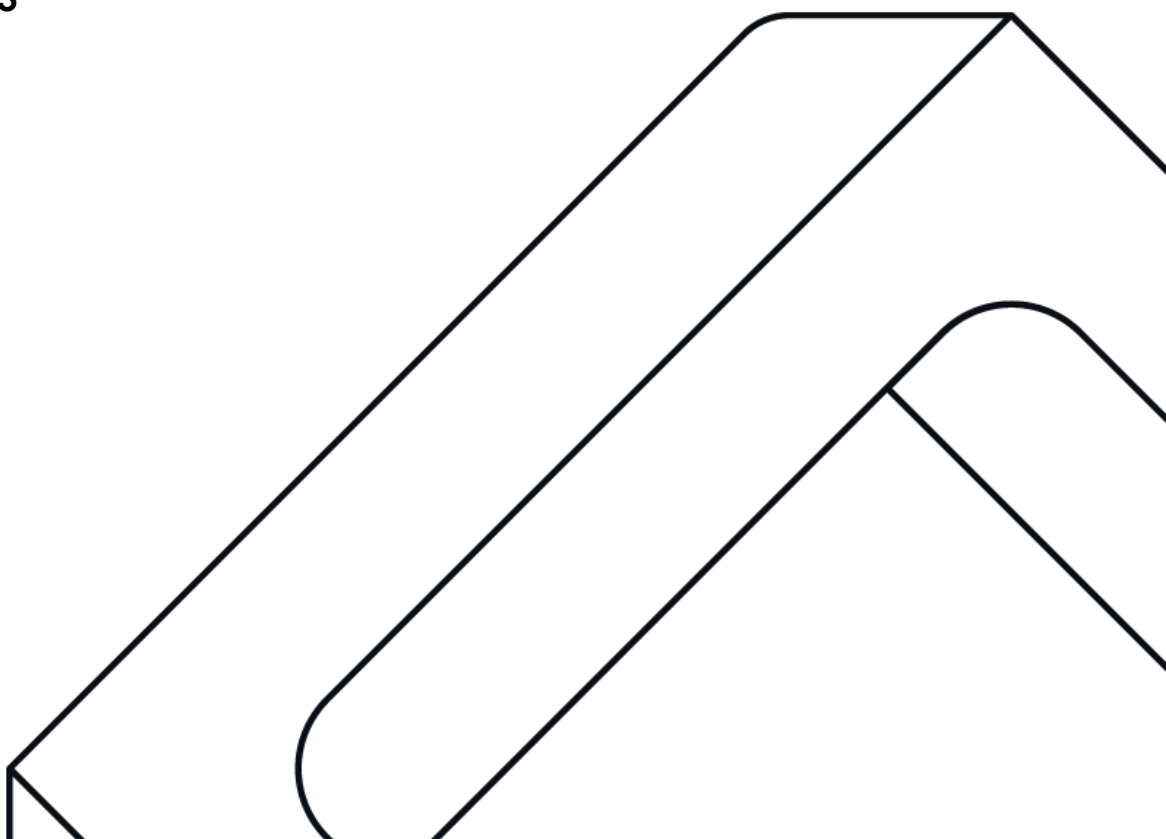


Appendix 1: Air quality qualitative research panel

– Wave 1

December 2023

Version: 1



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1. Topic guide

Qualitative Research Panel for Air Quality Information System Review

Focus Group – discussion guide

Background

Defra, UKHSA and DHSC have established the Air Quality Information System (AQIS) review to improve the quality and provision of air quality information to the public. The AQIS review is guided by a multi-disciplinary steering group and is intended to inform the development of communications that will help at-risk groups and the wider population to change their behaviours and reduce their exposure to air pollution.

The steering group has suggested that communications approaches should be developed in collaboration with members of the public, with insights and materials to test evolving throughout 2023 as the review progresses.

To this end, a qualitative panel has been set up that will take place over three waves of activity in 2023.

