



UNIVERSITY OF
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NHS
University Hospitals
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CLEAN AIR FOR ALL

PUBLIC ENGAGEMENT EVENT

20 NOV 2019 QUEEN ELIZABETH HOSPITAL
BIRMINGHAM

SUMMARY REPORT

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EXECUTIVE SUMMARY

A public workshop was held on 20 November 2019 to inform the public about the health effects of poor air quality, explore their opinions about this issue and answer their questions. The event was held at the Queen Elizabeth Hospital, Birmingham. It was jointly organised by staff of University Hospitals Birmingham (UHB) and the University of Birmingham (UoB), and promoted by Birmingham Health Partners.

The event consisted of short talks from five speakers, a panel discussion and networking with information stalls from external organisations. 108 people attended the event, of which just over half identified themselves as members of the public, rather than staff/students of UHB/UoB. Approximately half of the delegates reported that they, or a relative of theirs, had a lung condition. The majority of delegates were from Birmingham city with the remainder mainly from the West Midlands region.

Broadly speaking, the delegates were already engaged, interested and fairly knowledgeable about the issues which were being discussed. The lecture theatre session began and ended with interactive sessions using electronic polling devices to explore the knowledge base and canvass opinions from the delegates.

Speakers from UoB School of Geography, Earth and Environmental Sciences, UoB Institute of Applied Health Research, UHB Department of Strategy and Planning, the British Lung Foundation and an independent speaker spoke on the following topics:

1. Current trends in air quality in the West Midlands
2. The impacts of air quality on human health
3. The contributions of hospitals and the NHS to poor air quality and how this can be mitigated
4. How to campaign for better air quality
5. How poor air quality affects the daily lives of people with lung conditions

Feedback forms were received from 71 delegates. Overall feedback about the event was generally very positive. The interactive format with varied activities was well received, though many delegates would have valued additional networking time. The speakers were considered to have a high level of credibility and specialist expertise and the overwhelming majority of delegates felt they were better informed about air quality having attended the event.

There is clearly an appetite amongst this audience group for further events to learn more about, and be involved in, future conversations around air quality. Venues suggested for future events include hospitals, schools, council offices, community halls, particularly targeting those areas of the West Midlands most affected by poor air quality. In addition delegates would welcome additional engagement events focusing upon a range of topical contemporary environmental and public health issues, such as climate change, plastics and housing.

The event was funded by the Public Engagement in Research Committee at University of Birmingham.

INTRODUCTION

BACKGROUND

Air pollution has substantial impacts upon public and environmental health, and imposes direct and indirect economic costs upon city-regions, public and private sector organisations.¹ Air pollution in the West Midlands affects some 2.8 million people, reducing average life expectancy by up to 6 months,² and is responsible for economic costs estimated at £860m per year.³ Air quality has, therefore, been identified as a first order priority by Birmingham & Solihull NHS Sustainability and Transformation Partnership (STP). Furthermore, the formation of the West Midlands Combined Authority (WMCA) has brought a more integrated approach to regional environmental policy development and an opportunity for academic and health partners to support air quality policy.

AIMS

The event was intended to provide an opportunity for researchers, clinicians and policymakers to talk to local people about the impacts of air pollution upon their daily lives and to solicit their views.

The elements of the event were:

- information stands from various stakeholders including researchers, industry partners and community/charity groups (to take place on the balcony mezzanine level outside the lecture theatre)
- interactive sessions using electronic polling equipment to gather views and explore baseline knowledge from the audience
- short presentations by expert speakers
- panel discussion with questions from the audience

Presentations were delivered on:

1. The current state of air quality in Birmingham and the West Midlands
2. Current knowledge on the impacts of poor air quality on human health
3. The impact of hospitals and the NHS on air quality
4. The UHB sustainability strategy
5. The work of the British Lung Foundation in campaigning for better air quality
6. The effect of poor air quality on individuals with lung disease

Information was gathered regarding the audience's attitudes and concerns around air quality during the interactive sessions, panel discussion and written feedback forms. Contact details were gathered to allow development of a network of concerned citizens and groups for further engagement.

FORMAT

The organising committee consisted of Dr Suzanne Bartington, Dr Margaret O'Hara and Dr Derren Cresswell.

The programme of events is shown in Appendix 1. The venue was the Education Centre at the Queen Elizabeth Hospital, Birmingham. The education centre is on the first floor of the hospital and has a

¹ Every Breath We Take: The lifelong impact of air pollution, Royal College of Physicians report, 2016;

² UK Air Quality Strategy, DEFRA, 2007, Air Quality: economic analysis, DEFRA, 2013

³ HM Treasury, "Air Quality: Economic Analysis" Green Book, 2015

mezzanine level overlooking the main entrance atrium. This is a large open space where tables were placed for the stallholders to display their materials. Adjacent to this in the same open area was a table with refreshments. Delegates were able to take refreshments and browse the stalls during the opening half-hour of the event. The venue is fully wheelchair accessible with a lift directly from the ground floor of the main entrance area of the hospital.

The presentations and panel discussion were delivered in a 200-seat lecture theatre adjacent to the mezzanine. In order to assist with practical tasks four Worklink students were hired from UoB.

Lawrence Tallon, Director of Corporate Strategy, Planning and Performance, UHB, hosted the event, introduced the speakers and chaired the discussion session. Interactive voting sessions were led by Margaret O'Hara (MO). Presentations were given as shown in the table below.

Title	Speaker	Role	Institution
<i>Air Pollution in Birmingham – Past, Present and Future</i>	Professor William Bloss	Professor of Atmospheric Science	School of Geography, Earth and Environmental Sciences, UoB
<i>Air Pollution: The Public Health Challenge of Our Time</i>	Dr Suzanne Bartington	Clinical Research Fellow	Institute of Applied Health Research, UoB
<i>Integrating Clean Air and Sustainability In The Healthcare Sector</i>	Phillippa Hentsch	Head of Strategy & Analysis	University Hospitals Birmingham
<i>Advocacy and Campaigning for Cleaner Air</i>	Sandra Green	Campaign Network Coordinator	British Lung Foundation
<i>A patient's perspective</i>	Bridget Malin	Independent	

The panel for the panel discussion consisted of William Bloss, Suzanne Bartington, Philippa Hentsch and Sandra Green.

Information stalls were presented by:

1. Sustrans West Midlands
2. The British Lung Foundation
3. The Tree Design Action Group
4. Birmingham Friends of the Earth
5. WM-Air (The West Midlands Air Quality Improvement Programme <https://wm-air.org.uk/>)

Information was collected from delegates in three ways:

- Anonymous voting using 'Turning Point' electronic voting software
- Notes taken during panel discussion
- Written feedback forms (the feedback form is shown in Appendix 3)

MARKETING AND COMMUNICATIONS

The event was branded as a Birmingham Health Partners (BHP) event and the BHP communications lead, Louise Stanley, promoted the event through the BHP website and social media accounts. The event was listed on Eventbrite and this was used to manage registrations. The event page on the BHP website had 585 views. The Eventbrite page had 1316 views and the total number of registrations was 166.

The event was advertised using the promotional materials shown in Appendix 2 via:

- Communications channels to students and staff at Staff at UHB and UoB
- Local Patient and Public Involvement in Research Groups at UHB and UoB
- UHB Patient, Carer and Community Council
- Direct mail to various community groups
- A wide network of social media accounts
- Posters at UHB and UoB and a display banner at University Station

The event was tweeted on the hashtag #CleanAir4All. Twitter engagement from the @BHPComms account is summarised below

Tweets	37
Impressions	53,089
Engagements	1,443
Likes	272
Retweets	152
Link clicks	97
Replies	13
Video views	344

A Thread Reader unroll of the @BHPComms tweets can be viewed at <https://threadreaderapp.com/thread/1197212653682331649.html>

A blog post summarising the event was posted on the BHP website and is available at <https://www.birminghamhealthpartners.co.uk/clean-air-for-all/>

DELEGATE CHARACTERISTICS

In the first interactive session, delegates were asked to anonymously provide some basic information about themselves using the voting pads. It should be noted that the hardware is not always reliable and most questions were not answered by the entire audience. In the interests of time it was necessary to move on with questions before all of the votes had been registered. For each of the questions, percentages are reported and the number of responses will be given for each individual question.

