

Abstracts

Mosquito with the potential to transmit West Nile virus found in Britain



Culex modestus, which has not been seen in Britain since 1945, has been found breeding in the marshes of north Kent and south Essex in the past 2 years. The species is thought to transmit West Nile virus (WNV) to humans during sporadic epidemics in southern Europe, but the disease has never been found in Britain, so the current risk to people living there is not known.

The new species was found during field studies in 2010 and 2011 and it seems likely to have arrived fairly recently. Lead author Nick Golding said, 'It is unclear how long *Culex modestus* has been breeding in the UK – the new specimens were found during field studies in 2010 and 2011 – but it seems likely that the species has arrived fairly recently. A handful of individuals were collected on the south coast in the 1940s, but didn't appear to be an established population. Since those records the species hasn't been seen again in the UK, until now.'

Golding N et al. *Parasites & Vectors* 2012;5(1):32; doi:10.1186/1756-3305-5-32

Breast cancer mortality climbs with age at diagnosis in postmenopausal women

Risk of death from breast cancer rises with increasing age at diagnosis, according to a new study of more than 1 000 postmenopausal women with potentially

curable breast cancer. Cumulative mortality from breast cancer over 5 years was 5.7% for women under 65, 6.3% for women aged 65 - 74, and 8.3% for women 75 or over. The trend wasn't fully explained by differences in tumour characteristics or treatments. In fully adjusted analyses, women over 75 at diagnosis were still 63% more likely to die of breast cancer than women under 65 (hazard ratio 1.63, 95% CI 1.23 - 2.16). All participants had hormone-receptor positive cancers.

As expected, older women were also more likely than younger women to die of other things, and only a third of the deaths in women over 75 at diagnosis resulted from breast cancer. It is this proportion (which is much bigger in younger women) that may have led people to believe that breast cancer was less dangerous in older women, say the authors. These analyses suggest the opposite – that older age at diagnosis is an independent risk factor for death from breast cancer in postmenopausal women. Further work is needed to find out why.

Van der Water W et al. *JAMA* 2012;307(6):590-597;doi:10.1001/jama.2012.84

Cardiac arrests are rare during competitive long-distance runs

Nearly 11 million people ran marathons or half-marathons in the USA between 2000 and 2009. Fifty-nine had a cardiac arrest during or just after the race, and 42 of them died, according to a new study. Cardiac arrests were more common in men (0.90/100 000; 95% CI 0.67 - 1.18) than women (0.16, 0.07 - 0.31), and more arrests occurred during or after marathons (1.01/100 000; 0.72 - 1.38) than half-marathons (0.27, 0.17 - 0.43).



The authors found their 59 cases through a comprehensive search of online resources, including race websites, local newspapers, and public search engines. They wrote to survivors and next of kin for more details and analysed medical records. Runners who arrested had a mean age of 42 years, but those who died were younger than those who survived. Of the 23 people with complete medical details who died, 15 had hypertrophic cardiomyopathy. Most of the handful of survivors with complete medical records had ischaemic heart disease.

With one cardiac arrest per 184 000 runners and one sudden death per 259 000 runners, long-distance races look less risky than collegiate athletics (one death per 43 770 participants per year), triathlons (one death per 52 630 participants), and jogging (one death per 7 620 previously healthy middle-aged joggers), say the authors. Male marathon runners have the highest risk, and it seems to be increasing, although firm conclusions are difficult from such limited numbers.

Kim JH et al. *N Engl J Med* 2012;366:130-140.

Rational antibiotic prescribing

The authors of this paper in the *British Medical Journal* evaluated the effectiveness and costs of a multifaceted flexible educational programme aimed at reducing antibiotic dispensing at the practice level in primary care.

They used a randomised controlled trial with general practices as the unit of randomisation and analysis. Clinicians and researchers were blinded to group allocation until after randomisation. The study was carried out in 68 general practices with about 480 000 patients in Wales, UK. Thirty-four practices were randomised to receive the educational programme and 34 practices to be controls. A total of 139 clinicians from the intervention practices and 124 from control practices had agreed to participate before randomisation. Practice level data covering all the clinicians in the 68 practices were analysed.



The interventions followed the Stemming the Tide of Antibiotic Resistance (STAR) educational programme, which included a practice-based seminar reflecting on the practices' own dispensing and resistance data, online educational elements, and

practising consulting skills in routine care. Control practices provided usual care.

The main outcome measures were the total numbers of oral antibiotic items dispensed for all causes per 1 000 practice patients in the year after the intervention, adjusted for the previous year's dispensing. Secondary outcomes included reconsultations, admissions to hospital for selected causes, and costs.

The rate of oral antibiotic dispensing (items per 1 000 registered patients) decreased by 14.1 in the intervention group but increased by 12.1 in the control group, a net difference of 26.1. After adjustment for baseline dispensing rate, this amounted to a 4.2% (95% CI 0.6 - 7.7%) reduction in total oral antibiotic dispensing for the year in the intervention group relative to the control group ($p=0.02$). Reductions were found for all classes of antibiotics other than penicillinase-resistant penicillins but were largest and significant individually

for phenoxymethylpenicillins (penicillin V) (7.3%, 0.4 - 13.7%) and macrolides (7.7%, 1.1 - 13.8%). There were no significant differences between intervention and control practices in the number of admissions to hospital or in reconsultations for a respiratory tract infection within 7 days of an index consultation. The mean cost of the programme was £2 923 (£3 491, \$4 572) per practice (SD £1 187). There was a 5.5% reduction in the cost of dispensed antibiotics in the intervention group compared with the control group (-0.4 - 11.4%), equivalent to a reduction of about £830 a year for an average intervention practice.

The conclusion was that the STAR educational programme led to reductions in all-cause oral antibiotic dispensing over the subsequent year with no significant change in admissions to hospital, reconsultations, or costs.

Butler CC et al. *BMJ* 2012;344:d8173.