The panel is intended to deliver three overarching objectives:

- To gain deeper understanding of the knowledge, attitudes and behaviours of the general population and at-risk groups, with regard to air pollution (avoiding it, and reducing contributions to it)
- To elicit insight into the barriers and facilitators that influence desired behaviours, and other factors relating to communications that seek to change behaviours
- To facilitate co-design communications approaches, taking into account the understanding and insights generated earlier in the project

Wave 1

Wave 1 aims to focus on 5 key research questions, as follows:

- What are participants' pre-existing perceptions and understanding of air pollution?
- Who do participants want to receive air quality information from?
- What do participants think of current air quality information provision?
- What drives participants towards certain information sources?
- What air quality information do participants want/expect to be able to find?

These questions will be explored across:

- An online pre-task
- An online group discussion
- An online post-task.

This document details the planned approach to the online group discussion.

Discussion guide structure (90 minutes total)

Section	Aim	Time
1. Introduction	Introduce research; reassure about confidentiality; set tone of discussion; establish rapport. RECORD	5 mins (5)
2. Warm up	Warm up participants; find out a bit about them	5 mins (10)
3. General information seeking	Explore information seeking influences and preferences	15 mins (25)
4. Relevance of air quality as a concern	Explore relevance of air quality as a concern, especially in relation to local air quality	15 mins (40)
5. Interest in and expectations of air quality information	Understand how interested participants are in air quality information and what sources participants would prefer to use to get information	15 (55)
6. Experiences of air quality information	Explore where participants have found information on air quality before and what their experiences of this have	10 (1hr 05)
7. Views on air quality information presentation	Explore responses to different ways of presenting air quality information	10 (1 hr 15)
8. Air quality information user journey	Understand what would be useful to participants in a specific scenario relevant to them	10 mins (1hr)
9. Final comments & wrap up	Summary, reminder of next steps and close session	5 mins (1hr 30)

Stimulus:

PowerPoint slides showing:

- Current air quality
- Forecast air quality
- Historic/annual air quality.

Please note, this guide is not a script and is intended to be used flexibly, with participant responses guiding the flow of the conversation, topics covered in the order that they naturally arise, and probes used only when needed.

1. Introduction

(5 mins)

AIM: Introduce research, reassure about confidentiality, set tone of discussion, warm up participants and establish rapport

Research introduction

- Introduce yourself and Kantar (Public Division) – an independent social research agency
- Kantar is conducting this research on behalf of Defra to help Defra decide how best to inform the public about air quality
- The purpose of the research is to understand your perspectives on air quality and your information needs
- Group length – 90 minutes
- Participation is voluntary and confidential – no quotes or details will be attributed to named individuals or to any business you have worked for
- Kantar's privacy policy can be accessed on the website:
<https://www.kantar.com/uki/surveys>
- Reassurances – there are no right or wrong answers, we are seeking different views and perspectives
- Thank you for completing the pre-task – we will be talking about a range of issues and will cover some of the topics that were in the activity as we go through the discussion
- Remind that the discussion will be video recorded

House rules

- We ask that you switch your phones off/on silent and do not use them during the session
- We expect to hear from everyone during today's discussion, so please do listen and respond to what others say
- Try to avoid interrupting or speaking over each other to ensure everyone can be heard; please respect people's answers
- We know there is a lot to say on this topic, but we only have a limited amount of time so we may need to move on the conversation to ensure we stay on time and on topic
- What you say today will not be shared with or viewed by anyone outside of the research team at Kantar Public
- This is a safe space – can we please agree amongst ourselves now that everything that is discussed in this room remains confidential and is not shared or discussed outside of this group today

- Remind participation is voluntary and confidential and if there is a question you do not want to answer, for whatever reason, that is OK
- Any questions/concerns

Recording

- Ask participants for permission to record: recording is purely so as not to miss any comments and help with note taking and the recording may be shared with other members of the Kantar Public research team – but will not be shared any further than this
- Start recording and confirm consent on recording

2. Warm up

(5 mins)

AIM: Warm up participants and find out a bit about them

Participant introduction

Each participant to introduce themselves to the group:

- Name, age, where you live and who you live with
- What you love doing

FOR GROUPS INCLUDING CARERS, HEALTH CONDITIONS, OLDER ADULTS:

Moderator: explain that we are especially interested in understanding the experiences of people who are disabled, have health conditions or care for others

