4 May 2015

Ebola Outbreak
Monthly Overview April

Need for international assistance

<table>
<thead>
<tr>
<th>Not required</th>
<th>Low</th>
<th>Moderate</th>
<th>Significant</th>
<th>Urgent</th>
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<tr>
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<td>Minor</td>
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Expected impact

Crisis Overview

- **Evolution of the spread of the disease:**
  On 30 April, the cumulative number of Ebola cases reported across the region reached 26,290, including 10,890 deaths. The rate of infection fell to around 30–40 cases per week. Ebola transmission is confined to the western coastal areas of Guinea and Sierra Leone; Liberia has not reported any new cases since 27 March.

- **Health systems** are showing signs of recovery, but capacity to deal with non-Ebola health problems remains limited.

- **Ebola continues to have a negative impact on food security and livelihoods.** The recovery of markets and trade should be supported by the lifting of movement restrictions and reopening of borders. Household (HH) incomes remain below average across the region, due to decreased employment opportunities. Weak purchasing power is expected to be the main driver of food insecurity.

### Key Findings

#### Anticipated scope and scale

- Health systems continue to struggle to provide non-Ebola care. Capacity remains limited and fear of Ebola is still preventing people from seeking healthcare.

- Outbreaks of infectious diseases, such as measles, are being reported in the three most affected countries. The rainy season increases the risk of other communicable diseases, such as diarrhoea and malaria.

- The Ebola crisis significantly impacted livelihoods. People are facing decreased employment opportunities, and wage rates are below average. Decreased income and purchasing power are affecting food security. Women’s livelihoods have seen the highest impact.

#### Priorities for humanitarian intervention

- Health systems and livelihoods require continued support to recover.

- More information is needed concerning the impact on WASH in communities.

- Those affected by Ebola, particularly survivors, orphans, and young girls, continue to be in need of protection.

#### Humanitarian constraints and response gaps

- Community resistance to the Ebola response persists, although the situation seems to be improving, particularly in Guinea.

- The rainy season has started. Heavy rains will hamper access to remote areas starting in May. Water and sanitation infrastructure, and telecommunications will be affected.

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1 The high number of suspected Ebola cases that are not being confirmed misrepresents the total case numbers and consequently the fatality rate of the Ebola outbreak.
Regional

Key Developments

Spread of the disease: In April, Ebola cases have been confined to the western areas of both Guinea and Sierra Leone. Liberia has not reported any new cases. Reported Ebola cases continued to decline in the region. In late April, about 75% of Ebola cases were from the region between Kambia in Sierra Leone and Forecariah in Guinea (WHO, 29/04/2015). The week 6–12 April reflected the lowest number of prefectures and districts reporting confirmed Ebola cases since end of May 2014, indicating progress in the geographical confinement of the disease (USAID, 21/04/2015). Difficulties surrounding safe burials, public understanding, cross-border movement and geography could increase the virus’ spread, despite substantial success in combating the virus so far (Red Cross, 13/04/2015).

Maternal and child infections: The Ebola mortality rate for pregnant women and newborn babies can be as high as 95%, according to medical studies. Fear and misinformation about the impact of Ebola on health services have made women reluctant to access maternal and reproductive healthcare, and preventative services for mother-to-child HIV transmission (UN WOMEN, 26/03/2015). Older children are much more likely to survive the Ebola. 48% of infected children aged 10–15 have survived the disease (Reuters, 26/03/2015).

Health workers: 865 health workers have been infected with Ebola, and 504 have died since the start of the outbreak. Eight new health worker infections were reported in the week to 29 March, seven in Guinea, and one in Sierra Leone (WHO, 01/04/2015; WHO, 22/04/2015).

Sexual transmission: A survivor was found to have traces of Ebola in his semen (BBC, 15/04/2015). For more information on sexual transmission of the Ebola virus, see Annex 1.

Crisis Impact

Health

Measles: Measles outbreaks have been reported in all three most affected countries. Measles vaccination coverage has declined during the Ebola outbreak, due to decreases in health service availability and suspension of mass vaccination campaigns. Mass measles vaccination campaigns are planned in all three countries between 24–30 April, aiming to reach more than 3 million children (All Africa, 24/04/2015).

Survivors: Many recovered Ebola patients are suffering from impaired sight and hearing, headaches, joint pain, fatigue, and other complications. There are reports of survivors losing their vision completely. In Monrovia, some 40% of Ebola survivors suffer from some form of eye disease. Causes of the complications remain unknown. These health problems are adding to the stigma and mental health issues faced by survivors (Wall Street Journal, 30/04/2015; AFP, 25/04/2015).

Malaria: A study showed that a complete ceasing of malaria care, due to Ebola, would have increased the number of untreated malaria cases by 45% in Guinea, 88% in Sierra Leone, and 140% in Liberia in 2014. This is equivalent to a regional addition of 3.5 million untreated cases and an estimated 10,900 additional malaria-related deaths (The Lancet, 24/04/2015). Though malaria care was not interrupted completely, health centres have been operating at reduced levels. These findings suggest that the Ebola crisis probably contributed significantly to an increased Ebola-related morbidity and mortality.

Food security

The recovery of trade and markets should be supported by the lifting of movement restrictions in Liberia and Sierra Leone, and the reopening of important border crossing points. Still, the Ebola outbreak continues to have a negative impact on food security and livelihoods. Some 1.2 million people are estimated to be in IPC Phase 3, Crisis, food insecurity, in addition to 3.9 million people in IPC Phase 2, Stressed. During the lean season (June–August), these numbers are projected to increase to 2.2 and 6.8 million, respectively (OCHA, 31/03/2015). A general depletion of HH stocks and an earlier start to the lean season than normal in some places is worsening the food security situation compared to previous months. Purchasing power remains poor (FEWSNET, 01/05/2015).

Markets: Daily and weekly markets are open and functional in Guinea and Liberia, though they are operating at reduced levels compared to April 2014. In Sierra Leone, market disruptions continue (FEWSNET, 01/05/2015).

Livelihoods

Anti-Ebola measures in Sierra Leone, such as curfews and market closures, have resulted in greater disruption of livelihoods and market functioning than in Guinea and Liberia. HH incomes across the region, from most typical sources, remain below average due to the impact of the Ebola-related economic downturn on livelihoods. In March and April, some rural HHs were provided with a certain level of income by off-season harvesting and land preparation activities. However, in some areas these
activities occur below normal levels, especially in Sierra Leone, where Ebola bylaws have led to reduced agricultural group work (FEWSNET, 31/03/2015; 01/05/2015).

Typical livelihood activities, including agricultural, mining and charcoal sales, are happening on time and providing HHs with seasonal incomes, though to a reduced extent in Sierra Leone. Income from petty trade, handicrafts, palm oil exports, and casual labour remains below average due to reduced market activity and low purchasing power. The ban on bush meat sales has reduced income from hunting (FEWSNET, 01/05/2015). Weak purchasing power is expected to be the main reason for acute food insecurity across the region from March–June 2015 (FEWSNET, 31/03/2015). Economic activity: Major public and private construction activities have been halted and activities at ports and in mines slowed down substantially (UN, 26/03/2015). The estimated GDP losses for the three most affected countries total USD 2.2 billion in 2015, due to the Ebola outbreak (World Bank, 15/04/2015).

