanda.
- The total number of reported cases increased from 11 April 2016 onwards, while the number of laboratory confirmed cases remains stable. This can be attributed to the intensification of surveillance activities in most provinces.
- After reports of a cluster of cases in Lunda Norte on 22 May, surveillance has been strengthened in the province.

¹ <http://www.who.int/mediacentre/news/statements/2016/ec-yellow-fever/en/>

Figure 1. Monthly time line of infected districts in Angola, December 2015 to 8 June 2016

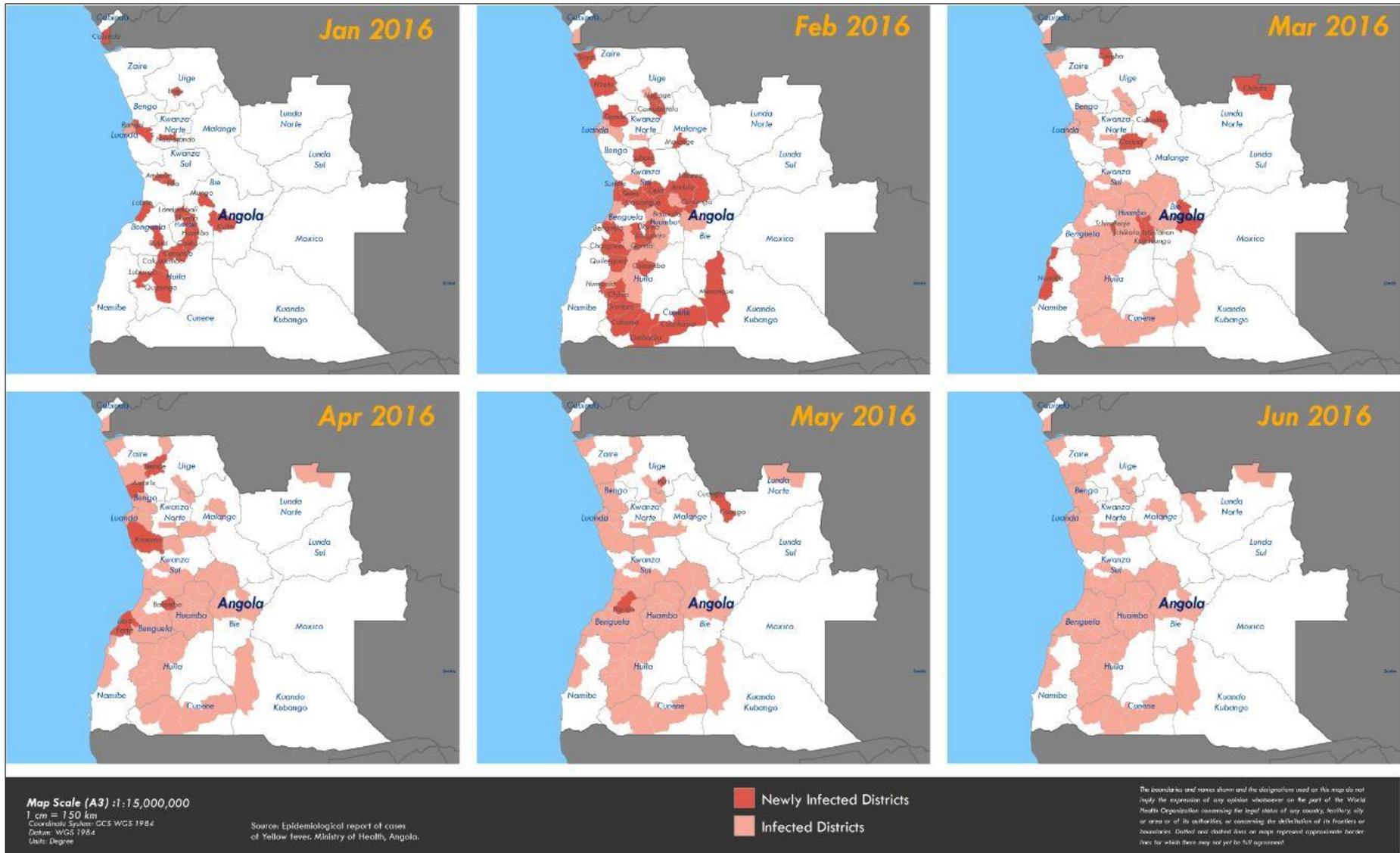


Figure 2. Distribution of yellow fever confirmed cases in Angola and DRC as of 8 June 2016

