

# Asthma and air pollution

<b>Submission date</b> 04/02/2025	<b>Recruitment status</b> Recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 05/02/2025	<b>Overall study status</b> Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 05/02/2025	<b>Condition category</b> Respiratory	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and aims

Cooking on natural gas stoves is a major source of indoor air pollution, and this may be detrimental for people with asthma. This study will determine if changing gas stoves to electric stoves leads to an improvement in asthma control as measured by a symptom questionnaire.

### Who can participate?

Households that use a gas stove for cooking, have at least one person with asthma, and are located in or near Cleveland, Ohio, United States of America.

### What does the project involve?

This project team will change gas stoves to electric stoves at no charge to participating households. Changing the stove may take up to 1 week if a kitchen electrical upgrade is needed. Participants will be followed for 2-3 months after the stove change.

### What are the possible benefits and risks of participating?

The potential benefit is an improvement in asthma control. There are no anticipated risks.

### Where is the project run from?

The MetroHealth System (USA)

### When is the project starting and how long is it expected to run for?

January 2024 to October 2027

### Who is funding the project?

The United States Environmental Protection Agency (USA)

### Who is the main contact?

Dr Ashwini Sehgal, sehgal@case.edu

## Contact information

### Type(s)

Public, Scientific, Principal Investigator

**Contact name**

Dr Ashwini Sehgal

**Contact details**

2500 MetroHealth Drive  
Rammelkamp Building Room 219  
Cleveland  
United States of America  
44109  
+1 (0)2167787728  
sehgal@case.edu

**Additional identifiers****EudraCT/CTIS number**

Nil known

**IRAS number****ClinicalTrials.gov number**

Nil known

**Secondary identifying numbers**

5F00E04015-0

**Study information****Scientific Title**

Asthma and indoor air pollution

**Study objectives**

Replacing gas stoves with electric stoves will improve asthma control

**Ethics approval required**

Ethics approval required

**Ethics approval(s)**

Approved 15/08/2024, MetroHealth IRB (2500 MetroHealth Drive, Cleveland, 44109, United States of America; +1 (0)216 778 7237; IRBOffice@metrohealth.org), ref: STUDY00000666

**Study design**

Interventional multi-site unblinded non-randomized single-arm study

**Primary study design**

Interventional

**Secondary study design**

Non randomised study

**Study setting(s)**

Community

### **Study type(s)**

Treatment

### **Participant information sheet**

Not available in web format, please use the contact details to request a participant information sheet

### **Health condition(s) or problem(s) studied**

Asthma

### **Interventions**

This project team will change gas stoves to electric stoves at no charge to participating households. Changing the stove may take up to 1 week if a kitchen electrical upgrade is needed. Participants will be followed for 2-3 months after the stove change.

### **Intervention Type**

Other

### **Primary outcome measure**

Asthma control assessed using the Asthma Control Questionnaire at baseline (defined as 1-4 weeks before stove change) and at follow-up (defined as 2-3 months after stove change)

### **Secondary outcome measures**

There are no secondary outcome measures

### **Overall study start date**

01/01/2024

### **Completion date**

31/10/2027

## **Eligibility**

### **Key inclusion criteria**

1. At least one person in the household has self-reported asthma
2. Person with asthma has an asthma control questionnaire score of 1.5 or higher
3. Household uses a gas stove for cooking and is interested in changing to an electric stove
4. Household located in or near Cleveland, Ohio, United States of America

### **Participant type(s)**

Patient

### **Age group**

All

### **Sex**

Both

**Target number of participants**

265

**Key exclusion criteria**

Does not meet the inclusion criteria

**Date of first enrolment**

10/02/2025

**Date of final enrolment**

30/09/2027

**Locations****Countries of recruitment**

United States of America

**Study participating centre****The MetroHealth System**

2500 MetroHealth Drive

Cleveland

United States of America

44109

**Sponsor information****Organisation**

MetroHealth

**Sponsor details**

2500 MetroHealth Drive

Rammelkamp Building

Cleveland

United States of America

44109

+1 (0)2167787800

taung@metrohealth.org

**Sponsor type**

Hospital/treatment centre

**Website**

<http://www.metrohealth.org/>

ROR

## Funder(s)

### Funder type

Government

### Funder Name

U.S. Environmental Protection Agency

### Alternative Name(s)

United States Environmental Protection Agency, Environmental Protection Agency, Agencia de Protección Ambiental de Estados Unidos, US Environmental Protection Agency, EPA, U.S. EPA, US EPA, USEPA

### Funding Body Type

Government organisation

### Funding Body Subtype

National government

### Location

United States of America

## Results and Publications

### Publication and dissemination plan

Planned publication in medical or public health journal

### Intention to publish date

30/09/2028

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analyzed will be available upon request from Dr Ashwini Sehgal (sehgal@case.edu)

### IPD sharing plan summary

Available on request