BORDER HEALTH NEWSLETTER – SEPTEMBER 2013

WELCOME!

Hi everyone. I would just like to wish Rachel well for the next few months- I will be covering some of her duties while she is on maternity leave.

It has been a very wet month for much of the North Island, (more than 150% of normal rainfall) though dry in South Canterbury & Central Otago (50-80% of normal). Temperatures have been warmer than usual (0.5-1.2°C above the normal September average for the north Island). Central Otago, however was cooler, with temperatures 0.5-1.2°C below the normal September average.

With warmer and wetter conditions in the North Island, we are likely to see mosquito activity increase with ample habitat and better breeding temperatures.

If you would like to see NIWAs full outlook for your area you will find it here:

http://www.niwa.co.nz/climate/sco/seasonal-climate-outlook-october-december-2013

INCURSIONS/INTERCEPTIONS

There were no interception or incursion events during September

SAMPLES

During September, 566 samples were collected by staff from 11 District Health Boards, with 51 positive. Sampling numbers were slightly up on last month and on this time last year, however the number of positive samples has decreased compared to this time last year. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
Aedes antipodeus	2	0
Ae. notoscriptus	2	718
Aed. subalbirostris	0	1
Culex pervigilans	0	195
Cx. quinquefasciatus	17	0
Opifex fuscus	0	10
Exotics	0	0
TOTAL MOSQUITOES	**19**	**924**

INSECT-BORNE DISEASES

JAPANESE ENCEPHALITIS AND OTHER- INDIA

It appears many cases of children dying in India, thought to be from Japanese Encephalitis (JE) are possibly caused by enteroviruses (EV) causing acute encephalitis syndrome (AES). However, due to a range of factors, including reporting systems and testing issues, the true cause remains a mystery.

Japanese encephalitis vaccine was given [twice] 3 years ago to a 5-year-old child, separated by a 4 month [booster]. The 1st shot, given in August 2010, was part of the child's immunization schedule, the 2nd in December of that year, in a massive campaign across Uttar Pradesh and parts of Bihar to ensure the vaccine reached all "left out" children. The boy was admitted [in 2013] to the Nehru Hospital in BRD Medical College, where he died the next day.

The boy was one of the 5 confirmed JE cases in Gorakhpur this year [2013]. The adjoining districts saw another 20 cases. Besides one deceased girl whose family had persistently refused vaccination, all the dead children had been given the protective shots.

Since 1 Jan [2013], over 1000 children have been admitted to the hospital, and 258 have died with the same classic symptoms – high fever, convulsions, altered senses, rigidity in the limbs and nausea -now associated with acute encephalitis syndrome (AES). Only 61 of these children were found to be JE positive.

A total of 226 admissions and 59 deaths have been from Gorakhpur, and 248 cases and 43 deaths from Kushinagar. These have been the 2 worst affected districts this year [2013]. In all of this, Gorakhpur has seen 5 JE cases and Kushinagar 8.

Until the mid-2000s, it was JE that was considered the annual mysterious killer of children and early teens in the Purvanchal belt of eastern UP and Bihar. Now, a decade later, it has been crossed off as a "minority disease" by scientists. The doubts over JE, which started arising [in] 2006 and saw some vindication in 2009, have been confirmed "to a great extent" now.

Of 1000 samples of cerebrospinal fluid (CSF) collected from children admitted between April and December last year [2012] to Gorakhpur's BRD Medical College, 100 isolates for organisms called enteroviruses (EV) -- specifically the human EV 89 and EV 76 types -- have been identified by the National Institute of Virology (NIV) field station in Gorakhpur. A 10 per cent positivity is considered a huge success for CSF samples. These viruses spread through contaminated water and can cause symptoms similar to JE and are covered under the umbrella of diseases that constitute AES. The JE virus, which causes similar symptoms and is also included under the category of AES diseases, has a completely different route of transmission: it is hosted in pigs, water birds and other livestock and is carried to humans by mosquitoes.

