

## State of Child Health report gives snapshot of health and wellbeing

The *State of Child Health* report from the Royal College of Paediatrics and Child Health brings together, for the first time, data on a comprehensive list of 25 measures of the health of UK children, ranging from specific conditions such as asthma, diabetes and epilepsy, risk factors for poor health such as obesity and a low rate of breastfeeding, to child deaths. The data provide an ‘across the board’ snapshot of child health and wellbeing in the UK.

The *State of Child Health* also highlights the importance of national oversight and responsibility for recording high quality data to inform metrics of child health and wellbeing, noting significant variation across the UK in the availability of information on the prevalence of many conditions such as mental health, obesity and disability. The report calls for more investment in child health research to redress chronic under-resourcing. *The State of Child Health* can be accessed at [www.rcpch.ac.uk/state-of-child-health](http://www.rcpch.ac.uk/state-of-child-health)

## Lung transplant survival not affected by extending lung preservation time

A retrospective study looked at patients who had received at least one lung transplant at a single hospital in Toronto, Canada ([https://doi.org/10.1016/S2213-2600\(16\)30323-X](https://doi.org/10.1016/S2213-2600(16)30323-X)). Patients were divided into those with a total preservation time of more than 12 hours and those with a total preservation time less than 12 hours. In bilateral lung transplantations, the longer preservation time of the two lungs was used for analysis.

Primary outcomes were survival and International Society for Heart and Lung Transplantation Primary Graft Dysfunction grade at 72 hours post-transplantation. Extension of graft preservation time beyond 12 hours with ex-vivo lung perfusion did not negatively affect early lung transplantation outcomes.

## London Quality Standards work well for quality improvement but less well for weekend mortality

Research by the Nuffield Trust (Vaughan et al, 2017) suggests that it is a mistake to use 7-day standards as the basis for deciding to downgrade or close down hospital services. An extensive review of the London Quality Standards, the London-wide precursor to the Seven Day Services Standards being incorporated into plans across England, finds that the threat of closure is counterproductive. It also shows that the evidence for benefits to patients is not clear enough to be compelling.

The London Quality Standards aimed to reduce excess weekend deaths in NHS hospitals as part of a wider programme to enhance the quality of care patients can expect when admitted to hospital. As well as improving outcomes for patients at weekends by having consultants work 7 days, the London Quality Standards aimed to speed up when patients get scans or other tests, improve the assessments patients get on arriving at hospital, and enhance communication between patients and doctors.

The Nuffield Trust’s review of the 21 standards for acute medicine found they worked well as a quality improvement programme, successfully engaging frontline clinicians and managers. Over half of the organizations asked said that standards led to major change and improved care, and many said it raised the importance of patient safety and led to better ways of working. This was

**Dr Louella Vaughan, Fellow in Health Policy, Nuffield Trust, London**



achieved with relatively little central financial investment. However, the initial analysis by the Nuffield Trust found no statistical evidence that the programme improved weekend mortality rates or rates of discharge from hospital compared with the rest of the country.

This evaluation draws on surveys and interviews with those responsible for developing the standards and the frontline staff responsible for making them a reality. The introduction of the London Quality Standards worked well in making people aware of shortcomings in care, and drove real change in how people worked.

In some areas, commissioners threatened to use the standards to drive plans for downgrading emergency departments and other acute departments. The analysis found that using the standards in this punitive way undermined clinical engagement, demotivated staff and detracted attention from the aim of patient safety.

Commenting on the research, lead author Dr Louella Vaughan, Fellow in Health Policy at the Nuffield Trust, said:

‘Where the London Quality Standards was successful, this was due to high levels of engagement from clinicians. That evaporated where the threat of hospital closures or downgrades was used as a “stick” to enforce adherence to the standards.’

She emphasized: ‘This should act as a warning sign for anyone currently involved in the Sustainability and Transformation Plans being put in place across the country. Many of these imply that the ability to comply with national 7-day standards – the successor to the London Quality Standards – will influence which hospitals stay open.’

Dr Vaughan concluded: ‘Our research shows that using standards in this way would be a serious mistake. Not only could it harm crucial working relationships between doctors and managers, but it could mean major decisions being made on evidence not strong enough to justify them.’

