RESPIRE ASM 2023 Programme Booklet

Tuesday 26th – Thursday 28th September 2023, Indonesia - Jakarta & Bandung

The NIHR Global Health Research Unit on Respiratory Health (RESPIRE) is co-led by the University of Edinburgh and Universiti Malaya.

RESPIRE partner, Universitas Padjadjaran welcomes you to the RESPIRE Annual Scientific Meeting (ASM) 2023.

This is Version 2 of the 2023 ASM Programme Booklet.

Please download the most up-to-date version from the RESPIRE website:
https://www.ed.ac.uk/usher/respire/asm-2023

Contents

THE UNIVERSITY of EDINBURGH
UNIVERSITI MALAYA
FUNDED BY NIHR National Institute for Health and Care Research
UKaid from the British people

Welcome to the RESPIRE Annual Scientific Meeting 2023

It is our great pleasure to welcome you to the RESPIRE Annual Scientific Meeting (ASM) 2023.

A chance to connect

With partners based in a number of locations across Bangladesh, Bhutan, India, Indonesia, Malaysia, Pakistan, Sri Lanka and the United Kingdom, the ASM offers an important opportunity to connect across RESPIRE.

Throughout the course of the meeting, we have the chance to share ideas and learnings, offer collective advice and support and plan for the future.

A fruitful programme

This year's ASM takes place in two locations within West Java, and we will travel from Jakarta to Bandung on the evening of the 26th September.

On the 27th September, all delegates will have an opportunity to engage with RESPIRE research being undertaken in Indonesia through site visits in the morning, an external showcase (including poster presentations and digital showcase) in the afternoon, and finally a cultural reception and dinner in the evening.

Communications

Please note that photographs will be taken throughout the ASM. If you would prefer not to be photographed, please alert a member of the core team at your earliest convenience. Your consent to be photographed can be withdrawn at any time in writing to **RESPIRE@ed.ac.uk**

If you use social media in a professional capacity, use the hashtag **#RESPIREasm** and tag us on Twitter/X (**@RESPIREGlobal**) or Facebook (**RESPIRE Global**) – we look forward to sharing your posts!

–The RESPIRE ASM Organising Committee

Full Meeting Programme

Tuesday 26th September 2023

Venue **Hotel Artotel Mangkuluhur Jakarta**

Time	Session
08.30 - 09.00	**Registration (with coffee)**
09.00 - 09.15	**Welcome and address** Professor Ee Ming Khoo
09.15 - 10.15	**Context setting session led by Platform I** Siân Williams
10.15 - 10.45	**Coffee Break**
10.45 - 12.15	**Plan for RESPIRE: Reflections from programme leads** • Professor Harish Nair • Professor Nik Sherina Hanafi & Professor Hilary Pinnock • Professor Savithri Wimalasekera & Professor Linda Bauld
12.15 - 12.20	**Announcement of the 'Professor Su May Liew Award for meaningful Community Engagement and Involvement in healthcare research' awards** Professor Ee Ming Khoo
12.20 - 12.30	**Plans for day 2 – site visits** Dr Qorinah Estiningtyas Sakilah Adnani
12.30 - 13.30	**Lunch**
13.30 - 17.30	**Depart Jakarta – travel to Bandung** Busses will transport delegates from Hotel Artotel Mangkuluhur Jakarta to Mercure Bandung City Centre
18.00 - 19.00	**Poster and Digital Showcase set up** All poster presenters are required to set up their displays outside the Ballroom of the Mercure Bandung City Centre. Members of the Core Team will be available to assist during this time only.

Wednesday 27th September 2023

Venue **Mercure Bandung City Centre**

	Time	Session
Site Visits	**08.30 – 09.00**	**Participants gather at the Mercure Bandung City Centre hotel lobby** Bus transport to each site will take approximately 30 minutes
	09.00 – 10.30	**Site visit to local school (including travel to venue)** Develop an understanding of the school system, student health management, and gain an appreciation of the partnership between the schools and RESPIRE
	10.30 – 12.00	**Site visit to a local health clinic (including travel to venue)** Gain insights into the local health clinics and foster understanding of the West Java health system and the collaboration between the clinics and RESPIRE *Snacks will provided on board, courtesy of Universitas Padjadjaran*
	12.00 – 12.30	**Participants return to the hotel by bus**
	12.30 – 13.30	**Lunch**
External Showcase	**13.30 – 14.15**	**Poster Display and Digital Showcase (with refreshments)** Presenters will be stationed by their allocated poster board (see Poster section for details of the posters)
	14.15 – 14.25	**VIP welcome and address** Professor Cissy Kartasasmita
	14.25 – 14.45	**The what, how and why of RESPIRE** Professor Ee Ming Khoo
	14.45 – 15.00	**Showcase of RESPIRE activities to improve respiratory health in Bangladesh, Bhutan, India, Indonesia, Malaysia, Pakistan, and Sri Lanka** Video presentation
	15.00 – 15.15	**Introduction to the West Java health system and respiratory health** Dr Raden Vini Adiani Dewi – Head of West Java Health Office

Day 2 programme continues overleaf

	Time	Session
External Showcase	**15.15 – 15.25**	**World Health Organisation (WHO) Indonesia – a focus on respiratory health** Edit Oktavia Manuama, National Professional Officer - Maternal, Newborn and Child Health, WHO Indonesia Country Office
	15.25 – 15.35	**How Universitas Padjadjaran is involved in health research – including respiratory health** Professor Dr Yudi Mulyana Hidayat,dr., SpOG(K) – Dean of Faculty of Medicine, Universitas Padjadjaran
	15.35 – 15.45	**RESPIRE Indonesia – what are we addressing and what are our goals?** Dr Rina Triasih
	15.45 – 16.15	**Press Conference** With all speakers above, and other senior members of the RESPIRE Leadership team and International Steering Committee (ISC)
	15.45 – 16.30	**Poster Display and Digital Showcase (with refreshments)** Presenters will be stationed by their allocated poster board (see Poster section for details of the posters)
	16.30 – 16.45	**Launch of the RESPIRE Stakeholder Engagement Guidebook** With all speakers above, plus Co-Leads for Stakeholder Engagement & Community Engagement and Involvement, Siân Williams & Professor Sanjay Juvekar
	16.45 – 17.45	**International Steering Committee (ISC) meeting** — **Project, programme or platform meetings as required**
	18.45 – 22.00	**RESPIRE Dinner and Welcome Reception** Enjoy this networking opportunity and showcase of local cultural traditions and arts through a cultural dance show. Enjoy the melodious sounds of traditional Angklung music (courtesy of Mr. Yosep and Universitas Padjadjaran) over dinner.

Thursday 28th September 2023

Venue **Mercure Bandung City Centre**

Time	Session
08.30 - 09.30	**Panel Discussion: Climate action and respiratory health emerging priorities** With RESPIRE panellists Dr Farzana Khan, Dr Divas Kumar, Siân Williams & Professor Savithri Wimalasekera and Dr. Shams Syed from WHO Geneva
09.30 - 10.30	**Keynote Presentation: Innovation in tobacco control to reduce respiratory disease: opportunities for low- and middle-income countries** Professor Chris Bullen – University of Auckland
10.30 - 11.00	**Coffee Break**
11.00 - 11.30	**Landscape of digital health innovation among RESPIRE partners** Dr Zakiuddin Ahmed & Monica Fletcher
11.30 - 12.00	**Open science practices, data, and methodologies** Tathagata Bhattacharjee & Tapas Kumar Mohanty
12.00 - 12.05	**Group Photography**
12.05 - 13.05	**Lunch**
13.05 - 13.35	**Building capacity: Confirming priorities and planning for the years ahead** Dr Ruth McQuillan, Dr Hana Mahmood & Dr Husna Muhamad
13.35 - 14.35	**Training and capacity building planning, networking, and training session** Dr Ruth McQuillan, Dr Hana Mahmood & Dr Husna Muhamad
14.35 - 15.05	**ISC feedback** Celina Gorre – RESPIRE International Steering Committee (ISC) Chair

Day 3 programme continues overleaf

Time	Session
15.05 - 15.30	**Coffee Break**
15.30 - 15.40	**Announcement of RESPIRE 'responsive funding call' on climate and health** Dr Dominique Balharry
15.40 - 16.15	**Open Discussion: Future plans and ideas for RESPIRE** Professor Ee Ming Khoo
16.15 - 16.25	**Meeting summary, key lessons learned, next steps** Professor Ee Ming Khoo
16.25 – 16.30	**Plans for Day 4 – returning home** Dr Dominique Balharry

RESPIRE Poster Presentations – Abstract Listing

Date **Wednesday 27th September**
Time **13.30 – 14.15** and **15.45 – 16.30**
Location Outside the Ballroom of the **Mercure Bandung City Centre**

Look for the numbers displayed on each poster board when visiting the posters shown below.

1 RESPIRE: A collaboration across research programmes and their supporting platforms in Bangladesh, Bhutan, India, Indonesia, Malaysia, Pakistan and Sri Lanka

The NIHR Global Health Research Unit on Respiratory Health (RESPIRE) aims to deliver low-cost, scalable policy and clinical interventions to reduce respiratory disease and death in Asia.

Visit this poster display to learn how RESPIRE's studies, programmes and platforms work together to enable world-leading research to reduce the burden of respiratory disease.

