Call for moratorium on human genome editing

In an article **published in *Nature*,** scientists and ethicists from seven countries have called for a global moratorium and an international governance framework for all clinical applications of human germline editing. The authors argued that several events over the past three years, including a scientist in China reportedly using germline editing to produce two babies in 2018, meant that a global moratorium and an international governance framework were now warranted. The authors emphasised that this moratorium would not cover germline editing for purely research purposes or editing of somatic cells to treat disease. Under the proposed scheme, after "an initial period of fixed duration during which no clinical uses of germline editing whatsoever should be allowed," nations could then choose whether to permit specific applications. However, nations would proceed "openly and with due respect to the opinions of humankind on an issue that affects the human species" by agreeing not to approve applications without first meeting certain conditions. "The governance framework we are calling for will place major speed bumps in front of the most adventurous plans to re-engineer the human species," but the "risks of the alternative — which include harming patients and eroding public trust — are far worse," the authors concluded. Responding to the call for a moratorium, Professor Peter Dearden, Vice-President of the Genetics Society of Australasia, responded that "most scientists believe that such a moratorium already exists". "That gene edited children have been born in China shows that moratoria are not effective to stop illegitimate behavior … The scientist involved appears to have broken laws and regulations and behaved at the least unethically, at most illegally. That China has tightened its regulations and sanctioned the scientist is good news; clearly, they also recognise the need to think carefully about gene editing in humans," he said. "I hope this moratorium is achieved and effective. Perhaps, however, we should be asking how it is a highly trained, internationally educated, scientist could feel that they have the right to ignore international opinion, ethical standards and law? Solving that problem may be one way to assure that this proposed moratorium is effective."

https://www.nature.com/articles/d41586-019-00726-5
https://www.scimex.org/newsfeed/call-for-moratorium-on-human-genome-editing

Blood test for detecting heart attacks can lead to misdiagnosis

The blood test used to diagnose acute myocardial infarction in patients admitted to hospital can be misleading, warn researchers in **a study published by *The BMJ***. Current guidelines recommend troponin tests to help exclude or diagnose a heart attack. Manufacturers of troponin tests provide a recommended level (known as the 99th centile), based on values from several hundred healthy individuals, interpreted as the upper limit of normal. In other words, if the troponin level exceeds the 99th centile, it is considered to be abnormal, indicating a heart attack in the context of an appropriate clinical presentation. But little is known about the distribution of troponin levels in a whole hospital population that includes inpatients, outpatients, patients undergoing surgery, and patients in intensive care, among others. The researchers measured levels of high sensitivity cardiac troponin I (hs-cTnI) in 20 000 inpatients and outpatients undergoing blood tests for any reason at the University Hospital Southampton between 29 June and 24 August 2017. The average age of participants was 61 years and 53% were women. The researchers found that the troponin 99th centile for the study population was 296 ng/L, whereas the test manufacturer's recommended level was 40 ng/L. One in 20 patients (1080; 5.4%) had a troponin level greater than 40 ng/L, but for most there was no clinical suspicion of a heart attack. Overall, 39% of patients in critical care units, 14% of all medical inpatients, and 6% of patients from the emergency department had troponin levels greater than 40 ng/L. The study was observational, so that conclusions about causal relationships cannot be drawn, and the researchers noted other limitations, including relying on patient records for details about management and diagnoses, and being unable to assess clinical outcomes. Nevertheless, the authors concluded that their results highlight the need for medical staff to interpret troponin levels carefully in order to avoid misdiagnosing heart attacks and undertaking inappropriate treatment.

https://www.bmj.com/content/364/bmj.l729

Cate Swannell

doi: 10.5694/mja2.50126

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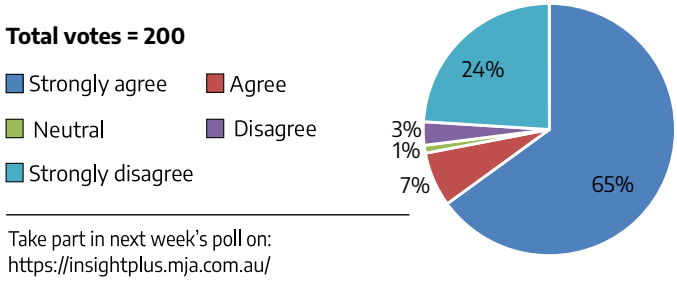
It is time to consider 3- or 6-month medication supply for many chronic disease medications

Total votes = 200



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Associate Professor Daniel O'Brien is an infectious diseases consultant at the University Hospital Geelong. He discusses the role of negative initial PCR results in the missed or late diagnosis of Buruli ulcer, to accompany his co-authored research letter published online on 11 April 2019.

Professor Gerard FitzGerald is Professor of Public Health at the Queensland University of Technology. He talks about resilient health systems in times of climate disasters and other emergencies, to accompany his co-authored editorial published in this issue.

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