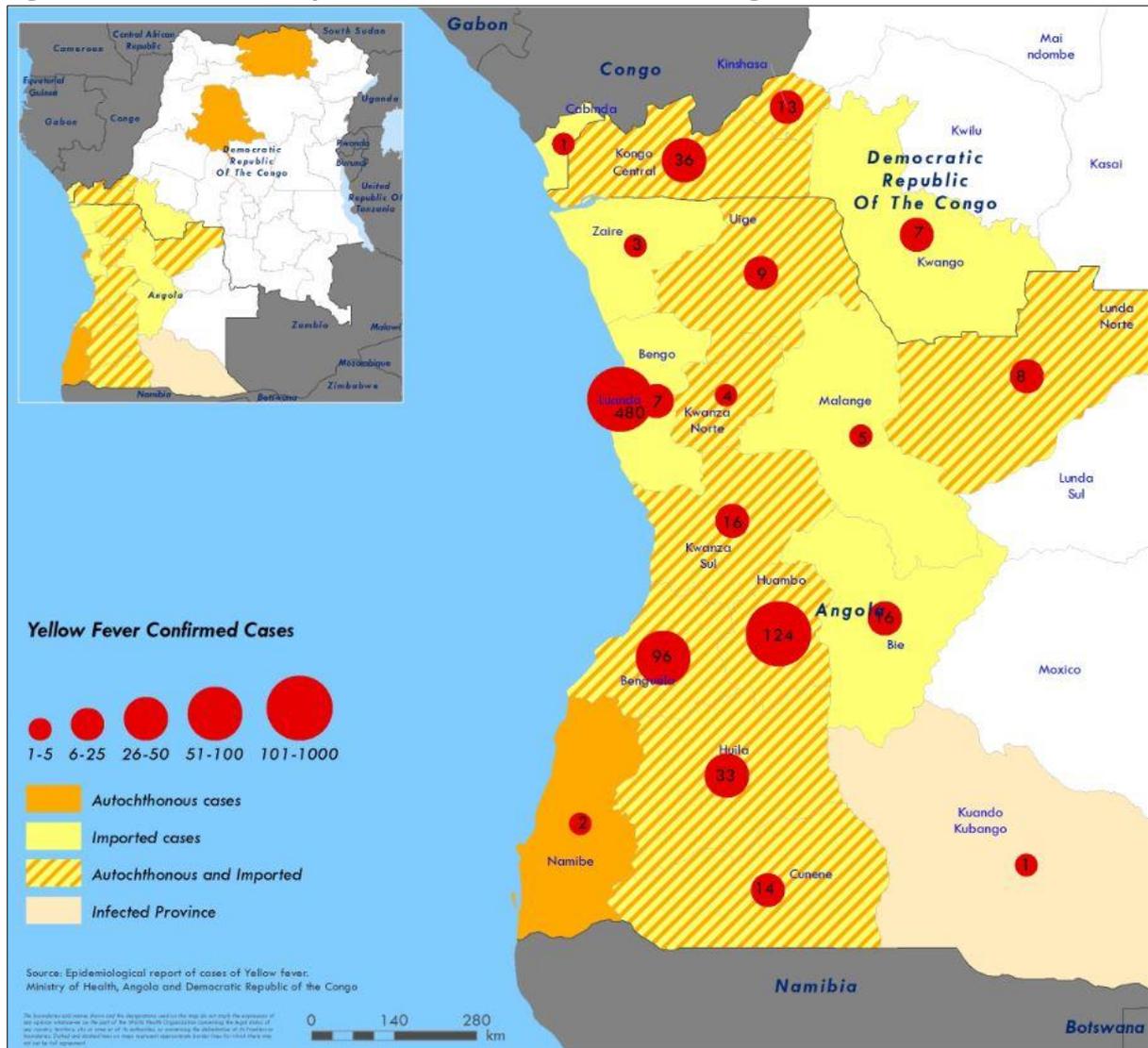