Education
After Guinea and Liberia, Sierra Leone has also reopened its schools. Attendance remains below pre-Ebola levels and supply of hygiene and safety measures materials continues to be challenging.

Humanitarian Access
The rainy season is starting. In some areas of the three most affected countries, the rains have already started. They are expected to become heavier in June, which could hamper access to certain areas (Ebola Deeply, 30/04/2015). WHO aims to identify and isolate all new Ebola cases by the end of May to limit the spread of the virus to coastal areas (WHO, 28/04/2015).

Although the situation is improving, resistance against the Ebola response remains present, particularly in areas of Guinea with active Ebola transmission. Violence against response teams has decreased, but some people continue to refuse cooperation and are reluctant to adhere to preventative measures.

Response Capacity
150 Cuban health workers, who had been responding to the Ebola crisis, returned home from Liberia and Sierra Leone at the end of March. Those working in Guinea have not yet planned to return (AFP, 23/03/2015).

Information Gaps
Health: There is still a lack of information on the current availability and accessibility of health services. Further information is required on the level of stigmatisation of health infrastructure and staff, and on the availability and supply of medication.

Nutrition: Very limited information is available on the current nutrition status in the three most affected countries. Acute malnutrition needs to be monitored to determine whether this has been affected by the Ebola crisis.

Food security: Information on the supply and functioning of markets needs to be collected. Disaggregated information on HH access to food is required.

Livelihoods: More information is needed on the extent of the livelihoods impact and which HHs have been affected. The number of people who are unemployed, having lost their small businesses, trade, work, or informal occupation due to the crisis, needs to be assessed.

Protection: The acceptance of survivors, health workers and orphaned children in communities needs to be monitored. The sexual exploitation of children, extent of child labour, rate of teenage pregnancies and early marriages as a consequence of Ebola need to be assessed. The situation of women with regards to maintaining their livelihoods, and gender-based violence (GBV) caused by the crisis, needs to be investigated.

Education: School enrolment levels need to be monitored, as well as the reasons for children not attending or dropping out. The need to monitor a safe learning environment and measures for infection prevention and control (IPC) continues.

WASH: Very little information is available on the impact of the crisis on WASH at community and HH level. Access to safe water and sanitation is of concern, particularly since the rainy season is starting, and needs further investigation.

Border control: The reopening of borders needs to be monitored, as well as cross-border movement and the implementation of IPC at border crossing points.

Resistance to the Ebola response: There is a lack of information on the extent to which community resistance is still present, particularly in Guinea. There are indications that the overall situation is improving, but accurate reports of localised resistance are lacking.
Lessons Learned

Quarantine

EVD Outbreak, 2014–2015 - Liberia & Sierra Leone

- Community-led self-imposed quarantine is more effective than those at a district or individual level. This has been crucial in minimising violations of quarantine, tracing of contacts and discovering of new cases, including corpses (ACAPS, 19/03/2015).

- The ability of responders to react to the requirements of the quarantined community, and to reliably bring provisions (e.g. food, water, cash, information), is vital. It ensures continued cooperation, limits human suffering and deters violations of quarantine. The recruitment of skilled practitioners, who can provide the necessary expertise and resources to remove bodies safely and train contact tracers, has been important (ACAPS, 19/03/2015).

- Effective communication of the benefits of quarantine and its role in stopping the outbreak at community level is essential. The shift from denial to acceptance of the existence or causes of Ebola has been a major factor in communities imposing and cooperating with quarantines. Two major factors in the behavioural shift have been social mobilisation efforts and the evident impact of the outbreak (ACAPS, 19/03/2015).

- Dissemination of information has been vital to combatting stigmatisation and denial. Several independent sources indicate that, as more of the population witnessed the impact of Ebola first-hand or had relatives who became infected, the denial of its existence and resistance to the international response decreased. It has been suggested that it was this fact, more than any external effort, that increased community engagement and behavioural change (ACAPS, 19/03/2015).

- Coercion has come to be viewed as counterproductive. After the negative repercussion and failures of West Point in Liberia, and the other large-scale forced quarantines predominantly orchestrated by the military in August, the Liberian Government and responders moved away from mass quarantine. Some INGOs have argued that the use of force breaks down the trust required for social mobilisation and community engagement. There are strong indications that this perception shift has not occurred in Sierra Leone, least of all among local frontline workers, and that it is necessary to begin the community-led approach (ACAPS, 19/03/2015).

Social Awareness

EVD Outbreak, 2013–2015

- Demystifying quarantine is the key to a successfully conveyed message. The local community had previously considered quarantine as a death sentence. Quarantine needs to be described as liveable, even desirable, and a situation where basic necessities like food, water and medicine are provided for free. It is necessary to ensure the safety of the patients’ family members and the rest of the society (Ebola Anthropology platform, 10/01/2015).

- Ebola treatment centres need to be recognisably far away from living quarters, to reassure the non-infected of their own safety. Treatment centres for non-Ebola illnesses also need to be set up away from Ebola treatment centres, or clearly separated and identified (Ebola Anthropology platform, 10/01/2015).

- The easy availability of medication, coupled with the perceived safe non-Ebola hospital atmosphere, restored some people’s belief in the hospital system (Ebola Anthropology platform, 10/01/2015).

- It is vital to work with, engage, and empower local communities in order to convey messages and information (WHO, 16/04/2015). Local actors and organisations know the culture, traditions and language of the areas in which they work, and often have strong relationships with community members themselves, and with local, trusted leadership (ALNAP 19/02/2015; Restless Development, 27/02/2015). A study of community perspectives about Ebola in the Liberian Bong, Lofa and Montserrado counties showed that community leaders, the chief or religious leaders, were often the first people to be contacted by community members with Ebola related questions. Good leaders and leadership were perceived to include delivery of strong communication messages about prevention and new cases, and enforcement of preventive measures (USAID 01/2015).

Stigmatisation

EVD Outbreak, 2013–2015

- Organisations and institutions often contribute to stigmatising processes through ‘institutional bias’ or attribution of medical or beneficiary labels. An organisation wishing to address stigma should therefore first consider ways in which its own policies favour or discredit certain practices or groups, then consider the impact of other formal and informal institutions that are active in its target population (Ebola Anthropology Platform, 11/12/2014).

- Lessons can be drawn from ex-combatant reintegration programmes after the civil war in Sierra Leone. For example, punch-cards given to ex-combatants that
showed their engagement with reintegration programmes became a highly valued symbol of their reintegration into society and of their break with their previous military life. A similar system could be implemented for example with HHs under quarantine, to recognise and acknowledge adherence to transmission control procedures and symbolise the end of the ‘risk’ posed to others (Ebola Anthropology Platform, 11/12/2014).

