



SUMMARY

- A yellow fever outbreak was detected in Angola late in December 2015 and confirmed by the Institut Pasteur Dakar (IP-D) on 20 January 2016. Subsequently, a rapid increase in the number of cases has been observed.
- As of 4 May 2016, Angola has reported 2149 suspected cases of yellow fever with 277 deaths. Among those cases, 661 have been laboratory confirmed. Despite vaccination campaigns in Luanda, there is still circulation of the virus in most districts of Luanda and in five additional provinces.
- Three countries have reported confirmed yellow fever cases exported from Angola: Democratic Republic of The Congo (DRC) (37 cases), Kenya (two cases) and People's Republic of China (11 cases). Namibia has also reported a suspect yellow fever case exported from Angola. This highlights the risk of international spread through non-immunised travellers.
- On 22 March 2016, the Ministry of Health of DRC notified human cases of yellow fever in connection with Angola. The Government officially declared the yellow fever outbreak on 23 April. As of 4 May, DRC has reported 5 probable cases and 39 laboratory confirmed cases: 37 imported from Angola, reported in Kongo central province and Kinshasa and two autochthonous cases in Ndjili, Kinshasa and Matadi, Kongo central province. The possibility of locally acquired infections is under investigation for at least 10 non-classified cases in both Kinshasa and Kongo central provinces.
- In Uganda, the Ministry of Health notified yellow fever cases in Masaka district on 9 April 2016. As of 4 May, seven yellow fever cases are laboratory confirmed in three districts: Masaka, Rukungiri and Kalangala. According to sequencing results, those clusters are not epidemiologically linked to Angola.
- The virus in Angola and DRC is largely concentrated in main cities and is likely to have been introduced to the cities following increased yellow fever viral circulation among monkeys in the forest.

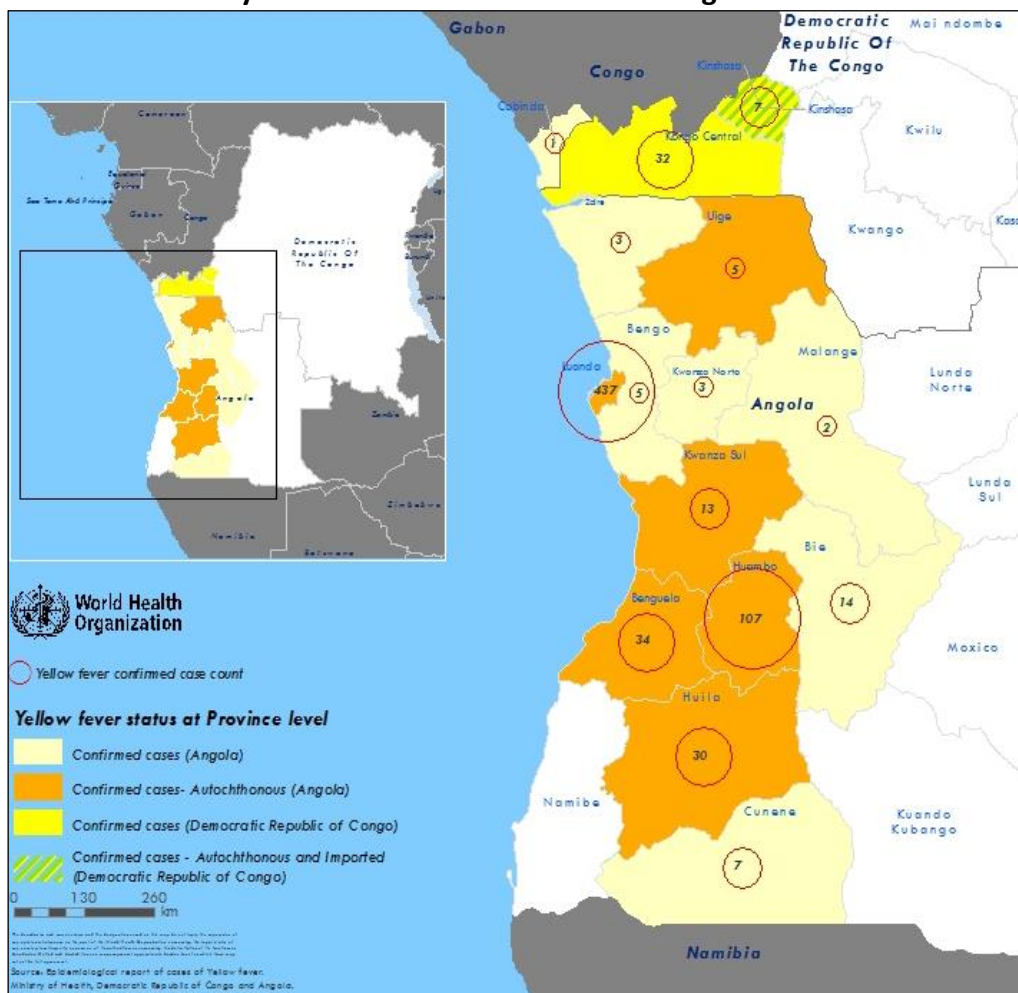
SURVEILLANCE

Angola

- In Angola, from 5 December 2015 to 4 May 2016, the Ministry of Health has reported a total of 2149 suspect cases with 277 deaths and 661 laboratory confirmed cases. 70% of these cases are reported in Luanda province (Figure 1). There are confirmed cases in 13 of the 18 provinces and suspect cases are present in all provinces. Local transmission is still described in six provinces, in 14 districts, including Luanda.