The 1st doubts about JE started after deaths continued despite exhaustive mass immunization campaigns, and lab results provided no concrete answers. In 2006, despite JE vaccinations, 700-800 seizures were reported, and over 150 children died. Most of these children had received JE vaccination. The mystery remains to be fully explained.

This year [2013], 6 per cent of cases are JE positive, and about 10-15 per cent EV, which leaves the vast majority of cases still undiagnosed. "We are trying to identify the causative agents in all samples, but there are other factors that need to be considered. The causative agent is the most active in the CSF samples only within the 1st 2-3 days of onset. A majority of children are coming to us late and hence we are losing out on identifying the pathogens there," said Dr K P Kushwaha, principal and head of the department of paediatrics at BRD Medical College.

Unlike bacteria, viruses need active cell lines to multiply for scientists to examine them. "Earlier, we were using only one such cell line; now we are hoping that more viruses will multiply in our laboratories. We have identified isolated cases of measles and herpes viruses but not in considerable numbers. We are trying to lay our hands on something more, but so far, we have not been successful," Dr Gore said. He adds that even in the best diagnosed international outbreak situations, only about 50 per cent of cases are actually diagnosed. "Considering that, we can say EVs have solved at least some of the mystery, though not all of it."

LEISHMANIASIS –TURKEY ex SYRIA, REFUGEE CAMPS

Leishmaniasis could fuel refugee resentment in Turkey's border towns.

Dr Tayfur Savas, working from a refugee clinic from southern Turkey has for the first time heard of Syrian refugees being stigmatized in Turkey for the illnesses they carry, and a cautionary tale about the urgency of tackling communicable diseases on both sides of the border. "Health issues can become social issues," Savas told IRIN. "We don't want to risk worsening relations between Turks and refugees; it is a tense situation already." One mother recently commented "These scars are a shame. People think he's
infectious. Our neighbours don't want to breathe the same air. "She said people were refusing to sit by her son on the bus," he said, recalling the 4 black, crater-like lesions which ran along the boy's forearm.

One of the most widespread communicable diseases among Syrian refugees has been cutaneous (skin-related) leishmaniasis, a vector-borne parasite that is spread from human to human by sandflies, especially in unsanitary or crowded conditions. It features large, permanently-disfiguring sores.
This summer [2013], as the World Health Organization (WHO) warned of the near collapse of the Syrian health system, it acknowledged that hepatitis, typhoid, cholera, and leishmaniasis have increasingly spread largely unchecked inside Syria and among refugee populations.

Unlike visceral leishmaniasis, cutaneous leishmaniasis typically is not life threatening, and has not raised the same alarm bells as many other diseases. But "it is extremely stigmatizing, and is especially catastrophic for young

girls, who may become unmarriageable because of the disfiguring scars it can leave on the face and body," said Peter Hotez, dean of the National School of Tropical Medicine at the Texas-based Baylor College of Medicine. "It also looks extremely infectious, and people who don't know about the disease are likely to fear infected people when they see the lesions."

Known as "the Aleppo Evil", the disease's medieval nickname belies the fact that -- while it has been endemic in Syria and the Middle East for centuries -- it has largely been constrained to regions surrounding the northern city, Syria's 2nd largest. "But this is also a disease that is linked closely to human migration," says Hotez. "Refugees are sleeping outdoors where they have no protection from sandflies, populations are moving through Aleppo that have no previous exposure to the disease, and access to health care is nonexistent. It creates a perfect storm that allows 'the Aleppo Evil' to take hold."

While Turkey's health response to leishmaniasis has involved the treatment of 10s of thousands of patients in state-run camps and hospitals this year [2013], much of the burden for treating the disease inside Turkey has fallen on poorly supplied clinics, staffed by Syrian doctors and nurses, in border towns. "Access to free health care is a guarantee for the 200000 people inside the camps," said a spokesperson for Ankara's Disaster and Emergency Management Directorate (AFAD).