Home location, gender and age of delegates are shown in tables 1 – 3. The majority of delegates were from Birmingham with most of the remainder being from other areas of the West Midlands. The gender balance was a roughly even split between female and male. The age distribution was skewed towards younger age groups. The most common age group was 25 – 49, with roughly half of delegates falling into this category. No delegates were over 85 and there was only one in the 75-84 category.

TABLE 1. WHERE THE DELEGATES WERE FROM

What region are you from	%	Count
Birmingham City	76.5	75
Other areas of the West Midlands (e.g. Worcestershire, Black Country)	21.4	21
Outside the West Midlands	2.0	2
Total	100	98

TABLE 2. GENDER OF DELEGATES

Gender	%	Count
Female	47.9	46
Male	49.0	47
Gender non-conforming	1.0	1
Prefer not to say	2.1	2
Total	100	96

TABLE 3. AGE DISTRIBUTION OF DELEGATES

Age	%	Count
18-24	15.3	15
25-49	49.0	48
50-64	18.4	18
65-74	16.3	16
75-84	1.0	1
85+	0	0
Total	100	98

In order to determine whether the marketing plan had successfully reached members of the public outside of the NHS and academia, delegates were asked to self-identify using the categories shown in table 4. It was possible to choose more than one category as it is possible to be, for example, a patient of UHB in conjunction with any of the other categories. The majority, of just over half, identified themselves as members of the public. The next 2 largest categories were staff at UoB and student at UoB.

TABLE 4. DESIGNATION OF DELEGATES (PUBLIC OR STAFF)

Designation	%	Count
Member of the Public	44.35%	55
Patient of UHB	7.26%	9
Staff – local authority	4.03%	5
Staff – UHB	4.03%	5
Staff – other acute NHS	1.61%	2
Staff – community NHS	0.00%	0
Staff – UoB	18.55%	23
Staff – other university	1.61%	2
Student – UoB	14.52%	18
Total	100	124

As the topic under discussion related to health, and would be of particular interest to people with respiratory conditions, delegates were asked if they or a relative had a lung condition. Of 97 who answer the question, 53.6% answered yes, and 46.4% answered no. Those who had answered yes were asked ‘does air pollution affect your/your relative’s ability to lead life normally?’ Of the 59 who replied the responses were, yes - 22 (37.3%), no – 19 (32.3%), don’t know – 18 (30.5%).

RESULTS

ATTITUDES TOWARDS, AND EXISTING KNOWLEDGE OF, AIR QUALITY

Delegates were asked a number of questions about their attitudes towards air pollution and their knowledge of certain facts. These questions were asked in the first interactive session before the presentations were delivered, then again at the end of the presentations and panel discussion. The responses are shown below with session 1 and session 2 responses shown together for comparison.

QUESTION 1. HOW MUCH DO YOU KNOW ABOUT THE HEALTH EFFECTS OF AIR POLLUTION?

Delegates were asked how much they knew about the health effects of air pollution on a scale of 1 to 5 where one equals 'don't know anything' and 5 equals 'know a great deal'. Delegates were already moderately knowledgeable. In session 1, the most common response was 3 and a total of 35% answered 4 or 5 (figure 1). In session 2 the answers had shifted towards the higher numbers. The most common answer was 4 and a total of 87% answered with 4 or 5.

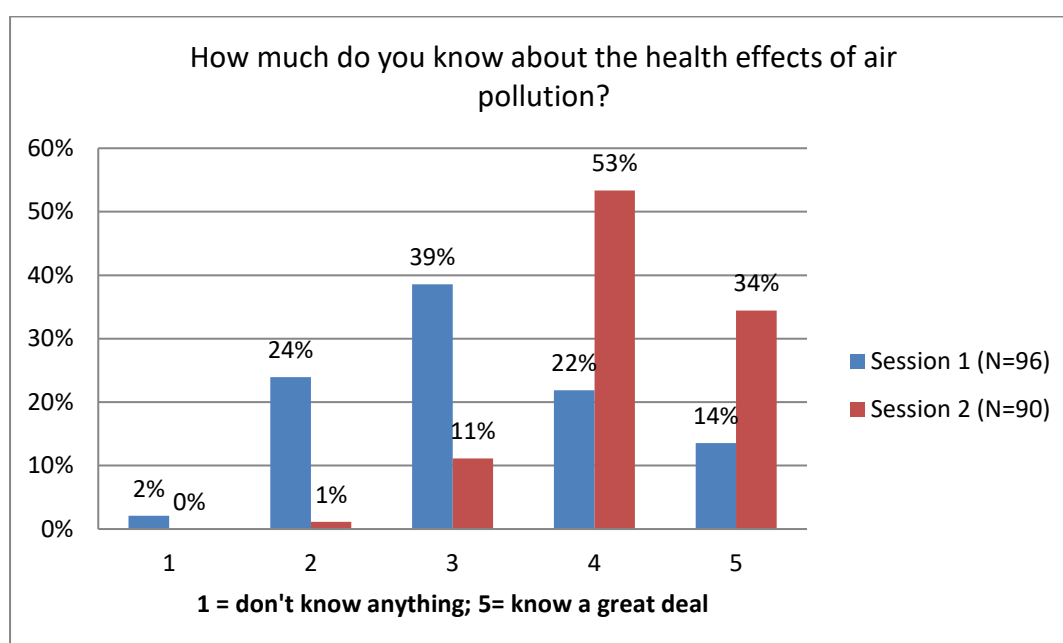


FIGURE 1 HOW MUCH DO YOU KNOW ABOUT THE HEALTH EFFECTS OF AIR POLLUTION?

Delegates were asked to guess the answers to 3 questions:

1. What percentage of road travel is the NHS responsible for (includes patient, visitors, staff and supplier journeys)? **Answer = 3.5%**
2. What percentage of total air pollution is the NHS responsible for? **Answer = 5%**
3. What proportion of GP practices are above the World Health Organisation's limit for particulate matter pollution? **Answer = 1 in 3**

Responses for the first and second session are shown in figures 2 - 4. For each question the correct answer is circled on the x-axis.

For all three questions, in the session 1 there is no convergence on the correct answer, indicating that the audience is not generally knowledgeable around these questions. In session 2, the majority correctly answered questions 1 and 3.