Coordination and Responsibilities

EVD Outbreak, 2013–2015

From a review of the current Ebola crisis, an Oxfam report has identified the need for clear leadership on policy and technical issues; for effective standing operational capacity to monitor and prepare for outbreaks; and for surge capacity to lead and resource an emergency response. An architecture is necessary for coordinated response programmes and the role and responsibilities of the various responders in the setup needs to be clear (OXFAM 01/2015, The Lancet 10/02/2015). A greater surge capacity enables flexibility in the response (WHO, 16/04/2015).

Recovery

EVD Outbreak, 2013–2015

- “Ebola money” has both positive and negative connotations. Reducing potential conflicts associated with cash distributions should be prioritised. Payments for Ebola-related work must be transparent and rapid, in terms of scale and location of disbursements. Payments for labour mobilisation should be made through existing and legitimate networks of the “patron-client” system, such as markets, women’s unions, women’s cooperatives, youth or students unions, church groups, drivers and motorcycle unions. It would be advisable to acknowledge efforts already made with small symbolic amounts of cash or goods prior to formal payment to create goodwill among local chiefs (Ebola Anthropology Platform, 15/11/2014).
- Cash payments are currently going to Ebola response workers, but the response should also secure other means of lessening the impact on affected vulnerable populations, through social protection mechanisms or local food distributions, for instance (Ebola Anthropology Platform, 15/11/2014).

Guinea

Key Developments

Number of cases: As of 2 May, 3,591 cumulative Ebola cases had been reported in Guinea, including 2,385 deaths (WHO, 04/05/2015).

Spread of the disease: In April, Ebola cases have been largely confined to Conakry and the surrounding western prefectures. The weekly figures are:

- Week ending 29 March: 57 new confirmed cases reported. An increase in the geographical spread and number of reported cases was likely due to improved access to communities that previously reported resistance to the response. Forecariah reported 20 cases, Conakry 19, Coyah eight, Dubreka three, and Boffa two. For the first time in over 50 days Fria and Siguiri prefectures reported new cases, three and two respectively (WHO, 01/04/2015).
- Week ending 5 April: 21 confirmed cases reported. Conakry reported eight, Coyah one, Dubreka one, Forecariah six, Kindia four and Fria one (WHO, 08/04/2015).
- Week ending 12 April: 28 confirmed cases reported. Conakry reported six, Coyah three, Boffa one, Forecariah 17, and Kindia one (WHO, 15/04/2015).
- Week ending 19 April: 21 confirmed cases reported. The majority came from Forecariah (18) and Conakry, Coyah and Fria each reported one case (WHO, 22/04/2015).
- Week ending 26 April: 22 confirmed cases reported. Forecariah reported 17, Fria two, and Boffa, Dubreka and Kindia prefectures each reported one case. Conakry did not report any confirmed cases (WHO, 29/04/2015).

About half of new confirmed cases continue to arise from unknown chains of transmission (WHO, 01/04/2015; WHO, 08/04/2015; WHO, 29/04/2015). Concerns persist about the number of Ebola-related deaths being confirmed in the community post mortem (IFRC, 20/04/2015).

Healthcare worker infections: 187 health care workers have been infected with Ebola in Guinea, 94 of whom have died (WHO, 22/04/2015).

Unrest: Setting the election calendar has led to tensions in Guinea. The current government and the opposition disagree on the timing of proposed presidential elections, which are set to be held in October, prior to local elections. The local elections could increase support for the opposition parties.

On April 13, at least nine people were shot with live ammunition during clashes between demonstrators and security forces in Conakry (Various sources, 13/04/2015). The opposition called for more demonstrations the following week. On 19 April, a government delegation met the head of the opposition (International media, 20/04/2015). On 20 April, at

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least five people were wounded by gunfire in Conakry during violent opposition protests (International media, 20/04/2015). The coalition of main opposition parties called for a nationwide protest to demand revision of the electoral calendar on 4 May (TV5Monde, 28/04/2015).

At the end of March, Guinea deployed security forces to the southwest. This was in response to reports that Sierra Leoneans were crossing the border to flee an Ebola stay-at-home. Residents reported tension in the region due to the large influx of Sierra Leoneans and fear that they would bring Ebola (Washington Post, 28/03/2015).

**Borders:** The risk of cross-border transmission has increased due to a rise in cross-border traffic. The recovery of markets in Koinadugu, Sierra Leone, and family ties between Sierra Leone and neighbouring Guinean populations are resulting in movement across borders (USAID, 07/04/2015). Response authorities from Guinea and Sierra Leone have agreed to share information on cross-border movement and intend to establish screening protocols (UNMEER, 02/04/2015; UNMEER, 07/04/2015).

Guinean authorities initiated a three-day stay-at-home period in Forecariah prefecture, which borders Kambia in Sierra Leone, to reinforce the efforts of Sierra Leonean authorities who implemented a similar period (WHO, 01/04/2015).

In the week of 13 April, the border between Guinea and Liberia was open at Ganta border post on the Guinean side.IPC protocols were being practiced. Yekepa border post is open, as is the checkpoint in Kondadou Lofa prefecture, where IPC measures are being implemented for travellers between Guinea and Liberia (UNMEER, 15/04/2015).

**Rainy season:** In addition to logistical challenges, secondary epidemics of diseases other than Ebola are expected (IFRC, 20/04/2015).

## Crisis Impact

### Health

**Measles:** The number of suspected measles cases in Guinea continues to increase. Between 23–29 March, 203 new suspected cases were reported (UNICEF, 01/04/2015). Since January, 1,265 suspected measles cases have been reported in the country (WHO, 15/04/2015).

**HIV:** About 130,000 people have HIV, and 28,000 received antiretroviral therapy (ART) in 2014. From April to December 2014, the proportion of defaulters among patients receiving ART increased to 42% because of the pressure on the health system due to the Ebola outbreak. The number of patients active in care also decreased between June and December 2014 (The Lancet, 11/04/2015).

**Meningitis:** 156 suspected meningitis cases and 16 deaths have been reported in Kankan, Siguiiri, Kouroussa, Kerouane and Mandiana (WHO, 15/04/2015).

### Food security

As of April, 275,000 people are in Crisis food insecurity (IPC Phase 3). This is equivalent to about 5% of the population. Most severely food insecure people live in Nzerekore and Kankan regions. Stressed food insecurity (IPC Phase 2) is more widespread (OCHA, 17/04/2015).

**Agriculture and markets:** All agricultural sectors have been hit by the crisis. In the Forest region, Ebola-related fears have reduced the availability of agricultural labour, resulting in reduced yields. Rice and palm oil prices, both local and imported, have remained above average but generally stable (WFP, 25/03/2015). Daily and weekly markets are open, though functioning at reduced levels compared to April 2014, because of Ebola-related fear, low HH purchasing power, limited cross-border flows and reduced demand for export. A relatively large quantity of private grain stocks that are not yet marketed, and off-season harvests, are reducing local price increases (FEWSNET, 01/05/2015).

