

Development and implementation of an awareness programme addressing household air pollution and tobacco smoke: a FRESH AIR project

Frederik van Gemert¹, Evelyn Brakema², Rianne van der Kleij², Sian Williams³, Rupert Jones⁴, Bruce Kirenga⁵, Shamim Buteme⁵, Talant Sooronbaiev⁶, Aizhamal Tabyshova⁶, Maamed Mademilov⁶, An Pham Le⁷, Quynh Nguyen Nhat⁷, Corina de Jong⁸

¹University Medical Center Groningen, the Netherlands, ²Leiden University Medical Center, ³International Primary Care Respiratory Group, ⁴Peninsula School for Medicine and Dentistry, Plymouth University, ⁵Makerere University Lung Institute, ⁶National Center of Cardiology and Internal Medicine, ⁷University of Medicine and Pharmacy, ⁸University Medical center Groningen

Aim: To develop and implement a feasible, acceptable, and effective lung health awareness programme on the risks of biomass- and tobacco smoke in three low and middle-income countries (LMICs): Uganda, Kyrgyzstan and Vietnam

Context: In many LMICs, many people are unaware of the damaging effects of tobacco and biomass fuel smoke.

Description of change: Group stakeholder meetings were held, to co-create intervention materials and develop an implementation strategy. Mixed methods were used to 1) evaluate the implementation process (guided by the *modified Conceptual Framework for Implementation Fidelity*), 2) determine the costs of the programme, and 3) evaluate the effect of the programme on local knowledge on lung health.

Strategy of change: All education materials were adapted and an implementation strategy for a cascading train-the-trainer programme was developed in close collaboration with local stakeholders; the programme was then integrated into the existing health infrastructure.

Effects of changes: A group of selected healthcare workers (HCWs) was initially trained. These HCWs then trained other groups of HCWs, who subsequently trained a group of community health workers (CHWs). CHWs educated their communities, reaching >15,000 people in both Uganda and Kyrgyzstan, and >10,000 in Vietnam. All education materials were approved by the Ministry of Health's education department. Costs varied from 13,000 to 15,400 euros across the countries. Knowledge on lung health among the trained HCWs, CHWs and community members increased significantly to an excellent level in each country.

Lessons learnt: The implementation strategy, using a cascading train-the-trainer approach commencing with physicians and ending at community level, is feasible, acceptable and effective in diverse low-resource settings.

Message to others: The increased understanding of lung health will enable communities to consider different possibilities to reduce exposure from HAP and start smoking cessation programmes.