

# Classroom air cleaning technology study

<b>Submission date</b> 03/03/2022	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 11/03/2022	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 07/03/2022	<b>Condition category</b> Infections and Infestations	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

The COVID-19 pandemic has wreaked havoc upon the education of a whole generation of school children. It is estimated that school children have lost at least a half of an academic year due to the pandemic. Education analysts have assessed the numbers of children achieving or exceeding the expected level for their age in reading, writing and maths compared with pre-pandemic scores.

Whilst rates of transmission of COVID-19 have dropped during the summer months there is a high risk that if no action is taken to mitigate airborne transmission, the risk of infection is likely to increase again in the autumn and winter seasons. The result being further school closures. The aim of this study is to conduct an early phase trial of two air cleaning technologies with a focus on feasibility and practical implementation. The air cleaning technologies have the potential to mitigate the aerosol transmission of viral particles - including the SARS-CoV-2 virus - within schools. This study seeks to explore the practicalities and possible benefits of fitting schools with these technologies.

### Who can participate?

The study will be conducted within 30 primary schools in Bradford, UK.

### What does the study involve?

The study will have three arms: a control arm and two intervention arms; one with installation of portable high efficiency particulate air (HEPA) filter units, and the other with installation of germicidal ultraviolet (GUV) devices.

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

There is a potential benefit for children and staff within the schools with air cleaning technology (i.e. reduced infection from air borne illness) but this remains to be determined. There are little to no risks associated with the research (the worse case scenario is a data breach that would reveal data – schools absences – that are already collected within the Local Authority).

### Where is the study run from?

The study is run from the Centre for Applied Education Research which is based at the Bradford Teaching Hospitals NHS Foundation Trust, UK.

When is the study starting and how long is it expected to run for?  
January 2021 to September 2022

Who is funding the study?  
The study is funded by the Department for Health and Social Care (UK)

Who is the main contact?  
Prof. Mark Mon-Williams, M.Mon-Williams@leeds.ac.uk

**Study website**  
<https://caer.org.uk/air-cleaning-technologies/>

## Contact information

**Type(s)**  
Principal Investigator

**Contact name**  
Prof Mark Mon-Williams

**ORCID ID**  
<http://orcid.org/0000-0001-7595-8545>

**Contact details**  
Centre for Applied Education Research  
Wolfson Centre for Applied Health Research  
Bradford Royal Infirmary  
Duckworth Lane  
Bradford  
United Kingdom  
BD9 6RJ  
+44 1274 36 6878  
M.Mon-Williams@leeds.ac.uk

## Additional identifiers

**EudraCT/CTIS number**  
Nil known

**IRAS number**

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**  
BTHFT 2662

## Study information

**Scientific Title**

Phase 1 trial of COVID-19 airborne transmission prevention technologies

**Acronym**

Class-ACT

**Study objectives**

Air Cleaning Technologies reduce the transmission of COVID-19 in school pupils and staff

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Approved 13/12/2021, School of Psychology Research Ethics Committee (School of Psychology, University of Leeds, LS2 9JT, UK; +44 113 343 5724; G.S.Finlayson@leeds.ac.uk), ref: PSYC-414

**Study design**

Multi centre randomized controlled trial of environmental interventions

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

School

**Study type(s)**

Other

**Participant information sheet**

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

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

Prevention of COVID-19 transmission in school pupils and staff

**Interventions**

This study will be an early phase trial of two air cleaning technologies with a focus on feasibility and practical implementation. This study seeks to explore the practicalities and possible benefits of fitting schools with these technologies in order to mitigate the aerosol transmission of viral particles -including the SARS-CoV-2 virus. The study will be conducted within 30 primary schools in Bradford, UK.

The study will have three arms: a control arm and two intervention arms; one with the installation of portable high-efficiency particulate air (HEPA) filter units, and the other with the installation of germicidal ultraviolet (GUV) devices. Participating schools will be randomly allocated to each arm.

Randomisation process: Schools names were drawn from a bag

Intervention & follow up length: 1st August 2021 – 1st August 2022

**Intervention Type**

Device

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

portable high-efficiency particulate air (HEPA) filter units, germicidal ultraviolet (GUV) devices

**Primary outcome measure**

School absences for COVID-19 measured using anonymised data contained in schools information management systems and relayed to Local Authority at weekly intervals

**Secondary outcome measures**

1. CO2, humidity, PM2.5 & PM10 levels in classrooms measured through air monitoring devices at 60 second intervals and relayed via API.
2. Power usage levels for HEPA devices measured through power consumption monitoring devices at 60 second intervals and relayed via API.
3. Primary and secondary Care level data will be collect via Connected Yorkshire data set at weekly intervals. The Connected Yorkshire programme links disparate routine electronic data in an anonymised database across primary care, secondary care, community care and social care for over 700,000 individuals at Bradford Teaching Hospitals NHS Foundation Trust.

**Overall study start date**

05/01/2021

**Completion date**

30/09/2022

**Eligibility****Key inclusion criteria**

1. Primary school
2. 5 - 11 year-old students
3. Naturally ventilated buildings

**Participant type(s)**

Other

**Age group**

Mixed

**Sex**

Both

**Target number of participants**

30 schools

**Total final enrolment**

**Key exclusion criteria**

1. Mechanically ventilated schools
2. Secondary schools
3. Further education establishments

**Date of first enrolment**

01/06/2021

**Date of final enrolment**

31/08/2021

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

England

United Kingdom

**Study participating centre****Centre for Applied Education Research**

Temple Bank House

Bradford Royal Infirmary

Duckworth Lane

Bradford

United Kingdom

BD9 6RJ

**Sponsor information****Organisation**

Bradford Teaching Hospitals NHS Foundation Trust

**Sponsor details**

Duckworth Ln

Bradford

England

United Kingdom

BD9 6RJ

+44 1274 36 6878

Jane.Dennison@bthft.nhs.uk

**Sponsor type**

Hospital/treatment centre

**Website**

<https://www.bradfordhospitals.nhs.uk/>

**ROR**

<https://ror.org/05gekvn04>

## Funder(s)

**Funder type**

Government

**Funder Name**

UK Health Security Agency

## Results and Publications

**Publication and dissemination plan**

Key findings will be reported back to participating schools, in the form of individual site reports. Findings will be reported to the Department for Health and Social Care in the form of reports. Presentations at scientific meetings and conferences as well as peer-reviewed open access publications will be used to disseminate the wider findings of the study

**Intention to publish date**

31/12/2022

**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study will be stored in the non-publicly available repository within the Bradford Institute of Health Research. The datasets generated during and/or analysed during the current study are/will be available upon request. (M.Mon-Williams@leeds.ac.uk)

**IPD sharing plan summary**

Stored in non-publicly available repository, Available on request

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>			07/03/2022	No	Yes
<a href="#">Protocol file</a>			07/03/2022	No	No