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1. Introduction

The aim of this bulletin is to provide information on public health events and emergencies to Member States, public health and health emergency professionals, health development partners and the wider audience on the status of outbreaks and health emergencies in the WHO African region. This issue focuses on the ongoing Yellow fever, Ebola Virus Disease (EVD), Cholera, Zika outbreaks and the health consequences of El Niño.

There has been re-emergence of urban Yellow Fever (YF) outbreaks in Angola that have spread to the neighboring DR Congo and some cases have been exported to China and Kenya. Another outbreak of Yellow Fever has been reported in Uganda but it is not epidemiologically linked to the Angola or DR Congo outbreaks. Instead it is linked to a YF outbreak that occurred in Northern Uganda in 2010.

Flare-ups of the EVD outbreaks occurred in Guinea and Liberia. Following the advice from the International Health Regulation (IHR) emergency committee on EVD, the WHO terminated the recommendation that made the EVD epidemic a public health emergency of international concern (PHEIC) in West Africa in accordance with IHR (2005).

Cholera outbreaks have been the most protracted public health events (PHEs) in the period under review affecting 14 countries, with Tanzania and DR Congo being the most affected. Other major outbreaks that have been reported include: Zika Virus Disease in Cape Verde; Meningitis in West Africa; Lassa Fever in Benin, Nigeria, and Togo; and Measles in Niger and Nigeria.

Humanitarian crises in the Central African Republic, South Sudan and Burundi that have been associated with displacement of thousands of people have resulted in major health consequences. Floods and drought related to El Nino are affecting millions of people in Eastern and Southern Africa, including: Ethiopia, Zimbabwe, Malawi, Lesotho, South Africa, and Zambia. Food insecurity and sever acute malnutrition has significantly increased in several areas of the affected countries.

2. Overview of reported PHEs in WHO African Region

An overview of PHEs due to all hazards that occurred between January - April 2016 is provided in addition to summary of ongoing PHEs.

Close to 47 PHEs were reported to the WHO’s Event Management System (EMS) of the Regional Office between January and April 2016, all of them due to infectious diseases. Twenty eight percent (28%) of the PHEs were of zoonotic origin, Cholera was the most frequent, accounting for 27%.

*EMS is a WHO web-based application that supports the process of epidemic intelligence detection, verification, risk assessment and monitoring.*
Figure 1. Geographic distribution of public health events by country, January - April 2016
2. Yellow Fever in the African Region

Three countries (Angola, DR Congo and Uganda) are currently experiencing outbreaks of Yellow Fever (YF). The outbreak in Angola started on the 5th of December 2015 in Viana district, Luanda province. As of 08 May 2016, 2,267 suspected and confirmed cases had been reported nationally, including 293 deaths. A total of 696 cases were laboratory-confirmed of which 445 cases were from Luanda and 251 from other provinces. Yellow Fever have been confirmed in 14 of the 18 provinces of Angola. Between February and March 2016, Yellow Fever cases from Angola have been exported to DR Congo with local transmission confirmed. Cases have also been exported to China (11 cases) and Kenya (2 cases). However, no reported local transmissions was reported in China and Kenya.

The YF outbreak in DR Congo is epidemiologically linked to that in Angola. As of 11 May 2016, a total of 551 cases including 55 deaths had been reported from 4 provinces of Bas Uélé, Kinshasa, Kongo Central and Tshuapa. 67 of the cases were reported from Kongo Central and 133 from Kinshasa. 43 cases have been laboratory confirmed in 16 health zones of the four provinces. 41 of these cases have been classified as imported from Angola and 2 are autochthonous in Kinshasa and Congo Central.

The outbreak in Uganda was notified on 9 April 2016. As of 10 May 2016, a total of 51 cases including 3 deaths had been reported with 7 confirmed cases in Masaka (5), Rukungiri (1) and Kalangala (1) districts. Sequencing showed a high similarity with the YF outbreak in 2010 in Northern Uganda.

News Flash

Under the International Health Regulations (2005), an Emergency Committee on YF was convened by the WHO DG and held its 1st meeting concerning Yellow Fever on 19 May 2016 and was attended by Angola and DR Congo.

The committee noted that the YF outbreaks were a serious public health event which warrants intensified national action and enhanced international support. The Committee recommended that the event does not at this time constitute a Public Health Emergency of International Concern (PHEIC).