2 Contribution of RESPIRE to the 'LANCET GLOBAL HEALTH MEDICAL OXYGEN SECURITY'

Ahmed Ehsanur Rahman[1], Shams El Arifeen[1], Harry Campbell[2]
[1]International Centre for Diarrhoeal Disease Research, Bangladesh, [2]Usher Institute, University of Edinburgh UK

Background
Medical oxygen is essential for managing various acute and chronic conditions, including respiratory distress in newborns, pneumonia, malaria, sepsis, tuberculosis, chronic obstructive pulmonary disease, heart disease, asthma, surgery, and trauma care. However, low- and middle-income countries, particularly rural areas and marginalized populations, face significant challenges in accessing affordable and available medical oxygen. This global disparity in access is a critical public health concern. A 2022 systematic review and meta-analysis published in the Lancet Global Health found that hypoxemia affected 31% of children with pneumonia, with 41% for severe cases and 8% for non-severe cases. Studies conducted in emergency and inpatient settings reported higher prevalence rates compared to outpatient settings. It was estimated that over 7 million children were hospitalized with hypoxemic pneumonia in 2019. The COVID-19 pandemic further highlighted the deficiencies in medical oxygen access in LMICs but also led to investments in medical oxygen systems.

Proposed Methodology
To address these issues, the Lancet Global Health established a Commission on medical oxygen security in 2022. This Commission aims to bridge gaps in oxygen research, mobilize a coalition to promote best practices in oxygen delivery systems, and expedite progress in robust oxygen systems to reduce global mortality and morbidity. The Commission's work focuses on four themes: oxygen need, oxygen access, oxygen solutions, and financing and political economy. By incorporating evidence from various aspects of healthcare, patient populations, indications for oxygen therapy, and health system issues, researchers from RESPIRE (Prof Harry Campbell, Dr Shams El Arifeen, Dr Ahmed Ehsanur Rahman) will generate synthesized evidence and messages to guide policy and facilitate implementation in countries with limited access to high-quality medical oxygen. Sustaining attention and investment in medical oxygen systems is crucial in preparing for future pandemics and addressing the needs of millions without access to medical oxygen when needed.

3 Comprehensive Data Management System for use by RESPIRE Network (RESPIRE-DMS): A step towards open science practice

Sandeep Bhujbal[1], Tapas Kumar Mohanty[1], Dhiraj Agarwal[1], Simon Smith[2], Tathagata Bhattacharjee[3], John Norrie[2]
[1]KEMHRC, Pune, [2]University of Edinburgh, [3]London School of Hygiene & Tropical Medicine

Research question
How to leverage on population surveillance data to build RESPIRE-DMS for enabling open science practices within Network?

Background
A robust and comprehensive Data Management System is essential for success of any network study. Historically, Vadu Health and Demographic Surveillance have shown that its data was useful in RESPIRE studies at the site. It testified on how leveraging data helped other studies and played a central role for data source and references. It established the improvement of research quality, transparency, and reproducibility by facilitating access to core data and avoiding redundancies to promote efficiency, effectiveness, and ability to conduct multiple studies at the site.

Methodology
RESPIRE-DMS, leveraged upon the Vadu experience, will consist of:

i. Services and tools to handle scalable and complex data collection.
ii. Adherence to standards
iii. Analysis and visualisation to address research questions and objectives.
iv. Flow of data with other studies, maintaining confidentiality and security.

RESPIRE-DMS will be created on principles of FAIR data by including processes towards FAIRification of data within and outside the network thus endorsing RESPIRE's Open Science roadmap.
It will be web- and app-based with online and offline abilities. Data will be stored in multiple accessible formats on public/private cloud and/or on-premises servers, granting fine-grained access with interactive dashboards.

RESPIRE-DMS will build capacity within the sites for managing their research data. Deidentified data will be shared on the University of Edinburgh's DataVault and DataShare platforms in line with the Open Science roadmap.

Questions to discuss
Contribution to RESPIRE goals, helping in practising open science and challenges & risk mitigation strategies.

4 Developing and testing the feasibility of a comprehensive psychological intervention to assess and manage the psychosocial impact of suffering from Chronic Respiratory Diseases amongst adults seeking pulmonary rehabilitation in rural India

Diksha Singh[1, 2], Hilary Pinnock[2], Kirstie McClatchey[2], Ruth McCuillan[2], Dhiraj Agarwal[1, 2]
[1]Vadu Rural Health Program, KEM Hospital Research Centre Pune, [2]Usher Institute, University of Edinburgh, UK

Research question
How can psychosocial support be integrated into pulmonary rehabilitation (PR) programs for patients with CRDs in rural low- and middle-income countries (LMICs), and what are the potential benefits for patients' quality of life?

Background
Chronic respiratory diseases (CRDs) are a significant public health concern in rural areas in LMICs. PR is a well-established intervention for CRDs that focuses on improving physical function and reducing symptoms. However, there is limited evidence on the psychological aspects of PR and the feasibility of delivering such interventions in rural areas in LMICs.

Possible methodology
The study will be conducted in the Vadu Health and Demographic Surveillance System area in India. The Medical Research Council (MRC) framework for complex interventions will guide the study, which will consist of four interrelated projects. These projects will involve systematic review, qualitative interviews with stakeholders and patients, development of a prototype intervention, and testing the feasibility of the intervention in CRD patients seeking PR.

Questions to discuss

- What are the most effective methods for assessing the psychological impact of CRDs on patients?
- What are the psychological interventions that are currently being delivered at PR centres and what is the evidence that exists for their effectiveness?
- What are the potential benefits of integrating psychosocial support into PR programs, and how can they be measured and evaluated in a rural LMIC context?

Project page: Pulmonary rehabilitation for COPD management in a rural Indian setting

5 Respiratory Syncytial Virus (RSV) infection in early infancy may lead to respiratory illness later in childhood: a longitudinal cohort study in Bangladesh

Mohammad Shahidul Islam[1,2], Huq, S.[2], Cunningham, S.[3], Schwarze, J.[3], Islam, A. S. M. D. A.[4], Ahmed, S.[1,4], Baqui, A. H.[5], Saha, S.[2], Campbell, H.[1], Sheikh, A.[1], Nair, H.[1], & Saha, S. K.[2]
[1] Usher Institute, University of Edinburgh, UK, [2]Child Health Research Foundation, [3]Child Life and Health, Centre for Inflammation Research, University of Edinburgh, UK, [4]Projahnmo Research Foundation, Dhaka, Bangladesh, [5]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

Background
RSV infection increases the risk of developing recurrent wheezing and asthma in subsequent years in children. We evaluated the long-term effects of early-life RSV infection on child respiratory health in a resource-poor setting. We followed the study participants of the Aetiology of Neonatal Infection in South Asia (ANISA) Study enrolled from a rural community in Bangladesh.

Methods
Children with known RSV infection during 0-59 days of life and matched controls who did not have RSV infection during 0-59 days were assessed at 6-8 years of age. Research assistants collected respiratory health-related data of the study participants from caregivers using structured questionnaires. Physicians assessed participants' lung function using spirometers at outreach clinics. An open-air 6-minute running exercise test was performed to assess exercise-related airway hyper-reactivity.

Discussion
The high prevalence of asthma phenotypes among children with early-life RSV infection suggests that RSV-specific interventions may have a broader impact on children's respiratory health. A future study of the interaction of RSV prevention therapeutics and subsequent asthma risk should enable the observation of a range of asthma phenotypes, particularly in LMICs where access to physiological based assessments are limited.

Project page: Consequence of RSV infection in young infants

6 Acceptability of respiratory syncytial virus (RSV) vaccine: a qualitative study

Sajid Bashir Soofi[1,2], Shabina Ariff[1], Uswa Jiwani[2], Hareem Fatima[2]
[1]Department of Pediatrics & Child Health, The Aga Khan University, Karachi, Pakistan, [2]Center of Excellence in Women & Child Health, The Aga Khan University, Karachi, Pakistan

Research question
To explore the acceptability of vaccinating pregnant women, young infants, and children against respiratory syncytial virus (RSV) among community members, healthcare providers, and immunization managers in India and Pakistan.

Background
RSV is a major cause of lower respiratory tract infections (LRI) among children under five years of age globally. The burden of RSV is most pronounced in low- and middle-income countries (LMICs). Furthermore, vaccine hesitancy poses a significant challenge to global immunization efforts. Limited healthcare access, and vaccine hesitancy, particularly during pregnancy in LMICs, are hindering the vaccination of pregnant women to confer immunity in young infants.

Proposed methodology
This is a qualitative study that will collect data through in-depth interviews (IDIs) and focus group discussions (FGDs) in rural and urban settings in Pune, India and Matiari and Karachi, Pakistan. It will employ the Theoretical Framework of Acceptability (TFA) to understand factors influencing the acceptability of the RSV vaccine. Study participants will include pregnant women, their husbands and mothers-in-law, parents and grandmothers of children under two, community leaders, and healthcare providers (e.g., Community healthcare providers*, physicians, pediatricians, obstetricians, field vaccination staff, and immunization managers). Recruitment will occur through healthcare facilities and chain-referral sampling. Approximately 176 participants in India and 224 participants in Pakistan will be invited to the FGDs, and 18 IDIs in India and 22 IDIs in Pakistan will be conducted, with the final sample size determined by reaching theoretical saturation.

*Lady Health Visitors (LHVs), Lady Health Workers (LHWs), and Community Midwives (CMWs) in Pakistan; Accredited Social Health Activists (ASHA) and ANM (Auxiliary Nurse Midwives) in India

Questions to discuss

- Key factors that may influence the acceptability of an RSV vaccine among pregnant women and young infants in LMICs.
- Existing global/local preferences for vaccinating pregnant women or infants against RSV.

Project page: Acceptability of respiratory syncytial virus vaccine: a qualitative study

7 Evaluating the Oxygen Preparedness & Security, Multi-Country National Surveys: A Mixed-Methods Approach, for Oxygen Survey

Ahmed Ehsanur Rahman[1], Sabit Saad Shafiq[1], Shafiqul Ameen[1], Dr. Shabina Ariff[2], Dr. Divas Kumar[3], Dr. Mimi Lhamu Mynak[4], Sadman Sowmik Sarkar[1], Shams El Arifeen[1]
[1]International Centre for Diarrhoeal Disease Research, Bangladesh, [2]Aga Khan University Hospital, [3]King George's Medical University, [4]JDW National Referral Hospital in Bhutan

Background
Oxygen is an important medical treatment that has been proven to save lives. The availability, readiness, and functionality of oxygen delivery systems are critical for effective healthcare. However, disparities in oxygen access have been exposed in these low-resource settings, especially during COVID-19. Therefore, four LMIC countries—Bangladesh, Bhutan, India and Pakistan—will be assessed for oxygen delivery system readiness in the oxygen security study.

