

World Health Report

June 2019

MALARIA

MEASLES

ZIKA

EBOLA

GUILLAIN
BARRÉ

NIPAH

EBOLA | Worrying escalation as Ebola Virus Disease (EVD) crosses the border into Uganda



While armed militia groups continue to disrupt the efforts of the health authorities of the DRC to contain the Ebola outbreak in the north east of the country, the first ever cases of Ebola have been confirmed in neighbouring Uganda. A five year old boy and his grandmother, who visited DRC, have died.

The boy's family went over to DRC to attend the funeral of his grandfather who had died of Ebola virus disease. The boy and his grandmother developed symptoms of fever and bleeding when they returned to Uganda and went to Kagando Hospital in Kasese district, Western Uganda. They were transferred immediately to an Ebola treatment unit in nearby Bwera, where the healthcare workers had already been vaccinated. They died soon after and there are seven other suspected cases in isolation, and over 50 contacts of these cases under observation. Doctors have confirmed that another relative - a three year old child who was repatriated to DRC from Uganda - has also died.

The Ugandan government has deployed an emergency response team and suspended all mass gatherings including prayer meetings and market gatherings, some of which attract tens of thousands of people. They have also already vaccinated thousands of health workers in

anticipation of this development, and set up Ebola treatment centres along the border in readiness for the expected cases.

This Ebola outbreak has already become the worst since the West African outbreak of 2013-16, where there were 28,616 cases, mostly in Guinea, Liberia and Sierra Leone - 11,310 people died. On 1 August 2018, the Ministry of Health of the DRC declared the 10th outbreak of Ebola virus disease in the country, affecting North Kivu and Ituri Provinces in the northeast. It took over seven months for the number of cases to reach 1,000, but just a further two months to reach 2,000. Nearly 1,400 people have died, with a fatality ratio of around 70% of confirmed cases. Nearly 200 health facilities have been attacked in the DRC this year, forcing health workers to suspend or delay vaccinations and treatments. In February, medical charity Médecins Sans Frontières (MSF) put its activities on hold in Butembo and Katwa - two eastern cities in the outbreak's epicentre.

Despite acknowledging the evidence of international spread of the disease to Uganda, WHO has announced that the EVD outbreak does not meet the criteria to declare a Public Health Emergency of International Concern (PHEIC). The Committee maintains that there is a low risk of the outbreak spreading beyond the immediate region.

A PHEIC might allow WHO and its partners to mount a stronger attack against the disease with increased resources and larger international teams of responders helping stop the spread and treat the infected. WHO has declared a PHEIC only four times since the tool was introduced into the agency's arsenal in 2005: for the 2014 West African Ebola outbreak, pandemic flu in 2009, polio in 2014, and the Zika virus in 2016. WHO has stressed that other countries within the region must take this opportunity to prepare for an outbreak within their borders.

There were 12 outbreaks between 2000 and 2010, averaging fewer than 100 cases. It is believed that a number of factors have combined to make outbreaks more likely to occur and to rapidly multiply in size beyond the capabilities of nations to control them. Among these are: climate change; the spread of emerging diseases; exploitation of the rainforest; large and highly mobile populations; weak governments; and conflicts causing mass movements of people. Currently, WHO is tracking an unprecedented 160 disease events around the world, nine of which are grade III emergencies (the WHO's highest emergency level).

ADVICE TO TRAVELLERS TO EVD AFFECTED COUNTRIES...

Take the following enhanced precautions and your risk of becoming infected is low:

- ✓ Avoid contact with symptomatic patients and their body fluids
- ✓ Avoid contact with the corpses and body fluids from deceased EVD victims
- ✓ Avoid contact with all wild animals and their corpses
- ✓ Avoid handling/eating bush or wild meat
- ✓ Wash and peel fruits and vegetables before consumption
- ✓ Wash hands regularly and carefully with soap and water/alcohol gel
- ✓ Practise safer sex using barrier contraception
- ✓ Seek immediate medical advice if you become ill within 21 days of leaving the EVD affected area.