Vaughan L, Machaqueiro S, Gaskins M and Imison C (2017) The London Quality Standards: A case study in changing clinical care. [www.nuffieldtrust.org.uk/research/the-london-quality-standards-a-case-study-in-changing-clinical-care?summit=](http://www.nuffieldtrust.org.uk/research/the-london-quality-standards-a-case-study-in-changing-clinical-care?summit=) (accessed 16 February 2017)

## GOLD 2017 report brings new recommendations on assessing chronic obstructive pulmonary disease

The Global Initiative for the Diagnosis, Management and Prevention of Chronic Obstructive Lung Disease (GOLD) has published its 2017 report (Vogelmeier et al, 2017).

The report, the third revision of the initial GOLD document published in 2001, includes new recommendations for assessing chronic obstructive pulmonary disease (COPD), strategies for escalation and de-escalation of therapies, a discussion of non-pharmacological therapies and a section on common comorbidities.

The most notable changes include:

- Separation of spirometric values from the 'ABCD' grouping of patients by symptoms and risk of exacerbations
- Inclusion of specific escalation and de-escalation strategies for pharmacological treatments. The panel made its recommendations 'based on the level of symptoms and an individual's risk of exacerbations'
- Addition of a comprehensive review of non-pharmacological treatments of COPD, such as pulmonary rehabilitation, exercise training, oxygen therapy, vaccinations,



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interventional bronchoscopy and surgery, and end-of-life and palliative care

- Recognition that COPD often coexists with other diseases, including cardiovascular disease, osteoporosis, anxiety and depression, gastro-oesophageal reflux and obstructive sleep apnoea.

Commenting on the report, Professor David Halpin, Consultant Physician and Honorary Associate Professor, Royal Devon & Exeter Hospital,

Exeter, and member of the GOLD Board of Directors and Science Committee, said: 'The 2017 GOLD Report is important because it provides up-to-date recommendations on COPD management based on the latest evidence including, for the first time, recommendations on stepping up and stepping down treatment. It also emphasizes the importance of holistic COPD management including non-pharmacological therapies.'

Vogelmeier CF, Criner GJ, Martinez FJ et al (2017) Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease 2017 Report: GOLD Executive Summary. *Am J Respir Crit Care Med* <https://doi.org/10.1164/rccm.201701-0218PP>

## Sarcopenia during chemotherapy significant risk to survival in patients with oesophageal cancer

Patients with oesophageal cancer who suffer sarcopenia during neoadjuvant therapy (chemotherapy before surgery) survive, on average, 32 months less than patients with no sarcopenia (Paireder et al, 2017).

Researchers investigated to what extent sarcopenia and body composition changed during therapy and whether this had any influence upon long-term survival. Patients who suffered sarcopenia at any time during treatment had a poorer prognosis for survival. Sarcopenia was therefore identified as an independent risk factor.

Dr Matthias Paireder, Department of Surgery of MedUni Vienna and Vienna

General Hospital, and lead author of the study, commented: 'Sarcopenia is not necessarily a side effect of chemotherapy... The reasons for this loss of general muscle mass are poor nutrition and lack of exercise.'

The team is planning to investigate whether a programme that includes nutritional advice and physical training could increase long-term survival for patients with oesophageal cancer.

Paireder M, Asari R, Kristo I, Rieder E, Tamandl D, Ba-Ssalamah A, Schoppmann SF (2017) Impact of sarcopenia on outcome in patients with oesophageal resection following neoadjuvant chemotherapy for oesophageal cancer. *Eur J Surg Oncol* **43**(2): 478–484. <https://doi.org/10.1016/j.ejso.2016.11.015>

### Long-term risks of living kidney donation

A working group of the European Renal Association – European Dialysis and Transplant Association reviewed the long-term risk of living kidney donation (<https://doi.org/10.1093/ndt/gfw429>). Donating a kidney is not risk-free, but donor-associated risks are low. However, lifetime risks may be difficult to predict, particularly for young donors with a risky genetic and environmental background.

### Improving antibiotic prescribing in hospitals

An updated Cochrane review has identified effective and safe ways to reduce unnecessary use of antibiotics in hospitals (<https://doi.org/10.1002/14651858.CD003543.pub3>). Guidelines and policies for better targeting of antibiotics have the greatest impact when supported by the most effective ways to change doctors' behaviour.

### 'Molecular lasso' enables *S. gordonii* to bind to cells

The structure and dynamics of a protein believed to be important in targeting the oral bacterium *Streptococcus gordonii* to the tissues of the heart (<https://doi.org/10.1074/jbc.M116.760975>) have been visualized. CshA acts as a 'molecular lasso' to allow *S. gordonii* to bind to fibronectin on the surface of human cells. Such adhesive interactions are critical first steps in the ability of this bacterium to cause diseases such as infective endocarditis.