While not considering the event currently to constitute a PHEIC, Members of the Committee strongly emphasized the serious national and international risks posed by urban yellow fever outbreaks and offered technical advice on immediate actions for the consideration of WHO and Member States in the following areas: 1) The acceleration of surveillance, mass vaccination, risk communications, community mobilization, vector control and case management measures in Angola and the Democratic Republic of Congo; 2) The assurance of yellow fever vaccination of all travellers, and especially migrant workers, to and from Angola and Democratic Republic of Congo; 3) 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 land borders with the affected countries.
The WHO and partners are supporting the ministries of health in the affected countries in controlling the YF outbreaks. In Angola, vaccination has been ongoing since March, 2016. To date, 9,967,711 million doses have been administered with the following coverage: Luanda (92%), Benguela (88%) Huambo (81%). The coverage in the other provinces varies from 45% in Kuanza Sul to 110% in Kuanza Norte.

In DRC, reactive vaccination was started on 26 May in Kinshasa and Kongo central and vaccination coverage will be reported in the next issue.

In Uganda, reactive YF mass vaccination has been completed with the following coverage: Masaka (90.6%) and Rukungiri (96.9%). Additional 61,670 doses of vaccine from ICG have been received for Kalangala district-target population of 55,558. In addition, surveillance has been strengthened at points of Entry, including installation of a thermo-scanner for screening febrile illness at the international airport.

The main challenge for the YF response is the continued transmission in Angola due lack of standardization of interventions in the decentralized districts, incomplete reporting and limited high level advocacy at national and sub-national level. This is further compounded by country level bottlenecks for deployment of human resources to the provinces. Moreover, there is a global shortage of YF vaccines.
3. Ebola virus disease flare-ups in West Africa

The Ebola epidemic was declared over on 29 December 2015 for Guinea, 14 January 2016 for Liberia, 17 March for Sierra Leone. On 29 March 2016, the WHO Director General lifted the Public Health Emergency of International Concern (PHEIC) related to Ebola in West Africa.

However new flare-ups occurred in Guinea on 17 March 2016 with a confirmed case of EVD reported from N’Zerekore prefecture. As of 06 April 2016, 10 cases (7 confirmed and 3 probable) Ebola virus disease (EVD) were reported from the prefectures of N’Zerekore (nine cases) and Macenta (one case) in south-eastern Guinea.

The index case was a 37-year-old female 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 exposure to infected body fluid from an Ebola survivor.

The wife and two children of the Macenta case travelled to Monrovia, Liberia and fell sick and were confirmed as Ebola cases between 1 and 5 April after having.

In Guinea, the last case tested negative for Ebola virus for the second time on 19 April. In Liberia, the last case tested negative for the second time on 28 April. Guinea and Liberia will declare end of EVD on 31 May and 9 June 2016 if no other confirmed reported.

The 42-day (two incubation periods) countdown must elapse before the outbreak can be declared over in Guinea and Liberia. In Guinea, this is due to end on 31 May and in Liberia, this is due to end on 9 June.

* Data cleaning underway

Figure 3. Epidemic curve of the flare-up cases
The WHO continues to closely monitor the Ebola response key performance indicators of the phase 3 response framework. The objectives of these indicators are to interrupt all chains of transmission, prevent new infections, detect timely and respond rapidly. Furthermore, WHO and partners supported the ministries of health in Guinea, Liberia and Sierra Leone to strengthen their surveillance systems as they entered 90 days of enhanced surveillance in order to rapidly detect and contain any new cases. Subsequently, the countries were supported in scaling-up IDSR implementation.

Active surveillance is ongoing in Guinea and Liberia and will continue 42 days after the last case has tested negative for Ebola virus. The performance indicators suggest that Guinea, Liberia and Sierra Leone still have variable capacity to prevent (EVD survivor programme), detect (epidemiological and laboratory surveillance) and respond to new outbreaks. The risk of additional outbreaks originating from exposure to infected survivor body fluids remains and requires sustained mitigation through counselling on safe sex practices and testing of body fluids.
4. Cholera outbreaks

Between January - April 2016, a total of 29,059 cholera cases including 337 deaths (CFR: 1.3%) were reported from 14 out of 47 Member States. Three countries account for 85% of the cases: Tanzania (33%, with CFR: 0.8%), DR Congo (28%, with CFR: 1.7%), and Kenya (19% with CFR: 1.4%).

