

# MEDPULSE

Taking the Pulse of the World

## 10 Neanderthal Genes Boost Immunity

United States of America, Jan 2016

Earlier this year, two studies found that fragments of Neanderthal DNA inherent in modern day human genome contribute significantly to the human immune system. Researchers hypothesize that human immune genes demonstrate high Neanderthal ancestry because this region plays a key evolutionary role in survival.

## 9 Cancer Not Just "Bad Luck"?

United States of America, Jan 2016

In the past year, controversial studies on cancer risks suggested that around two-thirds of cancer types occur due to "bad luck" rather than extrinsic factors. However, a recent study published in Nature indicate that environmental conditions such as ultraviolet radiation, ionizing radiation, and carcinogens determine 70-90% of observed cancer risks.

## 8 HIV Positive Organ Transplants

United States of America, Feb 2016

In the next few months, Johns Hopkins Hospital is set to perform the world's first kidney and liver transplant between HIV positive patients. Every year, approximately 500 to 600 HIV positive donors are rejected by the health-care system, resulting in the loss of more than 1000 organ transplants. This upcoming surgery has life-saving implications as it opens new opportunities for HIV-positive organ donors in the United States.

## 1 Influenza Among Syrian Refugees

Canada, Dec 2015 - Jan 2016

Reports indicate that more than half of the 254 Syrian refugees in Edmonton, Canada have contracted influenza. Syrian refugees are more vulnerable to influenza as many did not receive flu shots following the onset of the civil war. Health-care professionals are currently working on immunizing refugees at clinics and providing short-term housing to decrease transmission.



## 7 Zika Virus Outbreak

South and Central America, Jan

With more than a million suspected cases in South and Central America, Zika is a to-borne disease caused by the Aedes mosquito. Associated symptoms include fever, joint pain, and conjunctivitis. While the disease usually causes death, recent research has shown a possible correlation between Zika and microcephaly, a serious congenital defect characterized by abnormal small heads and brains.

## 2 Editing Embryos

United Kingdom, Feb 2016

The Human Fertilization and Embryology Authority (HFEA) has granted developmental biologist, Dr. Kathy Niakan, the license to edit genes in human embryos. This has significant implications for the exploration of early human developmental stages and the prevention of miscarriages. However, critics are concerned about the ethical consequences of germline gene editing in clinical settings.

## 3 MERS in Southeast Asia

Southeast Asia, Jan 2016

Middle East respiratory syndrome (MERS) is a threatening and infectious disease caused by the MERS coronavirus. Symptoms include shortness of breath, fever, and cough. Earlier this year, a second case of MERS was reported in Thailand. Subsequently, health officials in Southeast Asia have quarantined 32 individuals and have been critically reviewing MERS response systems.

## 4 India on Malaria Elimination

India, Feb 2016

In February 2016, India launched the National Framework for Malaria Elimination (NFME) with the ambitious aim to eliminate malaria by 2030. The new framework also seeks to counter the resurgence of malaria while maintaining malaria-free status. Key strategies of the NFME include programme phasing, high endemic area targeting, and *Plasmodium vivax* elimination.

## 6 West Africa: Ebola-Free?

West Africa, Jan 2016

The World Health Organization (WHO) has declared West Africa to be Ebola-free, stating: "all known chains of transmission have been stopped." Guinea, Sierra Leone, and Liberia are now reported to have zero Ebola cases. However, WHO still recommends strong surveillance and response systems as future flare-ups are highly probable.

## 5 Scabies in Indigenous Populations

Australia, Feb 2016

Scabies, a contagious skin infection caused by the *Sarcoptes scabiei* mite, is a significant health concern in indigenous Australian populations. A group of Australian researchers succeeded in synthesizing the genetic map of the parasitic scabies mite. Better understanding of the *Sarcoptes scabiei* genome is critical for research seeking to prevent and treat scabies infections.

