Public Health England

Exercise Artemis

Serial 2.1

Exercise Scenario

10 September 2013





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Background

The Ministry of Health of Ivory Coast has notified the World Health Organization (WHO) through IHR of an outbreak of Ebola in the Ivory Coast. Four people have died after contracting the virus. There are a further six probable cases in the north-east town of Bouna. The outbreak, involving the *Ebola Côte d'Ivoire* strain, was first reported last year after one person died. In 2012 an outbreak of *ebola-Bundibugyo* in Uganda killed 16 people.

John D. is a passionate musician and DJ and a great supporter of his national music. He is one of eight Ivorian music fans who returned to Paris, **France** after an extended trip to the Ivory Coast to take part in a number of cultural events, including Hip Hop Live and other music performances by local artists. John and his friends are intravenous drug users and while they were in Abidjan they went to a number of parties with local drug users and shared needles.

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They returned to Paris CDG on flight AF703 (departing Abidjan 22:40 arriving Paris CDG 06:15) on 3 September 2013. Upon arrival back at Paris, without any overt symptoms, he and his friends celebrate their return and go to a nightclub of Paris.

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The next day, two of John's friends return home to Brussels by Eurostar (17:22 – 18:47); another returns to Marseille by train on 4 September 2013 (Gare Lyon – Marseille 16:19 – 19:24).

Over the next few days, John battles with jetlag and feels too exhausted to go to work. He feels generally unwell and thinks he may have a cold so stays in the flat he shares with two friends (co-travellers to the Ivory Coast) in the Gare du Nord area. One of them also thinks he may be coming down with the flu. Two days later John feels worse and has now developed flu-like symptoms, a worsening headache and a sore throat. His initial consultation with a doctor at his local Clinic results in the issue of paracetamol and encouragement to keep hydrated. He is suffering from diarrhoea and has soiled his bed on one occasion. On 7 September, he decides to struggle to the supermarket to get some sports drinks to stave off dehydration.

While waiting in the queue he feels progressively worse and begins to sweat profusely. He pushes through the queue to go and find the nearby toilets. As he passes a cafe, he vomits over a group of people sitting at tables outside and staggers into another group

of tourists who are eating their meal. John is clearly in need of assistance and they vacate their seats to help him lie down. The vomit appears to have blood in it and an ambulance is called.

As the paramedics arrive, John tries to sit up but has a rigor and vomits again, splashing the two paramedics and three members of the public who were assisting. At this stage John loses control of his bowels, discharging a quantity of dark, watery stool.

John is taken to the nearest hospital, Here after initial assessment, he is isolated in the intensive care unit and treated for impaired kidney and liver function. The clinicians suspect a tropical disease; various specimens are taken and sent to a number of laboratories for blood counts, malaria tests, blood chemistry and cultures. In addition, the Pasteur Institute is asked to conduct tests for Lassa and Ebola. Contact tracing starts although there is little confidence that John is able to recall a complete picture.

Early laboratory findings show low counts of white blood cells, very low platelets and elevated liver enzymes. Antigen tests are negative for malaria. Within six hours of the Pasteur Institute receiving the sample, *Ebola Haemorrhagic Fever* is confirmed.

Arrangements are made to move John to a High Security Infectious Disease Unit. The InVS informs ECDC using the Early Warning and Response System (EWRS) and WHO through IHR.

[STARTEX]

Unfortunately, John deteriorates and dies on 10 September 2013 of multi-organ failure with internal and external bleeding. The time of death was 09:15 and his death was reported on the morning news and on the internet.

The Paramedics who attended to John at the cafe, as well as the nursing and mortuary staff at the hospital where John was treated, are informed of the *Ebola HF* diagnosis.

Meanwhile, John's flatmate (P. K.) has also visited his doctor and is now in hospital. He is undergoing tests for VHF. P. was also with John in Ivory Coast and shared needles with him.