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Despite positive indicators that the outbreak is under control in the epicentres of Butembo and Katwa, the trend in other areas like Mabalako indicates extension and reinfection of EVD. This is down to the challenges around community acceptance and insurgent activity, and the straining of resources. The cluster of cases in Uganda is not unexpected; though the rapid response and initial containment is a testament to the importance of preparedness in neighbouring countries. Rwanda and Burundi remain on high alert.

MEASLES | Philippine government launch vaccination campaign to combat chronically low immunisation rates



Over the past few years, the Philippines has experienced chronically low rates of immunisation.

Fifteen years ago, the Filipino health authorities had nearly eliminated measles, but the virus has made a worrying comeback. Since January, the Philippines has had one of the worst measles outbreaks in the world: 34,950 cases and 477 deaths (as of 11th May 2019) from the vaccine-preventable disease - a four-fold increase on last year's figures.

Many children from urban poor families, ethnic minorities, transient and highly mobile populations, as well as children living in remote and conflict-affected areas usually miss out on immunisation. According to World Health Organisation (WHO) estimates, 2.6 million Filipino children under the age of five years old are not protected from measles - 53% of the measles cases are in children under five years of age.

Measles is a highly contagious airborne virus. It can linger in a room, an aeroplane or a bus for a couple of hours if an infected person coughs or sneezes, even if they then walk away.

It is generally acknowledged that to effectively stop the spread of measles in a community, 95% of the population needs to be immune - this requires a completed course of **two** vaccines. The Philippines has never reached such a high vaccination coverage rate. Childhood immunisation rates peaked in 2009 when 89% of kids were considered fully immunised, but that rate dropped to just 66% last year.

One of the major factors in the drop in vaccination levels is a widespread distrust, even fear, among the population, of vaccines in general. In 2016, there was a major vaccine scandal that made parents hesitant about vaccinating their children. A vaccine against dengue fever, called *dengvaxia*, was given to school children across the country. However, popular opinion spread that it put children at risk of contracting a more serious form of the disease. Links were made to the deaths of several children, though nothing was ever proven.

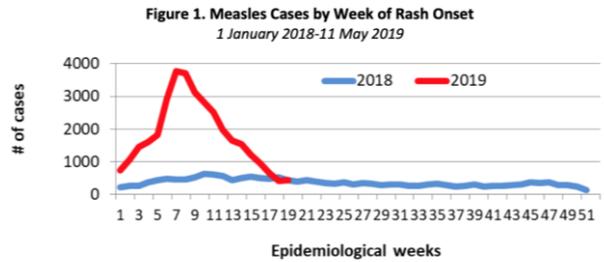
The government revoked the license for the vaccine, brought criminal charges against officials responsible for the campaign and filed suit over the deaths of ten youngsters against Sanofi, the French vaccine manufacturer.

The outbreak has also been driven by a number of other factors that have resulted in lower immunisation rates:

- ▮ A limited healthcare budget in a lower / middle income country and a scarcity of health workers
- ▮ The simple logistical issues of vaccinating a population in a country that spans 7,000 islands
- ▮ Supply chain issues with the vaccine.