QUESTION 2 PERCENTAGE OF ROAD TRAVEL THE NHS IS RESPONSIBLE FOR

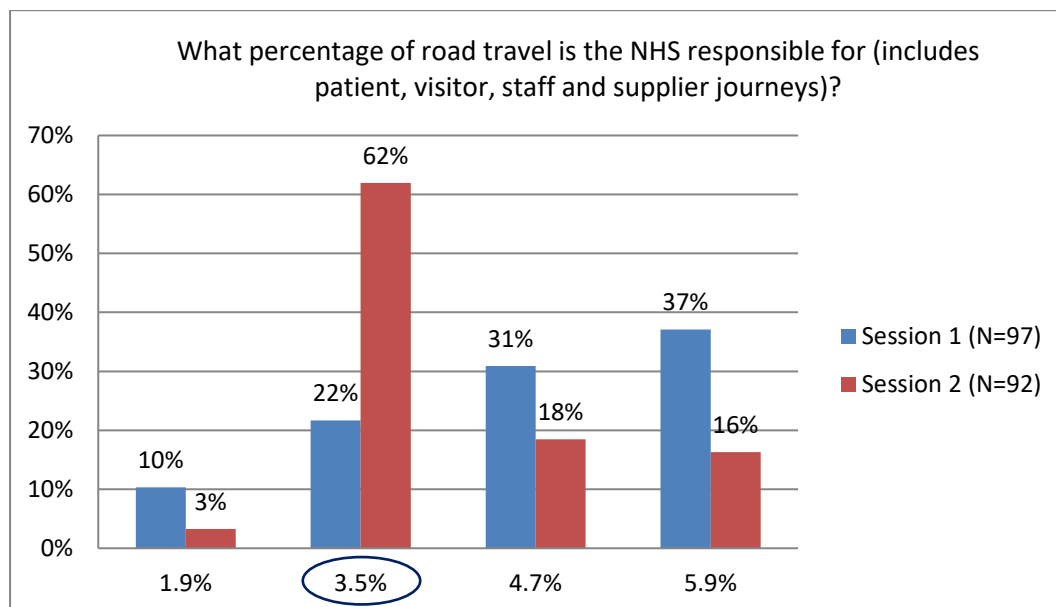


FIGURE 2 PERCENTAGE OF ROAD TRAVEL THE NHS IS RESPONSIBLE FOR. ANSWER = 3.5%

QUESTION 3. PERCENTAGE OF TOTAL AIR POLLUTION THE NHS IS RESPONSIBLE FOR

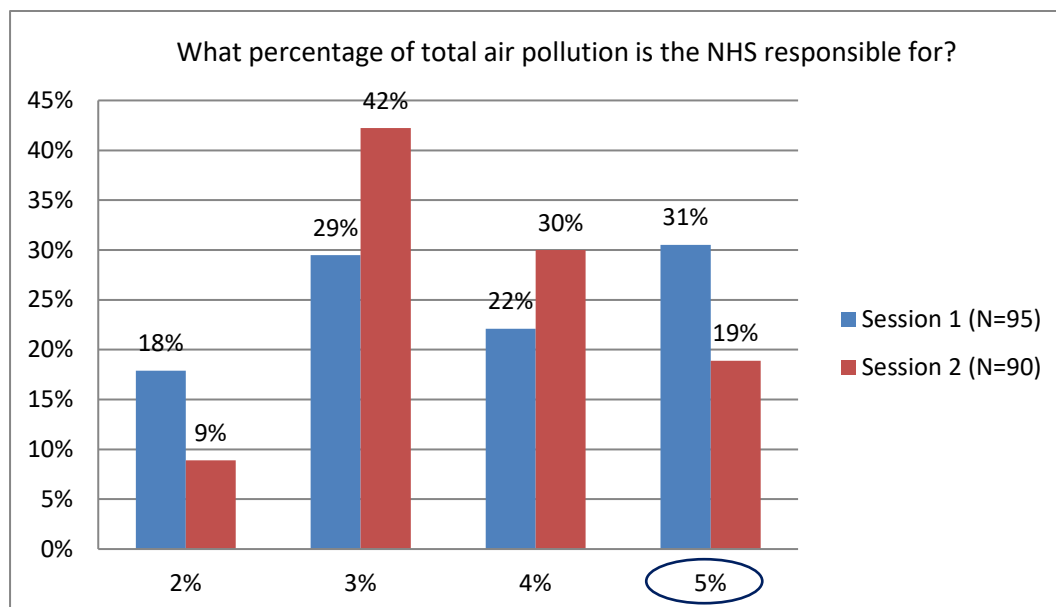


FIGURE 3 PERCENTAGE OF TOTAL AIR POLLUTION THE NHS IS RESPONSIBLE FOR. ANSWER = 5%

QUESTION 4. PROPORTION OF GP PRACTICES IN AREAS OF HIGH PARTICULATE MATTER POLLUTION

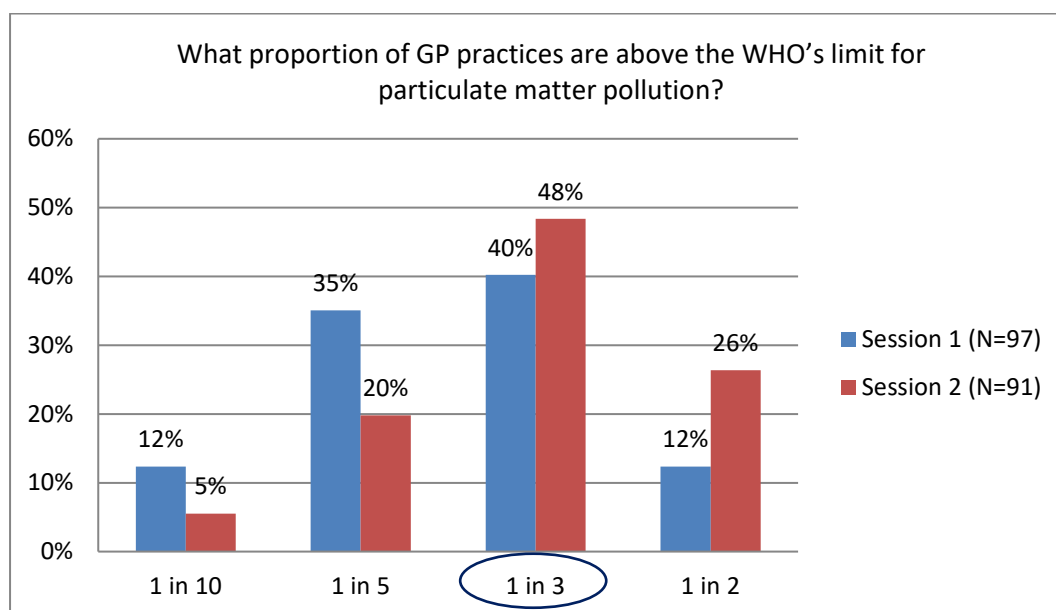


FIGURE 4 PROPORTION OF GP PRACTICES ABOVE WORLD HEALTH ORGANISATION (WHO) LIMIT FOR PARTICULATE MATTER POLLUTION.

Delegates were asked to rate how concerned they were about air pollution on a scale of 1 to 5 where 1 equals not at all concerned and 5 equals very concerned. Given the audience, delegates were already moderately to highly concerned about air pollution in session 1 with almost all giving responses of 3 or over. In session 2 there was a further shift towards higher ratings with over 90% given a rating of 4 or 5 (figure 5).

QUESTION 5. CONCERN AROUND AIR POLLUTION

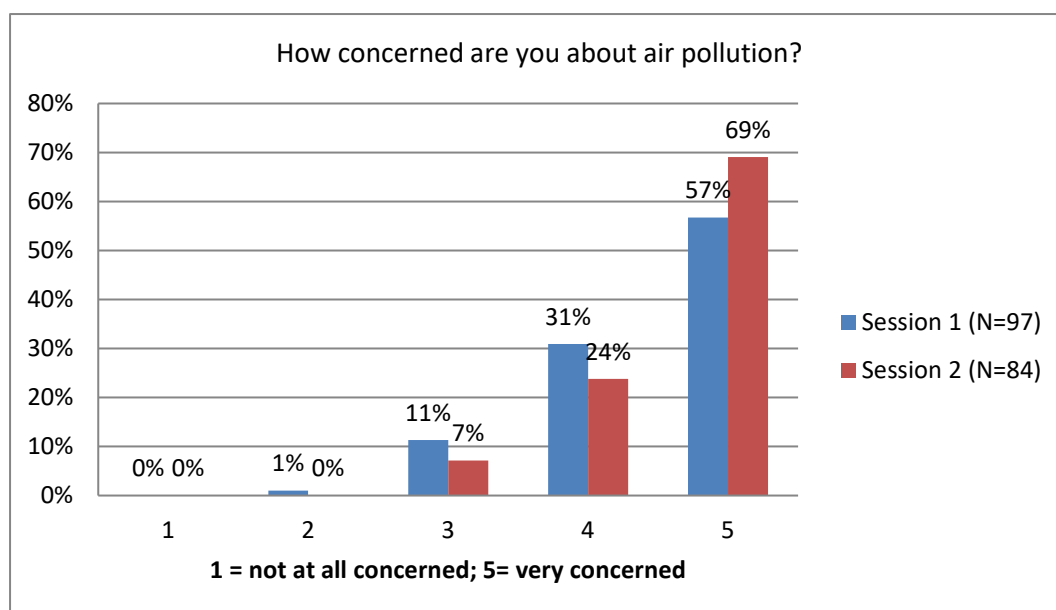


FIGURE 5 CONCERN AROUND AIR POLLUTION

Delegates were asked to say which institutions they thought were helping to reduce air pollution and tackle climate change. In session 1 the most popular answers were universities and Birmingham City Council. Delegates were able to indicate multiple answers (Figure 6).