Overall, cholera outbreaks increased, probably due to the heavy rains and the effect of El Niño in East and Southern Africa. The distribution of cholera cases and deaths is shown in Figures 4 and 5.

In response to the cholera outbreaks, WHO and partners continue to provide support to the respective Ministries of Health in the areas of coordination, surveillance, laboratory, case management, WASH, and social mobilization. Reactive OCV campaigns have been conducted in South Sudan, Cameroon, Malawi and Tanzania.
5. Cholera in Tanzania

The Tanzania cholera outbreak started in August 2015 has become protracted. So far, 23 of the 30 regions have been affected. Currently, about 8 provinces are actively reporting cases of cholera. On average, 20 cases per day are being reported. As of 12 May 2016, a total of 21,415 cases including 337 deaths (CFR: 1.6%) had been reported from all affected regions in the country. A decrease in the reported number of cases was observed in Tanzania Main land starting from the 14 epidemiological week (4 April 2016).

In response to the cholera outbreaks, the WHO and partners continue to provide support to the respective Ministries of Health in the areas of coordination, surveillance, laboratory, case management, WASH, and social mobilization. The WHO has so far deployed 34 experts in the areas of coordination, epidemiology, Social mobilization, WASH, and logistics. In addition, the WHO country office in Tanzania has re-purposed its staff to respond to this outbreak and recruited local experts. The WHO advocates strongly for multi-sectoral and multi-agency response approach. The WHO has designated an incident manager in order to strengthen coordination of responses and has provided logistic supplies including water guards and promotional materials. Despite these efforts, the cholera outbreak in Tanzania has become protracted and its containment will require the high level political commitment and advocacy from the highest political leadership to galvanize all sectors and stakeholders.

Four WHO staff have been deployed to support Zanzibar in cholera response in the areas of Surveillance, WASH and Social Mobilization. Capacity building on case management has been conducted for 42 health staff in addition to community sensitization meetings for opinion leaders in Zanzibar.
6. Meningitis outbreaks

Between January and May 2016, a total of 13 381 meningitis cases, including 1 125 deaths were reported from 18 countries (Table 1). The CFR was estimated to be 8.4%. A total of 41 districts from 11 countries crossed the epidemic threshold (Table 1 and Figure 6.).

There has been significantly high case fatality rate (>10%) in Côte d’Ivoire, Chad, Burkina Faso, and Benin.

<table>
<thead>
<tr>
<th>Country</th>
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<th>Deaths</th>
<th>CFR (%)</th>
<th>District that experienced in Epidemics</th>
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<td>Burkina Faso</td>
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<tr>
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<td><strong>8.4</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

Table 1. Distribution of meningitis cases and deaths in the WHO African Region, January - April 2016
The most prevalent pathogens were *Neisseria meningitidis* (60%) and *Streptococcus pneumoniae* (37%). Out of the 1287 confirmed *Neisseria meningitidis* samples, the most frequent serogroup was NmW135 (46%, n=597) followed by NmC (27%, n=351). In 2015 the most prevalent pathogens were *Neisseria meningitidis* (50%) and *Streptococcus pneumoniae* (45%).

In response to the meningitis outbreaks, the WHO in collaboration with partners supported the Ministries of Health in enhancing surveillance, planning, conducting reactive vaccination campaigns and ensuring that appropriate messages targeting the affected populations were disseminated. The WHO also deployed two international laboratory experts to support laboratory quality assurance.
7. Other ongoing outbreaks

7.1 Zika in Cape Verde

Cape Verde is experiencing an outbreak of Zika virus disease that started in August 2015. As of 12 May 2016, a total of 7557 cases with 0 death had been reported. As of April 29th, 2016, 1018 humans samples from suspected Zika cases were tested in IP Dakar (IPD) for presence of IgM antibodies against ZIKV using ELISA or ZIKV genome using RT-PCR. Overall 202 samples were found positive for IgM, 23 samples positive for RT-PCR and 5 samples positive by both IgM and PCR. Institut Pasteur Dakar laboratory results revealed that the confirmed Zika virus currently circulating in Cape Verde has the same genetic origin to the strain circulating in South America.

The country reported two cases of microcephaly on 9 April and 3 May 2016, probably linked to ongoing Zika virus outbreak.