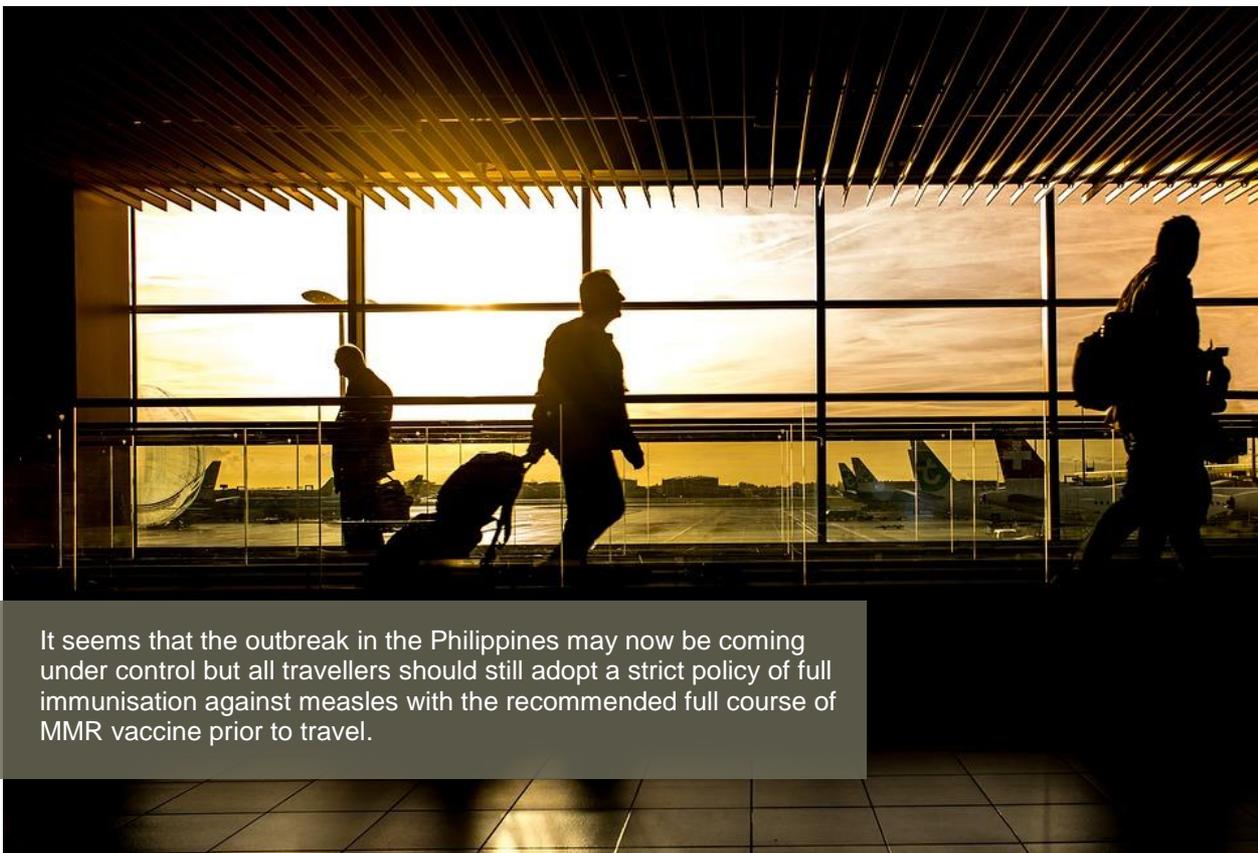
In an attempt to contain the current outbreak, the Philippine government has launched a massive nationwide measles vaccination campaign. Health workers inoculated 5.5 million people, mostly children. The government hopes to inoculate a total of 20 million, one fifth of the population, by the end of September 2019. The targeted vaccinations have slowed the outbreak significantly. The number of new measles cases each week is declining. In February and March, the country was recording more than 3,000 new cases each week. Now there are a few hundred per week, which officially is still classified as an epidemic by the health department but is much

lower than the numbers in February. So the mass vaccine campaign appears to be working.



Source: Philippines Department of Health Measles-Rubella Surveillance Reports 2019

Overall, south-east Asia is one of the few regions where measles vaccinations are on the rise but other countries in the region have seen recent outbreaks similar to the Philippines. In November last year, a measles crisis was declared in the majority-Muslim southern regions of Thailand, which have high levels of poverty, even though the disease was said to be almost eradicated in Thailand. There were 4,000 measles cases reported in Thailand last year, causing the deaths of at least 22 children.



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It seems that the outbreak in the Philippines may now be coming under control but all travellers should still adopt a strict policy of full immunisation against measles with the recommended full course of MMR vaccine prior to travel.

EXTREME SPOT | Mount Everest claims more victims



Mount Everest is well known for being a dangerous peak to climb, but 2019 has had one of the highest death rates in four years, with 11 climbers so far perishing in their quest to reach the summit.

This year's deaths have been blamed on a number of different factors: the mountaineers blamed the poor weather; the Sherpas blamed an influx of inexperienced climbers; and many point to a record number of permits issued by the Nepalese Government. It is stipulated by the authorities that every climber has to be accompanied by a Sherpa and this has resulted in more than 820 people trying to reach the summit this year. However, May and June have been the only months where an attempt on the summit has been possible due to the poor weather conditions.

