



Environmental activists carry a giant inflatable chicken as they demonstrate against "chlorine chickens" near the Oktoberfest grounds in Munich. The protest was against two planned free trade agreements — the Transatlantic Trade and Investment Partnership and the Comprehensive Economic and Trade Agreement, with the United States and Canada — which opponents fear will allow US chlorine-washed chicken and hormone-treated meat into the European Union. The so-called chlorine chicken has become a symbol of the health risks opponents say the free trade agreements represent.

## From the CSIRO

### Feeding a hungry microbiome: large bowel fermentation and human health

Dietary fibre largely comprises indigestible plant carbohydrates and was thought to act primarily through its faecal bulking action — as "roughage". Emerging evidence now shows that many of the actions of fibre are mediated through short chain fatty acids (SCFAs), principally acetate, propionate and butyrate, produced by the fermentation of its constituents by beneficial large-bowel bacteria (*Physiol Rev* 2001; 81: 1031-1064). Evidence is growing that SCFAs are important for general health as well as for normal gut function. Advances in genomics are enabling detailed identification and characterisation of the hundreds of different microbes that inhabit the large bowel, including fibre fermenters

and SCFA generators (*Nature* 2012; 486: 207-214). Unfortunately, these dazzling technical advances have tended to divert attention away from the substrates, on which the microorganisms depend.

Questions about supply of colonic substrate are increasingly significant for public health.

Australians have taken the advice to eat more fibre very seriously and consume fibre at high levels, largely as cereal fibres. This has not led to the anticipated fall in colorectal cancer (CRC) rates, which remain high (*Int J Mol Sci* 2013; 14: 13525-13541). In comparison, populations at low risk of CRC who consume wholegrains as staples do not have the high cereal fibre intake of Australians. However, the culinary practice of eating foods cold after



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cooking favours the generation of starch that is resistant to digestion by the small intestine. Resistant starch is fermented extensively in the large bowel, producing SCFAs, which promote a normal colonocyte phenotype — possibly lowering CRC risk (<http://tv.csiro.au/?v=xbz189as9jwd>). Levels of resistant starch in most Australian processed consumer foods are low, suggesting a general deficiency of fermentable substrate — and thus a collectively "hungry microbiome". We suggest that filling this gap by increasing the availability of new fermentable fibre-rich foods to feed the colonic microbiota and raise large-bowel SCFA levels has considerable potential to improve the health of the population. □

## News

### Controversial autism–MMR paper finally retracted

A month after removing an article claiming the measles–mumps–rubella (MMR) vaccine increased the risk of autism in African American boys, *Translational Neurodegeneration* has officially retracted it, **Retraction Watch** reports. The grounds for retraction were the author's "undisclosed competing interests ... which compromised the peer review process", according to the journal's statement. That's a change of line since the article's removal, when the statement from BioMed Central, publisher of the journal, read: "This article has been removed from the public domain because of serious concerns about the validity of its conclusions". The author is Brian Hooker, an "engineer-turned-biologist" who is an active member of the MMR-causes-autism community.

### Novel heart and gut disease discovered

**Science Daily** reports that Canadian physicians and researchers have identified a new disease dubbed "chronic atrial intestinal dysrhythmia syndrome" (CAID), which demonstrates the contractions of the heart and gut are closely linked by a single gene — *SGOL1*. CAID is caused by a rare genetic mutation and causes a slow heart



rate, requiring a pacemaker in half of the patients, and at the gut level, "chronic intestinal pseudo-obstruction will often force patients to feed exclusively intravenously" and require bowel surgery. A trace of the patients' genealogy found a common ancestry dating back to the 17th century, specifically "a founder

couple married in France in 1620", and perhaps further back to "the 12th century, following the migration route of the Vikings from Scandinavia to Normandy, then that of the settlers who migrated to New France in the 17th century".

### Busselton population health study secures \$750 000

One of the world's longest running population studies, the Busselton Health Study, will receive a life-saving \$750 000 from the Western Australian government over the next 3 years, the **ABC** reports. The program began in 1966 and has studied the health of more than 20 000 Busselton residents. A spokesman for the study, Clinical Professor Alan James, told the ABC the injection of cash would ensure data would not be lost. "This sort of funding is impossible to get through competitive research groups such as the National Health and Medical Research Council, which are predominantly project-based. Without it, we can run the risk of the study gradually winding down and some of the data being lost or not being able to be used, so the relevance of the study diminishes."



### App leads to reduced death rate in hospital

An app called VitalPAC for handheld devices has reduced death rates by 15% at the Queen Alexandra Hospital (QAH) in Portsmouth, England, **Medical News Today** reports. VitalPAC "automatically calculates whether a patient's condition is deteriorating and will inform nursing staff if a patient requires increased monitoring or even immediate attention from a doctor or rapid response team". Information entered about a patient is used by the app to calculate an early warning score. A high score will trigger an alert. The information was available to anyone with a device connected to a hospital-wide system, allowing monitoring to occur throughout the hospital. The app was first introduced at the QAH in 2005, and, according to an article published in *BMJ Quality and Safety*, 397 fewer patients than expected died at QAH in 2010.

## MJA Comments

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### When assessing capacity in your older patients, how clear do you find the law to be?

(see pages 483, 486)

### How can we, as doctors, deal with overprescribing?

Overprescribing medication is an important quality and safety issue, and brings particular challenges for doctors. Evidence indicates that polypharmacy affects medication compliance, adverse drug events and cost of health care, while overprescribing antibiotics is considered a factor in development of multiresistant organisms. Patients may also expect their doctor to prescribe medication as part of a consultation, even when the doctor advises alternative interventions. However, doctors can play influential roles by promoting evidence-based practice, and establishing regular medication reviews involving patients and carers, in partnership with pharmacists and community practitioners. Other key roles for doctors are in patient/carer education, and actively supporting community awareness programs.

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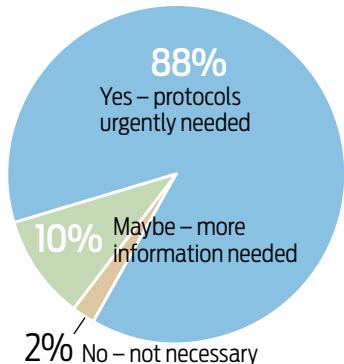
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### MJA InSight Poll

Should professional colleges and medical schools do more to educate doctors about deprescribing?

Take part in next week's poll on:  
[www.mja.com.au/insight](http://www.mja.com.au/insight)

Total respondents: 154



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88%  
Yes – protocols  
urgently needed

10%  
Maybe – more  
information needed

2%  
No – not necessary

Cate Swannell doi:10.5694/mja14.n1020