Fewer than 20% of delegates thought that the NHS, schools or Transport for West Midlands were tackling the problem. Between session 1 and session 2 the biggest shift was in the category of the NHS, which increased from 15% to 24%. The categories of 'none of the above' and 'don't know' both reduced from 5% to 1%, indicating a greater awareness of the work which has been done by institutions in this area.

QUESTION 6. INSTITUTIONS TACKLING AIR POLLUTION AND CLIMATE CHANGE

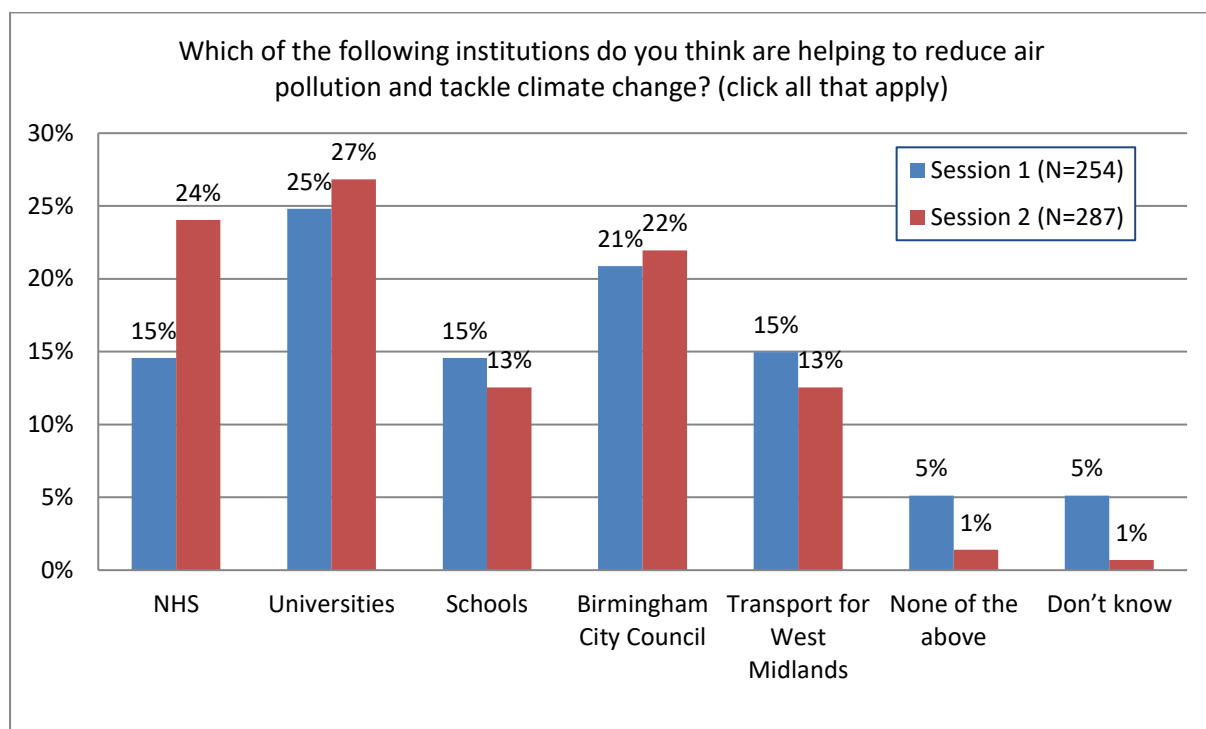


FIGURE 6 WHICH INSTITUTIONS ARE TACKLING AIR POLLUTION?

QUESTION 7. PERSONAL CHANGE TO LIMIT AIR POLLUTION EXPOSURE

In session 1, delegates were asked whether they had made changes to their journeys to reduce their own exposure to air pollution (Figure 7), and in session 2 they were asked whether they intended to make changes to reduce their exposure (Figure 8).