A photo taken on 23 May by Nirmal Pujra quickly caught the attention of world news organisations after it showed more than 100 climbers waiting in a snaking line to reach the summit, some for up to 12 hours in the 'death zone'.

Several climbers have described their experience as "death, carnage and chaos" on their descent, with people losing consciousness and unable to turn around, some having to walk over dead bodies while others were being desperately dragged down the mountain by Sherpas.

With a record number of permits being issued this year, it has been increasingly accessible for more people to 'conquer Everest' than ever before, with tour companies offering cheap packages - prices range from \$30,000 to \$130,000, Sherpas are warning that they are seeing more and more inexperienced climbers trying to reach the summit.



With these budget packages, thrill-seekers are becoming blasé about how dangerous this climb actually is, and they are being lulled into a false sense of security and encouraged to take out basic rescue insurance.

Helicopters have their limits, being especially hard to operate in poor weather conditions, and they are not always covered by budget rescue policies; even the strongest Sherpas cannot take an incapacitated person down the mountain by themselves, or expect that extra oxygen can be delivered to 8,400m at a moment's notice.

Being overcome by Acute Mountain Sickness at the peak can be a death sentence if you are unable to access the resources required to get you to a lower altitude, even with supplementary oxygen, which 95% of the climbers need to reach the summit. With the conditions and altitude affecting your mental capacity and a line of people pushing you to the top, you generally have no choice but to carry on.

Ten more people have died in the past month while trying to climb other Himalayan mountains, bringing the overall death toll to 21. The number of people seeking to scale Everest has exploded in recent years, driven by surges in climbers from India and China. The rising numbers of people climbing - and dying - on Everest has led to calls for permits to be limited. However, when permits generate income - Nepal has issued 381 permits at \$11,000 (£8,600) each for the spring climbing season - there is always an incentive to push more and more people to the summit.

ASSUME THAT ANY ILLNESS AT ALTITUDE IS ACUTE MOUNTAIN SICKNESS [AMS]

KEEP AN EYE ON FELLOW TRAVELLERS FOR EARLY SIGNS OF AMS

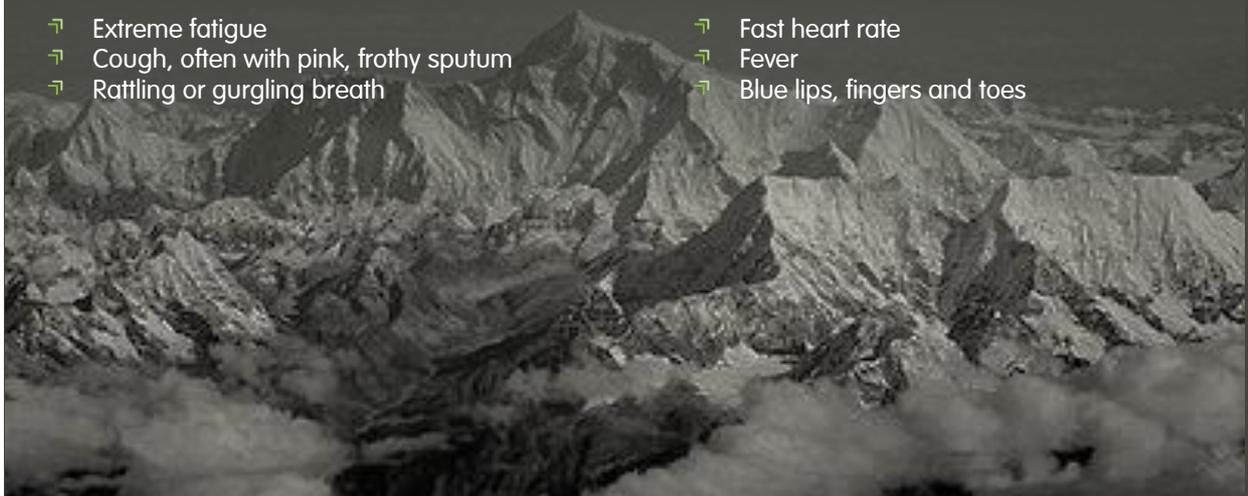
- ↗ Headache
- ↗ Fatigue and difficulty sleeping
- ↗ Dizziness
- ↗ Periodic pauses in breathing, or shallow breaths
- ↗ Loss of appetite
- ↗ Nausea or vomiting
- ↗ Confusion

