

CME: Climate change and population health

Climate change is regarded as one of the greatest threats to public health in the 21st century, and its impacts on human health and wellbeing have already been seen. Some are direct, such as heat, cold, extreme weather events and ultraviolet radiation. Others, such as increases in the incidence and change of distribution of some vector-, food- and water-borne diseases, are still being documented and followed. Infectious diseases are likely to increase as the ecosystems in which the pathogens thrive change. Respiratory health, already known to be adversely affected by particulate pollution, is likely to suffer further as the amount of air pollution rises with increasing surface temperatures.

In 2012 alone, an estimated 37.3 million Africans were negatively affected by hydrometeorological hazards, a 43.3% increase in annual average over the past decade.^[1] The African Ministerial Conference on Meteorology in collaboration with the African Union Commission^[2] met in May 2014 in Harare, Zimbabwe, to seek to refine the draft Implementation Plan of the Integrated African Strategy on Meteorology (Weather and Climate Services) for the period spanning 2014 - 2018, aimed at building the resilience of communities to cope with adverse impacts of climate change.

CO₂ emissions are rising as the oil industry continues to drill, frack, explore the Arctic, liquefy and gasify coal, and liquefy natural gas. 'The world,' according to Jeffrey Sachs, 'is wrecking the climate and food-supply systems at a break-neck pace.'^[3] And there is evidence that the Intergovernmental Panel on Climate Change (IPCC) report summaries that warn of the impending threats are significantly 'diluted' under political pressure from some of the world's biggest greenhouse gas emitters, including Saudi Arabia, China, Brazil and the USA.^[4]

Hard on the heels of the release of the most recent IPCC Assessment Report 5,^[5] this month's CME and the *SAMJ* guest editorial^[6] warn of the significant repercussions of climate change on quality of life and human health. Caradee Wright (CSIR, Pretoria) and Mary Norval (Edinburgh University) have drawn together an international team of experts from various fields, and this important issue of CME brings our journal into line with many international medical journals that have recently focused on the effects of climate change on human health.

Ebola virus disease

Weyer *et al.*^[7] tell you all you need to know!

HIV testing of infants

Current South African (SA) guidelines, in line with international standards, advocate routine HIV-1 polymerase chain reaction (PCR) testing at 6 weeks of age for asymptomatic HIV-exposed infants and 'fast-track' entry into the HIV treatment programme for those who test positive. Additionally, SA has implemented the World Health Organization 2010 guidelines on HIV and infant feeding, which recommend that HIV-infected mothers should breastfeed their infants and receive antiretroviral drugs simultaneously. Hence, efforts to diagnose HIV in infants occur within the context of an extensive prevention of mother-to-child transmission (PMTCT) programme and antiretroviral therapy (ART) exposure. Furthermore, children already initiated on combination ART (cART) may be retested with HIV-1 PCR assays for 'confirmatory' purposes, including assessment prior to adoption.^[8]

The potential for cART to compromise the sensitivity of HIV-1 PCR assays has been described, but appears to be under-appreciated both by clinicians and the lay public. Similarly, current PMTCT practices

may lead to repeatedly indeterminate results, probably because ART suppresses the HIV viral load below diagnostic threshold values, with subsequent delays in initiation of cART.

Three cases are described that demonstrate that cART in infants can be associated with a loss of detectability of HIV, leading to 'false-negative' HIV-1 PCR results.^[9] In the context of adoption of a child, this may potentially have devastating consequences for both the infant and the adoptive parents.

Antimicrobial resistance

The *SAMJ* will continue to feature the crisis of antimicrobial resistance to antibiotics,^[10] a global problem and one that is exercising our own Ministry of Health. In this issue Perovic *et al.*^[11] provide evidence of the high prevalence of extended-spectrum beta-lactamase (ESBL) genes in nosocomial *Klebsiella pneumoniae* isolates: 68% of 2 774 isolates were ESBL-positive, with marked resistance to third- and fourth-generation cephalosporins (cefotaxime, ceftazidime and cefepime), and 47% of all isolates were resistant to ciprofloxacin and 33% to piperacillin-tazobactam.

Menopausal hormone therapy

The South African Menopause Society 2014 consensus position statement on menopausal hormone therapy^[12] is a revision of their statement published in the *SAMJ* of May 2007.^[13] The revised statement emphasises that commencing hormone therapy during the 'therapeutic window of opportunity' maximises the benefit-to-risk profile of therapy in symptomatic menopausal women. It includes a wider range of clinical benefits for hormone therapy, non-hormonal alternatives such as selective serotonin reuptake inhibitors and serotonin noradrenaline reuptake inhibitors for the management of vasomotor symptoms, and an appraisal of bioidentical hormones and complementary medicines used for treatment of menopausal symptoms and of new preparations that are likely to be more commonly used in the future.

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