**Livelihoods**

Typical livelihood activities such as vegetable and cassava harvests and agricultural and mining labour have resumed and are providing rural HHs with income. But income from petty trade, handicrafts, and casual labour remain limited due to reduced market activity (FEWSNET, 01/05/2015).

**Economy:** The mining sector remains resilient, but services and agricultural activities have decreased. In 2015, the economy is expected to contract by 0.2%, compared to pre-Ebola expected growth of 4.3% (World Bank, 15/04/2015).

### Protection

**Child protection:** 5,457 children have been identified as having lost one or both parents to Ebola (UNICEF, 15/04/2015).

### Education

Most schools reopened on 19 January. Around 1.3 million children have returned to school. In March, at primary level attendance reached 88% of pupils enrolled in the
2013–14 school year, and at secondary level 77%. Both represent a small increase since February. All assessed schools have hygiene equipment to help prevent further spread of Ebola (UNICEF, 25/03/2015; 15/04/2015). The schools that remained closed after the official opening date due to community resistance are now struggling to find teachers even though the community is accepting the reopening of the schools. Due to a national shortage of teachers, staff were relocated when the schools did not open and no teachers are available to take their place (UNICEF, 01/04/2015).

WASH
An early 2014 government WASH inventory of 398 health facilities in 32 prefectures and all communes of Conakry found that only 61% had access to a functional water point, 8% have water points that did not function, and 31% had no water point at all. 90% had access to functional latrines, 7% had access to a non-functioning latrine and 3% had no access. Only 10% had access to incinerators (DNHP, 02/2014). However, an assessment of 41 health centres in Boké and Kindia found that in April 2015 only 49% had access to functional water points, with 22% non-functional, and 29% with no access. This assessment found only 46% of health centres could access a functional latrine, with 36% of latrines being non-functional (National Society for Sanitation and Water Point Project & AKVO, 04/2015).

Humanitarian Access
Rainy season
In some areas rains have started. The rains will be heavy by May, making some areas inaccessible by car (Plan, 07/04/2015).

Resistance to the Ebola response
Reports of resistance to the Ebola response have decreased since April and are mostly confined to the western prefectures that still have active Ebola transmission. Increased social mobilisation and sensitisation activities have contributed to the decrease in resistance, following the 45-day reinforcement of emergency measures. Remaining resistance occurs on a smaller scale, at HH level. People are still reluctant to adhere to preventative measures, such as the 21-day follow-up for contacts of confirmed Ebola cases, and are avoiding health officials (ACAPS, 24/04/2015).

WHO reported at least one resistance incident in Boffa, Boke and Kindia prefectures in the week to 19 April. Conakry has seen at least one incident of resistance per day in the past six weeks, though IFRC only reported one incident between 30 March and 12 April (WHO, 22/04/2015; IFRC, 20/04/2015). In Coyah prefecture, a health team was attacked by a community, following a burial, and security forces had to intervene (UNMEER, 17/04/2015). On 11 April a contact tracing team was attacked in Balemou, Forest region (UNMEER, 20/04/2015).

Some still believe Ebola is a myth and sick relatives continue to be hidden. Traditional practices, such as washing of the dead body, are still conducted (IRIN, 23/03/2015; Voice of America, 24/03/2015).

Response Capacities
Over 10–12 April, there was a three-day stay-at-home in Forecaria. About 90% of the targeted 52,000 HHs were reached and ten new confirmed cases found (UNMEER, 20/04/2015). A stay-at-home period was implemented in Coyah from 24–27 April. 35 suspected cases were found but none were confirmed (WHO, 27/04/2015). Similar periods of sensitisation and suspected case finding campaigns are planned in Conakry, Kindia, Boffa and Dubreka. 500,000 HHs are being targeted (UNMEER, 07/04/2015). This follows the President announcing a 45-day ‘health emergency’ in those counties. Additional measures are being taken, including the closure of health facilities where Ebola cases have been recently reported, and all burials being carried out by the Red Cross or security forces (BBC, 29/03/2015; UNMEER, 01/04/2015).

Challenges identified in the campaign include parallel chains of information dissemination, a lack of transportation and hygiene staff, mistakes in the system that monitors HHs already visited, and a lack of feedback to relatives about patients confirmed to have Ebola (UNMEER, 17/04/2015).

The electoral protests in the week of 13 April significantly impacted the response. Contact tracing decreased by 50% that week due to security concerns, and several funerals could not be attended by safe burial teams (Ebola Deeply, 20/04/2015). Contact tracing remains a challenge in general. There are many reports of lost contacts in Conakry, Coyah, Boke and Forecaria (UNMEER, 20/04/2015).

A nationwide measles campaign started on 18 April, targeting 1.3 million children between six months and nine years old. In Nzerekore prefecture, the campaign only reached a 39% participation rate on the third day, far below the 95% target by the end of the campaign (All Africa, 24/04/2015; UNMEER, 24/04/2015).

WHO launched an Ebola vaccine trial in Forecaria prefecture. The first phase will vaccinate contacts of confirmed cases (UNMEER, 20/04/2015).
Liberia

Key Developments

Number of cases: As of 23 April, 10,322 cumulative Ebola cases were reported in Liberia, including 4,608 deaths (WHO, 04/05/2015). Cumulative case numbers are becoming more inaccurate, as suspected cases continue to be reported, but none are being confirmed.

Spread of the disease: No new confirmed Ebola cases were reported in April. The last confirmed Ebola patient died on 27 March. If no new cases are reported until 9 May, Liberia will have passed 42 days since the burial of the last confirmed case (WHO, 01/04/2015; WHO, 08/04/2015; WHO, 15/04/2015; WHO, 29/04/2015).

Healthcare workers: Health workers at a 30-fold greater risk of Ebola than the general population. Many remain too scared to return to work, adding to chronic understaffing issues. Some have refused to treat patients. The majority of the country's 32 pharmacists left their posts during the crisis (MoH, 07/04/2015). 375 Liberian health workers have been infected with Ebola, and 189 have died (WHO, 22/04/2015).

Sexual transmission: Authorities are reportedly urging Ebola survivors to refrain from unprotected sex beyond the recommended 90 days, until more information on the likelihood of sexual transmission is collected. This is due to the last confirmed case being suspected of having been sexually transmitted (VOA, 29/03/2015; NYT, 28/03/2015).

Borders: More border points with Guinea have started to open officially on both sides, although there are concerns about critical gaps in infection control supplies, particularly on the Guinean side (UNMEER, 15/03/2015; UNMEER; 15/04/2015).

IPC challenges persist in border areas, according to a Centres for Disease Control and Prevention (CDC) assessment in March. These include a lack of safe drinking water at health centres, inadequate WASH facilities, insufficient fuel for incineration, and inconsistent access to and storage of use of personal protective equipment (PPE) (USAID, 25/03/2015).