DO NOT ASCEND FURTHER IF YOU HAVE FURTHER SYMPTOMS OF AMS

- ↗ Unsteady on your feet
- ↗ Confusion
- ↗ Fatigue
- ↗ Unusual behaviour- clumsiness, aggression, withdrawal, laziness, etc.
- ↗ Drowsiness, convulsions, loss of consciousness and ultimately coma

DESCEND IMMEDIATELY IN THE PRESENCE OF MORE ACUTE SYMPTOMS, ACCOMPANIED AND PREFERABLY BY STRETCHER

- ↗ Extreme fatigue
- ↗ Cough, often with pink, frothy sputum
- ↗ Rattling or gurgling breath
- ↗ Fast heart rate
- ↗ Fever
- ↗ Blue lips, fingers and toes



MOSQUITOES | The world's most dangerous animal could be expanding its horizons

By 2050, half of the world's population could be at risk of mosquito-borne diseases such as dengue fever, malaria or Zika.

A combination of environmental change, urbanisation and human movements around the world are helping mosquitoes reach areas they previously hadn't.

Research conducted by the University of Oxford focused on the mosquito species *Aedes aegypti* and *Aedes albopictus*, both known for their ability to carry and transmit disease.

In the short term, the study finds that environmental changes are not likely to make much difference in the spread rate, as the mosquitoes naturally expand throughout their current ranges.

In the long term, however, climate change and other factors like rising population density and urbanisation are expected to become major influences on the number of people exposed to mosquito-borne diseases. Between 2030 and 2050, previously unsuitable areas are expected to become more habitable for the mosquitoes through the combined influence of rising temperatures and wetter conditions. The more severe the future climate change scenario, the greater the population at risk.

Overall, the research finds that at least half of the global population is likely to be at risk of mosquito-borne disease by 2050. And this percentage will continue to grow, even under moderate climate scenarios.

In general, the spread of mosquitoes and other disease-carrying insects is a rising concern as the

threat of climate change continues to grow. Just last year, a study from the Centres for Disease Control and Prevention (CDC) found that cases of diseases caused by mosquitoes, fleas and ticks in the United States had tripled within the last 15 years.

The new exposure around the world would predominantly affect Canada and parts of northern Europe. People there could come into contact with yellow fever, Zika, dengue and chikungunya, as well as other emerging diseases which have previously never been an issue.

The effect could be multiplied by the long haul travel of people who contract diseases from mosquitoes while travelling and then return home and spread the infection to local mosquitoes, thus allowing for local transmission. An expanded range for mosquitoes could enhance that process.

Places where people have never had to worry about these infections could see particularly bad outbreaks if they are not prepared. In 2016, Zika swept through southern Florida, threatening in particular pregnant women. Though they became infected, they developed no symptoms, and therefore had no idea that their unborn children were now at risk of significant foetal abnormalities.

By 2050 we may well live in a world where malaria and dengue and other mosquito-borne diseases have become common in previously unheard of places around the world - half a billion more people could be at risk from mosquito-transmitted diseases as a result of the warming climate. A lot can happen in 30 years but mosquitoes will likely remain the most dangerous animal to man.

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Bill Gates sums up the dangers of mosquitoes: “No other species, including our own, is responsible for the loss of as many human lives each year as mosquitoes are. Humans murder around 475,000 other people each year. Snakes kill around 50,000, while dogs (mainly from rabies transmission) claim another 25,000 lives. Some of the most feared animals (sharks, wolves) kill fewer than 10. The diseases that mosquitoes carry and transmit to people they bite, on the other hand, kill 725,000.”