Research Question & Objectives

What is the current status of readiness of oxygen delivery systems in Bangladesh, Bhutan, India and Pakistan?
Objectives are:

- To assess the current policies and strategies related to oxygen delivery systems.
- To investigate service providers' knowledge, attitude, and skills, as well as patients' perceptions of oxygen therapy.
- To examine the availability, readiness, functionality, and cost of oxygen delivery systems; and
- To assess the appropriateness of oxygen use by examining factors such as adherence to guidelines and rational use.

Proposed methodology

A mixed-methods approach will be adopted to collect data from healthcare facilities, service providers, and patients. Stratified random sampling will be conducted to select the health facilities, while convenience sampling will be used to capture different provider roles and patient experiences. A sample size of 107 hospitals per country was determined using precision-based calculations with a 10% error margin and a maximum variance assumption (50%) at 95% confidence intervals. Statistical and thematic analysis will be employed to collect data from structured questionnaires and qualitative interviews. This readiness assessment of the selected countries will provide useful recommendations for the improvement of oxygen delivery system.

Project page: Oxygen preparedness and security

8 Scale up of pulse oximetry in outdoor management of childhood illnesses in Bangladesh: a hybrid effectiveness implementation study

Ahmed Ehsanur Rahman[1], Sadman Sowmik Sarkar[1], Shafiqul Ameen[1], Sabit Saad Shafiq[1], Tamanna Majid, Mohammod Jobayer Chisti, Shams El Arifeen[1]
[1]International Centre for Diarrhoeal Disease Research, Bangladesh

Background

Pneumonia is the leading cause of child mortality, particularly in low- and middle-income countries (LMICs). Hypoxemia, strongly associated with pneumonia-related hospitalizations and fatalities, poses a significant concern. To address this issue, the World Health Organization (WHO) recommends the integration of pulse oximetry, a non-invasive tool for measuring oxygen saturation, into routine Integrated Management of Childhood Illness (IMCI) services in low-resource countries. This study aims to evaluate the effectiveness of introducing pulse oximetry as well as experience and learning from scale up of pulse oximetry in routine IMCI settings in Bangladesh.

Proposed Methodology

The study will follow a hybrid effectiveness-implementation design, aligning with the Bangladesh Ministry of Health's nationwide scale-up plan. The implementation model will be developed in collaboration with the National Newborn Health Program, utilizing a structured stakeholder development process. A Stepped Wedge Design will be employed, focusing on three districts: Rajshahi, Dinajpur, and Netrokona. Each district will document the implementation phase and follow a PDCA (Plan-Do-Check-Act) cycle. The study will include sick children aged 2-59 months with cough or difficult breathing, as well as national and district health managers, service providers, and caregivers of children receiving IMCI services. The primary objective is to explore treatment failure rate through community case tracking performed by IMCI trained nurses on Day 14, defined as death or the presence of danger signs or specific clinical signs.

The study aims to provide insights into the effectiveness of integrating pulse oximetry into routine IMCI services, ultimately improving childhood pneumonia classification, reducing mortality rates, and informing the integration of pulse oximetry in LMIC settings.

Project page: Pulse oximetry hybrid implementation effectiveness study

9 Finding the missing millions using a village health worker intervention in a rural tribal setting of central India (MTBHT)

Dr. Ashish Satav[1], Dr. Niteen Wairagkar[1], Dr. Radha Munje[1], Dr. Vibhawari Dani[1], Dr. Shrikant Ambalkar[1], Dr. Milind Sovani[1], Dr. Dhananjay Raje[1], Dr. Yagnesh Thakar[1], Dr. Dipti Jain[1], Dr. Sanjay Zodpey[1], Dr. Ravindra Sarnaik[1], Professor Hilary Pinnock[2], Dr. Genevie Fernandes[2], Professor Helen R. Stagg[3]
[1]MAHAN Trust, India, [2]Usher Institute, University of Edinburgh, UK, [3]Department of Infectious Disease Epidemiology, London School of Hygiene & Tropical Medicine, UK

Research question
Can a village health worker-delivered intervention be designed to close the tuberculosis (TB) diagnostic and notification gap in a tribal setting in India?

Background
Globally, ~10 million people suffer from TB every year, but under-diagnosis and under-notification is an issue. One World Health Organization (WHO) target to 'End-TB' is, to find the 'missing millions. This is a known problem in India, which has one of the biggest burdens of TB globally, particularly among vulnerable communities such as rural/tribal populations. Intensified efforts are required to improve diagnosis and find missing patients to accelerate the decline of TB cases and meet 'End-TB' goals.

Methodology
The research study will be conducted in hilly, forested, difficult to access, highly impoverished, tribal area of Melghat, Central India over the period of 33 months. Our approach will be based on the Medical Research Council framework for the development and evaluation of complex interventions. The study includes five work packages (WPs). WP-1: systematic reviews; WP-2: interviews and focus group discussions; WP-3 theory of change and logic model; WP-4: feasibility testing and refining intervention; and WP-5: stakeholder advisory group. We will involve local stakeholders e.g., community members, doctors, policymakers, etc. At the end of the study, we will develop a 'necessary and sufficient', low-cost, pragmatic and reproducible intervention, to be tested through a pilot randomized clinical trial.

Questions to discuss
- What are barriers and enablers of TB diagnosis and notification?
- How to improve TB diagnosis and notification?
- What would ensure the generalizability of the developed intervention?

Project page: Find the Missing Millions: MTBHT (India)

10 Algorithm modelled & applied in Sabah for Smear Negative Pulmonary Tuberculosis (AMASSMENT): The methodology

Chee Kuan Wong[1], Wai KhewLee[2], Sarah Jane Jia Chyi Chan[3], Suhashini Sivasegaran[4], Yao Long Lew[5], Hema Yamini Ramarmuty[6], Jiloris Dony[7], Roddy Teo[8], GiriShan Rajahram[6], Yin Chin Chan[9], Timothy William[10], Karuthan Chinna[11], Jayakayatri Jeevajothi Nathan[1], Helen R Stagg[12], Harish Nair[13], Harry Campbell[13], EeMing Khoo[1]
[1]Universiti Malaya, Malaysia, [2]Luyang Health Clinic, Malaysia, [3]Manggatal Health Clinic, Malaysia, [4]Sandakan Health Clinic, Malaysia, [5]Charles Darwin University, Australia, [6]Queen Elizabeth Hospital, Malaysia, [7]Kota Kinabalu Public Health Laboratory, Ministry of Health Malaysia, [8]Tuberculosis and Leprosy Control Sector, Sabah Department of Health, Malaysia, [9]Sandakan Hospital, Malaysia, [10]Subang Jaya Medical Centre, Malaysia, [11]UCSI University, Malaysia, [12]London School of Hygiene & Tropical Medicine, UK, [13]Usher Institute, University of Edinburgh, UK

Research question
Can a clinical algorithm based on current evidence and expert consensus improve smear-negative pulmonary tuberculosis (PTB) diagnosis in Sabah, Malaysia, with sensitivity and specificity comparable to the Xpert® MTB/RIF Ultra?

Background
Sabah State has a high TB burden, accounting for 20% of all notified TB cases in Malaysia. Half of these cases are diagnosed in primary care facilities using sputum AFB microscopy and chest radiograph. Negative sputum smears do not mean that someone definitely does not have TB. It does, however, often mean missed and/or late diagnosis of PTB, resulting in treatment delays. The use of nucleic acid amplification test like Xpert® MTB/RIF Ultra leads to rapid diagnosis but often limited by cost and availability.

Methodology
This study will be divided into two phases. The first phase involves the development of a diagnostic clinical algorithm for smear-negative PTB using a modified Delphi Method framework by a panel consisting of 15-20 experts in TB management. Following this, feedback on the developed algorithm will be gathered through a stakeholder engagement. In the second phase, the sensitivity and specificity of this algorithm will be compared to Xpert® MTB/RIF Ultra test in smear-negative PTB populations, using bacterial culture as the gold standard. Seven hundred patients will be enrolled from three primary health clinics in Sabah.

Questions to discuss
- How to conduct the Delphi method framework/stakeholder engagement?
- What are the expected challenges faced in this study?

Project page: Find the Missing Millions: AMASSMENT (Malaysia)

11 Effectiveness of Pictorial Personalized Asthma Action Plans in Public Primary Care Clinics: A Randomized Controlled Study

Ai Theng Cheong[1], Sazlina Shariff Ghazali[1,2], Hani Salim[1], Fadzilah Mohamad[1], Poh Ying Lim[3], Ping Yein Lee[4], Norita Hussein[5], Nik Sherina Hanafi[5], Siti Nurkamilla Ramdzan[5], Rizawati Ramli[5], Siow Foon Tan[6], Norasnita Nordin[7], Fazlina Mohamed Yusoff[8], Zuzana Aman[9], Chee Kuan Wong[10], Ee Ming Khoo[5], Hilary Pinnock[11]
[1] Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [2]Malaysian Research Institute on Ageing, Universiti Putra Malaysia, Malaysia, [3]Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [4]UM eHealth Unit, Faculty of Medicine, University of Malaya, Malaysia, [5]Department of Primary Care Medicine, Faculty of Medicine, Universiti Malaya, Malaysia, [6]Port Klang Health Clinic, Klang District, Ministry of Health Malaysia, [7]Kapar Health Clinic, Klang District, Ministry of Health Malaysia, [8]Anika Health Clinic, Klang District, Ministry of Health Malaysia, [9]Meru Health Clinic, Klang District, Ministry of Health Malaysia, [10]Department of Medicine, Faculty of Medicine, Universiti Malaya, [11]Usher Institute, The University of Edinburgh, UK

Research question
What is the effectiveness of pictorial personalised asthma action plans (pictorial-PAAP) in improving asthma control compared to text-based PAAP (text-PAAP)?