- If you have a health condition, how this impacts your day to day life (in brief) and how you act to minimise the impact of your health condition on your day to day life
- What your concerns are for those for whom you care
 - **Moderator:** if air pollution is raised as a concern, explore where it sits in relation to other concerns

3. General information seeking (15 mins)

AIM: Explore information seeking influences and preferences

Moderator: explain that before we start talking about air quality in too much detail we'd like to ask you about information more generally – not just in relation to air quality but more broadly

Information seeking

- What kind of information do you use to help with your day to day decision making

- **Moderator: prompt with examples such as traffic/transport/weather/pollen/food labelling information if they are finding it difficult to think of examples**
- What influences your decision to use a specific source of information
- What are features of the information that make it useful or valuable to you (spontaneous)
 - Listen out for: type of information, perception the information is accurate/up to date, trust in the source, ease of access/use/comprehension, format, look and feel, the way the information is presented, channel for/mode of dissemination (e.g. apps, websites, media, whether people are actively seek or receive push notifications)

Moderator: if possible/relevant for the group, set up Zoom whiteboard mode and ask participants to type their ideas onto the whiteboard or into the chat function to make sure everyone's ideas are included

- Is there anything about the provider of the information that is important – what encourages you to use certain sources rather than others
- To what extent do you trust the providers of the information and what enables you to trust information from these sources
 - Any examples of information you feel sceptical about: if so, what features disengage you or reduces your trust in a source of information

Government information

- What experiences do you have of accessing information provided by the government, exploring:
 - What type of information, used for what purpose, the extent to which alerts are intended to help people decide a course of action
 - What were your experiences of using the information – what motivated you to seek or use this information, how easy was the information to access, how useful was the information
 - How much you trust the source(s) and reasons for this – to what extent does this vary by government department or body and/or type of information
- Is there any government information you have come across that you think is good at showing risk levels (e.g. FSA Scores on the Doors, water quality information, flood risk information etc) – if so, why is this

Environmental campaigns

- What environmental campaign messages do you remember from the last few years and why are they memorable (e.g. messages, messengers, information sources that you remember)
- To what extent have you changed any of your own attitudes and behaviours based on any of these – if any have, what was it about these messages that you think made a difference

4. Relevance of air quality as a concern

(15 mins)

AIM: Explore relevance of air quality as a concern, especially in relation to local air quality and understand difference between air quality and air pollution

Moderator: thank you for completing the online tasks – we'd like to focus a bit more on your responses to those, so please think back to what you wrote in the activities we asked you to do before this group session

Overall concerns

- Briefly, can you each describe the things that are of most concern to you at the moment (explaining that this can be however you interpret it, and could relate to you, people around you, organisations or the world in general)
- Where does air quality feature in terms of these other concerns you have, for example is it high on the list, lower down or not there at all: what are the reasons for this

Perspectives on air quality

- What are the images or words that come to mind when you think about air quality
- What do you understand by the term 'air quality', what does it mean to you

Moderator: listen out for any lack of understanding or confusion – if so, what are the issues and what is driving these; and at what geographic scale participants are conceptualising air quality (local, regional, national, global); and listen out for the extent to which participants related air quality to climate change

- What is the difference between the term 'air quality' and 'air pollution'

Moderator: listen out for what distinctions people are making between air quality and air pollution and the extent to which the difference matters to them; and whether there is a difference in terms of the geographic scale people are thinking about 'air quality' versus 'air pollution'

- Where has your understanding of air quality come from

Moderator: listen out for their own experiences or those of people in their network of friends/family, media stories etc

- When we're talking about air quality, how are you feeling and why

Moderator: explore whether the feelings are neutral/negative and what it is that is driving this feeling

- How important would you say it is to you that there are improvements made to air quality – if you were to mark it out of 10 in terms of importance to you, how many marks would you give it and why

FOR GENERAL PUBLIC GROUPS:

- Are there others you feel who are affected by poor air quality – and is this a concern of yours
- What underlies any concerns you have for others (e.g. personal relationships, social justice concerns)

FOR GROUPS INCLUDING CARERS, HEALTH CONDITIONS, OLDER ADULTS:

- To what extent do you think that your personal situation means that you consider air quality more than others – reasons for this (explore the extent to which this concern is about their own health or is it wider than this, e.g. concern about the impact air quality has on other people and nature)

Understanding of air quality

- What is your understanding of what affects air quality
- What do you understand as the main sources of air pollution
- What effect can air pollution have on people and nature (exploring the extent to which participants are thinking about acute/short term versus cumulative longer term issues)

Local air quality

- What are your general experiences of air quality
- How would you describe the air quality in your area – and how do you feel about it (exploring the extent to which they believe that this is fixed versus changes day to day)
- What contributes to air pollution in your area
- To what extent do you feel you have any personal impact on your local air quality and why is this – and to what extent are you interested in reducing your personal contribution to air quality

5. Interest in and expectations of air quality information (15 mins)

AIM: Understand how interested participants are in air quality information and what sources participants would prefer to use to get information from

Overall level of interest in air quality information

- How often do you think about air quality
 - To what extent is it a day to day concern, something that you talk about with friends/family and/or something that you think about around certain situations
 - If you don't think about it much, why do you think that is
- How interested in air quality information are you and why
 - If you are interested in it, why is this and in what circumstances is it most salient
 - If you are not interested in it
 - Why is this (exploring to what extent this is to do with not thinking about it, not knowing much about it, not knowing about its impact on health, feeling there is little you can do about it, thinking it's more relevant to others or something else, thinking it is static or unchanging)
 - Are there any circumstances in which you think it would be relevant to you

Expectations of air quality information

- If you were to seek information about air quality, why would you do this and what would you be interested in finding out
 - What types of decisions would it help inform (and to what extent would these be shorter to longer term decisions) and what would this mean for the type of information needed (e.g. about a geographical area, about current/future air pollution levels etc)
 - **Moderator: if useful give examples such as choice about which route to take when walking, whether they might want to take an inhaler out today/tomorrow, whether they would want to use data to choose where to rent/buy a house**
 - At what geographic scale would you be interested in finding out information (i.e. street level, local, regional, national)
 - Are you interested in past, present and/or future information (e.g. historic air pollution in an area, current air pollution, air pollution forecasts)
 - What timescales are relevant and useful in this context (i.e. today/tomorrow, over the next week or few months, over years)
- What information would you expect to be available – is there any information it would be important to include to help you make decisions that will influence your actions
 - **Moderator: listen out for and prompt where relevant around information relating to real world air quality conditions that affect daily**

decision making and broader information that raises awareness and educates

Messengers

- Who would you expect to provide air quality information and why
 - Who are trusted messengers in this category and why
- What do you think the role of the following groups of people in communicating air quality information should be and why
 - Government
 - Media
 - Health care professionals
 - Charities
 - Teachers
- Are there any other people or organisations who you think should play a role in this – if so, who and what should they ideally be doing

Moderator: explore, without directly asking, the extent to which government validation/ authority/perceived expertise is to people trusting and believing measured air quality levels

6. Experiences of air quality information

(10 mins)

AIM: Explore where participants have found information on air quality before and what their experiences of this have been

Spontaneous experiences of air quality information

- Have you ever looked for or come across air quality information by accident
- Have professionals, such as health care or educational professionals, ever discussed air quality/pollution with you – if so, what were the circumstances (for all but particularly participants people in 'at risk' groups, i.e. people with health conditions, older adults, pregnant people and parents)
- If so, what were your experiences of it –
 - Why did you seek it out or how did you come to find it
 - Who provided it
 - What format was it in
 - Did you get what you were looking for, did you understand it – and reasons for this
 - How easily accessible was it – did you have any particular issues with accessibility: if so, what were they
 - Did you act on the information – reasons for this
 - Did you use the information again – reasons for this

- If you haven't ever come across air quality information, why is this
 - Explore the reasons for this (e.g. lack of awareness, lack of interest, lack of understanding of the impact on them, a lack of a perceived need, a perception that air quality information is relevant only for certain people)
 - What might prompt you to look for this type of information

Air quality forecasts

Moderator: bring up discussion of air quality forecasts if this has not already been brought up