![Fig 8: Zika affected islands in Cape Verde](image)

With the support of WHO AFRO, IPD deployed a team of virologists and entomologists in Praia on March 19th, 2016 to assist Cape Verde in the investigation of Zika epidemic. WHO AFRO also deployed team of international experts to support coordination and leadership, surveillance and epidemiology, communication and data management. WHO has declared the Zika virus outbreak as public health of international concern and graded the even as grade 3 in accordance to the WHO Emergency Framework. WHO has formed Incident Management System at global and regional levels to better coordinate the response to this event.

WHO AFRO continues to support Member States to strengthen their capacity for early detection of Zika Virus. Reference laboratories in 17 countries have received the Trioplex Diagnostic Test through Emerging Dangerous Pathogens Laboratory Network (EDPLN) to allow confirmation of Zika virus infections using reverse transcription PCR (RT-PCR).

8. Discussion

Of the reported and ongoing outbreaks in the WHO African region, Yellow Fever and Cholera are the most concerning. The Yellow Fever outbreak has been ongoing since December 2016, when the WHO received official notification through the International Health Regulations (2005) mechanism. The first suspected cases were reported in late December from Luanda – the country’s capital city and main trade and travel hub, with a population of over 6 million people. The disease, which is transmitted in urban settings by the Aedes aegypti mosquito, spread rapidly in Luanda. From there, cases were exported to the other provinces of the country. By early May, all 18 of Angola’s provinces had reported suspect cases of yellow fever; 6 provinces had confirmed local mosquito-borne transmission. To date, confirmed cases of yellow fever have been exported from Angola to DR Congo, China and Kenya.

The WHO and partners are supporting the governments of Angola, DRC, and Uganda to rapidly interrupt yellow fever transmission and strengthen measures to prevent spread across borders. To date, WHO has procured over 14 million doses of yellow fever vaccine to facilitate mass vaccination campaigns in Angola, DRC and Uganda. Funds amounting to approximately $US 1.4 million have been disbursed from the WHO Contingency Fund for Emergencies to further support national response efforts. However, despite reactive mass vaccination campaigns in the Angolan Luanda and the other provinces such as Benguela and Huambo, new cases continue to be reported in Angola and more recently in DR Congo.

Concerted efforts are urgently needed to avoid this Yellow Fever outbreak from spiralling completely out of control. Specifically, there is a need for high level political and civic advocacy within the Governments of Angola and the DR Congo to ensure that adequate financial and other resources are provided in a timely manner to support national and subnational outbreak response measures. Further, there is a need to conduct a joint process review to assess the quality of the response and to facilitate standardization of the response strategy in all the affected districts in Angola and DRC. Uganda’s Yellow Fever response has been rapid, robust and effective and it is anticipated that the outbreak in Uganda could soon be declared over. Other countries need to learn from the Uganda experience of outbreak preparedness, alert and response; Secondly, as recommended by the Emergency Committee on Yellow Fever, there is a need for the neighbouring countries to conduct risk and preparedness assessments. Thirdly, the global community should advocate and encourage the private sector and manufacturers to increase vaccine production. Finally the global YF strategy that has been developed by the WHO in collaboration with partners should be financially supported.

The second concerning ongoing major outbreaks are Cholera in Tanzania, DR Congo and Kenya, which started in the late 2014 and early 2015. The root causes of Cholera outbreaks are outside the remit of the health sector. Cholera outbreaks are predominantly due to food and water hygiene, sanitation, environmental management and water engineering. Therefore, effective response to cholera outbreak requires a multi-sectoral approach. However, in the most affected countries there is inadequate multi-sectoral collaboration with the relevant sectors in the prevention and response to Cholera outbreaks. Moving forward, the Cholera affected countries should have high level discussions with all relevant stakeholders at national and sub-national levels to address the threat of cholera and other water borne diseases. In addition, they should urgently conduct joint process reviews to assess bottlenecks to Cholera outbreak response.

9. Conclusion

The WHO African region continues to be challenged by recurrent public health emergencies and disasters with resultant high morbidity, mortality, disability and socio-economic disruptions. These PHEs also threaten national, regional and global health security. Member States and Development partners should collectively come together to address health emergencies learning lessons from the unprecedented Ebola crisis, the ongoing YF outbreak and other emergencies to put in place strategies to prevent, detect and respond to outbreaks and other health emergencies.
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