- The outbreak in Angola remains of high concern due to persistent local transmission in Luanda despite the fact that almost six million people have been vaccinated, local transmission has been reported in six provinces (urban areas and main ports) and there is a high risk of spread to neighbouring countries.
- The risk of establishment of local transmission in other provinces where no autochthonous cases are reported is high. DRC has reported cases imported from two provinces in Angola where no local transmission is currently reported (Cabinda and Zaire). Cabinda is an exclave and province of Angola and is separated from the rest of Angola by a narrow strip of territory belonging to the DRC and bounded on the north by the Republic of the Congo. The risk of effective local transmission is high due to expatriates working in this province. This poses also a further risk of transmission in DRC and Republic of the Congo.

Figure 1. Distribution of yellow fever confirmed cases in Angola and DRC as of 4 May 2016



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 4 May, DRC has reported 44 yellow fever cases linked to Angola, 39 of those are

laboratory confirmed cases with 37 imported from Angola, reported in Kongo central and Kinshasa provinces, and two autochthonous cases in Ndjili, Kinshasa and Matadi, Kongo central province.

- The possibility of locally acquired infections is under investigation for at least 10 non-classified cases in both Kinshasa and Kongo central provinces. For a further five probable cases results are still pending at IP-D.
- Given the large Angolan community in Kinshasa, the presence and the activity of the *Aedes* mosquito, the potential establishment of local cycle of transmission in DRC in general and in the whole of Kinshasa in particular, the situation is of high concern and needs to be monitored with extreme attention.

Uganda

- 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 4 May, 41 suspect cases of yellow fever cases have been reported in seven districts. Seven cases have been laboratory confirmed (five in Masaka, one in Rukungiri and one in Kalangala).
- According to available information, the clusters of yellow fever in Uganda are not linked. The sequencing results indicate high similarities with the virus which has caused the outbreak in 2010. In addition, these results show that these clusters are not epidemiologically linked to Angola.

Other countries bordering Angola

- On 28 April the Ministry of Health of Namibia reported one suspect case of yellow fever, imported from Benguela, Angola. The case is a 27-year-old female who was hospitalized first in Benguela and then at the Engela district hospital in the Ohangwena region (near the border with Angola). Samples have been sent for diagnosis, confirmation is pending.
- No suspected cases of yellow fever have been reported in the Republic of the Congo or Zambia. However, Namibia and Zambia share a long and porous border with Angola and controlling population movements between the three countries will be challenging.
- Three countries have reported confirmed yellow fever cases exported from Angola: DRC (38 cases), Kenya (two cases) and People's Republic of China (11 cases). Namibia has also reported a suspect yellow fever case from Angola. This highlights the risk of international spread through non-immunised travellers.

Risk assessment

- The outbreak in Angola remains of high concern due to:
 - Persistent local transmission in Luanda despite the 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 People's Republic of China , DRC and Kenya. As the borders are porous with substantial crossborder social and economic activities, further transmission cannot be excluded. Viraemic patients travelling pose a risk for the establishment of local transmission especially in countries where adequate vectors and susceptible human populations are present.
- For DRC, a field investigation conducted in April concluded that there is a high risk of local transmission of yellow fever in the country. 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 monitored with extreme attention.

RESPONSE

- Vaccinations campaigns started first in Luanda province at the beginning of February and mid-April in Benguela and Huambo. Data indicates insufficient vaccination coverage among the three provinces (Figure 2).
- DRC and Uganda are GAVI Alliance eligible countries thus the vaccination campaigns in these countries will be covered by GAVI Alliance.
- 1.7 million vaccines are to be delivered in Angola shortly and a further 700 000 have been requested to the International Coordinating Group (ICG).
- 2.2 million vaccines and ancillaries are to arrive in DRC by mid-May.
- International media attention to yellow fever has been minimal. However, Angola has issued press information related to control measures in place in country. Other coverage has focussed on ensuring vaccination related to travel and prevention of spread of disease.
- WHO briefed communication leadership across the UN related to communications issues and resources for joint coordinated response to inquiries about the outbreak.

Figure 2. Vaccination population coverage in Angola as of 4 May 2016