### New mental health framework will increase quality and consistency of care

A new core skills education and training framework developed for the mental health workforce ([www.skillsforhealth.org.uk/services/item/146-core-skills-training-framework](http://www.skillsforhealth.org.uk/services/item/146-core-skills-training-framework)) aims to increase the quality and consistency of care in mental health services.

As part of the cross-government strategy on mental health, No Health Without Mental Health, this framework will improve the way the health and social care workforce care for people with mental health issues.

This new framework will determine standards for education and training and help evaluate whether these have been met. It classifies key skills and knowledge into three tiers, ranging from general mental health awareness to the skills needed to care for people with complex mental health needs.

Professor Wendy Reid, National Director of Education and Quality and Medical Director, Health Education England, said: 'This new framework will help commissioners and providers identify the core skills and knowledge required by teams at all levels across their services. ...It will underpin and enhance future education and training, which will in turn improve the quality of care received by anyone experiencing a mental health problem.'

### Sign language users have better reaction times and peripheral vision, whether deaf or hearing

People who use British Sign Language have better reaction times in their peripheral vision, regardless of whether they are deaf or hearing, a new study has found (Codina et al, 2017).

The findings show that hearing adults who learn a visual-spatial language such as British Sign Language demonstrated a positive impact on visual field response – something which is highly beneficial in many sports and when driving.

**Dr Charlotte Codina, Lecturer in Orthoptics, University of Sheffield, Sheffield**



Dr Charlotte Codina, lead author of the study and Lecturer in Orthoptics at the University of Sheffield, said: 'We were surprised by the quicker response times of British Sign Language interpreters, who haven't necessarily known sign language since childhood, but have improved their peripheral visual sensitivity in learning this visual language and using it daily.'

The research also found that deaf adults have significantly better peripheral vision and reaction times than both hearing adults and British Sign Language users, providing scientific evidence to support the common belief that losing one of your five senses, such as hearing, can enhance others like sight or smell.

'We found that deaf adults have faster reaction times around the whole of the visual field, extending as far as 85° peripherally near the edge of vision,' said Dr Codina. 'Our study shows that deaf people have exceptional visual abilities that hearing adults do not. These findings support the common belief in sensory compensation.'

The researchers concluded that daily immersion in a visual-spatial language benefits visual responsiveness to stimuli in the peripheral visual field.

Codina CJ, Pascalis O, Baseler HA, Levine AT, Buckley D (2017) Peripheral visual reaction time is faster in deaf adults and British Sign Language interpreters than in hearing adults. *Front Psychol* 8: 50. <https://doi.org/10.3389/fpsyg.2017.00050>

### Children with post-traumatic stress disorder may recover without help

The development of post-traumatic stress disorder in children should not be cause for immediate alarm, according to new research (Meiser-Stedman et al, 2017).

Trauma exposure in childhood has the potential to disrupt a young person's development, yet little is understood about early recovery from trauma in youth.

The study aimed to better understand the development of post-traumatic stress disorder in children and adolescents and its symptoms, with a view to informing early intervention and treatment. Study participants were aged 8–17 years and were emergency department attendees who had

been exposed to a single trauma (e.g. a motor vehicle collision).

Dr Richard Meiser-Stedman, from the Department of Clinical Psychology, University of East Anglia, Norwich, said: 'Our findings suggest that the symptoms of post-traumatic stress should not necessarily be cause for alarm, because they may not cause any significant difficulties for young people.'

While post-traumatic stress symptoms are a very common response to trauma in children and adolescents in the first weeks after a trauma, the researchers found that these symptoms are entirely

normal and will often improve without intervention.

Dr Meiser-Stedman added: 'Those who do develop a clinically significant response can still recover on their own over 2–3 months, without formal help or intervention, in about a half of all cases. This is useful in informing potential future early interventions to ensure they improve this recovery, and don't disrupt it.'

Meiser-Stedman R, McKinnon A, Dixon C, Boyle A, Smith P, Dalgleish T (2017) Acute stress disorder and the transition to posttraumatic stress disorder in children and adolescents: Prevalence, course, prognosis, diagnostic suitability, and risk markers. *Depress Anxiety* <https://doi.org/10.1002/da.22602>

## Beta blockers offer best chance of increased survival following a heart attack

The risk of death after a heart attack is lower than previously thought, and more widespread prescription of beta blockers could further improve survival rates, according to new research (Gitsels et al, 2017).

A large cohort study calculated the chances of survival after acute myocardial infarction in the general population aged 60 years and over in the UK. It also looked at the effectiveness of prescription of statins, aspirin, angiotensin-converting enzyme inhibitors and beta blockers (the most common treatments), as well as coronary artery bypass graft and percutaneous coronary intervention.

