

New collaboration for NHMRC and Americans

The **National Health and Medical Research Council** (NHMRC) reports that it has opened a joint funding round with their American counterparts, the United States National Institutes of Health (NIH) as part of the United States Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative. Under this collaboration, the NHMRC will provide funding to support Australian researchers to participate in The BRAIN Initiative, which was announced by President Obama in 2013. "It is hoped that the research conducted through The BRAIN Initiative will lead to more effective treatments and methods of prevention for brain conditions such as dementia, autism, epilepsy, depression and Parkinson's disease", the NHMRC statement read. The NHMRC CEO Professor Anne Kelso said: "Both the NIH and the NHMRC believe that the ambitious goals of The BRAIN Initiative can best be attained by collaborating across both disciplinary and geographic boundaries. Over the past four decades Australian researchers have collaborated more with researchers in the US than in any other country."



Missing microbes may point to asthma risk

NPR reports that a new study published in *Science Translational Medicine* shows that the composition of microbes living in babies' guts may play a role in whether the children develop asthma later on. "The researchers sampled the microbes living in the digestive tracts of 319 babies, and followed up on the children to see if there was a relationship between their microbes and their risk for the breathing disorder ... the researchers report that those who had low levels of four bacteria were more likely to develop asthma by the time they were 3 years old. To further test their theory, the researchers gave laboratory mice bred to have a condition resembling asthma in humans the four missing microbes. The intervention reduced the signs of levels of inflammation in their lungs, which is a risk factor for developing asthma." The bacteria are from four genera: *Lachnospira*, *Veillonella*, *Faecalibacterium* and *Rothia*.



"Predatory" journals publish 400k papers in 2014

Retraction Watch reports that a new analysis by BioMed Central shows that in 2014 so-called "predatory" open-access (OA) journals published around 420,000 papers, up from 53,000 in 2010, appearing in 8,000 active journals. "Predatory" OA journals allegedly sidestep publishing standards in order to make money from article processing charges (APC). "Lately, most predatory journals are published by smaller publishers, which maintain between 10 and 99 titles", Retraction Watch wrote. "The average APC was US\$178, and most were published within 2-3 months after being submitted. Predatory journals have made the news — this year, *The International Archives of Medicine* was delisted from the Directory of Open Access Journals after it accepted a bogus study claiming chocolate had health benefits within 24 hours. In 2013, the same author behind

that chocolate study, John Bohannon, tricked more than half of a sample of 300 OA journals to accept fake papers submitted under a fake name and institution. Last year, the *Ottawa Citizen* tricked a cardiology journal into publishing a paper with a garbled blend of fake cardiology, Latin grammar and missing graphs, for the price of US\$1200."

Cut and paste "tattoo" monitors health 24/7

An inexpensive wearable patch that continuously monitors vital signs for health and performance tracking has been developed by engineers in Texas, **Futurity** and **Engadget** report. The "tattoo" is manufactured via a repeatable "cut-and-paste" method that cuts production time from several days to only 20 minutes. "After producing the cut-and-pasted patches, the researchers tested them and discovered they picked up body signals that were stronger than those taken by existing medical devices, including an ECG/EKG, a tool used to assess the electrical and muscular function of the heart. The patch also conforms almost perfectly to the skin, minimising motion-induced false signals or errors. The wearable patches are so sensitive they may be worn to more easily maneuver a prosthetic hand or limb using muscle signals."



Social network for doctors and their case photos

A new photo-sharing social network called Figure 1 is gaining popularity with doctors, nurses, paramedics and other medical workers, **Wired** reports. "Figure 1 is educational, engaging, and privacy-obsessed." Anyone can join, but only health care professionals can comment on photos, which, says Wired, "keeps the discourse focused and professional". The app is also heavily moderated. An image will be blocked if it doesn't pose some kind of medical question. The app is very careful about patient privacy. "Every time anyone uploads an image, the first thing they do is fill out a consent form. Figure 1 has an algorithm that automatically obscures faces, and tools that let the user erase any pixels containing names, dates, or any other identifying details." Figure 1 also strips away all the metadata before the picture gets uploaded. No data collection, over 500,000 users and so far, no ads. "Some of the pictures are straight up medical oddities. But just as often, users post because they are stumped and looking for a 2nd, 3rd, 4th, nth opinion." The app is available from the iTunes App Store, Google Play and figure1.com.

Cate Swannell doi:10.5694/mja15.n1019



A health worker fumigates a residential area to prevent the spread of dengue fever in Chandigarh, India. Dengue, a mosquito-borne disease, is common in India. The number of cases generally peaks in October, after the end of the monsoon rains.