Funding: The official Liberian anti-corruption watchdog has reported that around USD 800,000 intended to combat Ebola cannot be accounted for. Over USD 600,000 of this passed through the Ministry of Defence (Reuters, 09/04/2015; All Africa, 09/04/2015).

Crisis Impact

Health

Despite the significant impact of Ebola on the health sector, some key informants (KIs) indicated in an ACAPS assessment that the health situation was better in April 2015 compared to 2014. The reasons provided were increased support to health structures from the government and NGOs, and improved awareness among the population on preventative behaviour and health services (ACAPS, 04/2015).

Health service utilisation: Between August and December 2014, the number of outpatient visits decreased by 61% compared to the same period in 2013 (UN, 26/03/2015; Save the Children, 02/04/2015). In February, the majority of respondents in a World Bank survey sought healthcare from private clinics or doctors. In March, the proportion of people seeking healthcare from a government hospital or clinic increased (MoH, 07/02/2015; World Bank, 15/04/2015). Most medical facilities are open, but the level of activity is lower than before the outbreak and many people are still reluctant to seek healthcare (MSF, 02/04/2015). In April, an assessment indicated that fear of Ebola transmission remains a major concern in communities and prevents families from visiting health facilities. Other obstacles to accessing healthcare include a lack of available medication and financial resources to pay for health services (ACAPS, 04/2015).

Maternal health: Large numbers of women are no longer giving birth in health facilities and the number of assisted births has decreased. Antenatal consultations decreased by 40% and institutional deliveries decreased by 37% by the end of 2014, compared to 2013 (IASC, 10/02/2015, UN, 26/03/2015; MoH, 07/04/2015).

Immunisation: DTP3 vaccinations have decreased by 53% since 2013 (UN, 26/03/2015; Save the Children, 02/04/2015). Different reports suggest measles vaccination coverage have decreased by between 45%–58% by December 2014, compared to 2013. The minimum acceptable level is at least 80% to protect a population against the virus (UN, 26/03/2015; Save the Children, 02/04/2015).

Measles: 389 suspected measles cases have been reported in 10 of 15 counties, two thirds have been among children aged between 9 months and 5 years. Only 16% of affected children are vaccinated. Grand Bassa, Margibi and Montserrado counties have reported most cases (MoH, 30/04/2015). There are reports of families with children suspected to have measles abandoning their homes to avoid specimen collection and testing (UNMEER, 27/03/2015). Children in Monrovia’s slums are most at risk (AFP, 23/03/2015).
Nutrition

The six counties prioritised by respondents for severe acute malnutrition (SAM) interventions are those that were originally the most affected by the Ebola outbreak: Montserrado, Margibi, Bong, Nimba, Grand Cape Mount and Lofa. In March, 428 SAM cases were admitted (UNICEF, 15/04/2015).

Food security

Rates of negative coping strategies remain highest in Lofa, Bomi, Gbaporlu, and Grand Cape Mount counties, though the situation has improved compared to February, especially in Lofa County. Rural and female-headed HHs use more coping strategies than urban or male-headed ones (WFP, 31/03/2015).

A survey conducted by the World Bank in March showed 75% of HHs had concerns about having enough to eat in the week prior to the survey. The situation improved with the end of the harvest in rural areas. Food insecurity has decreased in rural areas, but increased in urban areas (World Bank, 15/04/2015).

Agriculture: 65% of agricultural HHs reported a smaller harvest in than last year, though the link with the Ebola outbreak is not clear (World Bank, 15/04/2015). In Bomi, Bong and Lofa, KIs in a multi-sectoral assessment stressed the reduction in agricultural production, which will become apparent during the October 2015 harvest (ACAPS, 04/2015).

Livelihoods

In early April, an ACAPS assessment indicated that access to livelihoods remains below pre-Ebola levels. Business closures, reduced trade and other Ebola-related unemployment are still a top concern in most counties (ACAPS, 04/2015).

Nearly 20% of Liberians who had stopped working since the Ebola crisis had returned to work in February (FEWSNET, 03/04/2015). Manual labour wage rates increased nationally by 3% in March, compared to February, as demand for agricultural labour returned, but wage rates fell in Bong, Lofa, Margibi and Nimba counties (WFP, 31/03/2015).

In a World Bank phone survey, 40% of respondents said they haven’t been working since the start of the crisis. This can be explained by a steady return in wage work and rural self-employment, offset by a typical seasonal lull in agricultural work. Women have experienced the worst job losses (World Bank, 15/04/2015). 95% of women who were engaged in small business have lost their markets and are accumulating debt, which they will struggle to repay (UN, 26/03/2015).

Over 35% of traders reported that they were not able to sell their cash crops as usual at this time of year. More than 37% of respondents have reported less wage opportunities compared to the same period in the previous year (FEWSNET, 03/04/2015).

Markets: In early April, more than 70% of respondents reported that daily and weekly markets in their area operated normally, suggesting that markets in the country are recovering (FEWSNET, 01/05/2015). 30% of traders indicated that market supplies were lower than should be expected for the time of year. High transport costs was the most frequently cited reason for reduced market supplies (FEWSNET, 03/04/2015).

Surveys indicated that local and imported rice prices remained stable in March, but are still 40% above the highest level since 2012. Palm oil prices were stable, but were nearly 20% higher in the counties in the extreme southeast of the country, Maryland, Grand Kru, and River Gee, as compared to Montserrado (WFP, 31/03/2015; World Bank, 15/04/2015).

Economy: GDP growth in 2014 fell to below 1%, from the 5.9% expected before the crisis, according to the Liberian Ministry of Finance (Government, 03/2015). 2015 GDP growth projections vary from less than 1% to 3%, still below the pre-Ebola growth estimates (Government, 03/2015; World Bank, 15/04/2015). A fiscal deficit is projected at 12.8% in 2015, due to decreased revenue and increased Ebola-related expenses (World Bank, 15/04/2015). Government revenue for 2015 is now projected to decline by about 16%. Agricultural sector growth will decline by over 2% due to the Ebola outbreak, according to a recent recovery report (UN, 26/03/2015).

Protection

An assessment conducted in April indicates that the three groups most in need of support are considered to be girls under 18, Ebola orphans and persons with a disability. In counties with the highest numbers of Ebola cases, those affected by Ebola were considered a higher priority. In Lofa, Montserrado and Margibi counties, Ebola survivors, their families and Ebola orphans were rated as the main groups in need of support (ACAPS, 04/2015).

Child protection: 4,345 children have been identified as directly affected by Ebola – defined as quarantined, unaccompanied, orphaned and separated children, and children in treatment or discharged. 3,091 children have lost one or both parents due to Ebola (UNICEF, 08/04/2015; 15/04/2015).