In Marseille, I. A., is also admitted to hospital as he has been very unwell with fever, vomiting and diarrhoea. His wife called the doctor on 7 September and confirmed that I. returned from Ivory Coast on 3 September on an Air France flight to Paris. He then travelled by train from Paris to Marseille. I. admitted he shared needles with some of his friends and whilst in Ivory Coast he and his friends also ate bushmeat. A quantity of bushmeat was found in his apartment. This has been taken away for further analysis.

In Brussels, a 28yr old male and a 26 yr old female (J. T. and M. Y.) are admitted to hospital with high fever and vomiting. They have a recent travel history to Ivory Coast and returned on an Air France flight to Paris CDG on 3 September, before travelling home to Brussels by Eurostar. Tests for malaria are underway. Following notification on EWRS of the case in France, and given their recent travel history and contact with the known case in France (John Doe), further investigations are now in progress and these cases are also suspected to be some sort of VHF.

Later, the two paramedics who dealt with John develop flu like symptoms.

Initial Patient Data

Patient 1: John Doe (deceased)
Symptoms: Admitted to hospital on 7 September 2013 with fever, vomiting, bloody faeces.
Recent travel: known to have visited Ivory Coast; drug user
Lab results: results confirm Ebola Haemorrhagic Fever

Further Cases:

Patient 2: P. K. Flatmate (flu-like symptoms)
Patient 3: I.A. co-traveller, resident in Marseille
Patient 4: J. T. co-traveller, resident in Brussels
Patient 5: M. Y. co-traveller, resident in Brussels

Scenario 2: algal bloom (10 September 2013)

Italy

About 200 people who spent time on or close to beaches around Grado near Trieste, Italy, have sought medical treatment over the past two days for symptoms such as rhinorrhoea, cough, fever, bronchoconstriction with mild breathing difficulties, wheezing, and, in a few cases, conjunctivitis. Around 20 people have required hospitalisation.

Local environmental protection staff have analysed air and water samples around Grado for chemical contamination but have not found anything unusual. It is suspected that this may have been caused by a so-called algal bloom. In previous years, similar events were reported in other Italian regions, in Toscana (west coast of Italy), Puglia (southeast coast of Italy) and Sicily (in southern Italy), associated with a particular kind of unicellular alga, *Ostreopsis* spp although these were less widespread and intense. However this time the numbers of people affected and their symptoms seem more severe. The sea is also discoloured in places, with patches of yellow/brown water being seen close on to shore.

Sea water samples are being collected every day from beaches in the area of Grado to look for the presence of a high density of algae and for any associated algal toxins. Results from the first samples collected are expected in the next few days.

Officials in the provinces of Gorizia and Trieste are recommending that people should not bathe in the Adriatic until the problem is better understood or the all-clear is given and to be aware of symptoms associated with the suspected algal bloom. Grado beach has been closed by Public Health officials. Local businesses are complaining that this is an over reaction.

Slovenia/Croatia

Further down the coast in Slovenia they are experiencing similar problems. Patches of discoloured yellow sea have been seen just off the coast near Portoroz. Of seventeen cases of severe illness (dizziness, tingling sensations and breathing difficulties), five have been hospitalised with one child under 5 described as critical (A. N.).
Reports of a smaller number of cases presenting with similar symptoms have also been received in Porec in Croatia where 8 people have been hospitalised, including 2 children.

Local officials in Portoroz believe this to be a chemical incident but public health officials in Ljubljana aware of the reports from Italy are unsure whether it is related to unusual algal bloom. They are also concerned that shellfish farms, farming mainly mussels (*Mytilus galloprovincialis*), along the Adriatic between Portoroz and the Croatian border and beyond may be contaminated with whatever the substance is, a chemical or a toxin. This area exports shellfish internationally. As they have no capacity to deal with an event of this nature they are requesting technical assistance from ECDC.

In Porec, authorities are “monitoring the situation” however they have not yet decided whether to recommend no bathing or close beaches.