But outside the camps, Syrians "have been struggling to get treatment," said Saban Alagoz, general secretary of the Gaziantep and Kilis Medical Association. "The government and doctors' associations have just begun to respond to this problem," he said, detailing the opening of a special leishmaniasis clinic that was established in Gaziantep this year for non-camp refugees. He estimated that Turkish doctors in the southern towns of Gaziantep and Kilis have treated just under 10 000 cases of the disease this summer. "Leishmaniasis has not crossed over in large numbers to the Turkish population, but the problem is many Syrians still don't have access to treatment," he said.

Many Syrians cannot afford to pay for the injections which treat leishmaniasis, and seek out clinics run by a patchwork of Syrian aid groups and activists that treat refugees for free. Turkish hospitals as a rule do not charge for emergency care for registered refugees, but often charge for medicines and non-life threatening operations.

For 4 months, the SEMA-run clinic was the sole medical provider to nearly 3000 refugees who camped in makeshift tents pitched in a municipal park at the centre of the town. "These people can't even pay for real tents. So, of course, they can't go to the hospital for medicines," said al-Mallouhi. The group said its stocks of Glucantime, the most common medicine used against leishmaniasis, had been kept afloat by donations from the international medical charity Medecins Sans Frontieres [Doctors Without Borders].

(UOSSM) in the border town of Reyhanli, treating leishmaniasis has become even more difficult, as stocks have dried up and need has grown inside Syria. Daher Zidan, the clinic's head pharmacist, said the group this year sent enough Glucantime to treat several thousand leishmaniasis patients to the group's field hospital in Bab al-Hawa, just across the border. But UOSSM says it does not have enough medicine to treat the roughly 10 patients arriving daily in Reyhanli. "We know the problem is more urgent inside Syria, so we send medicine there when we have it," Zidan said.

Because Glucantime contains toxins, it cannot be purchased over the counter in Turkey, and Syrian doctors are not allowed to acquire the medicine by Turkish law. At a clinic perched above a car garage elsewhere in Reyhanli, Dr Fatma Salah says those restrictions led her to the unusual step of sourcing Glucantime from pharmacies inside Syria.

"Now that supply has dried up," she said, noting that some sympathetic Turkish doctors have supplied small batches of the medicine on the side to help make up the shortage. "Still, for 2 months we haven't had the ability to treat the 5 or so people who come in for leishmaniasis every day. We're now focused on just getting painkillers, sanitary supplies, very basic things," she said.

The burden on already overwhelmed Syrian clinics is sure to increase as more refugees flood into Turkey. The UN estimates that as many as one million refugees may be living in Turkey by the end of the year [2013], straining health systems, housing prices and social tensions. AFAD currently houses just over 200 000 in camps, and a spokesperson said it will have trouble assisting the additional 300 000 refugees who are already in Turkey but do not live in camps.

Savas, the doctor, points to the Reyhanli bombing, when over 50 people in the border town died this May: "Reyhanli is a Sunni town, but suddenly they began to blame the refugees for everything that happened. Anger can suddenly explode in unexpected ways." He suggests that leishmaniasis, with its visible, infectious-looking sores, will not help the problem. "It's just another reason we need to get this under control," he said. Hotez, the US academic, agrees: "It's one of the most stigmatizing diseases you can have."

WEST NILE VIRUS: ITALY, RUSSIA

A human outbreak of West Nile virus (WNV) infection caused by WNV lineage 2 is ongoing in northern Italy. Analysis of 6 WNV genome sequences obtained from clinical specimens demonstrated similarities with strains circulating in central Europe and Greece and the presence of unique amino acid changes that identify a new viral strain. In addition, WNV lineage 1 Livenza, responsible for a large outbreak in north-eastern Italy in 2012, was fully sequenced from a blood donor during this 2013 outbreak.