Sexual violence: Of the 450 reported cases of rape since the beginning of the Ebola outbreak, 401 victims were children under 18 years (UNICEF, 15/04/2015).
Survivors: Best estimates suggest there are currently around 2,000 survivors in Liberia. Some landlords have terminated leases and there are reports of survivors having lost their jobs (VOA, 30/03/2015). The Ebola Survivor Network reported a need for support services that promote reintegration of survivors into their communities and foster independence and resilience (USAID, 21/04/2015). Mercy Corps surveys show that stigma has begun to decrease (02/04/2015).

Healthcare workers: Healthcare workers who were in Ebola Treatment Units (ETUs) face considerable discrimination, though a recent survey shows stigma has begun to drop (Mercy Corps, 02/04/2015).

Humanitarian Access

Rainy season

Access: In some areas of Liberia the first rains have started. Heavy rains will begin by May. It will be difficult to reach hospitals and clinics, electricity will not be available for long periods, affecting telecommunications, and water and sanitation infrastructure will be disrupted (Plan, 07/04/2015).

Response Capacities

Immunisations: A mass vaccination campaign for measles and polio is planned for 8–14 May, targeting more than 700,000 children under five (All Africa, 24/04/2015).

Ebola structures: Structures put in place to fight the Ebola outbreak have started being dissolved. MSF announced the handing over of the ELWA 3 Ebola management centre in Monrovia to the Liberian Ministry of Health. At the peak of the outbreak it had a capacity of 250 beds and was the largest management centre built (MSF 26/03/2014). On 30 April the Liberian Red Cross handed the responsibility for safe burials back to the Ministry of Health and Social Welfare (Front Page Africa, 01/05/2015).

In the week of April 26, four labs were operational in Liberia with over 200 new samples tested for Ebola during this week, none were positive. 13 ETUs remain operational in the country (International SOS 2015/04/29).

WASH: On 30 April the Government of Liberia launched the Wash in Schools program. The main objective is to make schools healthy places for children, establishing protocols for access to basic water, sanitation and hygiene services, reducing children’s risk of contracting WASH related diseases and building resilience (Government, 29/04/2015). Schools and restaurants that lack adequate WASH facilities could be shut down (All Africa, 30/04/2015).

Sierra Leone

Key Developments

Number of cases: As of 2 May, 12,426 cumulative Ebola cases have been reported in Sierra Leone, including 3,902 deaths (WHO, 04/05/2015).

Spread of the disease: In April, Ebola transmission has been largely limited to the western districts, bordering active transmission areas in Guinea. The decline in newly reported cases has slowed down. The weekly figures are:
• Week ending 29 March: 25 new confirmed cases. Freetown reported ten cases, Port Loko six, Kambia five, Western Rural Area three and Bombali one (WHO, 01/04/2015).

• Week ending 5 April: Nine new confirmed cases, the fifth consecutive weekly decline. Urban Western Area reported five cases, Rural Western Area one, Port Loko one and Kambia two. One case was reported from Kailahun district on 4 April (the first in almost four months), but later on declared a false positive. The district remains Ebola-free (WHO, 08/04/2015; UNMEER, 07/04/2015).

• Week ending 12 April: Nine confirmed cases reported. Three western districts reported new cases: Kambia (four), Port Loko (one), and West Area Urban (four). Seven districts have gone 42 days without reporting any new cases, as Kono and Tonkolili were recently reported Ebola-free (WHO, 15/04/2015; WHO, 08/04/2015).

• Week ending 19 April: 12 confirmed cases reported. Urban Western Area reported six cases, Kambia four, and Koinadugu and Port Loko each reported one case (WHO, 22/04/2015).

• Week ending 26 April: 11 confirmed cases reported. Kambia reported eight cases, Rural Western Area two and Urban Western Area one (WHO, 29/04/2015).

About half of cases still arise from unregistered contacts, and some deaths continue to be reported in the community post mortem (WHO, 29/04/2015).

Health worker infections: 303 healthcare workers have been infected with Ebola, and 221 have died (WHO, 22/04/2015).

Borders: There are concerns of increased cross-border transmission. Market days in areas of Guinea neighbouring Koinadugu result in regular cross-border movement, and HHs in Kono have family ties across the border in Guinea (USAID, 07/04/2015). Porous borders between Kambia in Sierra Leone and Forecariah in Guinea are posing a challenge to surveillance (UNMEER, 15/04/2015).

The district Ebola Response Coordination in Kambia and Forecariah, Guinea, have agreed to an information sharing system to harmonise response efforts and Ebola sensitisation in communities on both sides of the border (UNMEER, 02/04/2015).

Political context: In March, the Vice President was dismissed by the President, after going into hiding and requesting asylum in the United States. Trade unions, the opposition and others claimed that the dismissal of the elected Vice President was unconstitutional. This is fuelling political tensions and rumours that the government is using Ebola to return to its authoritarian past (Institute of Development Studies, 15/04/2015; Die Welle, 20/03/2015). Concerns have been raised that State of Emergency regulations are being used by the ruling APC party against its opposition. Police have been accused of complicity (local media, 26/04/2015). Peaceful protests were shut down in Kenema late April, and several protesters and executives of the Human Rights Commission were arrested after speaking out against discriminatory enforcement of the emergency regulations (Sierra Leone Telegraph, 27/04/2015).

Funding: Almost a third of treasury and public donation funds allocated to the fight against Ebola is unaccounted for, according to an audit report. Around six million USD may have gone to ghost worker wages (IRIN, 30/03/2015).

Knowledge, attitudes and practices: Ebola prevalence was still perceived as high in Kambia, Kenema and Western Area in February–March 2015. More than half of the respondents in an IFRC survey identified Ebola as a virus and the source as bush meat, but there was a significant gap in knowledge regarding modes of transmission of the virus. Referral and treatment options were well accepted in the communities assessed. More than 90% of respondents said to have changed their behaviour since learning of Ebola. Washing hands with soap and water was the most common action taken (IFRC, 03/2015).

Crisis Impact

Health

A burial analysis in Moyamba district indicated that there have been as many deaths in four months as normally in one year. 40% of these deaths are children under five. The health system has been severely compromised by the outbreak. The greatest impact has been the diversion of resources and attention away from the provision of generic health services. Acute infectious diseases are the leading cause of mortality, followed by complications at birth. Malaria accounts for a great burden of disease and mortality among young children. Reduced and delayed access to treatment due to the Ebola outbreak has almost certainly increased the malarial fatality rate (Doctors of the World, 05/04/2015).

Maternal and newborn health: Ebola has impacted maternal and newborn health in all districts, but Kailahun seems to be the most affected. Nationwide there have been an estimated 2,948 maternal deaths from May 2014–April 2015, 735 more than is usual in a year. Newborn deaths are estimated to have reached 9,867, 2,562 more than is usual in a year (UNFPA, 30/03/2015). Fear, misinformation and mistrust of health workers and facilities are among the main reasons preventing women from accessing maternal and reproductive health services (UN WOMEN, 27/03/2015; UNFPA, 30/03/2015).