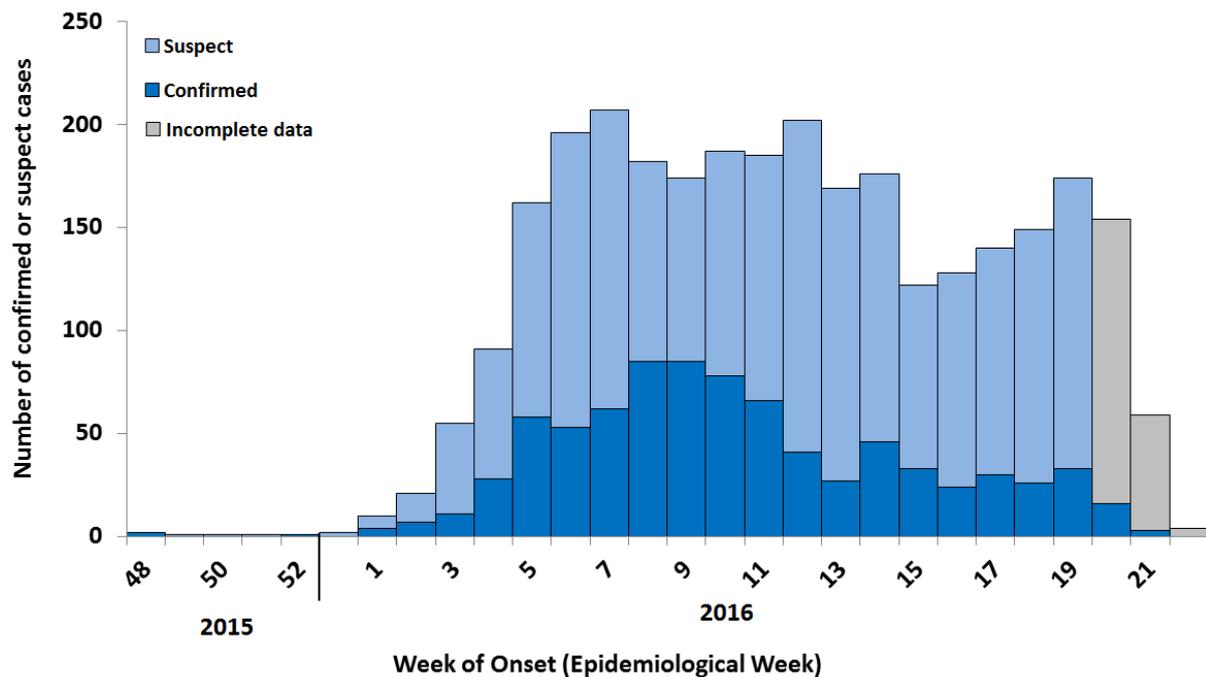


