

Asthma and air pollution

Submission date 04/02/2025	Recruitment status Recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 05/02/2025	Overall study status Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 05/02/2025	Condition category Respiratory	<input type="checkbox"/> Individual participant data <input 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**Clinical Trials Information System (CTIS)**

Nil known

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

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

Study type(s)

Treatment

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(s)

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)

Key secondary outcome(s)

There are no secondary outcome measures

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

Healthy volunteers allowed

No

Age group

All

Sex

All

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

ROR
<https://ror.org/0377srw41>

Funder(s)

Funder type
Government

Funder Name
U.S. Environmental Protection Agency

Alternative Name(s)
United States Environmental Protection Agency, Environmental Protection Agency, US
Environmental Protection Agency, Agencia de Protección Ambiental de Estados Unidos, 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

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

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes