All you need to read in the other general medical journals

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Data on rotavirus vaccination from the US are reassuring

Rotavirus vaccines have been dogged by worries about safety since the first vaccine was linked to intussusception in young infants and taken off the market in 1999. Newer vaccines look safer, however, and further reassurance has emerged from a large surveillance study of the popular pentavalent vaccine RV5, recommended for infants in the US.

The authors found no evidence of a link between RV5 and an increased risk of intussusception in analyses of close to 800 000 doses, given to babies between 2006 and 2010. Comparisons between vaccinated and unvaccinated infants found no increased risk in the first month after any dose. In confirmatory analyses, the incidence of intussusceptions in vaccinated infants was about the same as the background incidence during the five years before RV5 was licensed (21 observed *v* 20.9 expected; standardised incidence ratio 1.01, 95% CI 0.62 to 1.54).

The analyses aren't perfect, but the authors are confident that if there is a risk associated with RV5, it must be very low. Severe rotavirus disease can be lethal, and the incidence has fallen steadily since the new vaccines were introduced, they write. Just under three quarters of eligible infants were vaccinated in 2009. The benefits to public health are now firmly established.

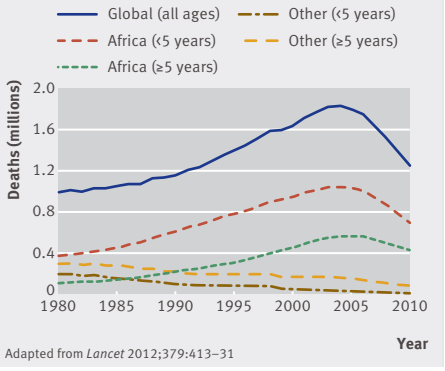
JAMA 2012;307:598-604

New study doubles previous estimates of global malaria mortality

In 2010, 1.24 million people worldwide died of malaria, according to the latest estimates (95% uncertainty interval 0.93 to 1.69 million). The new figure for global malaria mortality is twice as high as the World Health Organization's last estimate for the same year, and it includes more than half a million older children and adults.

The number of deaths after the age of 5 years is particularly striking, say the study's authors. In Africa, the new figure for this age group is more than eight times higher than the old one. In other regions, such as Asia and the Americas, teenagers and adults now account for most deaths from malaria. Control efforts should be stepped up and refocused, says a linked editorial (p 385). Older children and adults are not as immune as we previously thought and need more protection,

Trends in global malaria deaths



Adapted from *Lancet* 2012;379:413–31

including basic measures such as insecticide treated bed nets.

Although absolute numbers of deaths everywhere look high, they are on the way down from a peak in 2004, particularly in sub-Saharan Africa, where malaria deaths have fallen by 32% in the past six years. Malaria programmes that distribute bed nets and modern drug combinations have been very successful, says the editorial, but they now face a funding crisis, partly because of the economic downturn. The global fund paying for malaria control needs immediate binding commitments from international donors.

Even if the money is forthcoming, current targets—to reduce deaths to zero by 2015—look out of reach. If current trends continue (a big if), the study's authors estimate it will take until at least 2020 to reduce malaria deaths to below 100 000 a year.

Lancet 2012;379:413-31

Mixed response to new electronic prescribing systems

Electronic prescribing systems are already widespread, although the evidence that they prevent errors is patchy. When a selection of wards in two Australian hospitals introduced electronic prescribing, the total number of prescribing errors did fall significantly, but most of the change was the result of fewer unclear, incomplete, or illegal prescriptions. The new systems had a much smaller effect on clinical mistakes, such as prescribing the wrong drug or the wrong dose. In the first hospital, for example, pharmacists recorded 1.36 (95% CI 1.08 to 1.64) clinical errors per admission in one ward before the switch and 1.65 (1.28 to 2.01) afterwards—a clear lack of improvement that mirrored trends in three control wards using paper prescribing throughout the study.

Electronic prescribing was associated with a drop in serious prescribing errors in analyses combining data from both hospitals (from 0.25 per admission to 0.14 in three intervention wards, P=0.0002; from 0.30 per admission to 0.25 in three control wards, P=0.4).

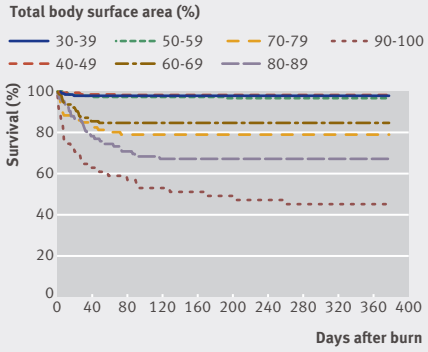
The two hospitals introduced different systems, both off the shelf, and both with a limited capacity for decision support. System related mistakes were common in all intervention wards (0.57 per admission) and accounted for a third of all prescribing errors recorded after the switch.

The extra errors caused by the design or functionality of the new systems may have cancelled out any reductions in clinical errors, say the authors. Minor adjustments, such as putting the most likely drug choice first on drop down menus, could help sort out common problems. Better training for staff, more resources, smarter audit, and the capacity for continuous refinement would also help.

PLoS Med 2012;9(1):e1001164

Survival drops sharply in children with more than 60% burns

Burns surface area and survival



Adapted from *Lancet* 2012; doi:10.1016/S0140-6736(11)61345-7

Outcomes for children with extensive burns are improving all the time thanks to advances in monitoring and treatments. One specialist centre in the US recently reported a mortality rate of just 13% (123/952) in a series of children admitted with at least 30% burns during the 10 years leading up to 2008.

As expected, the extent of the burns relative to body surface area was the main determinant of mortality. Just 3% (5/180) of children died

"Shock horror: Americans are not getting fatter. We can no longer console ourselves that however bad the obesity epidemic may be in the UK, it will always be worse in the USA"
Richard Lehman's blog at www.bmj.com/blogs

after burns that covered 30-39% of body surface area. That figure rose to 55% (28/51) for children with burns to more than 90% of their body surface area.

Smoke inhalation was associated with a higher risk of death for children with any size of burn.

Survival seemed to drop particularly sharply after burns to more than 62% of the body. In analyses adjusted for age, sex, smoke inhalation, and delay before referral, children above this threshold had 10 times the odds of death compared with children below it (odds ratio 10.07, 95% CI 5.56 to 18.22). They also had a significantly higher risk of sepsis and multiorgan failure.

The children in this series were mostly under 10 years old. They received prompt treatment in a state of the art burns unit, staffed with experienced specialists who followed the latest national management protocols. Burns were excised quickly and wounds covered with grafts of skin or other biological materials. Results may be different in other units around the US, and in other countries.

Lancet 2012; doi:10.1016/S0140-6736(11)61345-7

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 1000 postmenopausal women with potentially curable breast cancer. Cumulative mortality from breast cancer over five 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 to 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.

JAMA 2012;307:590-7

Oral treatment for fibroids looks promising in early trials

Ulipristal acetate is a progesterone receptor modulator being evaluated by its manufacturer as a treatment for heavy menstrual bleeding caused by fibroids.

In a pair of phase III trials, the new oral drug worked much better than a placebo (n=242), and worked as well as the only other medical treatment available—monthly injections of a gonadotrophin releasing hormone agonist (n=303).

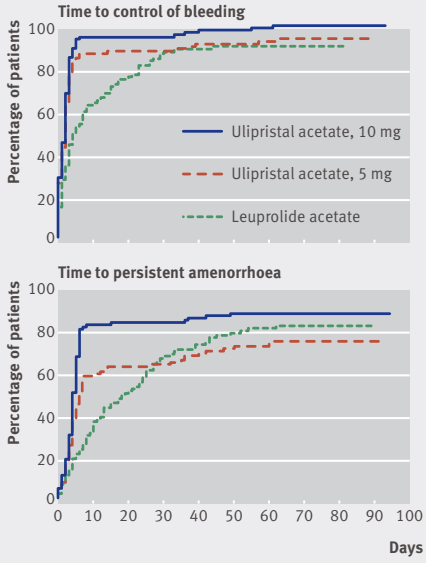
All participants had symptomatic fibroids and were scheduled for surgery. Three months' treatment with 5 mg or 10 mg a day of ulipristal controlled uterine bleeding in more than 90% of women in both trials, and three quarters of women reported rapid amenorrhoea. Leuprolide acetate also controlled bleeding but was slower to induce amenorrhoea than ulipristal. Both active treatments shrank fibroids, reduced uterine volume, and helped increase women's haemoglobin concentrations in the comparative effectiveness trial. Ulipristal at either dose caused significantly fewer hot flushes than leuprolide acetate.

About half the women in both trials had surgery, and the authors didn't explore whether ulipristal can help women avoid surgery or make it safer.

Like other progesterone receptor modulators, ulipristal induces well characterised changes in the endometrium, says an editorial (p 471). We don't yet know the full implications of these changes, although they look benign so far. Biopsy samples from women who did not have surgery suggest that the changes are temporary, so an intermittent medical treatment for heavy bleeding caused by fibroids might be possible one day. First though, we need longer studies in more typical populations. The women in these trials were ethnically white and somewhat thinner than many women coming to clinics with symptomatic fibroids.

N Engl J Med 2012;366:409-20, 421-32

Time to control bleeding and to induce amenorrhoea



Adapted from *N Engl J Med* 2012;366:421-32

Photos encourage schoolchildren to eat more vegetables

Placing photographs of vegetables in canteen food trays could be a cheap and easy way to encourage schoolchildren to eat more vegetables. When an elementary school in the US tried this simple experiment one lunchtime, consumption of carrots and green beans went up significantly compared with a control lunchtime when the same meal was served with no photo prompts.

The photograph experiment cost just $3 (£1.9; €2.3) for every 100 trays. On the day of the experiment, 15% (96/647) of the children took green beans and 37% (238/647) took carrots, compared with 6% (42/666) and 12% (77/666) on the control day (P<0.001 for both comparisons). After collecting and weighing all the leftovers, including those on the floor, the authors calculated that overall consumption of beans and carrots was 6 g (95% CI 6.3 to 6.5) a head more during the experimental lunchtime. The children were 5-10 years old, the same age as primary school children in the UK.

The US government is pushing schools to do more to boost vegetable consumption, and this straightforward intervention deserves further testing, say the authors. Children need all the encouragement they can get, judging by the general lack of interest in beans and carrots on both days in this study.

JAMA 2012; doi:10.1001/jama.2012.170

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