- To what extent were you aware of these
- How useful would they be to you
- What would you want to be able to do with this information
- What level of detail would you want from these – what geographic scale and timelines are you interested in (i.e. how far ahead is a forecast relevant, and how important is it that it is time specific, e.g. air pollution this afternoon)

7. Views on air quality information presentation

(10 mins)

AIM: Explore responses to different ways of presenting air quality information

Moderator: explain that we would now like to look at some examples of how air quality information is presented by different organisations – show examples in the PowerPoint stimulus pack

Responses to examples

Moderator: show each section (current air quality; forecast air quality; and annual/historic air quality information) separately and for each one discuss the way the information is presented on each of the two slides for that section

- Overall interest in this type of information and reasons for this
- What aspects work well and are useful/helpful
- What aspects are less positive and why
- Probe different information attributes, such as:
 - Colour coding
 - Icons/emojis/imagery
 - Wording/numbering/explanation of different risk levels
 - Different scales (local versus national)
- Summarise responses to the examples: overall, what type of information are you most interested in and what features of the information are most useful for you

8. Air quality user journey

(10 mins)

AIM: Understand what would be useful to participants in a specific scenario relevant to them

Air quality user journey activity

Moderator: explain to participants that we would now like them to take a couple of minutes to think about how air quality information would best be set out for it to be most useful to them

- Ask each individual to describe
 - When you would be most likely to look for air quality information (time of day, occasion type/for whom, how frequently this would be)
 - Where you would want to find air quality information/who would ideally provide it
 - What you would want to know/be told (**moderator: allow spontaneous feedback**)
 - Probe in terms of
 - Where the information relates to (the geographic scale: local area or wider)
 - Whether this relates to the short or longer term (e.g. to help make decisions day to day, to see how air pollution has changed over time, to help make decisions about where to move to etc)
 - Whether there is anything specific that people in the 'at risk' groups would particularly need
 - What would help to make decisions about personal actions
 - How ideally it would be presented and what features of the information would be particularly important to you (referring to the examples in the stimulus slides)
 - To what extent are you open to acting on advice – and to what extent does this vary according to whether the advice relates to reducing your own exposure versus reducing your contribution to air pollution

9. Wrap up

(5 mins)

AIM: Summary, reminder of next steps and close session

Summary

- What are your main messages to Defra about how best to provide air quality information

Next steps

- Reminder about post-task next week (27 March); reminder Wave 2, dates
- Incentive payment for focus group (£50 – transferred within 10 days)

Thank and close



2. Stimulus

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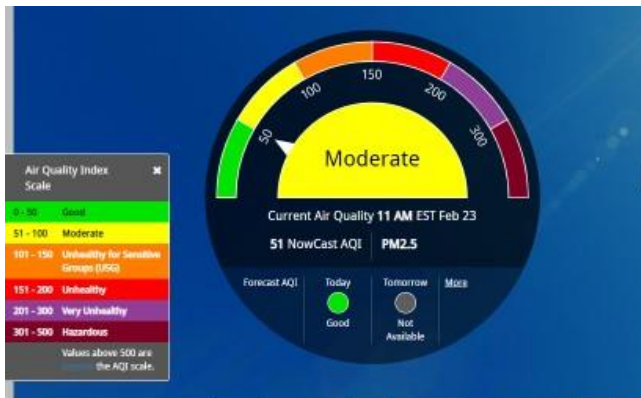
Qualitative Research Panel for Air Quality Information System Review

Clean Air & Me
WAVE 1

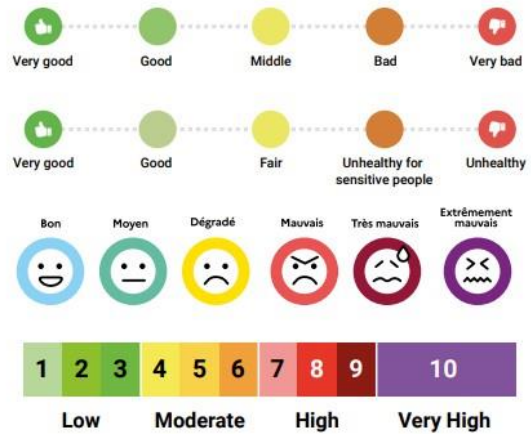
Online group discussion stimulus



Current Air Quality:

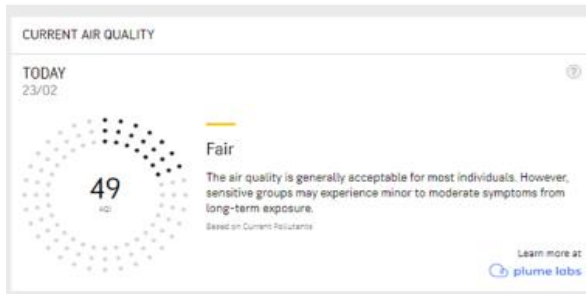


Example 1.

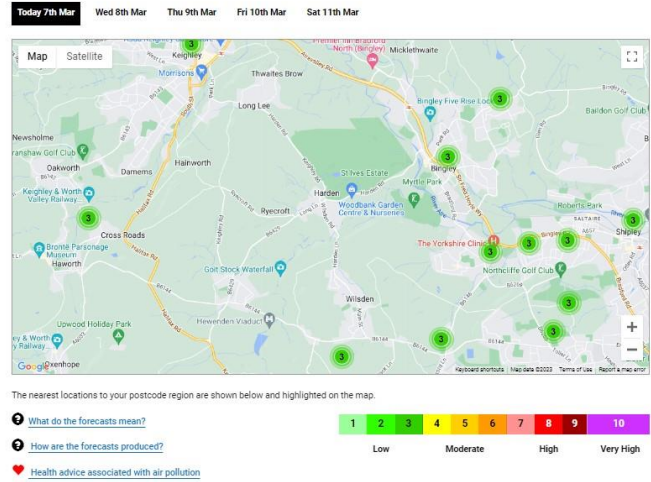


Examples 2 - 5

Current Air Quality:



Example 6.



Example 7.

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Forecast Air Quality:



Example 1.

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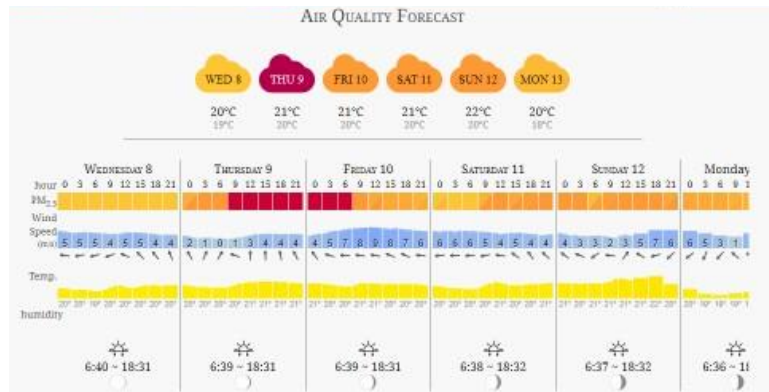
Forecast Air Quality:

Latest forecast

Today: Northerly winds and showers will keep air pollution Low across the UK today.

Tomorrow: Low levels of air pollution will continue across the UK on Wednesday.

Outlook: Air pollution levels are expected to remain Low across the UK through the weekend.



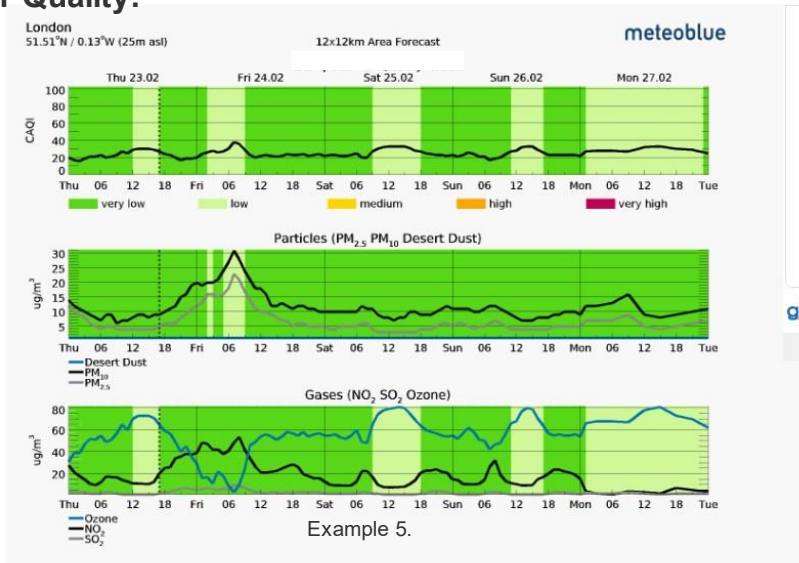
Example 2.