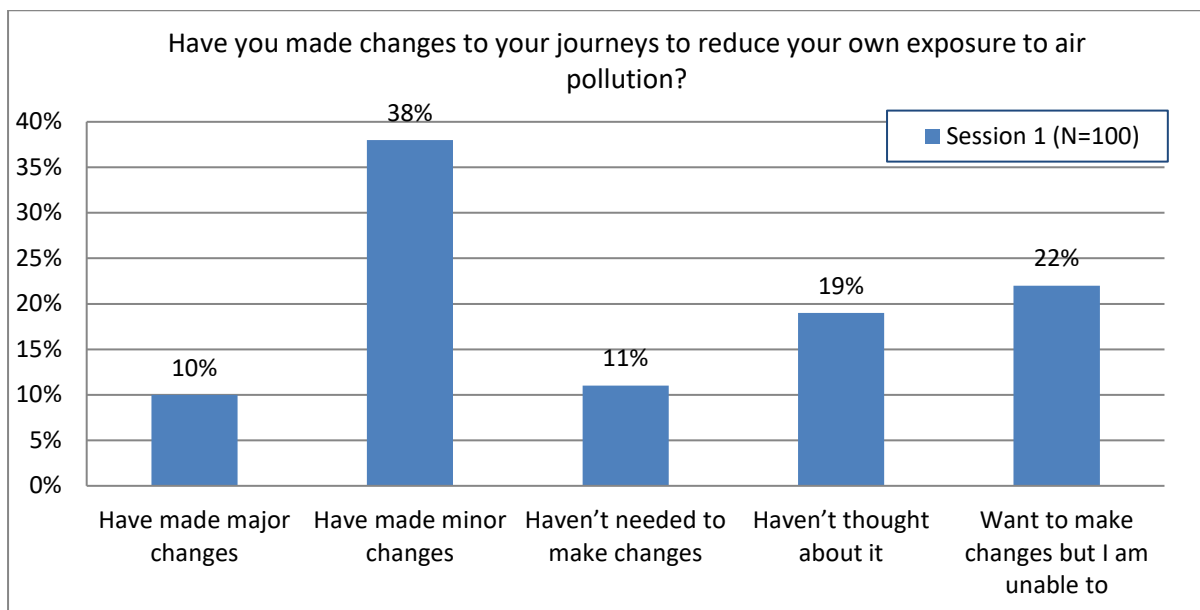


FIGURE 7 CHANGES MADE TO REDUCE PERSONAL EXPOSURE TO AIR POLLUTION

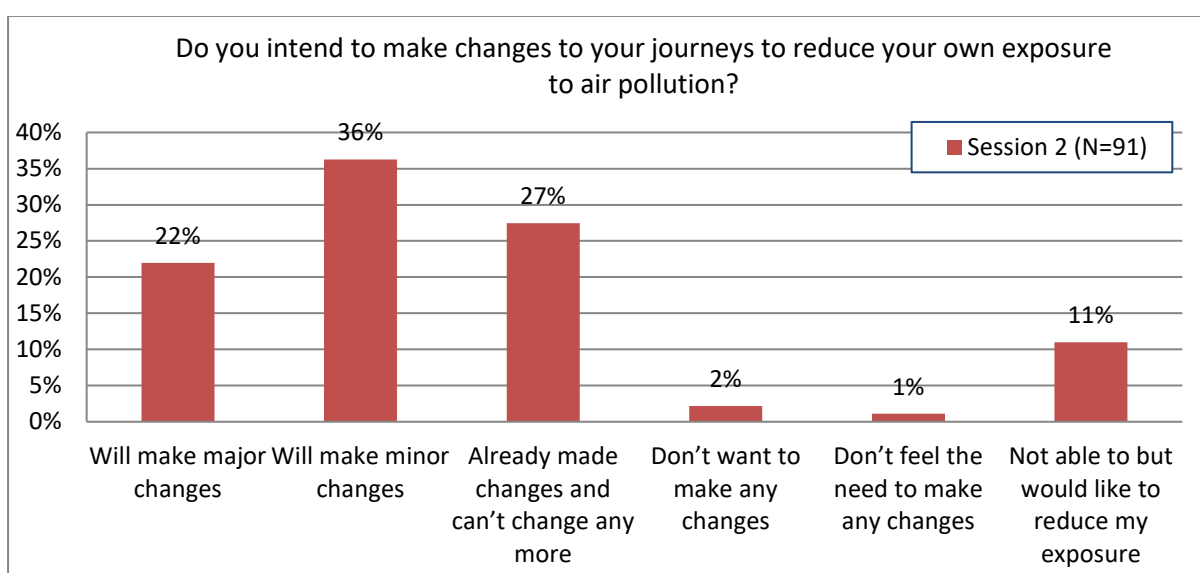


FIGURE 8 INTENTION TO CHANGE TO REDUCE PERSONAL EXPOSURE TO AIR POLLUTION

It was possible in most cases to investigate changes to responses by individual. This did not work in all cases as responses were not always reliably registered.

In the category 'I will make major changes' most came from those who had said that they had already made minor changes (N=7).

In the category 'I will make minor changes', most were from those who had already made minor changes (N=14) and those who hadn't thought about it (N=9).

Even in those who had said that they wanted to make changes but were unable to, 5 people said that they would make minor changes and 2 said that they would make major changes.

QUESTION 8 CHANGES TO REDUCE PERSONAL CONTRIBUTION TO AIR POLLUTION

In session 1, delegates were asked whether they had made changes to their journeys to reduce their own contribution to air pollution, and in session 2 they were asked whether they intended to make changes to reduce their contribution. Responses to these questions are show in Figures 9 &10 below.

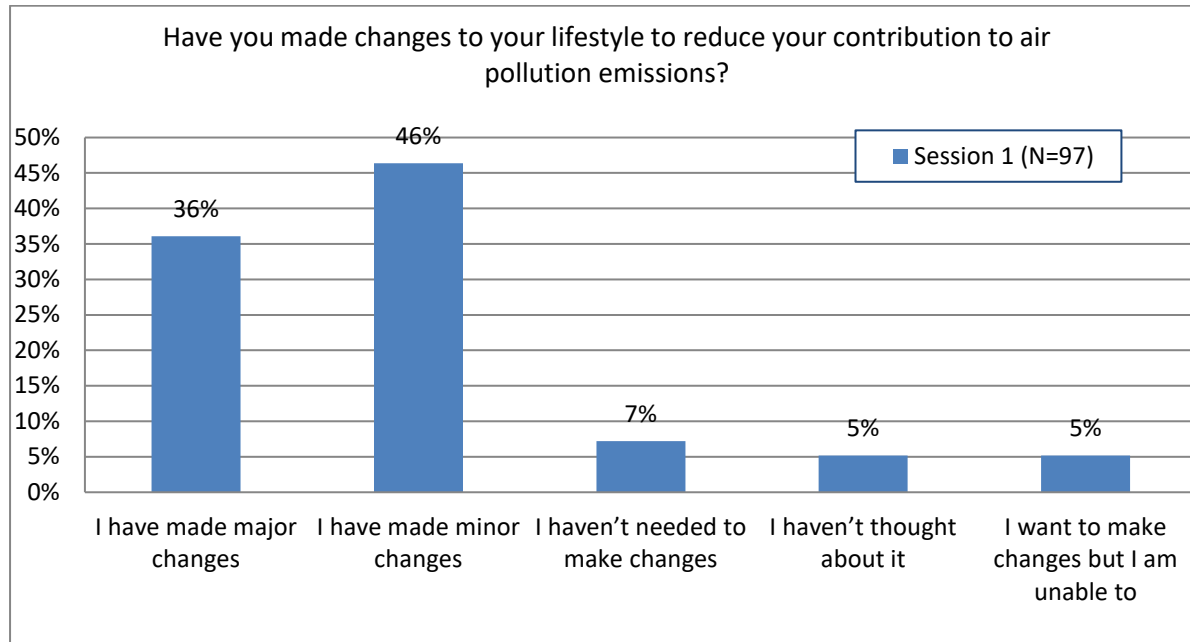


FIGURE 9 INTENTION TO CHANGE LIFESTYLE TO REDUCE CONTRIBUTION TO AIR POLLUTION

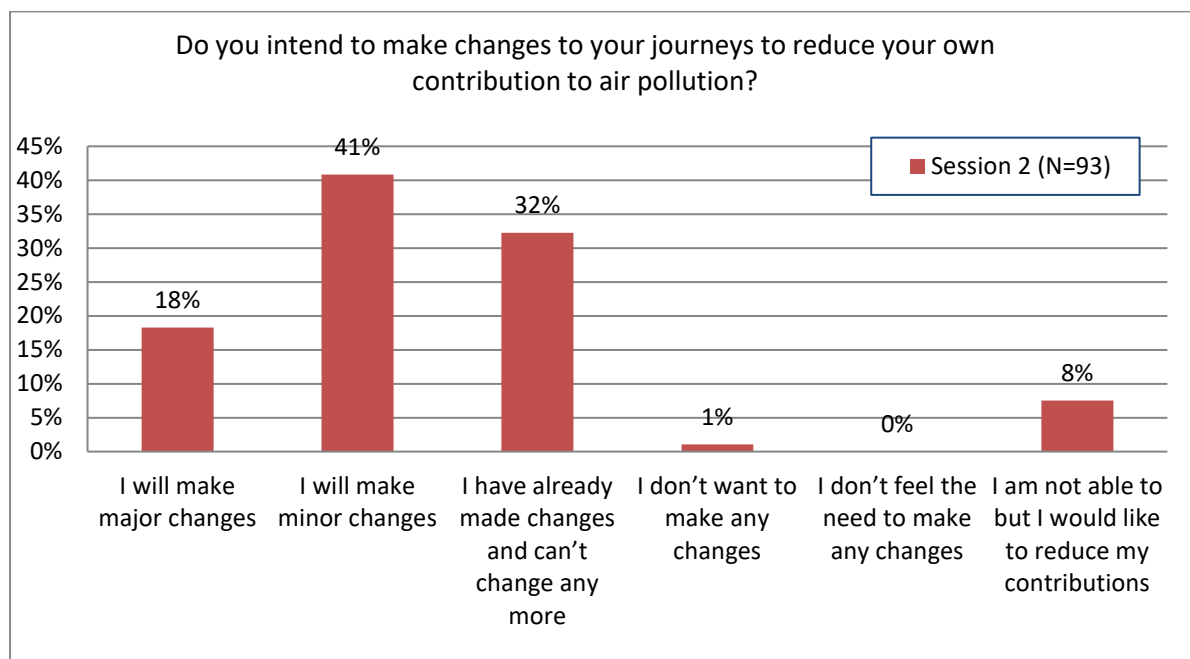


FIGURE 10 INTENTION TO CHANGE JOURNEYS TO REDUCE CONTRIBUTION TO AIR POLLUTION

In the category 'I will make major changes' the majority (N=9) came from those who had said that they had already made minor changes, with the remainder from those who had already made major changes (N=3), and those who hadn't needed to make changes (N=2).

In the category 'I will make minor changes' the majority (N=18) were from those who said that they had already made minor changes, with most of the remainder (N=7) from those who had said that they had already made major changes.