Background
Asthma self-management supported by a PAAP improves clinical outcomes and reduces health costs and is recommended in all major asthma guidelines. In Malaysia, a study had shown poor uptake of education on asthma and self-management skills. One potential barrier to uptake may be that the widely used traditional text-based plans (text-PAAP) are inappropriate in a society with high levels of limited health literacy (60% of patients with asthma in primary care clinics). Pictorial plans (pictorial-PAAP) have the potential to overcome the inequity of text-based information and benefit all patients regardless of their health literacy. This study aims to evaluate the effectiveness of pictorial-PAAP compared to text-PAAP.

Methodology
This is a randomised controlled trial comparing the use of a pictorial-PAAP versus a text-PAAP among adult patients with asthma in public primary care clinics in Klang District, Selangor. The PAAP (format according to allocation) will

be delivered as part of self-management education. Patients will be followed up at 3-, 6- and 12-month for assessment of primary and secondary outcomes. Qualitative interviews will explore the acceptability of the pictorial-PAAP and the barriers and motivation to use the PAAP for patients and healthcare providers at the 12-month of the study.

Questions to discuss

- What practical issues should we consider as we develop the intervention?
- Will it matter if we allocate people with good health literacy to a pictorial-PAAP?

Project page: Pictorial Asthma Action Plan (PAAP)

12 Pulmonary rehabilitation for chronic respiratory diseases: Views of healthcare professionals and policymakers in Bangladesh

Ajay K Roy[1], Monsur Habib[1,2,3], Nazim Uzzaman[1,2,3], Rowshan Alam[1], Sadia Sultana[2], Kmarun Nahar[1], Ataul Gani[1], B D Bidhu[1], Hilary Pinnock[3]
[1]Bangladesh Primary Care Respiratory Society, [2]Bangladesh Lung Foundation, [3]Usher Institute, University of Edinburgh, UK

Research Questions

- Are healthcare professionals and policymakers confident in the effectiveness and safety of Pulmonary Rehabilitation (PR)?
- What are their views on the practicality, acceptability, and organisational framework of current PR services?
- What recommendations and insights do they offer for advancing the promotion and implementation of PR in Bangladesh?

Background

Chronic respiratory diseases (CRDs) pose a significant burden on public health worldwide, affecting millions of individuals and causing substantial morbidity and mortality. PR is a crucial component in managing CRDs as it offers a comprehensive and multidisciplinary approach. This specialised program combines exercise training, education, and psychosocial support to address the physical, functional, and emotional aspects of CRDs. Strong evidence, primarily from high-income countries (HICs), supports the effectiveness of PR in improving exercise capacity and quality of life. Guidelines recommend PR as an essential part of CRD care. However, PR is notably underutilised in LMICs, and structured PR services in LMICs are also limited. This hinders the potential for reducing the burden of CRDs in these regions.

Method

We will conduct up to 20 interviews with healthcare professionals and 20 interviews with policymakers from public and private health sectors using snowball and purposive sampling techniques as appropriate. In total, we will be conducting up to 40 interviews which we consider a sufficient number to allow for diversity in context and organisation within the timeline of the study and available resources. However, we will be guided by whether we have achieved data saturation with regard to our objectives and will stop recruitment when no new themes are emerging or may conduct up to five more to clarify key themes.

Project page: Pulmonary Rehabilitation: Qualitative Study

13 Pulmonary rehabilitation in Bangladesh, Bhutan, and Pakistan: Feasibility studies

Farzana Khan[1], Monsur Habib[1], Nazim Uzzaman[1], Mimi Lhamu Mynak[2], Dr Yeshey Om Tshering[2], Tshenday Wangchuk[2], Rubina Aman[3], Furqan Siddiqui[3], Shahida Ashraf[3], Mohammad Jamal[3], Naureen Tassadaq[3], Ishtiaq Raja[3], Osman Yusuf[3], Hilary Pinnock[4]
[1]Bangladesh, [2]Bhutan, [3]Pakistan, [4]United Kingdom

Research questions

- Is it feasible to deliver pulmonary rehabilitation (PR) in low-resource settings in Bangladesh (refugee camps), Bhutan, and Pakistan?
- What are the barriers and enablers, and stakeholders' opinions to implementing PR in each country?
- What is the before-and-after change in the measurement of exercise capacity and health-related quality of life?

Background

Chronic Respiratory diseases (CRDs) are common disabling conditions worldwide with high prevalence, morbidity, and mortality. PR is an essential component of global guidelines for CRDs, though most of the evidence on PR is disease-specific and generated from HICs.
Rationale & aim: In these feasibility studies, we will assess the resource infrastructure, optimal components of the PR programme, profile of eligible CRDs, and model of service delivery for delivering PR in Bangladesh (a refugee camp), Bhutan, and Pakistan.

Method

We will recruit people with CRD in the three sites (Bangladesh: 50, Bhutan: 30, Pakistan: 40) and provide them with an 8-week course of PR incorporating components derived from global PR guidelines and informed by our prior systematic review and adapted to be deliverable in a low-resource setting. We will assess the patients at baseline, end of the course, and then at 6 months to assess sustainability. Moreover, in each of the settings, we will conduct a qualitative interview with a purposive sample of patients, providers, and other healthcare professionals e.g., GPs, and pulmonologists.

Questions to discuss

- What are the barriers and facilitators we should consider?
- Who are the important stakeholders whom we should involve?

Project page: Pulmonary Rehabilitation: Feasibility Study

14 Feasibility of pulmonary rehabilitation for COPD patients in Rohingya Refugee Camps, Cox's Bazar, Bangladesh

Dr. Farzana Khan, Hasina Karim, Kazi Sarmad Karim

Research question

How feasible is it to perform the measurements of pulmonary rehabilitation (PR) for chronic obstructive pulmonary disease (COPD) patients in humanitarian settings?

Background

PR is a multidisciplinary and multifaceted intervention that reduces the burden of chronic respiratory symptoms for people with COPD, one of the commonest chronic lung disorders. According to UN High Commission, 86% of the 82.4 million refugees are living in the low and middle-income countries (LMICs), where healthcare infrastructure and management systems are not yet satisfactory to address the challenge. We plan for a feasibility study, which will assess the adaptation of the PR intervention deliverable in a refugee camp in Bangladesh.

Methodology

This mixed-method study has two objectives: (1) To determine the feasibility of delivering PR in a refugee context, to inform resource, components, relevant CRD eligibility, and service model and 2) To assess potential outcomes. The study will be a 'before and after' study with outcomes assessment at baseline, post-PR (8 weeks), and 6-month

follow-up, with qualitative and quantitative process evaluation. Fasiuddin Khan Research Foundation (FKRF) will work in partnership with International Organization for Migration (IOM) to test the feasibility in a humanitarian setting. The findings will be used to inform future trials for replication in similar contexts.

Questions to discuss

- What are the barriers to delivering PR?
- What is the attendance and dropout rate of participants?
- How suitable are the adapted components and models of PR?

Project page: Pulmonary Rehabilitation: Feasibility Study

15 Pulmonary rehabilitation delivered in low resource settings for people with chronic respiratory disease: a 3-arm assessor-blind implementation trial

Pinnock H, Khoo EM, Rabinovich R, Weir C, Habib M, Uzzaman N, Rahman A, Paul B, Gupta R, Rathnam S, George T, Jebaraj P, Khatavkar P, Agarwal D, Javadekar N, Singh D, Engkasan J, Chan SC, Mirza FT, Hanafi NS, Ismail A, Banu J, Ku K, Stoddart A, McQuillan R, Jackson T, Fernandez G, Williams S, Hammersley V.

Pulmonary rehabilitation (PR) is a comprehensive, multidisciplinary, individually-tailored intervention that overcomes the deconditioning induced by chronic respiratory diseases (CRDs). In Low- and Middle-Income Counties (LMICs), CRDs may be poorly differentiated, and PR inaccessible and under-resourced.

Aim: To test the clinical/cost effectiveness, sustainability at 6-months, acceptability and implementability of Centre- or Home-PR delivered in low-resource centres for people with CRDs compared to usual care.
Setting: Four Centres (Bangladesh, India x2, Malaysia).
Participants: 465 adults with symptomatic CRD.
Design: 3-arm individually-randomised, assessor-blinded 6-month hybrid-1 implementation trial, with health economic and process evaluations.

Interventions: Following initial centre-based teaching of personalised exercise/education programme, two approaches to delivering PR:

1) Centre-PR: centre-based classes twice weekly for 8 weeks.
2) Home-PR: Remotely supervised sessions at home twice weekly for 8 weeks.

Usual care group: Locally available healthcare (choice of Centre- or Home-PR at the end of the trial).
Primary outcome: Endurance Shuttle Walking Test (ESWT)
Key secondary outcome: Quality of Life: St Georges Respiratory Questionnaire (SGRQ)
Other outcomes: mMRC Dyspnoea Score; Hospital Anxiety and Depression Score; smoking status; Activities of Daily Living; Physical Activity; adverse events; use of healthcare resources

Data collection: Researcher-blind assessments (baseline; post-PR; 6-months)
Analysis: ESWT will be analysed using a normal linear model, with treatment allocation, baseline ESWT and Centre included as fixed effect covariates.
Health economic evaluation: Cost-consequence analysis to enable potential decision makers to select outcomes most pertinent to their circumstances.
Process evaluation: Mixed methods assessment of fidelity/adaptation, mechanisms of action, acceptability and sustainability.
Dissemination: We will publish in high-impact journals, present at conferences and disseminate via our professional networks and stakeholders, and use the social media of the NIHR Global Health Research Unit RESPIRE

Project page: Pulmonary Rehabilitation: Feasibility Study

16 Estimating chronic respiratory disease (Asthma and COPD) burden in adults in Asian low and middle-income countries

Dhiraj Agarwal[1], Nik Sherina Haidi Hanafi[2], Osman M Yusuf[3], Hilary Pinnock[4]
[1]Vadu Rural Health Program, KEM Hospital Research Centre, Pune, India, [2]University of Malaya (UM), Kuala Lumpur, Malaysia, [3]The Allergy and Asthma Institute, Pakistan (AAIP), Islamabad, Pakistan, [4]Usher Institute, University of Edinburgh, UK

Research questions

- What is the prevalence of asthma, chronic obstructive pulmonary disease (COPD) or 'other chronic respiratory diseases (CRDs)' using standardised validated questionnaires and spirometry in Malaysia and Pakistan?
- What is the burden of COPD, asthma or 'other CRDs' in adults in terms of prevalence and severity of symptoms, frequency of exacerbations, impact on work and leisure activity and impact on quality of life?
- What is the current use of healthcare by people with COPD, asthma or 'other CRDs'?