NEWS IN BRIEF | Round-up of other medical news stories

1 Algeria and Argentina certified malaria-free by WHO

Algeria and Argentina have joined a global list of 36 countries that have been officially recognised by the World Health Organisation (WHO) as malaria-free. This means that the country has proved, beyond reasonable doubt, that it has been free of 'indigenous' transmission for a minimum of three consecutive years - there must also be a nationwide surveillance system that is capable of identifying and responding to any further malaria cases that may arise.

Achieving this certification requires a strong commitment from the countries' leaders and a meticulous surveillance system that allows rapid

identification of cases and equally swift treatment. An equally important factor in both these countries' efforts to eliminate malaria is the provision of free diagnosis and treatment of all suspected cases.

Algeria retains a strong historical link with malaria since the malaria parasite in humans was first discovered there in 1880. Argentina has adopted a 40-year programme to finally eliminate indigenous transmission within the country - part of this process involved cross-border collaboration with neighbouring countries to eliminate mosquito breeding sites. The last case of malaria was reported in 2010.

2 Nipah Virus confirmed in student in southern Indian state of Kerala

It has been confirmed that a 23 year old student who was admitted to a private hospital in Ernakulam in the southern Indian state of Kerala on 30th May, has tested positive for Nipah virus. Health authorities had already taken steps to prevent the spread of the disease by tracing the contacts, setting up isolation wards and by increasing public awareness. It is not clear how the student contracted the virus, but the likelihood is that he acquired it from the indigenous fruit bats that are known to carry the virus.

Three nurses and one other hospital worker who had initially come into contact with the patient exhibited symptoms of high fever and were immediately isolated in the Government Hospital and are being treated symptomatically, while virology results are pending. Another 311 people who had come in close contact with the student, but have displayed no symptoms, are being kept in isolation to prevent any potential spread of the disease. Alerts are being circulated in four large districts where the student had travelled prior to becoming ill: Ernakulam, Thrissur, Kollam, and Idukki.

The health authorities in Kerala had to deal with a similar outbreak in May 2018 in the districts of Kozhikode, Calicut and Malappuram. That outbreak was confirmed to have originated from a fruit bat infecting a human who then went on to spread the virus to other humans, eventually claiming 17 lives. There have also been similar Nipah virus outbreaks in India in Siliguri (2001) and Nadia (2007) in West Bengal, spread by

contaminated fruit and fruit products from the urine or saliva of infected bats. The Nipah virus outbreak in Siliguri infected 66 people of whom 45 died. The outbreak in Nadia infected five people, all of whom died.

The Nipah virus, which spreads through direct contact with infected people, bats, and pigs, or even from contaminated fruit eaten by bats, causes respiratory illness and brain infections with a 70% mortality rate.

So far, no therapeutics or vaccines have been approved for use in humans against the virus. However, an experimental anti-viral drug (*Remdesivir*) that is currently being tested against the Ebola virus in the DRC, has been shown to protect African green monkeys against Nipah virus in early trials. The two viruses are not related but if it is shown to be effective in humans, this would prove to be a vital tool in the early stages of disease.

The initial reports suggest that the student is responding well to symptomatic treatment and health officials are hopeful that their quick actions will prove to be successful in containing this outbreak at this very early stage. As of 14th June, 280 people remain in isolation but have displayed no signs of disease and are expected to be released in the coming days, and the health-workers who displayed symptoms are also reported to be recovering well.

3 Could 'HIV-style antibodies' be the key to a 'universal' snake antidote

Following the WHO's recently stated initiative to halve the number of fatal snakebites by 2030, and the promised large injection of funding from The Wellcome Institute in the UK, there are hopes that a next generation treatment may be possible. The latest research has borrowed the methodology applied for locating the various strains of anti-HIV antibodies and transferred that to the quest to formulate one universal snakebite treatment.

There are about 250 types of snakes that are venomous to humans - the variety and complexity of their poisons pose huge challenges for research scientists. Envenomation kills 138,000 people every year and permanently disables another 400,000. Victims are from the poorest parts of Africa and India, where access to antidotes ranges from non-existent to minimal. Many of the victims have no access to hospital care and their only treatment is from the traditional healers in the community. As such, the quoted numbers of victims may hugely underestimate the real figures.

