



Highlights from this issue

Nick Brown, *Editor in Chief*

FRESH AIR: PART 1

Progress in the reduction of asthma morbidity in high income countries has effectively stalled over the last decade. One explanation relates to individual management but environmental exposures are likely to be at least as important. The WHO and EU recommendations differ on what constitute acceptable levels of fine particulate matter (PM_{2.5}), the main sources of which are vehicle emissions, home coal burning and power stations. The former is more stringent on PM_{2.5}, European legislation being stricter with regard to nitrogen dioxide

Chappuy and colleagues (*see page 828*) undertook an ambitious 5 year study in Paris assessing the association between PM_{2.5} levels and asthma exacerbations. They assessed more than 1.2 million ED visits of which 47 000 were diagnosed as asthma and examined the association with air quality using data on nitrogen dioxide, ozone and PM_{2.5} collected on an hourly basis from the regional meteorological laboratory and adjusted for potential climatic and RSV density. In the multivariable model (which made some assumptions on population stability and generalisability of the pollution measures) only the PM_{2.5} remained predictive of incidence of asthma episodes, and at a watershed level of 13 mcg/m² below that of the EU advisory mark of 25 mcg/m². This paper is my editor's choice for the month. As the authors and accompanying editorial by Vardoulakis (*see page 813*) suggests current regulations need review.

FRESH AIR: PART 2

Continuing in the regulatory vein, the leading article by Been on Tobacco and Health (*see page 817*) is a reminder that even after a number of legislative waves, there is some way to go. An estimated 1 billion people worldwide smoke, the 'practice' incurring an estimated £1 trillion worth of societal costs annually. Meta-analyses estimate reductions in preterm delivery of 3.8%, severe asthma exacerbations of 9.8%

Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden; Child Health, Barn och ungdoms medicin avdelningen, Malmö, Sweden

Correspondence to Dr Nick Brown, Department of Women's and Children's Health, Uppsala University, Uppsala 752 36, Sweden; nickjwbrown@gmail.com

and severe pneumonia of 18.5% through the introduction of smoke free policies. Yet more evidence is in the form of the reductions in child mortality with increased tobacco taxation in North America. Add to this the effects of even third hand smoke and safety issues around e cigarettes and it is clear there is some way yet to go. In this context, the WHO has drawn up an aide (the MPOWER framework) to governments of both high and low and middle income countries to implementing legislation. Read this piece and remind yourself of the scale of this burden

PREVENTING THE PREVENTABLE

In a final thought on policy (for this month), Uday's article on rickets and Vitamin D guidance in the UK (*see page 901*). Despite sound policy in the post war years, the decline appears to have set in after a spate of cases of hypervitaminosis D in the 1950s which (though attributable to a dose 10 times than required) led to withdrawal of fortification. The paper is encapsulated in figure 3, the map of comparable rates of adherence in Europe, which illustrates the preventable discrepancies beautifully.

GLOBAL, GLOBAL HEALTH

In a highly practical paper, Trevor Duke, outlines the etiquette and pitfalls inherent to writing a thesis (*see page 820*). I've always felt that the key is to keep the research question simple with clear exposure and outcome definitions, and this detailed piece describes every stage of the process from the establishing the objective to grant proposal to the writing process. Though originally drawn up to help postgraduates in Papua New Guinea, it is generalisable to every aspiring researcher whatever the setting, so a genuinely global Global Health manuscript. As you probably already know, all global health pieces in *Archives* are now free access, a great step towards information dissemination to those working in settings without their own or institutional access of research directly relevant to their own paediatric populations

DEVELOPMENTAL ASSESSMENT: A NEW TOOL

Developmental assessment is a difficult skill to master and even after acquiring

the prerequisite skills, the process is time consuming. Other than time, traditional testing is limited by reliance on receptive communication and fine motor skills so the innovation described by Twomey et al (*see page 853*) is intriguing. For better or worse (and I'll spare you my thoughts) touch pads are now effectively ubiquitous so familiarity to children not a problem. The authors undertook a practical, proof of concept validation of a touch screen software application in a group of children aged 26 to 34 months about whom there had been no developmental concerns. No verbal instruction was required for testing and areas tested included selective attention, working memory, hidden object retrieval and object permanence. Performance, completion rates and working memory increased with age and so, with riders about generalisability this comes under the 'promising' bracket

STRESS AND STEROIDS

I'll end in a place where all interesting stories start, a hypothesis generating paper. About a third of all children admitted to intensive care with sepsis develop post traumatic stress disorder (PTSD) Children with PTSD have physiological dysregulation, one manifestation of which is a higher evening cortisol. The adult literature has shown that those treated with steroids are less likely to subsequently develop PTSD. These strands led Burcher (*see page 887*) to examine outcomes in a group of children admitted to intensive care with sepsis or meningococcal meningitis comparing those treated with steroids and those not. They measured salivary cortisol and the validated Impact of Event Scale (IES-8). The group was heterogeneous and numbers small, but those treated had both lower IES scores and (non-significantly) lower evening salivary cortisol. Bias and confounding, of course, might be explanatory, but given that those treated were more likely to be sicker and at higher risk of complications, then if anything the direction of effect is likely to have been in the opposite direction. As PTSD is associated with proinflammatory states and that steroids can block memory retrieval at the hippocampal level there are plausible biological pathways and these intriguing findings should not be discounted