Background

Findings from the pilot RESPIRE 4-Country chronic respiratory disease (4CCORD) pilot study suggested a high burden of asthma (7%) and COPD (8%) and other CRDs. However, the pilot aimed to validate the research tools and methodologies, and only recruited 100 participant in each centre, lacking power to draw inference on the burden of CRDs in their communities. In this fully powered study, we aimed to estimate the burden of CRDs using representative samples in Malaysia and Pakistan.

Methodology

Cross-sectional community-based survey of adults (18 years and above) in Klang, Malaysia (n=640) and Islamabad, Pakistan (n=510). We will use the piloted questionnaire to detect the burden of respiratory symptoms and measure lung function with spirometry. Data will be collected by field research assistants and spirometry technicians. Questions that were poorly understood in the pilot study will be translated into the local dialect for clarity.

Questions to discuss

- Which spirometry predictive values should we use for each study population?
- Are there any additional questions we should ask (e.g. about post-COVID respiratory symptoms)?

Project page: 4CCORD: Survey & Spirometry

17 Understanding the experiences of people living with chronic respiratory disease (CRD): a community-based photovoice study

Hani Salim[7], Anannya Barman Jui[1], Ashish Satav[4], Biswajit Paul[2], Dhiraj Agarwal[3], Diksha Singh[3], Harsh[2], Ee Ming Khoo[5], Nik Sherina Haidi Hanafi[5], Osman M Yusuf[6], Paul Jebaraj[2], Ramsha Baig[6], Rita Caroline Isaac[2], Rutuja Patil[3], Samir Saha[1], Sangeetha Rathnam K[2], Sanjay Juvekar[3], Shahidul Islam[1], Hilary Pinnock[8]
[1]Child Health Research Foundation (CHRF), Dhaka, Bangladesh, [2]Christian Medical College (CMC), Vellore, India, [3]King Edward Memorial (KEM) Hospital Research Centre, Pune, India, [4]Mahatma Gandhi Tribal Hospital (MAHAN) Trust, Maharashtra, India, [5]University of Malaya (UM), Kuala Lumpur, Malaysia, [6]The Allergy and Asthma Institute, Pakistan (AAIP), Islamabad, Pakistan, [7]Universiti Putra Malaysia (UPM), Malaysia, [8]Usher Institute, University of Edinburgh, UK

Research question

What is it like to live with CRD in Bangladesh, India, Malaysia, and Pakistan?

Background

In low- and middle-income countries (LMICs), there is little awareness and understanding of the impact of living with CRD on quality of life and social/healthcare burden. Photovoice is an arts-based methodology that invites participants to take and discuss photographs that have meaning for them.

Possible methodology

We will recruit a purposive sample of people with CRD in each of the communities. After an initial qualitative interview, participants will be trained in the photo-taking activity. 'Photovoice interviews' will then explore what the pictures represent about living with CRD. The study design will be adapted to the needs and challenges of each country's local context, for example, village-based discussions may be appropriate in some contexts and individual interviews in others. An exhibition of photographs will be organised at the end of the study, providing a platform for stakeholders to engage in discussions.

The target population is adults (18 years and above) with symptoms of CRD. Interviews or group discussions will be audio-recorded, transcribed, translated if necessary, and analysed thematically. The photographs will be considered within the context of the corresponding transcripts as their meaning can only be understood through how participants interpret them.

Questions to discuss

A key component of Photovoice methodology is to give voice to those living with the burden of CRD, stimulate community discussions and promote social change.

- How can we use the Photovoice method to raise community awareness regarding CRDs?
- How can we engage hidden/marginalised communities in the research?
- What are the challenges of using creative research methods?

Project page: 4CCORD: Survey & Spirometry

18 Understanding the views and experiences of people living with chronic respiratory disease (CRD): an adapted Photovoice study

Sangeetha Rathnam[1], Biswajit Paul[1], Harsh[1], Paul Jebaraj[1], Rita Isaac[2], David Weller[3], Hilary Pinnock[3]
[1]Christian Medical College, Vellore, India [2]Karkinos Foundation, India [3]University of Edinburgh, UK

Research Question

How can photovoice be used in research to enable people with chronic respiratory diseases (CRDs) to record, reflect and communicate their experiences of living with the disease and its impact on their lives?

Background

Understanding the impact of CRDs on lives of people and creating awareness about them is the key to better respiratory health and a positive step towards management and control of CRDs, especially in low- and middle-income countries (LMICs) which bear the major burden of the disease. Photovoice is a visual qualitative research methodology which gathers participant taken photographs and narratives to translate experience into actionable knowledge for social change.

Methodology

This research will be carried out in four stages. First stage involves selection of participants who have CRD (n=30), from database of RUHSA hospital which runs a weekly respiratory wellness clinic. In-depth interviews will be conducted to elicit their knowledge, perceptions, and practices and their socio-cultural environment of living with the disease as well as the wider community perceptions. In second stage, 20 participants with good communication skills will be chosen and trained for taking photos relevant to their disease experience. In third stage, photo-interviews will be conducted among them to reflect and communicate issues of concern regarding their CRD and its impact on their lives through critical dialogue and discussion of their photographs. Fourth stage will involve a photo exhibition of key photographs and stakeholder engagement with healthcare providers and policy makers.

Questions to discuss

- What parameters should be chosen for selecting participants for doing photo-interview?
- What are the challenges of engaging low literate population through photovoice?

Project page: 4CCORD: PhotoVoice

19 Enhancing chronic respiratory disease care through upskilling health care providers of the government health system in a rural district in India: a pre-post educational intervention trial

Biswajit Paul[1], Sangeetha Rathnam[1], Harsh[1], Richa Gupta[1], Paul Jebaraj[1], Rita Isaac[2], David Weller[3], Hilary Pinnock[3]
[1]Christian Medical College, Vellore, India [2]Karkinos Foundation, India, [3]University of Edinburgh, UK

Research Question

Can capacity building of health care providers through alignment to evidence based chronic respiratory disease (CRD) management achieved by education, training and skill development improve CRD care in government health system?

Background

CRDs are a global health problem with 90% of the global burden of disease contributed by LMICs. India alone contributes to approximately one-third of the global burden, suggesting a high CRD burden and unmet health need. While CRDs are not curable, they can be effectively treated and controlled. The three-tier government health system with its state/country wide network can provide a solution to this problem if health care providers are oriented and trained in evidence-based CRD management.

Methodology

The study will be conducted using a one-group pre-test/post-test, quasi-experimental study design. A needs assessment will be conducted using a needs assessment tool (adapted WHO Harmonised Health Facility Assessment (HFFA)) and review of reports and registers to assess the gaps in facility and resources, the Knowledge, Attitudes, and Practices (KAP) questionnaire for health providers and exit interviews among patients. Intervention includes reorientation and tailored training sessions for primary care doctors, community health workers and therapists on the management of CRDs. Weekly review meetings will be held to monitor and evaluate the progress of patient education, screening, clinical review and follow-up. Improvement in CRD care will be measured using the WHO HFFA, health providers' pre- and post- KAP surveys, test of adherence to inhalers (TAI) questionnaire at 3, 6, 9, 12 months and trend in patients' perception by the adapted British Lung Foundation COPD Patient Passport.

Questions to discuss

- Is there a need for capacity building of primary health care providers in the management of CRD? Will it help in improving outcomes?
- How do we address the gaps in the available facilities and resources for health care providers for the management of CRD, in the government health system? For examples, when inhalers, spacers and spirometry are not available. Do we address it at policy level first so that the gaps are fulfilled leading to better care or do we need to provide evidence and then address policy?

Project page: 4CCORD: Quality Improvement & Upskilling

20 Schools as a platform for Asthma Program in Pakistan; A feasibility study

Dr Hana Mahmood1, Farah Shahab[1], Hira Zahid[1], Syed Yahya Sheraz[1]
[1]Neoventive Solutions, Pakistan

Background
Asthma is a chronic airway inflammation characterized by the presence of one or more of the asthma symptoms (wheezing, breathlessness, chest tightness and cough) caused by airflow obstruction. It is the most prevalent Non-Communicable Disease (NCD) in children with a global prevalence of 11.6% and is one of the top ten causes of Disability Adjusted Life Years (DALYs) in children between 5 to 14 years. A possible solution to improve childhood asthma morbidities and mortalities is via school health programmes which have been successful in improving health of children worldwide.

Possible Methodology
The study, thus, aims to investigate the regional context and perspectives of the local stakeholders in order to implement adaptations to the school-based asthma intervention designed to enhance the care of asthmatic children. Using the ADAPT process model, the project will consist of three phases. A school-based asthma intervention's rationale and fit with the context of the intervention will be explored in the first phase using qualitative methodologies. To understand the local context to adapt the intervention, the study will include non-participatory observation, document analysis, focus groups and interviews, with local stakeholders, including children with asthma, their caregivers, and school staff. The school-based asthma intervention will be modified to the local context in the second phase. The last stage would include a feasibility analysis of the modified intervention.

