# FRESHAIR Global action for healthy lungs

An implementation science project to improve prevention, diagnosis and treatment of chronic lung diseases where resources are limited



Estimates suggest there will still be 2 billion smokers by 2040<sup>3</sup>

Globally, the number of deaths from COPD1 and the prevalence of asthma is increasing<sup>2</sup>

90% of COPD

deaths occur in low-resource settings.

80% of asthma

deaths occur in low-resource settings.

The problem

The link between tobacco smoke and indoor air pollution and lung disease is well established



1.8 billion people will still rely on biomass for cooking and heating in 20404

A lack of awareness about the risks exacerbates the problem.



Exposure to smoke in pregnancy leads to miscarriages, early delivery and low birth weight and can harm children's lung and brain development<sup>5</sup>

Implementation research is needed to test how interventions can work in low-resource settings

//www.healthdata.org/news-release/chronic-obstructive-pulmonary-disease-caused-32-million-deaths-worldwide-2015 ://www.unicef.org/publications/files/UNICEF\_Clear\_the\_Air\_for\_Children\_30\_Oct\_2016.pdf

Increased knowledge on COPD and asthma Raised awareness of harm of tobacco and biomass smoke, particularly to pregnant women

Offered households a choice of cleaner cook stoves



Improved understanding of risk factors

Creative community engagement

Patients and communities involved in translation of materials and implementation, analysis and dissemination of research

Use of photography, film, art, dance and patient stories to build positive messages

Engaged community members as peer researchers

### Interventions from FRESHAIR

Healthcare professionals trained and mentored in diagnosis using spirometry

diagnosis spirome



Improved tools for diagnosis and treatment



Improved lung health in infancy

Culturally-tailored information for parents of children with asthma

Pulmonary rehabilitation adapted to community-based programmes

Frontline staff taught to deliver Very Brief Advice

Research on perceptions of and treatments for childhood cough and wheeze, raising questions about appropriate diagnosis

Midwives able to teach new mothers about harm of smoke

#### What we have learnt from FRESHAIR

Chronic lung diseases have an under-researched socio-economic impact — people may not take time off work but they are less productive.

Communities want to improve the quality of the air they breathe.



Where infectious disease is prevalent, asthma diagnosis is missed.



Evidence-based education and training interventions can be used to build implementation capacity e.g. teach the teacher models.



Implementation research needs to be underpinned with actions that build trust in the process and workforce and ensure local compatibility.



Very Brief Advice for smoking cessation can be delivered, but challenges remain due to lack of availability of smoking cessation medication and counselling.



Pulmonary rehabilitation sessions can be run affordably and effectively in the community.



Education and training interventions should include a wide spectrum of healthcare professionals and community health workers (not just doctors).



#### **Recommendations**

The knowledge and other benefits generated by the project need to be sustained in the face of competing health priorities.



Implementation of effective interventions depends on a data-driven case for change to be established and owned by local stakeholders.



Data has been lacking on the size of the problem and the feasibility of solutions, including their affordability and cost-effectiveness.

## FRESHAIR

can offer clinical data and implementation data on demographics, risk factors, healthcare utilisation, quality of life, and direct and indirect costs of diagnosed respiratory patients to build those cases for change.



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