Child health: There are reports of 44 children who have died in Kaffu Bullom Chiefdom, Port Loko District, between 1–15 April, including 36 children under five. WHO and the District Ebola Response Centre (DERC) investigated these high numbers of child deaths (UNICEF, 17/04/2015). The child mortality figures reported this year actually seem to be lower than the national average prior to the Ebola crisis. However, the figures...
might be subject to underreporting and WHO continues to investigate the case (UNICEF, 23/04/2015).

**Health service delivery** has improved since November. Preliminary results of a UNICEF and the Ministry of Health and Sanitation (MoHS) survey show that the majority of health facilities are open and utilisation trends have increased in all except the heavily affected districts of Western Area, Port Loko and Bombali, although usage remains lower than before the outbreak (UNMEER, 13/04/2015; UNICEF, 07/04/2015). The percentage of women giving birth in a clinic is up from 28% in November to 64%, and the percentage of women who received at least one antenatal care visit increased from 56% to 71% (World Bank, 15/04/2015).

**Rabies:** Concerns have been raised about an increased risk of rabies. Many pet dogs have been abandoned as people feared they could transmit the Ebola virus, which has doubled the stray dog population. In addition, a lack of rabies vaccines during the outbreak because of reduced supplies further increased the risk (Voice of America, 20/04/2015).

**Nutrition**

A UNICEF assessment conducted in March screened children under five in 60 out of 149 chiefdoms. 273 children (1.27%) with severe acute malnutrition were identified (UNICEF, 25/03/2015).

In Moyamba district, supply of supplementary food has stopped during the outbreak. Malnutrition was common already before the crisis, with one third of children being stunted. The unmet need for nutritional support has increased (Doctors of the World, 05/04/2015).

**Food security**

High food price increases and low wages are hampering food access in the north: Bombali, Koinadugu and Tonkolili have seen the highest uptake of negative coping strategies, as well as Kono and Kailahun in the east (WFP, 31/03/2015). Nationwide, nearly 70% of HHs are taking at least one action to cope with food shortages (World Bank, 16/04/2015).

**Agriculture:** Agricultural activities are occurring below normal levels, because group work has been reduced as a consequence of the enforcement of Ebola bylaws. 32% of interviewed traders reported that rice cultivation activities were taking place at below-average levels in April. The most affected zones are Bombali, Kambia, Pujehun and Rural Western Area (FEWSNET, 01/05/2015).

**Livelihoods**

**Livelihoods:** Though wage rates remain low and use of negative coping strategies remains unchanged since February, wage rates are increasing in all districts, with an average increase of 7% (WFP, 31/03/2015). More than 62% of traders surveyed reported reduced wage opportunities, compared to normally at this time of the year. Over 47% said they were not able to sell their cash crops as usual (FEWSNET, 03/04/2015).

Although there have been overall improvements in employment since November, youth employment in Freetown has continuously declined. The percentage of non-farm enterprises that no longer operate has increased four-fold since November (World Bank, 16/04/2015).

**Markets:** Disruption of markets continues as a result of Ebola containment measures, with daily shops and markets closing at 6pm and no sales on Sunday. Weekly markets remain officially closed and cross-border flows are limited, even though borders are officially open (FEWSNET, 01/05/2015).

In the week of 2 March, 43% of traders reported the most important market in their area operated at reduced levels. 5% of traders reported market closures. Supplies of main commodities were lower than usual at this time of the year, according to 35% of respondents. Travel restrictions were the main reason cited (FEWSNET, 03/04/2015).

Rice and palm oil prices, both local and imported, are still above average but mostly stable (WFP, 31/03/2015).

In Barmoi, Kambia district, the weekly market has been closed after some quarantined residents disarmed a soldier who was deployed to guard their residence. Security forces had been deployed to the area to reinforce strict Ebola containment measures (All Africa, 29/04/2015).

**Economy:** A sharp decline in commodity prices will significantly impair recovery prospects. Many investors are delaying projects. In the mining sector, most activities have already been suspended. In the short term the economy faces an estimated GDP contraction of 23.5%. The fiscal deficit is projected at 4.6% in 2015, due to decreased revenue and increased Ebola-related expenses (All Africa, 26/04/2015; World Bank, 15/04/2015).

**Protection**

**Child protection:** According to UNICEF, as of 7 April, 8,619 children have lost one or both parents to Ebola and 742 are unaccompanied or separated from their caregiver (UNICEF, 15/04/2015). Other sources earlier reported as many as 12,023 registered orphans, with Port Loko the most affected district (Street Child, 02/2015). 19,030 children have been affected by Ebola (UNICEF, 15/04/2015).
The government announced a ban on pregnant girls from schools, indicating that they would set a bad example (Voice of America, 13/04/2015). Girls have been particularly vulnerable during the outbreak, as their burden of care increased when they and other children had to stay home due to the closure of schools. There is also a potential increase in sexual and gender-based violence, as consequences of the Ebola outbreak are leading to stress and tensions in families and communities (Government, 31/03/2015).

There are reports of primary school aged girls getting pregnant just months after the closure of schools (Huffington Post, 28/04/2015).

**Stigma:** Discrimination and stigmatisation of Ebola survivors is still widely reported (UNMEER, 29/03/2015).

**Education**

**Safe reopening:** Schools reopened in Sierra Leone on 14 April, nine months after they had closed. 97% of schools registered in the 2012–13 national school census have been provided with basic hygiene and safety kits, but in the past two years many more schools have been set up. UNICEF reported that many schools in the most affected districts of Port Loko, Kambia and Western Area had not received any basic safety of hygiene supplies. The majority of gaps were in the urban Western Area (UNICEF, 15/04/2015). The National Ebola Response Centre (NERC) reported that 96% of schools in the most affected districts were open and had received WASH kits. 90% of those were using the kits (NERC, 15/04/2015). Some schools in the east, including in Kono, remain closed because of a lack of new teaching or health safety materials (BBC, 14/04/2015; NERC, 16/04/2015).

**Attendance** has been generally low in the first days, with only about 10% of the registered students reporting to school in some cases (BBC, 14/04/2015; NERC, 16/04/2015). 1.8 million children had been out of school since the start of the Ebola crisis (UNICEF, 15/04/2015). Some schools for children aged 12–14 reopened on 24 March (PI, 29/03/2015).

**Transportation** poses a challenge as school children and others scramble to access and overload the limited vehicles available. Concerns have been raised by the Minister of Communication and Transportation to resolve this (NERC, 23/4/2015).

**WASH**

Concerns have been raised about waste from Ebola facilities being dumped in waste collection sites. This poses a risk for health, especially to waste pickers (PI, 20/03/2015). According to a recent UNICEF health facilities survey 71% of public health units (PHUs) have water at all times, and about 14% have no access to water. Tonkolili (35%), Pujehun (27%), Pujehun (27%) and Kambia (26%) are performing worst. Hand washing facilities are available in all centres. 39% have a functional incinerator and 88% have a burning pit (UNICEF, 04/2015).