Figure 3. National weekly number of suspected and confirmed yellow fever cases in Angola, 5 December 2015 to 3 June 2016



Data provided by Angola yellow fever situation report as of 6 June 2016.²

Democratic Republic of The Congo

- On 22 March 2016, the Ministry of Health of DRC, notified human cases of yellow fever in connection with Angola. The yellow fever outbreak was officially declared on 23 April.
- As of 8 June, DRC has reported 57 laboratory confirmed cases: 51 are imported from Angola, 51 of those are imported from Angola, reported in Kongo Central, Kinshasa and Kwango provinces, two are sylvatic cases in Northern provinces, and four other autochthonous cases in Ndjili and Kimbanseke districts, in Matadi (Kongo Central) and in Kwango province.
- For the first time since the beginning of the outbreak one autochthonous case has been reported from Kimbanseke district in Kinshasa province (a non-vaccinated health zone).
- Five confirmed cases have been classified as imported from Lunda Norte (Angola) to Kwango province in DRC. The outbreak might extend to other provinces in particular Kasai, Kasai Central and Lualaba.

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).

² <http://www.afro.who.int/en/yellow-fever/sitreps/item/8689-situation-report-yellow-fever-outbreak-in-angola-06-june-2016.html>

- 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.

Other countries

- Republic of Congo reported one suspected case of yellow fever in Bouenza department last week. Further investigations and laboratory analysis are needed to assess whether it is a confirmed case and its vaccination status. In Republic of Congo the outbreak investigation team, documented retrospectively 11 cases with fever and jaundice, six of these cases have no history of yellow fever vaccination.
- In Ethiopia investigation is ongoing on 22 suspected yellow fever cases, including five deaths reported last week in two districts of South Omo zone. So far one of the 19 samples tested IgM positive for yellow fever at the national laboratory. The latest outbreak of yellow fever in this area was in 2013 which triggered a reactive vaccination campaign.
- Sao Tome and Principe reported two suspected yellow fever cases imported from Luanda, Angola. For both cases, a previous yellow fever vaccination was fully documented and therefore both cases were discarded.
- Ghana has reported four suspected cases of yellow fever 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. There are most likely sylvatic cases as these areas are known to be endemo-epidemic for yellow fever.
- No suspected cases of yellow fever have been reported in Zambia or Namibia. However, they share a long and porous border with Angola and controlling population movement between the three countries is challenging.
- Confirmed yellow fever cases exported from Angola have been documented in Kenya (two cases) and People's Republic of China (11 cases). This highlights the risk of international spread through non-immunised travellers.
- In Peru, as of 2 June, 54 probable cases of yellow fever were reported including 43 confirmed cases and six deaths (overall fatality rate 14%). Most cases are reported from Junin department (35 cases), a known enzootic ecosystem area. All other cases have been reported in Cusco (three cases) and Lima (one case) departments. This event is not related to the Angolan outbreak. The risk of geographical spread to the pacific coast is unlikely.
- In March 2016, Brazil reported one sporadic fatal yellow case fever in an individual without a history of yellow fever vaccination in São Paulo state.

Risk assessment

- The outbreak in Angola remains of high concern due to:
 - Persistent local transmission in Luanda despite the fact that approximately eight million people have been vaccinated.
 - Local transmission has been reported in 11 highly populated provinces including Luanda. Kuanza Norte, Luanda Norte, Cunene and Malenge are the provinces that most recently reported local yellow fever transmission.
 - 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.
 - Inadequate surveillance system capable of identifying new foci or areas of cases emerging.
- For DRC, a field investigation conducted in April concluded that there is a high risk of local transmission of yellow fever in the country. 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 situation needs to be closely monitored. 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. The risk is high also 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.
- Uganda and some countries in South America (Brazil and Peru) are also facing yellow fever outbreaks or sporadic cases of yellow fever. Those events are not related to the Angolan outbreak but there are needs for vaccines in those countries in a context of limited yellow fever vaccines 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).
- The Director-General provided the following advice to Member States:

- the acceleration of surveillance, mass vaccination, risk communications, community mobilization, vector control and case management measures in Angola and DRC;
 - the assurance of yellow fever vaccination of all travellers, and especially migrant workers, to and from Angola and DRC;
 - the intensification of surveillance and preparedness activities, including verification of yellow fever vaccination in travellers and risk communications, in at-risk countries and countries having borders with the affected countries.
- A press conference was held immediately following the EC on yellow fever on 19 May. The statement can be found on the WHO website.³
 - In Angola, vaccination campaigns started first in Luanda province at the beginning of February, and 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 9 June, 12.68 million doses have been shipped to Angola. The Angolan Ministry of Health, the ICG Revolving Fund, GAVI and CERF have covered the vaccine costs.
 - DRC and Uganda are GAVI Alliance eligible countries thus the vaccination campaigns in these countries were covered by GAVI Alliance.
 - 2.2 million vaccines and ancillaries have arrived in DRC. The vaccination campaign was conducted from 26 May to 4 June in 11 Health Zones.
 - 700 000 yellow fever doses of vaccines arrived in Uganda and the vaccination campaign was conducted between 19 and 22 May. The vaccination coverage was 88% for Masaka and 97% for Rukungiri.
 - 45 000 doses were shipped to Namibia and 50 000 doses were shipped to Zambia for travellers.
 - Information on the current outbreak continues to be updated on the WHO website.⁴
 - An information package is being prepared to communicate about the stockpile, ICG mechanism, vaccine supply and potential use of fractionated dose.
 - WHO has deployed communications officers to support the WHO country offices in Angola and DRC.

³ <http://www.who.int/mediacentre/news/statements/2016/ec-yellow-fever/en/>

⁴ <http://www.who.int/features/qa/yellow-fever/en/>

Figure 4. Vaccination population coverage in Angola as of 8 June 2016

