



Impact in Bangladesh

24,000
children die
each year from
pneumonia

1000s
of child deaths
could be prevented
by early screening

1 in 10
adults over 40
have COPD

AIM

To test the feasibility, effectiveness and acceptability of low-cost, scalable and life-saving interventions

	STUDIES	EVIDENCE	IMPACT
Respiratory Syncytial Virus (RSV)	Long-term effects of RSV in young children	Preventing or identifying RSV can reduce later chronic diseases like asthma	✔ Could improve asthma diagnosis accuracy and reduce cases at community level
Early screening and diagnosis of childhood pneumonia	Digital stethoscope	Trained community health workers were capable of recording quality lung sounds	✔ Intervention being considered for larger trial by Ministry of Health. If implemented, it could substantially reduce the use of antibiotics by frontline health workers
	Pulse oximetry	Pulse oximeters are feasible and acceptable to use by nurses and paramedics for detecting hypoxaemia and early referral for pneumonia treatment	✔ Ministry of Health and Family Welfare has introduced pulse oximetry in national IMCI implementation package ✔ 4872 child healthcare providers across the country trained ✔ 200 primary health care centres now using pulse oximeters
	Automated model to interpret paediatric chest x-rays	Computational model successfully developed to diagnose pneumonia using paediatric chest x-rays	✔ This automated diagnostic system will enable health care workers in areas without experts to effectively diagnose pneumonia
Treatment of childhood pneumonia	Bubble Continuous Positive Airway Pressure (CPAP) Mapping	Bubble CPAP is feasible and simple to implement in hospitals and supports rapid recovery from pneumonia	✔ Bubble CPAP is being tested in a trial in Ethiopia and planned for testing across hospitals in Bangladesh ✔ It can reduce hospital costs, caregivers' wage-loss, clinicians' workload and infections picked up in hospitals
Management of Chronic Respiratory Diseases	Pulmonary rehabilitation (PR)	Feasible and acceptable to patients and health care providers and effective with improved health outcomes	✔ 100 physicians trained in PR ✔ Public and health system awareness of PR significantly increased ✔ 3 new PR centres established
	Palliative care for respiratory diseases	Respiratory illness and palliative care needs mapped and community health workers trained in providing palliative care services	✔ Respiratory palliative care now being provided in 10 primary health centres in Rohingya refugee camps ✔ In Cox's Bazar General Hospital, space has been for a pulmonary Rehabilitation Centre for patients with chronic respiratory diseases

RESPIRE-tested low-cost interventions can:

- ✔ enable timely detection and treatment of pneumonia
- ✔ reduce the use of antibiotics and antimicrobial resistance

- ✔ improve respiratory health and the quality of life and increase productivity
- ✔ reduce healthcare costs for families and the national health system
- ✔ be implemented by non-specialist staff and community health workers

RESPIRE phase 1 partners in Bangladesh:



Find out more at: ed.ac.uk/usher/respire

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