

## NEWS RELEASE

### Two Year study finds no evidence that cleaner cookstoves reduces pneumonia in children

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*LSTM led Cooking and Pneumonia Study (CAPS) finds no evidence that cleaner burning biomass fuelled cookstoves reduce the risk of pneumonia in young children in rural Malawi.*

Results from the Liverpool School of Tropical Medicine (LSTM)-led Cooking and Pneumonia Study (CAPS) in Malawi indicate that cooking with cleaner burning biomass-fuelled stoves in place of traditional open fires has no effect of the incidence of pneumonia in children under the age of five.

The two year study was the largest of its kind anywhere in the world, with over 10,000 children enrolled across randomised villages in rural Chikhwawa and Chilumba in Malawi. The results, published in the journal, *The Lancet* today, show that the risk of pneumonia was the same in the under-fives whose families were assigned the cleaner burning biomass-fuelled cookstoves as in those whose families continued to cook over traditional open fires. In a secondary safety analysis a marked 42% reduction in the risk of non-serious burns was seen in children in the cookstove group compared to the open fire group.

Dr Kevin Mortimer, Reader at LSTM and Respiratory Consultant at Aintree University Hospital was lead Investigator on CAPS. He said: "Our study was the first trial to be published looking at the effects of cleaner burning biomass-fuelled cookstove on health outcomes. We asked a very specific question and applied rigorous scientific standards to our search for an answer. There has been an assumption that the use of cleaner cookstoves will bring about health benefits and save lives. Our results are part of a growing body of evidence that suggests that cleaner cookstoves on their own are not as effective on this front as had been hoped."

According to the WHO, household air pollution results in over four million deaths annually, and with almost three billion people globally still cooking their food on an open fire it is clearly a problem that requires the identification of timely and effective interventions. In Malawi the leading cause of death in the under-fives is pneumonia and the impact on people in poorest communities is the greatest. "While the reductions in burn related injuries is encouraging from a safety perspective," continued Dr Mortimer, "there remains a substantial burden of disease that needs to be addressed. Our response to that burden needs to be based on robust scientific evidence feeding into evidence-based policy and decision making. I think the findings of CAPS calls for the global health community to rally together to find and implement evidence-based solutions to air pollution – household, outdoor and tobacco-related – so that people everywhere have healthy clean air to breathe."

Partial results were presented by Dr Mortimer at the 47th World Conference on Lung Health which took place in Liverpool in October. Delegates had the opportunity to witness a demonstration of a recently developed cleaner burning biomass-fueled cookstove. Dr Mortimer worked with local school pupils to design and build replica Malawian housing in which ACE-1 cookstoves and open fires were lit to illustrate the difference in smokiness between the two cooking methods. In partnership with the local fire and rescue services and the charity Operation Florian, the dangers of open fires within the home were highlighted.

The study was part of the LSTM hosted CAHRD collaboration and was funded by a the Joint Global Health Trials Scheme, a partnership of the UK Department for International Development (DfID), the Medical Research Council (MRC) and the Wellcome Trust. It was implemented in Malawi through collaborative partnerships between the Liverpool School of Tropical Medicine, The London School of Hygiene & Tropical Medicine, The Malawi-Liverpool-Wellcome Trust Clinical Research Programme, The Malawi College of Medicine and the Malawi Epidemiology and Intervention Research Unit.

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Liverpool School of Tropical Medicine (LSTM) has been engaged in the fight against infectious, debilitating and disabling diseases since 1898 and continues that tradition today with a research portfolio in excess of well over £200 million and a teaching programme attracting students from over 65 countries.

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