



Highlights from ASTMH 2018

Between Oct 28 and Nov 1, New Orleans, LA, hosted the 67th Annual Meeting of the American Society of Tropical Medicine & Hygiene. It wasn't all jazz and gumbo. Marco De Ambrogi reports.

The Meeting was opened by a plenary session given by Matshidiso Moeti (WHO Regional Director for Africa), who spoke about repositioning the role of women as drivers of universal health coverage in Africa. Women in Africa are particularly burdened by infectious diseases: 80% of patients with trachoma in the continent are women and, in previous Ebola virus disease outbreaks, between 53% and 77% of patients were women. Moeti also reminded the audience that adolescent girls in Africa have the higher incidence of HIV infections and, in humanitarian crises, they are particularly vulnerable to sexual violence and maternal deaths. Major changes in culture, economics, employment, and medicine are needed to guarantee that women are not left behind in the development of better health care in Africa.

In the session entitled "Ebola: has the tide turned in combating this disease?", leading experts on Ebola virus disease involved in the control of the current outbreak in North Kivu, Democratic Republic of the Congo, discussed the most recent challenges in the field. William Fischer (University of North Carolina) talked about the use of experimental therapeutics, such as ZMapp, remdesivir, and REGN-EB3, and the persistent challenges related to the ethical use of these products in an outbreak setting, despite the existence of the WHO-approved ethical protocol called Monitored Emergency Use of Unregistered and Investigational Interventions. Ian Crozier, himself a survivor of the Ebola virus disease outbreak in west Africa and currently deployed as a doctor in Beni, talked about the innovations that have been introduced for the care of patients in the North Kivu outbreak, such as the availability of glucometry at the bedside and the use

of individual tents (so-called cubes) for each patient to simplify management and reduce the risk of transmission to health-care workers, family, and visitors. Crozier also anticipated the beginning of a multicentre, multi-outbreak, randomised controlled trial (NCT03719586) to compare the safety and efficacy of ZMapp, remdesivir, and Mab114.

An eagerly awaited session addressed the spread of artemisinin-resistant malaria. Roberto Amato (Wellcome Sanger Institute) opened the session presenting the most recent results of genetic analyses of the spread of antimalarial resistance in southeast Asia. The KEL1/PLA1 lineage of *Plasmodium falciparum*, which is resistant to dihydroartemisinin and piperazine, has spread to become the dominant lineage in the region. Rob van der Pluijm (Mahidol Oxford Tropical Medicine Research Unit) then presented the results of the TRACII trial, which was designed to address this issue. The trial tested for the first time the efficacy of triple artemisinin combination therapy (ACT), compared with dual ACT, in treating malaria in patients in eight countries in Africa and southeast Asia. Different combinations for dual and triple therapy, including mefloquine, lumefantrine, or amodiaquine, were tested because of differences among countries in terms of antimalarial resistance. Although recrudescence was observed with dual therapy in Thailand, Cambodia, and Vietnam, triple therapy was fully effective. Safety data seem equally promising because prolongation of QTc interval was not more pronounced for triple therapy than for dual therapy. Patients who received triple therapy had only slightly more cases of vomiting (3.6% with triple therapy vs 1.4–1.9% with dual therapy).



Marco De Ambrogi

The session "Real-time epidemic analysis and forecasting" brought together some of the foremost epidemiological analysts and modellers to assess the value and challenges of computational models in informing real-time decision-making in outbreaks. Andrew Azman (John Hopkins Bloomberg School of Public Health) discussed the analysis of factors in spatial risk assessments to predict cholera cases during an outbreak. Thibaut Jombart (Imperial College London) explained how data analytics can help to inform decisions in real time during an outbreak and showed that short-term forecasting can be developed for force of infection, transmissibility, and new cases, especially if modellers are deployed in the field and are in close contact with health-care workers gathering data on the ground.

Marco De Ambrogi