A man suffering from mental illness sits chained on a bed in his room inside his family home in Curug Sulanjana village in Serang, Banten province, Indonesia. In a program launched this year, Indonesia sends teams of workers into often-remote hamlets to help free patients kept in chains and ensure they get the medical treatment they need.

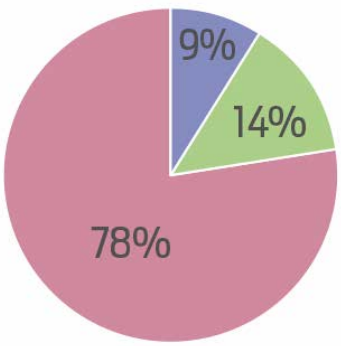
Picture: Beawiharta/Reuters/Picture Media

MJA InSight Poll

Should Australia raise a sugar-sweetened beverage tax?

Total respondents: 162

- Yes, as soon as possible
- Maybe, if it works in the UK
- No



Take part in next week's poll on: www.mja.com.au/insight

MJA Podcasts

Dr Michelle Baker is a senior research scientist with the CSIRO's Australian Animal Laboratory, Health and Biosecurity Business Unit in Geelong. She discusses the potential of research into bats' apparent "super immunity" to lethal diseases for human outcomes, to accompany her article in this issue.

Dr Conor Hensey is a clinical pharmacology fellow in the Department of General Medicine at the Royal Children's Hospital in Melbourne. He talks about the need for vigilance and clear guidelines for monitoring and the regulation of counterfeit drugs in Australia, to accompany his coauthored article in this issue.

Podcasts are available at www.mja.com.au/multimedia/podcasts and from iTunes. Also available as videos at www.mja.com.au/multimedia

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From the CSIRO

Bat super immunity to lethal disease could help protect people

For the first time, researchers have uncovered a unique ability in bats which allows them to carry but remain unaffected by lethal diseases.

Bats are a natural host for more than 100 viruses, some of which are lethal to people, including Middle East respiratory syndrome coronavirus, Ebola virus and Hendra virus; however, bats do not get sick or show signs of disease from these viruses.

Published in the journal *Proceedings of the National Academy of Sciences*, the new research examines the genes and immune system of the Australian black flying fox, with surprising results (doi: 10.1073/pnas 1518240113).

"We focused on innate immunity of bats, in particular the role of interferons — which are integral for innate immune responses in mammals — to understand what's special about how bats respond to invading viruses," leading CSIRO bat immunologist Dr Michelle Baker said.

"Interestingly, we have shown that bats only have three interferon α genes, which is about a quarter of the number of interferon α genes we find in people.

"This is surprising given bats have this unique ability to control viral infections that are lethal in people and yet they can do this with a lower number of interferons."

The research showed that bats express a heightened innate immune response even when they were not infected with any detectable virus.

"Unlike people and mice, who activate their immune systems only in response to infection, bats' interferon α is constantly 'switched on', acting as a 24/7 frontline defence against diseases," Dr Baker said.

"If we can redirect other species' immune responses to behave in a similar manner to that of bats, then the high death rate associated with diseases, such as Ebola, could be a thing of the past."

Led by the CSIRO, this international research effort included expertise from the CSIRO, Duke-NUS Medical School and the Burnet Institute.

Australian Animal Health Laboratory,
Health and Biosecurity Business Unit, CSIRO

doi: 10.5694/mja16.00346

Podcast with Dr Michelle Baker available at www.mja.com.au/multimedia/podcasts

Parechovirus warning from ASID

The Australasian Society for Infectious Diseases (ASID) has found that more than 100 Australian infants had developed brain damage and developmental delays 1 year after they were hospitalised with the virus in 2013 and 2014, according to a report in ***The Straits Times***. The symptoms include rashes, irritability, muscle twitches and seizures, fever and diarrhoea, said ASID. In severe cases, it can cause hepatitis or encephalitis. Parechovirus is spread like the common cold, by direct contact with nose and throat discharges from sneezing, coughing, saliva, nasal mucus or faeces. There is no vaccine or treatment at present. Starting in December 2013, it spread quickly through parts of Queensland, including Brisbane and the Gold Coast, and over 100 newborn babies were hospitalised. They refused to eat, were lethargic and had high temperatures. The new study followed up on 46 out of 79 of the babies. Half of them showed developmental problems and nearly 20% had significant neurological problems by the time they were 1-year-old. In March, two infants from Toowoomba almost died from the virus. Left fighting for life in intensive care, one of them had to be given painful spinal taps and have her chest cut open.

Soap operas play role in mental health understanding

According to a report in ***The Guardian***, soap operas involving storylines about mental health can play a valuable role in increasing understanding of depression, anxiety and schizophrenia, and in encouraging people with problems to seek help. UK charity Mind conducted a survey of more than 2000 people, which found that half of the respondents who had seen a storyline involving a character with mental health problems said it had helped their understanding of the issues. Nearly a third of people with a mental health problem said they were encouraged to seek help after seeing or reading a news story, while a quarter were prompted to get assistance after seeing a soap opera or drama involving a character with mental illness. Mind, along with Bipolar UK, and Action on Postpartum Psychosis, worked with the soap *EastEnders* for a storyline over Christmas and the new year about a character with postpartum psychosis, a severe mental illness that normally occurs shortly after giving birth.

Cate Swannell doi: 10.5694/mja16.n1605