A human outbreak of West Nile virus (WNV) infection is ongoing in northern Italy. This region is one of the most affected by the outbreak. WNV genome sequences obtained from clinical specimens of infected individuals were subjected to phylogenetic analysis in order to gain information on the origin and evolutionary history of the responsible viral strains.

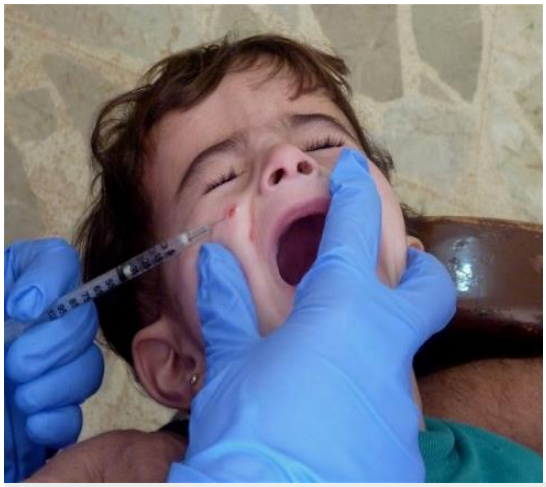
Overall, the results show that genetically different lineages of WNV are capable of establishing themselves in Europe, of remaining in circulation for several years in the same territory, and of spreading slowly to neighbouring areas, in agreement with other reports from Europe. In this local transmission and spread dynamic in Europe, WNV overwintering in mosquitoes and amplification in local susceptible bird populations are key factors, while WNV re-introduction by migrating birds from long-distance Euro-African routes seem to be less relevant.

In conclusion, a novel WNV lineage 2 strain of the Greek/Hungarian cluster is responsible for a human outbreak of neuro-invasive disease that is ongoing in northern Italy. The virus is co-circulating with the WNV lin1 Livenza strain that caused a large human outbreak in 2012.

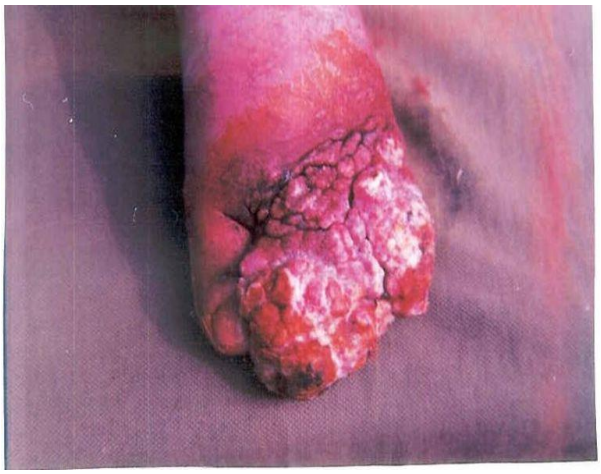
RUSSIA
The number of West Nile fever cases has reached 43 in Volgograd and the Volgograd region of Russia. The whole area has been declared a focus of this dangerous disease.

The largest numbers of cases have been registered in the southern regions: 11 infected persons in Krasnoarmeiskiy district, 10 in Kirovsky district. Next on the list is Krasnooktyabrskiy with 8 ill persons. In the rural areas, only 4 inhabitants were infected, who were in the Gorodyshchensky, Mikhailovsky and Kalachevsky districts of the region. In the current year [2013], one person has already died [from WNV infection].

Photo of the Month



In northern Syria, two-year old Asma receives her first injection for treatment of leishmaniasis (Source: http://www.irinnews.org/report/98670/leishmaniasis-could-fuel-refugee-resentment-in-turkey-s-border-towns)



Fungating growth of cutaneous leishmaniasis mimicking squamous cell carcinoma
(Source: http://anagen.ucdavis.edu/1802/02_rev/04_11-00146/article.html)