A consortium of international research partners are focusing on developing an antidote of 'humanised' antibodies collected from snakebite survivors,

rather than the conventional 'antivenoms' that are usually derived from purified horse serum. In simplified form, the venom is manually milked from the snake, injected into the horse, blood is taken from the horse and antibodies are extracted from the blood. One of the major benefits of such an approach would be the significantly lower incidence of allergic reactions that can complicate animal-derived treatments. The proposed treatment would be universal to all snake bites - currently the treatments are specific to a species of snake, thereby requiring a large range of individual antivenoms. They would also be in powder form and therefore they would not be hampered by the requirement to transport and store the vaccines at low temperatures - an obvious drawback in the poor, rural locations where most snakebites occur.

The new version of universal antidote would be affordable, accessible and effective for all kinds of snakebites. However, devising a successful antidote will require up to four years of pre-clinical work, with another three years for manufacturing and clinical trials. The WHO is strategising for a dramatic reduction in deaths from snakebites in the next ten years.

4 US pensioner's lucky escape from deadly killer in his iPad case...

An 86 year old man, from New Hampshire in the United States, was bitten by a bat that had been hiding in his iPad case.

Roy Syvertson had been using his tablet for about an hour before realising that the creature had popped out and bitten him. He took the bat, still in the case, and left it outside for it to escape. However, the following morning he discovered that the bat had died, and realised that he may have a problem.

He contacted the New Hampshire Department of Fish and Game and he was instructed to go straight to hospital, where tests were taken and it was confirmed that the bat had in fact died from rabies.

Mr Syverston is unsure about how the bat got into his iPad case but there are plenty of small fruit bats around the area.

However, had he not realised that the bat had died overnight, he may not have received the required treatment in time. He has made a full recovery.

Early symptoms include fever, headache, weakness and discomfort, and the disease can also cause hallucinations and difficulty swallowing. Once symptoms develop the disease is almost always fatal.

All mammals can carry rabies, but it is most common in dogs, bats, raccoons and foxes.

If bitten, post-exposure treatment involves cleaning and disinfecting the wound, urgent attendance at the local emergency department, an immediate course of the rabies vaccine and in some cases, an emergency injection of 'immunoglobulin'. A rabies vaccine is available.

5 Peru declares Health Emergency (again) over unusually high number of cases of Guillain-Barré syndrome

There have been 548 cases of Guillain-Barré syndrome (GBS) reported since January, with a sharp increase in case numbers in recent weeks. There have also been at least four deaths and the Ministry of Health has declared a Health Emergency in five regions of the country due to the unusual increase in cases. The regions affected in this outbreak include the capital Lima and are located around the central and north-western coast of Peru: Piura/ Lambayeque/ La Libertad/ Junin/ Lima Regions

GBS is the most common acute paralytic illness, affecting people of all ages. The specific cause is unknown but it is commonly associated with a previous respiratory or gastro infection. There is no cure or vaccine but supportive care in hospital can improve symptoms and more than 90% of patients can recover completely within a year or so, with few fatalities. In Peru, GBS cases are not rare, with an annual report of 300 to 500 inpatient cases.

There was a similar Health Emergency last year in a similar region and this was eventually found to be caused by an *enterovirus*, usually found in faeces and transmitted mainly by the faecal-oral route, i.e. through poor hygiene, particularly in food handlers, after going to the toilet.

It is important to note that GBS is not contagious and that the virus often develops when the person's immune system is low. It initially presents as a flu-like illness or an upset stomach and then it can rapidly develop. Symptoms include:

- ↗ Weakness
- ↗ Tingling in feet and legs
- ↗ Ascending weakness / paralysis
- ↗ Difficulty breathing

The current outbreak in Peru is unusual in that the tingling / weakness is tending to present in the hands and arms and then progressing to weakness in the respiratory muscles.

The Ministry of Health is promoting strict and regular hand washing to prevent spread of the virus and advising that the public be alert to the symptoms of tingling and weakness and to attend hospital as soon as any symptoms develop. They are also keen to dampen spurious rumours that this is the result of the campaign to increase uptake of the MMR vaccine.

Author: Dr Adrian Hyzler, Chief Medical Officer, Healix International.