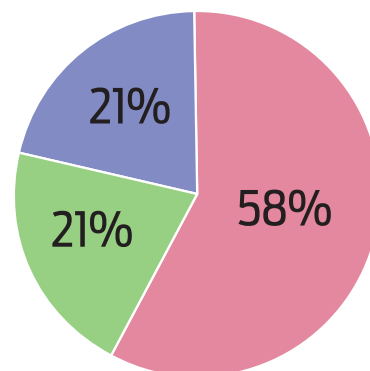
Picture: Ajay Verma/Reuters/Picture Media

MJA InSight Poll

Should a maximum paracetamol pack size of 20 tablets be introduced in pharmacies?

Total respondents: 146

- Yes – it will reduce overdoses
- Maybe – 100-tablet packs are concerning
- No – not necessary



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

MJA Podcasts



Professor Mark Stoové is head of the HIV and Justice Health Research programs at the Burnet Institute in Melbourne. He discusses prison needle and syringe programs and the leadership needed to salvage trials of such programs in Australia — to accompany his coauthored Perspective in this issue.



Dr Karyn Alexander is a general practitioner in Altona North in Victoria and a PhD candidate at Monash University. She discusses the scrapping of the Healthy Kids Check and the challenges that presents GPs as they work to maintain child health — to accompany her coauthored Perspective 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

From the CSIRO

Food avoidance: some answers, more questions

The growing number of consumer foods and ingredients branded as “gluten-free” and/or “lactose-free” suggests that avoidance of specific dietary factors is common. CSIRO (Commonwealth Scientific and Industrial Research Organisation) survey data indicate that this behaviour is a real phenomenon, with one in seven adult Australian respondents not diagnosed with coeliac disease reporting avoidance of wheat or dairy foods. The behaviour is largely self-initiated, occurring predominantly without a formal medical diagnosis and is driven principally by adverse reactions attributed to those foods. Mostly, these comprise gastrointestinal symptoms that include bloating and cramps, commonly associated with irritable bowel syndrome. Wheat contains gluten, which provokes an immune reaction in susceptible individuals. However, the pattern of survey responses regarding symptoms does not suggest an allergenic or autoimmune cause; wheat avoiders do not seem to be undiagnosed coeliacs (*Public Health Nutr* 2014; 18: 490-499).

Our results raise several causes for concern. Translation of the data to the general population suggests that a significant proportion of adult Australians are at risk of nutritional imbalance. Wheat- and dairy-based foods are important sources of essential nutrients, so their exclusion could lead to dietary deficiencies (eg, of fibre, calcium) or, of equal concern, dietary imbalances caused by consumer overcompensation

for perceived deficiencies. Clinically, self-diagnosis of symptoms of intolerance also carries the risk of delays in the identification and treatment of potentially serious medical conditions (*BMJ* 1988; 297: 719-720). For the majority of avoiders, the actual causes of symptoms and their mechanisms need to be established to improve condition diagnosis and management. Complicating matters is the issue of poly-avoidance, with more than 50% of wheat avoiders also avoiding dairy foods, and we need to establish whether the behaviours share a common aetiology. We also need to clarify whether consumers are making other self-prescribed dietary changes, either in response to their symptoms or in the belief that they are improving their personal health.



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since 15 September 2015

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Recommendations for the treatment of paracetamol poisoning have been updated

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4) Case report: Crush injury by an elephant: life-saving prehospital care resulting in a good recovery

doi: 10.5694/mja15.00519

5) Ethics and law: Transplantation of the heart after circulatory death of the donor: time for a change in law?

doi: 10.5694/mja15.00295

Meanwhile, in MJA InSight ...

Tackling concussion

"We all understand that contact sport requires a certain level of toughness [but] there is a threshold where a decision to remain in play is no longer tough but dangerous ..."

– Dr Andrew Gardner, clinical neuropsychologist and researcher at the University of Newcastle

<https://www.mja.com.au/insight/2015/37/tackling-concussion>

PSA test decline

"The 'stop screening' message is really throwing the baby out with the bathwater" – Professor Tony Costello, head of the department of urology at the Royal Melbourne Hospital

<https://www.mja.com.au/insight/2015/37/psa-test-decline>

Mobile health potential

"It's only the beginning of a very exciting kind of intervention"

– Professor Monika Janda, Health Determinants and Health Systems theme leader at the Queensland University of Technology Institute of Health and Biomedical Innovation

<https://www.mja.com.au/insight/2015/37/mobile-health-potential>