PANEL DISCUSSION

Questions were invited from the audience for the panel which comprised William Bloss, Suzanne Bartington, Sandra Green and Phillippa Hentsch.

Q1. How can we talk educate young people and children about the risks of air pollution without scaring them? (Question from a member of Sustrans)

SB - We already talk to children and young people about the risks of various activities e.g. smoking so we already have some experience of doing this. We have lots of data on what the risks of air pollution are so it would be possible to speak to young people in an appropriate manner to explain the risks without scaring them. We need epidemiologists to work on this.

Q2. It is disappointing that there are no city councillors here tonight. What can we do to change legislation?

WB – The scale of the problem is large but our local actions can make a difference to local air quality so local politicians can make a difference. In that respect the air quality issue is different from the climate change challenge – for air quality, local changes have an impact.

SG – Birmingham City Council (BCC) did a consultation on the Clean Air Zone (CAZ) and they had an unprecedentedly high number of responses, more than 10,000. Most of these responses were against the CAZ. BCC did show leadership in forging ahead with the CAZ despite objections. The British Lung Foundation Clean Air Parents Network submitted evidence for the consultation and BCC did take this into account. It is necessary to have a groundswell of support for clean air initiatives to combat naysayers and the motoring lobby.

PH – We need both push and pull factors. A huge part of shifting the dial on this is supporting behaviour change, which cannot be achieved through legislation alone. The solution is not simply to ban activities that the vast majority of people do every day; instead it is about promoting alternatives and using advocates like the group in this room to improve awareness. Legislation is important but also needs to be supported by bottom-up support to be really effective.

LT – Government will legislate for things which they think people care about, it's necessary to contact them and tell them what you think.

Q3. How can small local organisations engage with University Hospitals Birmingham? How far across Birmingham does UHB see its leadership extending and what opportunities are there for small community groups to engage? (Member of Our Bourneville community group)

PH – The door is wide open for engagement, UHB want to work with all organisations and we are happy to hear from community groups.

Q4. What one thing can we personally change to make an impact? We need to know what to push politicians on maybe if we all push on one single issue it would make more of an impact.

SB – The next few years of air pollution research will focus on that question on what individuals can do and what we can do on a local level. We must be mindful of conflicting behaviours which might actually increase a person's health risk. For example if a person with COPD decided to stay-at-home to limit their traffic pollution exposure instead of going out to do exercise this may have a net adverse effect as they would not receive the health benefits of exercise.

SG – We need to stop driving cars around Birmingham, it makes our health worse – pollution, obesity, road traffic accidents. We need to move in healthier ways and use other forms of transport.

LT – He has often asked academics this question and the response is usually that it is complex. There needs to be an interface between the NHS and academia so that research can be translated, summarised and converted into positive action.

Q5. Is there a prospect of having an air quality forecast, similar to the weather forecast? Why can't this be done?

WB – while this information does exist it is often hidden and would need to be pulled from lots of different places to be amalgamated into a forecast. It is possible but at the moment the work has not yet been done at a local level.

Q6. I am concerned about the inhaling fumes whilst cycling, should cyclists wear a mask? It concerns me that I am breathing in fumes whilst motorists are protected from this inside their cars.

WB – research on this shows that you would require such a well-fitting mask to adequately protect from the pollutants that you would struggle to get enough air flow through it to enable you to cycle. The wider health benefits of cycling outweigh any risks of pollutant exposure in just about every city in the world, other than Delhi.

MO – in fact, the worst air quality in traffic is experienced by people inside their cars. They have a false sense of security and believe that they are protected inside the metal box but this is not the case. The research shows that even breathing in some fumes the health benefits of cycling in traffic outweigh the detriment of breathing in poor air. It is extremely difficult to get a tight enough seal on a mask to filter out pollutants, for example, having a beard makes it impossible.

Q7. Is there any research on indoor air quality?

WB – in general there is less research on indoor air quality than on outdoor air quality. There are no legal standards except for exposure in the workplace to some known pollutants. A single person's exposure will be composed of some outdoor exposure, some from the workplace and some from their home. Within the home itself there will be contributions from any type of burning for example woodburning stoves, cooking and heating. Woodburning stoves are bad for both indoor and outdoor air quality.

SB – indoor air quality is a large problem in other countries where indoor solid-fuel stoves are used for heating and cooking. 80% of our lives are spent indoors and while there is less research at the moment, this is a topic of interest and more research will come in the future.

Q8. How can we improve cycling safety? People are put off cycling because it is seen to be unsafe. There is infrastructure in South Birmingham but in North Birmingham the roads are very congested and trees are being removed-surely this is detrimental? (Question from a member of Birmingham Friends of the Earth)

SB – the perception of the risk of cycling is higher than the reality. The net effect of cycling is beneficial, one hour spent on a bike equals one extra hour of life.

WB – while trees are beneficial for many things and they can help screen for air pollution the effect is modest. The best order of actions is firstly to reduce emissions, secondly to move further away from the emissions (extend the distance) and then finally protect the person - which is where green screening comes in – so the order is, Reduce, Extend, Protect.

Q9. Is UHB taking a joined-up approach for example are you speaking to car parking management companies to get them involved? (Question from a member of Sustainable Stirchley)

PH – it is true that there is not enough joined up work going on and we do need to engage more with Q Parks who run the parking services at QEHB.

Q10. How can we promote the health benefits of cycling to encourage students to cycle instead of driving? I cycle to my placements but I am aware that my fellow students often drive. (Question from a medical student at UoB)

PH – it is necessary to reach those who are not already engaged. When the trust launches its sustainability strategy, part of the ongoing staff engagement will be around promoting alternative modes of transport, such as cycling and public transport. We must ensure that we work in partnership with the University to promote these options to students as well as staff.

SG – you are already helping by leading by example. We should all take individual action, talk to our friends and colleagues.

ACKNOWLEDGEMENTS

The organisers wish to thank:

- The Public Engagement in Research Committee of the University of Birmingham who provided a grant to fund the event.
- Birmingham Health Partners Communications Manager for managing the Eventbrite page, pre-event promotion, live tweeting and blog post.
- QEHB Education Department for provision of the venue and technical assistance
- Ms Bridget Malin for sharing her experience of living with a lung condition
- The Worklink students who were essential to the smooth running of the evening
- Mr Kevin Shepherd, Institute of Applied Health Research, UoB for administrative assistance with the event.

EVENT FEEDBACK

Feedback forms (Appendix 3) were provided to delegates during the event for completion and return in hard copy at the end of the evening. The form assessed agreement with a range of statements (using a Likert scale) and also captured free text responses and broader comments. Free text comments are not reproduced in this report for reasons of confidentiality.

A total of 71 feedback forms were received and the feedback overall was overwhelmingly positive.

Q1: Overall, how would you rate the speakers at the event?

The majority of delegates rated event speakers as 'Very good' (53%), or 'Excellent' (37%) and none provided a rating of 'Adequate' or 'Poor'. Free text responses indicated that speakers were of high academic credibility, communicated well and provided information in an appropriate format.

Q2: Overall, how would you rate networking opportunities at the event?

Most delegates rated networking opportunities as 'Good' (38%) or 'Very Good' (35%) and just two respondents (3%) rated the opportunities as 'Poor'. Suggestions to improve this element of the event included a mechanism for exchanging contact details, a wider range of participating local organisations and additional time for viewing table displays.

Q3: I felt like I learned something at the event

Overall, 97% of delegates felt they had learned something new by attending *Clean Air for All* ('Strongly Agree' or 'Agree'), with only one delegate disagreeing with this statement. Free text responses indicated learning concerned factual knowledge of air quality statistics, the evidence base concerning health impacts and the role of the health service as both a contributor to poor air quality and relevant stakeholder for undertaking actions to mitigate impacts.

