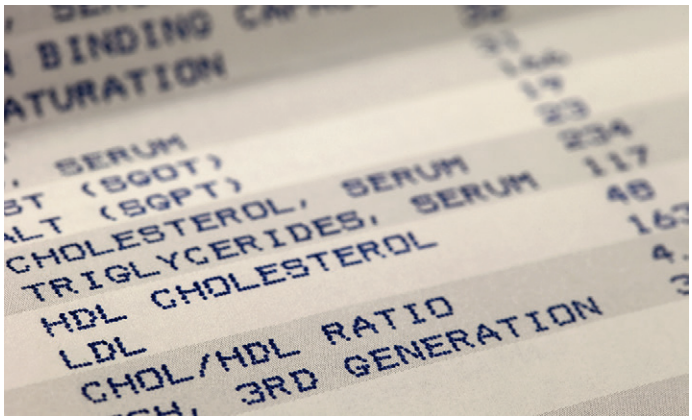


Haphazard cholesterol checks place Australians at risk

Researchers from Western Sydney University have found that many Australians may be at risk of developing cardiovascular disease because health checks are not being administered according to the national guidelines. They conducted an analysis of publicly available, linked patient records in the electronic databases of the Medicare Benefit Schedule (MBS) and Pharmaceutical Benefit Scheme (PBS). On the basis of the PBS data, the researchers collated the de-identified records of patients who had received stable prescriptions of cholesterol-lowering medications during the 7-year period, 2008–2014, and could therefore be defined as being at high risk of developing heart disease. They found that 49% of patients receiving medications to lower their cholesterol levels did not undergo the recommended annual high-density lipoprotein-cholesterol (HDL-C) test in a given year; and that 19% of the same population received more HDL-C tests than were necessary. The study, **published in *BMJ Open***, explored several possible explanations for this finding. One pointed to a lack in continuity of care and to the fact that people often consult several different practitioners. The study also identified implications for the federal health budget of current practice. During the study period, the increased yearly expenditure associated with test overutilisation was approximately $4.3 million, while the cost averted because of test underutilisation was approximately $11.3 million per year.

http://bmjopen.bmj.com/content/8/3/e019041

Eliminating malaria through gene editing

Using the gene editing technique CRISPR/Cas9, researchers from Johns Hopkins University in the US have found that inactivating the gene *FREP1* reduces the susceptibility of mosquitoes to infection with *Plasmodium*, the genus of parasites that cause malaria in humans. In the study **published in *PLOS Pathogens***, the investigators found that *FREP1* inactivation significantly suppressed infection of the mosquitoes with both human and rodent *Plasmodium* parasites. This indicates the potential of using CRISPR/Cas9 editing to alter the genomes of wild mosquito populations in order to prevent the spread of malaria, which kills nearly 500 000 people each year. However, the permanent inactivation of *FREP1* throughout all developmental stages and in all tissues also leads to fitness costs for the treated mosquitoes, including reduced blood-feeding ability, lower fertility, lower egg-hatching rate, slowed development, and reduced longevity after feeding on blood. This means that these mosquitoes may not be able to compete with non-mutant mosquitoes in the wild effectively enough to block malaria transmission. The investigators are now exploring ways to inactivate *FREP1* in the gut of adult female mosquitoes only, with the hope of retaining resistance to the malaria parasite without reducing the survival fitness of the treated insects.

http://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1006898

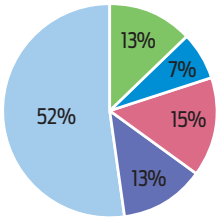
Cate Swannell doi: 10.5694/mja18.n0204

MJA InSight Poll

Vaping acts as a gateway to cigarette smoking for teenagers

Total votes = 256

- Strongly agree
- Agree
- The evidence is not yet clear
- Disagree
- Strongly disagree



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

MJA Podcasts

Dr Peter Brukner is professor of Sports Medicine at La Trobe University's LASEM Research Centre. He discusses traumatic cricket-related fatalities in Australia, to accompany his co-authored research published online on 26 March 2018.

Professor Chris Maher is director of the Musculoskeletal Research theme within the University of Sydney School of Public Health. He talks about primary care management of low back pain, to accompany his co-authored guideline review published in this issue.

Dr John Orchard is a sports and exercise physician and an adjunct professor in the University of Sydney School of Public Health. He discusses the evolution of exercise medicine from sports medicine, to accompany his perspective published in this issue.

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Maddocks; https://www.doctorportal.com.au/mjainsight/2018/7/what-next-for-palliative-care-and-assisted-dying/

3. *News*: Could a new paradigm change the way we think about cancer?
Wilcken; https://www.doctorportal.com.au/mjainsight/2018/7/could-a-new-paradigm-change-the-way-we-think-about-cancer/

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5. *News*: A knotty question: when to clamp the umbilical cord
Swannell; https://www.doctorportal.com.au/mjainsight/2018/7/a-knotty-question-when-to-clamp-the-umbilical-cord/

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2 Podcast with Dr John Orchard, sports and exercise physician

2 Podcast with Professor Chris Maher, University of Sydney School of Public Health

MARCH

26 Podcast with Dr Peter Brukner, professor of Sports Medicine at La Trobe University

26 *Research*: Traumatic cricket-related fatalities in Australia: a historical review of media reports
Brukner et al; doi: 10.5694/mja17.00908

19 Podcast with Associate Professor Ian Scott, Director of Internal Medicine and Clinical Epidemiology at Princess Alexandra Hospital

19 Podcast with Professor Roger Strasser, Dean and CEO of the Northern Ontario School of Medicine

12 *Research letter*: Angioedema in Australia: hospital admission rates and fatalities in Australia 2000-2013
Mullins et al; doi: 10.5694/mja17.00404

12 *Research*: Efficacy of medical student selection tools in Australia and New Zealand
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12 *Editorial*: Selection into medical school: should patient safety trump academic excellence?
Garrud; doi: 10.5694/mja17.01224

5 *Research*: The retail availability of tobacco in Tasmania: evidence for a socio-economic and geographical gradient
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5 *Perspective*: Preparation for general practice vocational training: time for a rethink
Wearne et al; doi: 10.5694/mja17.00379

4 Podcast with Clinical Associate Professor Susan Wearne, GP academic at the Australian National University

4 Podcast with Dr Robyn Clay-Williams, from the Australian Institute of Health Innovation

FEBRUARY

26 *Perspective*: Cord clamping in term and pre-term infants: how should clinicians proceed?
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Holmes et al; doi: 10.5694/mja17.00564

26 *Editorial*: Don't lose sight: last drinks laws reduce violent assaults and injuries
Egerton-Warburton; doi: 10.5694/mja17.01111

25 Podcast with Associate Professor Graeme Polglase

25 Podcast with Associate Professor Diana Egerton-Warburton

18 Podcast with Clinical Associate Professor Adrian Reynolds

18 Podcast with Dr John Lawson

12 *Research*: Population attributable fractions of perinatal outcomes for nulliparous women associated with overweight and obesity, 1990-2014
Cheney et al; doi: 10.5694/mja17.00344