

Tackling hookworm head-on

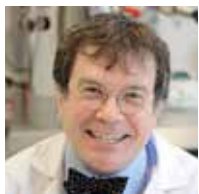
The University of Amsterdam's Academic Medical Center (AMC-UvA) recently received a multimillion euro grant from the European Commission for the HOOKVAC programme, which will fast track the development of a vaccine for hookworm. Remko van Leeuwen, Martin Grobusch and Peter Hotez briefly explain why such a programme is now needed more than ever.



REMKO VAN LEEUWEN



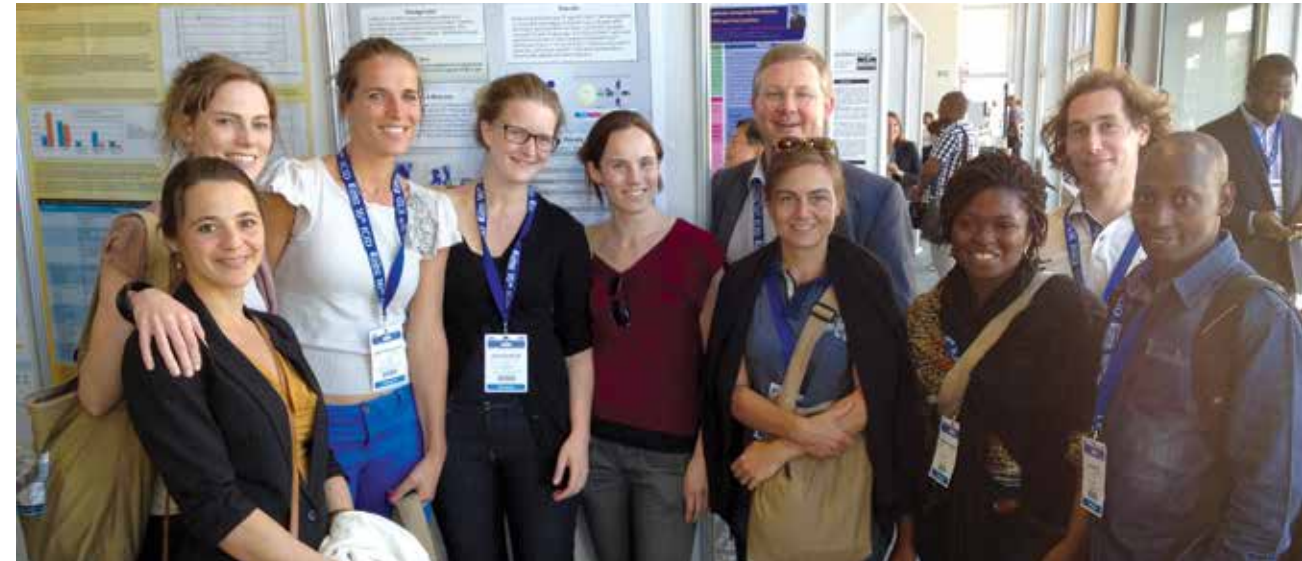
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As some of the world's most urgent health threats, diseases such as polio, Ebola and influenza have of late received much publicity. Nevertheless, recent studies reveal that anaemia is also emerging as a worrying health disparity, especially among women and children living in poverty. Although perhaps not as dramatic as the infections mentioned above, anaemia has been shown to have devastating and long-term effects on childhood cognition and intellect, and to increase the risk of maternal morbidity and mortality. The new Global Burden of Disease Study 2010 has determined that 32.9% of the world's population - mostly in low and middle-income countries - is anaemic at any given time, and that anaemia is currently responsible for a significant percentage of the world's total disease burden. The high level of anaemia among the poor also has long-term economic consequences and is one of the reasons why the 'bottom billion' remain trapped in poverty.

Recent research shows that a significant cause of global anaemia among the most impoverished is a result of intestinal worms, especially hookworm. Almost 440 million people suffer from hookworm,



all poor and many of them children and pregnant women. Hookworms feed on blood and rob children of nutrients, and have actually been shown to reduce childhood intelligence and cognition. Moreover, more than a quarter of pregnant women in Sub-Saharan Africa (SSA) have hookworms when they go into labour, and are at risk of severe illness or death not because they bleed more than women in industrialised countries, but because they have already lost a considerable amount of blood due to these hookworms.

In October 2013, the AMC-UvA was awarded a prestigious €6 million euro grant from the European Commission for the HOOKVAC programme, which will fast track the development of a vaccine for hookworm. This HOOKVAC programme will be coordinated by the Amsterdam Institute for Global Health and Development (AIGHD), where Remko van Leeuwen acts as the programme director.

In the HOOKVAC consortium, the AIGHD links the academic expertise provided by the AMC-UvA and partners with the assets and skills of several specialised companies that will assist in increasing the production

of the vaccine, a complicated but essential process that takes years of planning and preparation. Although currently focused on a vaccine for hookworm, the consortium will in future seek to forge new and strategic partnerships for affordable vaccine production.