The study found that the life expectancy of people who have had at least one heart attack by the age of 60 years was, on average, lowered by 6–6.5 years. People who had suffered a heart attack by the age of 75 years had their life expectancy decreased by 4–5 years on average.

The greatest survival benefit was associated with prescription of statins, with an average increase in life expectancy of 2.5 years. Similarly, prescription of beta blockers was



Lisanne Gitsels, School of Computing Sciences, University of East Anglia, Norwich

associated with an average increase in life expectancy of 2.0 years.

In contrast, prescription of aspirin and angiotensin-converting enzyme inhibitors was of no benefit in respect to life expectancy. The effectiveness of treatments with respect to life expectancy did not differ by age.

The study also highlighted possible gender discrimination when offering surgery. Miss Lisanne Gitsels, from the School

of Computing Sciences, University of East Anglia, Norwich, said: 'While men and women were equally likely to be prescribed drugs, men were approximately twice as likely to have had coronary artery bypass surgery or percutaneous coronary intervention. The gender difference could not be explained by difference in demographic and risk profiles, suggesting that there might be a gender discrimination in surgery, which is something which should be investigated further.'

Gitsels LA, Kulinskaya E, Steel N (2017) Survival prospects after acute myocardial infarction in the UK: a matched cohort study 1987–2011. *BMJ Open* 7: e013570. doi:10.1136/bmjopen-2016-013570

## In-utero magnetic resonance imaging improves diagnostic accuracy for fetal brain anomalies

A multicentre, prospective, cohort study was performed at 16 fetal medicine centres in the UK, of pregnant women aged 16 years or older whose fetus had a brain abnormality detected by ultrasound at a gestational age of 18 weeks or more (Griffiths et al, 2017). These women had in-utero magnetic resonance imaging within 14 days of ultrasound.

The cohort was subdivided by gestation into the 18 weeks to less than 24 weeks fetus cohort ( $n=369$ ) and into the 24 weeks or older fetus cohort ( $n=201$ ).

In-utero magnetic resonance imaging provided additional diagnostic information in 387 (49%) of 783 cases, changed prognostic

information in at least 157 (20%), and led to changes in clinical management in more than one in three cases. In-utero magnetic resonance imaging also had high patient acceptability. The authors propose that any fetus with a suspected brain abnormality on ultrasound should have in-utero magnetic resonance imaging to better inform counselling and management decisions.

Griffiths PD, Bradburn M, Campbell MJ et al; MERIDIAN collaborative group (2017) Use of MRI in the diagnosis of fetal brain abnormalities in utero (MERIDIAN): a multicentre, prospective cohort study. *Lancet* 389(10068): 538–546. [https://doi.org/10.1016/S0140-6736\(16\)31723-8](https://doi.org/10.1016/S0140-6736(16)31723-8)

## Giving palivizumab to preterm babies may reduce wheeze later

A multicentre case-control study of 444 Japanese infants born at 33–35 weeks' gestation (Mochizuki et al, 2017) was undertaken to test the effect of respiratory syncytial virus infection on development of subsequent atopic asthma. The primary goal of the study was to determine if palivizumab prophylaxis would prevent the onset of atopic asthma. The drug did not, but it did significantly reduce physician-diagnosed recurrent wheezing up to 6 years of age.

Infants who received at least three doses of palivizumab according to standard medical practice had about half the incidence of physician-diagnosed wheeze by 6 years of age compared to those who did not receive the drug (15.3% vs 31.6%).

Mochizuki H, Kusuda S, Okada K, Yoshihara S, Furuya H, Simões EA (2017) Palivizumab prophylaxis in preterm infants and subsequent recurrent wheezing: 6 year follow up study. *Am J Respir Crit Care Med* <https://doi.org/10.1164/rccm.201609-18120C>

## Screening for hepatocellular carcinoma in patients with cirrhosis is cost-effective

Hepatocellular carcinoma is the leading cause of death in patients with cirrhosis. A cost-effectiveness analysis in France and the United States (<https://doi.org/10.1002/hep.28961>) indicates that following screening guidelines for hepatocellular carcinoma in cirrhotic patients is lifesaving and cost-effective compared with 'real life' monitoring.

Following the guidelines for screening – which recommend biannual ultrasound – increased life expectancy by an average of 5 months and was cost-effective at \$1754 per additional life year gained with French costs and at \$32415 per additional life year gained with US costs.