Questions to discuss
- What is the practical approach to identify children with asthma in schools?
- What are the issues in identifying children with asthma in schools?

Project page: AdAPT: Schools Feasibility Study

21 Improving the lives of children with asthma via schools in diverse low- and middle-income countries

Dr Siti Nurkamilla binti Ramdzan[1], Dr Ashish Satav[2], Assistance Professor Dr Atif Habib[3], Professor Dr Cissy Kartasasmita[4], Dr Farzana Khan[5], Dr Hana Mahmood[6], Professor Dr Jürgen Schwarze[7], Professor Dr Nik Sherina Haidi Hanafi[1], Associate Professor Dr Norita Hussein[1], Dr Rina Triasih[8], Professor Dr Sajid Soofi[3], Professor Dr Hilary Pinnock[7]
[1]Department of Primary Care Medicine, Universiti Malaya, Malaysia, [2]MAHAN Trust, India, [3]Aga Khan University, Pakistan, [4]Department of Child Health, Universitas Padjajaran, Indonesia, [5]Fasiuddin Khan Research Foundation, Bangladesh, [6]Neoventive Solutions, Islamabad, Pakistan, [7]Usher Institute, University of Edinburgh, UK, [8]Department of Pediatric, Faculty of Medicine Universitas Gadjah Mada, Indonesia

Research question
How do we adapt and deliver a school-based asthma programme in different low- and middle-income countries (LMICs), including those in humanitarian camps and tribal contexts?

Background
The WHO guideline on school health services recommends supporting self-management of children with asthma and first aid asthma training of school staff as essential school health services in all settings. However, many LMICs including their vulnerable settings have no school-based asthma programme. We plan to adapt a programme developed in Malaysia to improve the care of children with asthma in Bangladesh, Indonesia, India and Pakistan.

Methodology
This study is a mixed method approach guided by the ADAPT process model for adapting the programme to each new

context. The study includes three phases: 1) qualitative exploration of the rationale and intervention-context fit of a school-based asthma intervention, 2) adaptation of the school-based asthma intervention to the local context and 3) feasibility testing of the adapted intervention. We will work in partnership with local stakeholders, (children with asthma, their parents, school staff and healthcare professionals) to ensure that the interventions are adapted to their needs as well as the local context. The adapted asthma programme will be tested for its feasibility in each setting and the findings will be used to inform future trials.

Questions to discuss

- What is a practical approach to identify children with asthma in schools?
- Are there any anticipated issues identifying children with asthma in schools?

Project page: AdAPT: Schools Feasibility Study

22 Evaluating a school-based asthma training programme for primary school teachers: a pilot cluster-randomised controlled trial

Dr Siti Nurkamilla binti Ramdzan[1], Norita Hussein[1], Christine Shamala Selvaraj[1], Rizawati Ramli[1], Nik Sherina Hanafi[1], Ping Yein Lee[2], Adina Abdullah[1], Ai Theng Cheong[3], Sazlina Shariff Ghazali[3,4], Hani Salim[3], Ho Bee Kiau[5], Salbiah Mohamed Isa[5], Asiah Kassim[6], Chee Kuan Wong[7], Yong Kek Pang[7], Azainorsuzila Ahad[8], Ahmad Tajuddin Mohamad Nor[9], Ee Ming Khoo[1], Karuthan Chinna[10], Jürgen Schwarze[11], Hilary Pinnock[11]

[1]Department of Primary Care Medicine, Universiti Malaya, Malaysia, [2]UM eHealth Unit, Faculty of Medicine, University of Malaya, Malaysia, [3]Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [4]Malaysian Research Institute on Ageing, Universiti Putra Malaysia, Malaysia, [5]Botanic Health Clinic, Klang District, Ministry of Health Malaysia, [6]Department of Pediatric and Clinical Research Centre, Hospital Tunku Azizah, Hospital Kuala Lumpur, Malaysia, [7]Department of Medicine, Faculty of Medicine, Universiti Malaya, [8]Port Dickson Health Clinic, Port Dickson, Malaysia, [9]Emergency and Trauma Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia, [10]UCSI University Kuala Lumpur, Malaysia, [11]Usher Institute, University of Edinburgh, UK

Research question

How effective is a school-based asthma training program to improve knowledge among school staffs?

Background

The World Health Organization (WHO) guideline on school health services recommends supporting the care of children with asthma and providing first aid asthma training to school staff as essential in all settings. Malaysia, however, has no school-based asthma programme. Previously in RESPIRE-1, we developed a school-based asthma programme comprising of a session to train teachers to care for children with asthma in school. We found that it was feasible to deliver training the session and received good feedback. Now, we aim to conduct a pilot cluster randomised controlled trial (cRCT) to estimate the effectiveness of the programme.

Methodology

In a pilot cRCT the school-based asthma training programme will be compared with a general health education for school staff in government primary schools in Klang District, Malaysia. The research team will enlist and train the doctors and nurses of the Klang district school health team to deliver the school-based asthma programme. Two schools will be randomised to receive the intervention and another two to receive a general health education session. For primary outcome, we will assess the knowledge of school staff using a validated questionnaire at baseline, 1-month, 3-month, 6-month and 12-month post-intervention. The feasibility of implementing the programme will be assessed as a secondary outcome.

Questions to discuss

- How do we increase participation amongst school staff?
- How many schools do we invite to randomise one school to control and another in control?

Project page: ReACT: Schools

23 Asthma registry for primary care practices in Malaysia

Rizawati Ramli[1], Norita Hussein[1], Siti Nurkamilla Ramdzan[1], Adina Abdullah[1], Nik Sherina Hanafi[1], Chin Hai Teo[1,2], Ping Yein Lee[2], Hirahara Norimichi[2], Hooi Chin Beh[3], Ai Theng Cheong[4], Hani Syahida Salim[4], Sazlina Shariff Ghazali[4,5], Azainorsuzila Mohd Ahad[6], Zienna Zufida Zainol Rashid[7], Siti Fairuz Asahar[8], Yong Kek Pang[9], Chee Kuan Wong[9], Asiah Kassim[10], Ahmad Tajuddin Mohamad Nor[11], Karuthan Chinna[12], Ee Ming Khoo[1], Jürgen Schwarze[13], Hilary Pinnock[13]

[1]Department of Primary Care Medicine, Universiti Malaya, Malaysia, [2]UM eHealth Unit, Faculty of Medicine, Universiti Malaya, Malaysia, [3]Department of Primary Care Medicine, Universiti Malaya Medical Centre, Malaysia, [4]Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [5]Malaysian Research Institute on Ageing, Universiti Putra Malaysia, Malaysia, [6]Port Dickson Health Clinic, Port Dickson, Malaysia, [7]Pandamaran Health Clinic, Klang, Malaysia, [8]Bukit Kuda Health Clinic, Klang, Malaysia, [9]Department of Medicine, Universiti Malaya, Malaysia, [10]Department of Medical Peadiatric, Clinical Research Centre, Hospital Tunku Azizah, Kuala Lumpur, Malaysia, [11]Emergency and Trauma Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia, [12]UCSI University Kuala Lumpur, Malaysia, [13]Usher Institute, University of Edinburgh, UK

Research question

Would an asthma registry be useful to support healthcare providers in primary care clinics to better organise and manage data of patients with asthma?

Background

An asthma cohort was recruited in the previous RESPIRE Klang Asthma Cohort (KAC) study 2018-2021. The study identified lack of standardisation in the documentation of asthma status and monitoring in primary care practice and the process was not systematic. To date, these primary care clinics use a manual registry and the process varies among clinics. We propose to develop an asthma registry to support healthcare providers in primary care clinics to organise patients' data systematically to improve asthma care.

Methodology

This study has three phases: (1) Development of an asthma registry where a defined set of variables will be included, (2) Incorporate the registry in Microsoft Excel and Visual Basic for Applications (VBA) into the clinic's electronic medical system, followed by feasibility and usability study, and (3) Evaluate the implementation outcomes of the registry in two government primary care clinics in Klang District, Malaysia. A purposive sample of all healthcare providers will be invited. Study assessment will include a pre-intervention survey, usability testing using questionnaires at 1, 6 and 12 months of implementation, and qualitative interviews at 1 and 12 months of implementation.

Questions to discuss

- How to engage and enlist support from high-ranked government stakeholders to change the structure of public healthcare service?
- How to engage and enlist support from high-ranked government stakeholders to sustain and scale the use of the asthma registry?

Project page: Klang Asthma Registry

24 Developing a pragmatic asthma care delivery model (KAC-Kit) in primary care clinic

Rizawati Ramli[1], Norita Hussein[1], Siti Nurkamilla Ramdzan[1], Adina Abdullah[1], Nik Sherina Hanafi[1], Chin Hai Teo[1,2], Ping Yein Lee[2], Hirahara Norimichi[2], Hooi Chin Beh[3], Ai Theng Cheong[4], Hani Syahida Salim[4], Sazlina Shariff Ghazali[4,5], Azainorsuzila Mohd Ahad[6], Zienna Zufida Zainol Rashid[7], Siti Fairuz Asahar[8], Yong Kek Pang[9], Chee Kuan Wong[9], Asiah Kassim[10], Ahmad Tajuddin Mohamad Nor[11], Karuthan Chinna[12], Ee Ming Khoo[1], Jürgen Schwarze[13], Hilary Pinnock[13]

[1]Department of Primary Care Medicine, Universiti Malaya, Malaysia, [2]UM eHealth Unit, Faculty of Medicine, Universiti Malaya, Malaysia, [3]Department of Primary Care Medicine, Universiti Malaya Medical Centre, Malaysia, [4]Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [5]Malaysian Research Institute on Ageing, Universiti Putra Malaysia, Malaysia, [6]Port Dickson Health Clinic, Port Dickson, Malaysia, [7]Pandamaran Health Clinic, Klang, Malaysia, [8]Bukit Kuda Health Clinic, Klang, Malaysia, [9]Department of Medicine, Universiti Malaya, Malaysia, [10]Department of Medical Peadiatric, Clinical Research Centre, Hospital Tunku Azizah, Kuala Lumpur, Malaysia, [11]Emergency and Trauma Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia, [12]UCSI University Kuala Lumpur, Malaysia, [13]Usher Institute, University of Edinburgh, UK

Research question
What approaches are useful to support healthcare professionals in primary care clinics to better communicate, manage and monitor patients to achieve better asthma control and health outcomes?