Statement	Excellent	Very good	Good	Adequate	Poor	Not Applicable
Overall, how would you rate the speakers at the event? (N=70)	26 (37%)	37 (53%)	7 (10%)	0	0	
Overall, how would you rate the networking opportunities at the event? (N=69)	5 (7%)	24 (35%)	26 (38%)	5 (7%)	2 (3%)	7 (10%)
Statement	Completely Agree	Agree	Neither Agree nor Disagree	Disagree	Disagree Strongly	
I felt like I learned something at the event (N=71)	30 (42%)	39 (55%)	1 (1.4%)	1 (1.4%)	0	

Q5: What did you find most useful about the event?

We received a wide range of free text responses to this question which for the purpose of this report have been classified into five broad themes: (i) Event Format; (ii) Air Quality Science and Policy; (iii) Health Awareness and Behaviour; (iv) Advocacy and Campaigning; (v) General Reflections (Appendix 4). Key elements identified as useful by a number of delegates included:

- (i) *Event Format* - breadth of experienced and knowledgeable interdisciplinary speakers
- (ii) *Air Quality Science and Policy*- presentation of air quality information, facts and statistics to provide knowledge of local relevance and therefore contextualising a national issue
- (iii) *Health Awareness and Behaviour* - the focus upon patients and relative health impacts by pollutant type and journey mode.
- (iv) *Advocacy and Campaigning* – engagement of NHS services with air quality challenges, importance of individual and collective responsibilities, and critical mass of public interest.
- (v) *General Reflections* – several delegates felt this event would influence their own personal behaviour and would result in them passing knowledge information to others.

Q4: How did you travel here this evening? (circle all that apply)

70 delegates identified at least one mode of transport with over half completing all or part of the journey by active travel; walking (n=27; 39%) or cycling (n=10; 14%) (Figure 11). Of the 18 delegates who arrived by car, six (33%) provided free text responses to provide justification for this choice (including impaired mobility, bike puncture or participation in a car-sharing initiative).

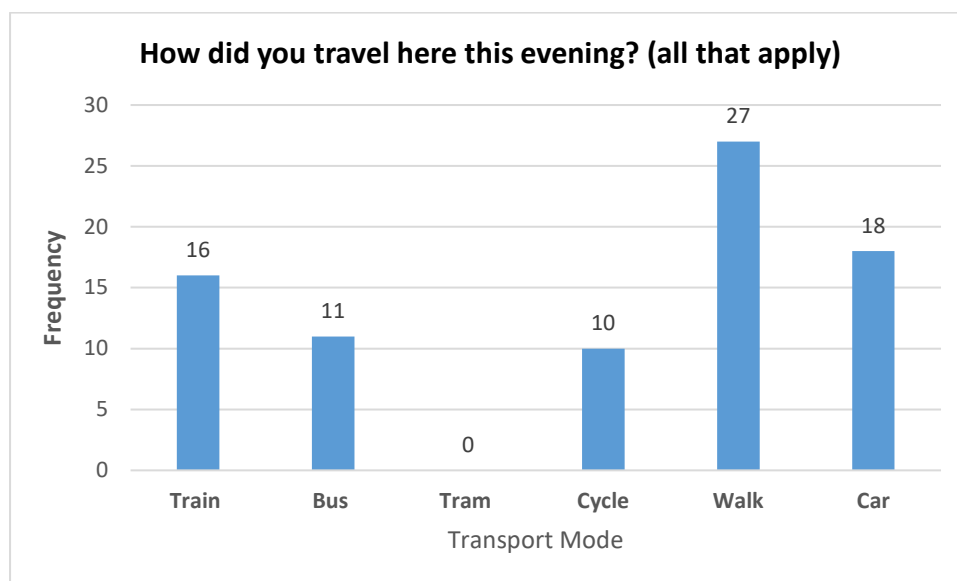


FIGURE 11 FREQUENCY OF DELEGATES BY MODE OF TRANSPORT

Q6: How did you hear about the event?

Almost half of delegates had learned of the event by word-of-mouth (49%), almost one-third (32%) by email and very few had viewed posters/flyers (n=2; 3%). Several delegates had received the word-of-mouth information through announcements at community events (such as Birmingham Friends of the Earth meetings) or by discussions with speakers or staff at the University of Birmingham or University Hospitals Birmingham NHS Foundation Trust. Specific social media sites identified included WM-Air

Twitter, UoB Cyclist's Facebook page and local Eventbrite listings. Two delegates learned of the event from the BLISS Research Study email distribution list, suggesting this is an effective promotion mechanism (BLISS is a UoB research project investigating Chronic Obstructive Pulmonary Disorder).

Statement	Email	Poster /flyer	Facebook	Twitter	Word-of-mouth	
How did you hear about the event? Please circle all that apply (N=68)	22 (32%)	2 (3%)	8 (12%)	3 (4%)	33 (49%)	
Statement	Train	Bus	Tram	Cycle	Walk	Car
How did you travel here this evening? (Please circle all that apply) (N=70)	16	11	0	10	27	18

Q7: Are there related topics which you would be interested in hearing about at future events?

44 (61%) delegates provided free text responses to this question. The majority who responded wished to have additional air quality focussed events:

- Clean Air Solutions
 - *Policy suggestions to reduce air pollutant exposure*
 - *Clean air for Birmingham and its practical feasibility*
 - *Clean Air Zones - in Birmingham and what they entail*
 - *Effect of the LEZ in Bham*
 - *Council impacts on air quality*
 - *Successful behaviour change projects and co-ordinated action across sectors*
 - *More on how we can make an impact. Involve the Council too*

- Air Quality Science
 - *Information on particulates*
 - *More in-depth information on PMs and VOCs [Volatile Organic Compounds]*
 - *Is it [air quality] getting better or worse?*
 - *Indoor air quality*
 - *Impacts of smoking (tobacco industry) impacts upon global air quality*
 - *Impacts of drug packaging and pharmaceutical industry upon air quality*

- Health and Behaviour
 - *More about how the quality of air can affect the human body.*
 - *Effect of air pollution, both short and long-term,*
 - *Other components affecting public health significantly*
 - *How to protect yourself from pollution*
 - *Air pollution and behaviour change – push and pull factors*

- Air Quality Technology:
 - *How the public can measure air pollution*
 - *Using technology to measure air quality*
 - *New technology or measures against air pollution*
 - *The tech discussed in the Q&A i.e. real-time monitoring of air quality - we have a weather forecast why not a pollution forecast. People could see if their actions to reduce air pollution were having an effect*
- Research
 - *New and innovative ways to help/insight to current work*
 - *Progress in current studies, activities and abatement strategies*
 - *How public can get involved in NHS research - especially students. As I student I would like to [get involved] - perhaps put research topics online*

Regarding other topics of interest, the most favoured was climate change/climate and health/climate emergency actions (8 respondents), green infrastructure/green space/tree planting (3 respondents) and impacts of urban planning upon physical and mental health (2 respondents). Further suggestions included plastic pollution, biodiversity, transport and health, poverty and health, digital health, preventative healthcare, health education and any other medical subject.

Q8: Where else within the West Midlands region would you like to see similar events held (please give suggested venues/location)

A total of 46 delegates provided suggestions for future event locations; with the most popular selections being universities (n=7) and hospital sites (n=6) (Figure 12).