**Humanitarian Access**

**Resistance to the Ebola response**

Reports continue of people fleeing from response teams, hiding bodies, conducting secret burials, and occasional physical assaults on burial teams (Voice of America, 25/03/2015). In April, an Ebola response team was attacked in Samu chiefdom, Kambia district. NERC is trying to engage community leaders in the response to decrease resistance (UNMEER, 24/04/2015).

**Response Capacities**

**Stay-at-home:** Ten new cases were identified during the three-day stay-at-home. There was an increase in calls to the Ebola hotline and a slight increase in the number of suspected cases (UNICEF, 01/04/2015).

**Hazard payments:** Significant problems have been reported with hazard payments in almost all districts. In some cases staff have not been paid since late 2014. In other cases people were paid too much or too little (NERC, 09/04/2015).

A clinical service for Ebola survivors has been set up in Port Loko, to detect eye problems and other after-effects of Ebola (Case management meeting, 14/04/2015).

**Immunisations:** A mass measles vaccination campaign is planned from 29 May to 3 June, targeting 1.5 million children (UNICEF, 15/04/2015; All Africa, 24/04/2015).

**Ebola vaccines:** So far over 500 health workers have enrolled in an Ebola vaccine trial led by CDC, and over 250 have been vaccinated in the Western Area. The vaccination in other districts will commence as scheduled (Case management, 17/4/2015).

**Annex 1. Transmission of the Ebola Virus**

**Sexual transmission of the Ebola**

- It is possible that the Ebola virus can be transmitted sexually, but this has yet to be verified or documented (WHO, 09/02/2015; CDC, 01/05/2015).
- The most recent Ebola patient in Liberia is thought to have been infected by sexual transmission. A survivor with whom she had sexual intercourse was found to have traces of Ebola in his semen almost six months after recovery (BBC, 15/04/2015; CDC, 01/05/2015).
Previously, there was evidence that seminal fluids of convalescent men could shed the Ebola virus for at least 82 days after onset of symptoms. There is no conclusive evidence for sexual transmission of Ebola, but survivors are urged to continue having protected sex until more information is available (CDC, 01/05/2015). There is limited evidence suggesting that live Ebola virus can persist in urine for 26 days following symptom onset (WHO, 09/02/2015).

- The evidence of detected Ebola virus in vaginal secretions is weak: traces of Ebola virus were detected in vaginal secretions of a woman on the 33rd day after her symptom onset. Whether these traces found in vaginal secretions represent live virus, and if so how long it would remain in vaginal secretions, is not known.

Transmission of the virus (WHO, 06/10/2014)

- The Ebola virus is transmitted among humans through close and direct physical contact with infected bodily fluids, the most infectious being blood, faeces, and vomit.
- The Ebola virus has also been detected in breast milk, urine, and semen.
- Saliva and tears may also carry some risk. However, the studies implicating these additional bodily fluids were extremely limited in sample size and the science is inconclusive. In studies of saliva, the virus was found most frequently in patients at a severe stage of illness. The whole live virus has never been isolated from sweat, though traces of Ebola virus were detected in the sweat of one recovering patient on the 40th day after his symptom onset (WHO, 09/02/2015).
- The Ebola virus can also be transmitted indirectly, by contact with previously contaminated surfaces and objects. The risk of transmission from these surfaces is low and can be reduced even further by appropriate cleaning and disinfection procedures.
## Key Characteristics

### Pre-crisis Indicators

<table>
<thead>
<tr>
<th>Key Indicators</th>
<th>Guinea</th>
<th>Liberia</th>
<th>Sierra Leone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total population</strong></td>
<td>11.45 million (WB 2012)</td>
<td>4.19 million (WB 2012)</td>
<td>5.98 million (WB 2012)</td>
</tr>
<tr>
<td><strong>Outbreak start date</strong></td>
<td>23 March 2014</td>
<td>29 March 2014</td>
<td>25 May 2014</td>
</tr>
<tr>
<td><strong>Age distribution</strong></td>
<td>42.9% under the age of 14 (HEWS 25/09/2012)</td>
<td>43.49% under the age of 14 (HEWS 25/09/2012)</td>
<td>43% under the age of 14 (HEWS 25/09/2012)</td>
</tr>
<tr>
<td><strong>Nutrition</strong></td>
<td>35.8% of under-5s underweight, 16.3% stunting, 5.6% wasting (WHO 2012)</td>
<td>20.4% of under-5s underweight, 7.8% wasting (WHO 2007)</td>
<td>21.1% of under-5s underweight, 44.9% stunting, 7.6% wasting (WHO 2010)</td>
</tr>
<tr>
<td><strong>Infant mortality rate</strong></td>
<td>65 (UNDP 2014)</td>
<td>56 (UNDP 2014)</td>
<td>117 (UNDP 2014)</td>
</tr>
<tr>
<td><strong>U5MR per 1,000</strong></td>
<td>101 (World Bank 2012)</td>
<td>75 (UNDP 2014)</td>
<td>182 (UNDP 2014)</td>
</tr>
<tr>
<td><strong>2014 HDI rank</strong></td>
<td>179 (0.392) (UNDP 2014)</td>
<td>175 (0.412) (UNDP 2014)</td>
<td>183 (0.374) (UNDP 2014)</td>
</tr>
<tr>
<td><strong>People below the poverty line (%)</strong></td>
<td>58% (UNFDA 2010)</td>
<td>64% (UNFDA 2008)</td>
<td>70% (UNFDA 2012)</td>
</tr>
<tr>
<td><strong>Health expenditure, total (% of GDP)</strong></td>
<td>6% (World Bank 2012)</td>
<td>16% (World Bank 2012)</td>
<td>15% (World Bank 2012)</td>
</tr>
<tr>
<td><strong>Maternal mortality rate</strong></td>
<td>980 (UNICEF 2012)</td>
<td>990 (UNICEF 2012)</td>
<td>1,100 (WB 2013)</td>
</tr>
<tr>
<td><strong>Immunisation, measles</strong></td>
<td>58 (World Bank 2012)</td>
<td>80 (World Bank 2012)</td>
<td>80 (World Bank 2012)</td>
</tr>
<tr>
<td><strong>Incidence of malaria</strong></td>
<td>38,333 (WHO 2012)</td>
<td>27,793 (WHO 2012)</td>
<td>19,027 (WHO 2012)</td>
</tr>
<tr>
<td><strong>Average births attended by skilled health personnel (%)</strong></td>
<td>45 (WHO 2006)</td>
<td>61 (WHO 2006)</td>
<td>61 (WHO 2006)</td>
</tr>
<tr>
<td><strong>Physicians per 10,000 people</strong></td>
<td>1 (World Bank 2010)</td>
<td>0.1 (WHO 2006)</td>
<td>0.2 (WHO 2006)</td>
</tr>
<tr>
<td><strong>Nurses and midwives per 10,000 people</strong></td>
<td>0.4 (World Bank 2010)</td>
<td>2.7 (WHO 2006)</td>
<td>1.7 (WHO 2006)</td>
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</tbody>
</table>