Background
An asthma cohort recruited in RESPIRE Klang Asthma Cohort (KAC) study 2018-2021 identified suboptimal asthma control among the patients. There was lack of organisational support and healthcare resources and inadequate provision of evidence-based asthma care among healthcare providers. To address these gaps, we plan to develop a pragmatic asthma care delivery model (KAC-Kit) to assist in the delivery of asthma care via three main approaches:

1) Dedicated asthma care team
2) Asthma clinical pathways
3) Asthma education

Methodology
This study has three phases (1) Development of the KAC-Kit model, (2) Implementation at two government primary care clinics in Klang District, Selangor, Malaysia and (3) Evaluation of the implementation outcomes based on the Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM) framework. The assessment will consist of a pre-intervention questionnaire survey, qualitative interviews at 1 and 12 months of intervention, and ethnographic observation of the practices at 1, 6, and 12 months of intervention. To evaluate the clinical performance, patient data will be collected at 1, 6, and 12 months of intervention, and 6 months following the end of intervention. The indicators are the proportion of patients with:

1. well-controlled asthma
2. asthma controller prescribed
3. asthma action plan provided
4. follow-up appointments provided
5. asthma reliever overreliance
6. follow-up non-adherence
7. unscheduled visits

Question to discuss
How do we engage and improve the uptakes of healthcare providers to the implementation of multimodal intervention in primary care practice?

Project page: Klang Asthma Registry

25 Impacts of indoor air pollution on maternal and child health in Sri Lanka

Savithri Wimalasekera[1], Dushantha Madegedara[2], Thamara Amarasekara[1], Sampatha Goonewardena[1], Pathum Dissanayake[3], Duminda Yasaratne[3], Gayan Bowatte[3], Himansu Waidyasekera[1], Lalindra Kaththiriarachchi4, Gihani Jayaweera[4], Gayani Kanchana[1], Dulshan Jayasinghe[1], Chanaka Karunarathne[1], Akindra Kariyawasam[1], Damith Nissanka[1], Umanda Ganegoda[3], Kumudu Wickramathilaka[3]
[1]University of Sri Jayewardenepura, Sri Lanka, [2]National Hospital Kandy, Sri Lanka, [3]University of Peradeniya, Sri Lanka, [4]General Sir John Kotelawala Defence University, Sri Lanka

Biomass fuel combustion is the major source of indoor air pollution (IAP) worldwide. The adverse outcomes of indoor air pollution on maternal and child health are a significant public health concern. The current study will explore the impact of exposure to high and low levels of indoor air pollution on respiratory function, cognitive functions, quality of life, health status and growth and development of pregnant women, infants and children under 5 years of age in Sri Lanka.

This prospective longitudinal study will be conducted among 318 families who will be using different types of cooking fuels in rural and urban settings in Colombo and Kandy districts of Sri Lanka. Study duration will be 24 months. Stratified random sampling method will be utilized. Families having a pregnant mother with a child/children under 5 years will be recruited.

Quantitative and qualitative data will be collected using questionnaires, semi-structured interviews, and clinical assessments. The indoor air quality will be measured by monitoring particulate matter 2.5 concentration. Anthropometric data of infants, children, and pregnant women will be measured. Respiratory functions (using spirometry and impulse oscillometry) and cognitive functions (using Wechsler intelligence scales) will be assessed in pregnant mothers and children.

The results of the study will be useful to propose recommendations on how to reduce the impact of IAP and how to modify cooking stoves in an efficient way to reduce negative health effects.

Project page: Air Quality: Indoor

26 Text messaging for seasonal asthma in Islamabad, Pakistan

Osman Yusuf[1], Ahmad Kakakhail[1], Saqib Mustafa[1], Chun Lin[2], Hilary Pinnock[2], Jürgen Schwarze[2,3]
[1]The Allergy & Asthma Institute, Islamabad, Pakistan, [2]Usher Institute, University of Edinburgh, UK, [3]Child Life and Health, Centre for Inflammation Research, University of Edinburgh, UK

Research Question
Can short messaging service (SMS) alerts of increased paper mulberry pollens counts be used for managing seasonal asthma in Islamabad?

Background
Asthma in spring in Islamabad is a major health menace. In the absence of adequate preventative health measures, we aim to develop a text messaging service to guide patients on asthma management, based on the airborne count of the suspected allergenic paper mulberry pollens.

Research Methods
The study will be a pilot randomised control trial.

a. Participants will be recruited from patients attending the Allergy and Asthma Institute, Pakistan clinics, based on a history and a positive skin prick test to paper mulberry pollen.
b. After obtaining informed consent, all participants will be trained to record their daily peak flow readings, and to fill in the Control of Allergic Rhinitis and Asthma Test (CARAT) questionnaire, which they will record once a week.
c. The participants will be randomised into study and control groups by a software.
d. The study group will be advised on asthma and allergic rhinitis management according to the GINA and ARIA guidelines before the pollen season, and provided with a written action plan.
e. The study group will be advised by the consultant physician via text messaging to follow the written action plan (the control group will not receive such information).

Question to Address
Is text messaging a beneficial tool in assisting self-management of asthma in seasonal allergy and asthma patients?

Project page: Air Quality: Pollen

27 Developing and evaluating a mobile phone-based early alert system using high resolution air quality forecast to improve asthma control in Malaysia

Norita Hussein[1], Chun Lin[2], Wee Cheah[3], Chng Saun Fong[4], Adina Abdullah[1], Wei Leik Ng[1], Mohd Talib Latif[5], Maggie Chel Gee Ooi[6], Norimichi Hirahara[7], Chee Kuan Wong[8], Yong Kek Pang[8], Nasrin Aghamohammadi[9], Sin Ban Ho[10], Jenny Stocker[11], Kate Johnson[11], Jay Evans[2], Nik Sherina Hanafi[1], Ping Yein Lee[7], Siti Nurkamilla Ramdzan[1], Rizawati Ramli[1], Ai Theng Cheong[12], Sazlina Shariff Ghazali[12], Poh Ying Lim[13], Hani Syahida Salim[12], Bee Kiau Ho[14], Hilary Pinnock[2], Ee Ming Khoo[1]

[1]Department of Primary Care Medicine, Faculty of Medicine, Universiti Malaya, Malaysia, [2]Usher Institute, University of Edinburgh, UK, [3]Institute of Ocean and Earth Sciences, Universiti Malaya, Malaysia, [4]Institute for Advanced Studies, Universiti Malaya, Malaysia, [5]Department of Earth Sciences and Environment, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Malaysia, [6]Center for Tropical Climate Change System, Institute of Climate Change, Universiti Kebangsaan Malaysia, Malaysia, [7]UM eHealth Unit, Faculty of Medicine, Universiti Malaya, Malaysia, [8]Department of Medicine, Faculty of Medicine, Universiti Malaya, Malaysia, [9]Department of Social and Preventive Medicine, Faculty of Medicine, Universiti Malaya, Malaysia , [10]Faculty of Computing and Informatics, Multimedia University, Malaysia, [11]Cambridge Environmental Research Consultants, United Kingdom, [12]Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [13]Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [14]Botanik Health Clinic, Klang District, Ministry of Health, Malaysia

Research question

What is the effectiveness of mobile phone-based application using high resolution air quality forecast as an alert system in improving asthma control in Klang District, Malaysia?

Background

Outdoor air pollution, particularly haze, is common in Southeast Asia, including Malaysia. Haze has been associated with increased asthma exacerbations. In earlier studies funded by RESPIRE (2018-2021), we found 66% of adult asthma patients have poor asthma control; 51% of them reporting haze as a trigger. Exposure to haze was significantly associated with poor control (OR 1.51; 95% CI 1.13-2.01). We also identified, with every 10 µg/m3 increase in PM10, there was 8.7% increased risk of asthma exacerbation (RR 1.087; 95% CI 1.023--1.155) and exacerbation was likely to occur 2 days after exposure. We propose to develop and evaluate a mobile phone-based early alert system for individuals with asthma and evaluate the effectiveness on asthma control.

Methodology

There are 3 phases of work:

- Phase 1: Development of an air quality forecasting system incorporating the Atmospheric Dispersion Modelling System (ADMS-Urban) model.
- Phase 2: Adapting a mobile healthcare application (m-app) to incorporate the air quality forecasting system and asthma self-management.
- Phase 3: Pilot-RCT to assess the feasibility of using the adapted m-app as an early alert system to support asthma self-management.

Primary outcome is asthma control, measured using GINA Asthma Symptoms Control. Secondary outcomes are clinical (eg. PEFR, emergency visits) and app usability (eg. frequency of use, dropout rates).

Question to discuss

How do we maintain and sustain the use of this app after study completion?

Project page: Air Quality: Haze

28 A mHealth intervention (mTB-Tobacco) for smoking cessation in people with tuberculosis: a two-stage adaptive design, randomised trial

Maham Zahid[2], Amina Khan[2], Rumana Huque[1], Kamran Siddiqi[3]
[1]Ark Foundation, Bangladesh, [2]The Initiative, Pakistan, [3]University of York, UK

Introduction
Tuberculosis (TB) is a global health issue, reporting 10 million new cases and 1.5 million deaths annually. Smoking accounts for 16% of total TB-burden which increases the likelihood of acquiring TB infection and disease. Although face-to-face behavioural interventions have been successful in helping patients quit smoking, but their implementation in low middle-income countries is challenging. To overcome the challenges, World Health Organization developed a mHealth intervention, comprising of smoking cessation package that delivers short messaging service (SMS) messages to patients via mobile phones, encouraging them to quit. The aim is to explore effectiveness of mTB-Tobacco intervention in context of low- and middle-income countries.