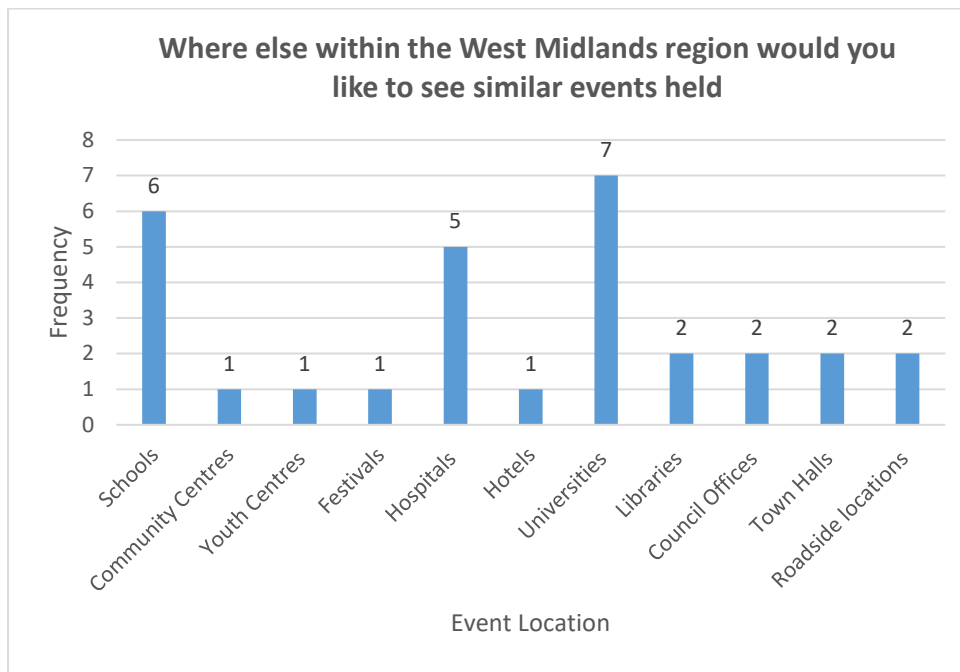


FIGURE 12 FREQUENCY OF DELEGATE RESPONSE BY SUGGESTED EVENT VENUE

Specific suggested locations within Birmingham included the City Centre (Symphony Hall, Library, and Council Offices), Harbourne, Selly Oak, Stirchley and Tyseley. Across the West Midlands area delegates suggested that events could be held at Heartlands Hospital, Midland Metropolitan Hospital (Sandwell), Sandwell/West Bromwich Town Halls, Sutton Coldfield, Wolverhampton, Worcestershire and outer suburb locations. Suggested academic locations comprised UoB, Birmingham City University, University of Wolverhampton and Aston University. Manchester and Liverpool were indicated as future city locations and three delegates indicated Clean Air for All events should be held all across the country.

Q9: Is there anything we could have done to improve the event?

35 delegates (50%) provided a free text response to this question of whom 8 indicated no further improvements could be made to the event. Suggestions for improvements are summarised in three categories (Venue/Format/Additional Speakers) in the box below:

Venue	<i>Too warm (LT3)</i>
	<i>Too dark (LT3) (x2)</i>
	<i>Lecture a little short</i>
	<i>Resolve technical issues (x2)</i>
	<i>Provide more posters</i>
	<i>Provide dinner/more food (2 delegates)</i>
	<i>Remove plastic packaging (snacks)</i>
Format/Content	Live Twitter feed
	Sharing of presentation slides (x3)
	Sharing of interactive data
	Include personal advice on actions/solutions (x2)
Additional Speakers	Speaker - Birmingham City Council (x8)
	Speaker - Local entrepreneur
	Speaker - Health professionals – all UHB hospitals
	Speaker - Transport for West Midlands
	Member of education sector

Many delegates were surprised at the lack of representation from Birmingham City Council; however the event was scheduled during the election purdah period, therefore imposing restrictions upon elected members and officers speaking at public events. These restrictions could have been made stated more clearly in the opening address and statement if applicable to future events.

Q10: Is there anything else you would like to say about this evening?

Responses to this final question were exceptionally positive, with many delegates thanking the organising committee and expressing appreciation for the event.

APPENDIX 1 PROGRAMME OF EVENTS

Time	Session	Speaker
18:00	Arrival - Registration - Stalls - Refreshments	
18:30	Introduction (5 mins)	Lawrence Tallon, Director of Corporate Strategy, Planning & Performance, UHB
18:35	Interactive session (15 mins) - Awareness - Engagement - Action	Dr Margaret O'Hara Patient & Public Involvement & Engagement in Research Lead, UHB
18:50	Speaker 1: Air Pollution in Birmingham, Past, Present and Future	Professor William Bloss, Professor of Atmospheric Science, UoB
19:00	Speaker 2: Air Pollution: The Public Health Challenge of Our Time	Dr Suzanne Bartington, Clinical Research Fellow, Institute of Applied Health Research
19:10	Speaker 3: Integrating Clean Air and Sustainability In The Healthcare Sector	Phillippa Hentsch Head of Strategy & Analysis, UHB
19:20	Speaker 4: Advocacy and Campaigning for Cleaner Air	Sandra Green, Campaign Network Coordinator, British Lung Foundation
19:30	Speaker 5: A patient's perspective	Bridget Malin
19:30 –19:40	Short break – return to seats	
19:40 –20:15	Panel discussion and Q&A	Chair
20:15- 20:30	Summary and Close - Repeat interactive session - Closing words	Margaret O'Hara Lawrence Tallon – close
20:30 – 21:00	Informal networking time	All



Clean Air for All

Working together to improve the air we breathe for better health

Location:

Lecture Theatre 3, Level 1
Queen Elizabeth Hospital,
Mindelsohn Way, Birmingham
B15 2TH

Date:

Wednesday 20th November

Time:

6.00pm (doors open) 6.30–9.00pm

Registration is essential.

To book a place please visit:

[www.birminghamhealthpartners.co.uk/
event/clean-air-for-all](http://www.birminghamhealthpartners.co.uk/event/clean-air-for-all)

Refreshments will be provided.

Delivered by



**UNIVERSITY OF
BIRMINGHAM**



University Hospitals Birmingham
NHS Foundation Trust



Speakers:

- + **Dr Margaret O'Hara, Public Involvement in Research Lead,**
University Hospitals Birmingham
- + **Lawrence Tallon, Director of Corporate Strategy, Planning & Performance,**
University Hospitals Birmingham
- + **Phillippa Hentsch, Head of Strategy & Analysis,** University Hospitals Birmingham
- + **Professor William Bloss, Professor of Atmospheric Science,**
University of Birmingham
- + **Sandra Green, Campaign Network Coordinator,** British Lung Foundation

Event Summary

Poor air quality is one of the major public health challenges in Birmingham. We know that the negative impacts of poor air quality are worse for the poorest, most vulnerable residents and those with long-term health conditions.

This event is a chance to find out more about how poor air quality affects all of our lives and give your views on what can be done both individually and collectively to improve air quality.

Birmingham is part of the wider West Midlands region and should be well placed to make improvements to air quality as we have leading hospitals, universities, a major transport network and committed, active citizens.

This evening event will bring together doctors, scientists, social enterprises, charities, community groups and policy experts to address your questions and discuss solutions. We will explore the different types of pollution that we breathe during our daily lives, the health risks and how this puts pressure on our healthcare services. We will also look at how research can shape air quality and health policies to improve the lives of those in our city

There will be a mixture of presentations, interactive sessions and time for discussion and networking. Come along to meet experts in the field, and other like-minded people with whom you can join forces to make positive change.

PPIR@uhb.nhs.uk [#CleanAir4All](https://twitter.com/CleanAir4All)

APPENDIX 3: FEEDBACK FORM

Clean Air for All. 20 Nov. Feedback Form

Please circle one of the following responses and a reason for your response:

(1) Overall, how would you rate the speakers at the event?

Excellent Very Good Good Adequate Poor

Comments:

(2) Overall, how would you rate the networking opportunities at the event?

Excellent Very Good Good Adequate Poor Not applicable

Comments:

(3) I felt like I learned something at the event

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

Comments:

(4) How did you travel here this evening? (circle all that apply)

Train Bus Tram Cycle Walk Car

(5) What did you find most useful about the event?

(6) How did you hear about the event? Please circle all that apply:

Email Poster/flyer Facebook Twitter Word of mouth

Please give more detail:

(7) Are there related topics which you would be interested in hearing about at future events?

**(8) Where else within the West Midlands region would you like to see similar events held
(please give suggested venues/location)**

(9) Is there anything we could have done to improve the event?

(10) Is there anything else you would like to say about this evening?

Many thanks for your feedback