Objective
The primary objective is to assess effectiveness and cost-effectiveness of mTB-Tobacco to achieve continuous abstinence for at least 6 months, along with improvements in TB treatment adherence and clinical outcomes as secondary objectives.

Study design
A multicentre, cluster randomised controlled trial will be conducted at 44 TB healthcare facilities in Pakistan and Bangladesh, with 2384 participants >15 years of age, diagnosed with TB, current smokers, willing to quit, and access to mobile phone. Firstly, 904 participants will be enrolled in a superiority trial, receiving mTB-Tobacco or usual-care, followed by a non-inferiority trial enrolling 1480 participants, receiving mTB-Tobacco or behavioural therapy. Primary outcome will be biochemically verified abstinence at 6-months, while improved clinical outcome and treatment adherence as secondary outcomes. Health economic evaluation along with statistical analysis will be done.

Implications
This study will strengthen existing engagement with national TB control programmes and help them adopt cost-effective approaches to smoking cessation among patients with TB.

Project page: Quit 4 TB Trial

RESPIRE Delegates

	Name	Role on RESPIRE	Affiliation
Bangladesh	Fariha Islam Munia	Stakeholder Engagement Champion	ARK Foundation
	Samina Huque	Research Team Member	
	Rumana Huque	Partner Lead	
	SM Rowshan Alam	Research Team Member	Bangladesh Primary Care Respiratory Society
	GM Monsur Habib	Partner Lead	
	Ajay Kumar Roy	Stakeholder Engagement Champion	
	Samin Huq	Stakeholder Engagement Champion	Child Health Research Foundation
	Senjuti Saha	Research Team Member	
	Mehedi Hasan	Research Team Member	
	Hakka Naziat	Capacity Building Lead - Bangladesh	
	Mohammad Shahidul Islam	Project Co-I	
	Farida Yousuf	Research Team Member	Fasiuddin Khan Research Foundation (FKRF)
	Hasina Karim	Research Team Member	
	Farzana Khan	Knowledge Mobilisation Hub Co-Chair	
	Kazi Sarmad Karim	Stakeholder Engagement Champion	
	Ahmed Ehsanur Rahman	Research Team Member	International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b)
	Shafiqul Ameen	Research Team Member	
	Salahuddin Ahmed	Affiliate Partner Lead	Projahnmo Research Foundation
	Ahad Mahmud Khan	Affiliate Partner Team Member	
Bhutan	Yeshey Om Tshering	Capacity Building Lead - Bhutan	Jigme Dorji Wangchuck National Referral Hospital

	Name	Role on RESPIRE	Affiliation
India	Biswajit Paul	Partner Lead	Christian Medical College, Vellore
	Sangeetha Rathnam Kamalarathnam	Research Team Member	
	Dhiraj Agarwal	Partner Lead	KEM Hospital Research Centre Pune
	Sanjay Juvekar	Platform Co-Lead: Stakeholder Engagement & Community Engagement and Involvement	
	Tapas Kumar Mohanty	Informatics & Data Science Liaison Officer	
	Tathagata Bhattacharjee	Platform Co-Lead: Open Science, Data & Methodologies	
	Diksha Naresh Singh	RESPIRE PhD Student	
	Anand Kawade	Research Team Member	
	Shally Awasthi	Research Team Member	King George's Medical University, India
	Divas Kumar	Research Team Member	
	Vibhawari Dani	Research Team Member	MAHAN trust
	Ashish Satav	Partner Lead	
	Dhananjay V Raje	Stakeholder Engagement Champion	
	Shubhada Khirwadkar	Capacity Building Lead - India	
	Sundeep Salvi	Affiliate Partner Lead	Pulmocare Research and Education (PURE) Foundation
	Deesha Ghorpade	Affiliate Partner Team Member	
Indonesia	Setyowireni Dwi Kisworo	Affiliate Partner Research Team Member	Universitas Gadjah Mada
	Rina Triasih	Affiliate Partner Lead, Project Co-I	
	Cissy Kartasasmita	Partner Lead	Universitas Padjadjaran (UnPad)
	Diah Asri Wulandari	Research Team Member	
	Qorinah Estiningtyas Sakilah Adnani	Stakeholder Engagement Champion	
	Nova Sylviana	Capacity Building Lead - Indonesia	
Independent	Matthews Mathai	International Steering Committee Member	Consultant
	Surinder Jaswal	International Steering Committee Member	Tata Institute of Social Sciences
	Christopher Bullen	International Steering Committee Member	The University of Auckland
	Celina Gorre	International Steering Committee Chair	WomenHeart

	Name	Role on RESPIRE	Affiliation
Malaysia	Wai Khew Lee	Affiliate Partner Lead, Project PI	Luyang Health Clinic, Ministry of Health Malaysia
	Teck-Hock Toh	Affiliate Partner Lead	Sibu Hospital
	Kay Nathan	Research Manager - Malaysia	Universiti Malaya
	Ee Ming Khoo	Co-Director	
	Nik Sherina Hanafi	Programme Co-Lead: Non-Communicable Diseases	
	Nursyuhada Binti Sukri	Stakeholder Engagement Champion	
	Kamilla Ramdzan	RESPIRE Global Research Fellow	
	Rizawati Ramli	Project Co-I	
	Wee Cheah	Research Team Member	
	Adina Abdullah	Research Team Member	
	Chee Kuan Wong	Project Co-I	
	Siti Nur Husna Muhamad	Education, Training and Capacity Building Platform Coordinator	
	Sazlina Ghazali	Project Co-I	Universiti Putra Malaysia
	Ai Theng Cheong	Partner Lead	
	Hani Salim	RESPIRE Global Research Fellow	
Pakistan	Sajid Bashir Soofi	Partner Lead	Aga Khan University
	Shabina Ariff	Project PI	
	Ramsha Tariq Baig	Stakeholder Engagement Champion	Allergy and Asthma Institute Pakistan (AAIP)
	Ahmad Kakakhail	Research Team Member	
	Rubina Aman	Project PI (for AAIP)	Riphah International University, Pakistan
	Zaki Ahmed Uddin	Platform Co-Lead: Digital Health and Innovation	
	Marium Soomro	Digital Health Platform Support	
	Hana Mahmood	Platform Co-Lead: Education, Training and Capacity Building	Neoventive Solutions
	Syed Yahya Sheraz	Research Team Member	
	Farah Shahab	Research Team Member	
	Saman Mujeeb	Capacity Building Lead - Pakistan	
	Amina Khan	Partner Lead	The Initiative
	Maham Zahid	Stakeholder Engagement Champion	

	Name	Role on RESPIRE	Affiliation
Sri Lanka	Dushantha Madegedara	Affiliate Partner Lead, Project PI	National Hospital Kandy
	Duminda Yasaratne	Partner Lead	University of Peradeniya
	Gayan Bowatte	Research Team Member	
	Savithri Wimalasekera	Programme Co-Lead: Preventable Risk Factors	University of Sri Jayewardenepura
	Dulshan Jayasinghe	Research Team Member	
	Anoja Wimalasekera	Stakeholder Engagement Champion	
	Sampatha Goonewardena	Capacity Building Lead - Sri Lanka	
UK	Siân Williams	Platform Co-Lead: Stakeholder Engagement & Community Engagement and Involvement	International Primary Care Respiratory Group (IPCRG)
	Jay Evans	Digital Health and Innovation Platform Coordinator	Interactive Health
	Nina Jamieson	Partner Lead	ISARIC Global Support Centre, Pandemic Sciences Institute
	Helen Stagg	Research Theme Lead: Tuberculosis (TB)	London School of Hygiene & Tropical Medicine
	Kamran Siddiqi	Research Theme Lead: Tobacco	University of York
	Aziz Sheikh	Co-Deputy Director	
	Dominique Balharry	RESPIRE Research and Operations Manager	
	Morag Edwards	RESPIRE Operations Coordinator	
	Ai Keow Lim	Programmes and Trials Manager	
	Chun Lin	Air Quality Programme Coordinator	
	Kitty Flynn	Communications, Marketing and Engagement Officer	
	Emily Healy	Unit Operations Assistant	
	Laura Gonzalez Rienda	Community Engagement and Involvement Platform Research and Operations Assistant	
	Harish Nair	Programme Co-Lead: Infectious Diseases	
	Hilary Pinnock	Programme Co-Lead: Non-Communicable Diseases	

	Name	Role on RESPIRE	Affiliation
UK	Linda Bauld	Programme Co-Lead: Preventable Risk Factors	University of Edinburgh
	Genevie Fernandes	Stakeholder Engagement Research Fellow and Knowledge Mobilisation Hub Coordinator	
	Ruth McQuillan	Platform Co-Lead: Education, Training and Capacity Building	
	Monica Fletcher	Platform Co-Lead: Digital Health and Innovation	
	David Weller	Research Theme Lead: Adult Health	
	Jürgen Schwarze	Research Theme Lead: Child Health	

NIHR Global Health Research Unit on Respiratory Health (RESPIRE)
RESPIRE aims to reduce the number of deaths and wider health and societal impacts from respiratory diseases in some of the world's most disadvantaged populations.

Co-led by the University of Edinburgh and Universiti Malaya, RESPIRE partners based in Bangladesh, Bhutan, India, Indonesia, Malaysia, Pakistan, and Sri Lanka collaborate to deliver low-cost, scalable policy and clinical interventions to reduce respiratory disease and death in Asia.

RESPIRE is funded by the UK National Institute for Health and Care Research (NIHR), using UK aid from the UK Government to support global health research.

Learn more at www.ed.ac.uk/usher/respire/ or **@RESPIREGlobal** on Twitter/X and Facebook