Example 3.

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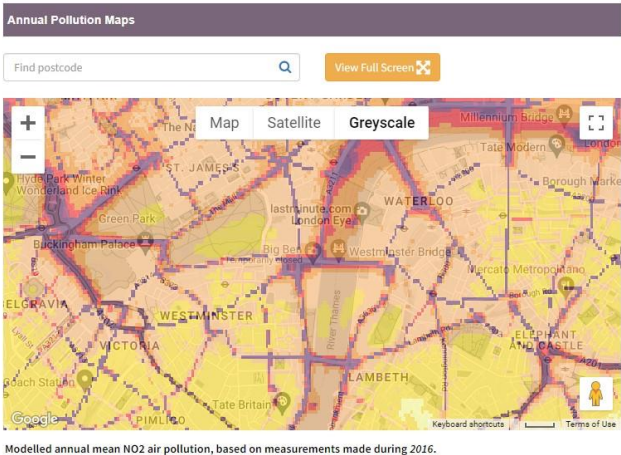
Forecast Air Quality:



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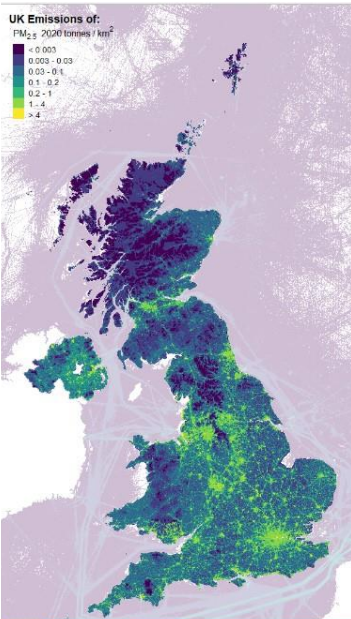
6

Annual/Historic Air Quality Information



Modelled annual mean NO₂ air pollution, based on measurements made during 2016.

Example 1.



Example 2.

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3. Recollective tasks

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Qualitative Research
Panel for Air Quality
Information System
Review

Clean Air & Me
WAVE 1

Online Community
Pre and post focus group task



1.0 Environmental concerns

Welcome to your first task!

Below is a list of environmental issues.

We would like you to tell us which environmental issues have the most impact on you personally.

Firstly, drag and drop all cards into the group.

Then, reorder cards by dragging them up and down to rank them from what concerns you the MOST (at the top) to LEAST (at the bottom).

- Water pollution
- Air pollution
- Climate change
- Noise pollution
- Flooding or extreme weather events
- Food security
- Biodiversity

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2

1.1 Environmental concerns

Now we would like to know which environmental issues you think should be a priority for the government.

Firstly, drag and drop all cards into the group.

Then, reorder cards by dragging them up and down to rank them from what should be the HIGHEST (at the top) to the LOWEST (at the bottom) government priority.

- Water pollution
- Air pollution
- Climate change
- Noise pollution
- Flooding or extreme weather events
- Food security
- Biodiversity

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3

1.2 Air Quality Meaning

We will be focusing on air quality throughout the rest of the activities.

Firstly, please write down three words that best describe what air quality means to you in general. What words or images come to mind?

First word:

Second word:

Third word:

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1.3 What is Air Quality to you?

Please tell us what air quality means to you in your everyday life by completing the following sentence:

For me, in my everyday life, air quality is

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1.4 How do you define air pollution

How would you describe air pollution to a friend?

Please answer by writing a sentence or two.

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1.5 What affects air quality

We now want to find out about what you think can influence air quality:

1. nationally
2. locally (where you live)

Please list all the things that come to mind

What do you think affects air quality nationally?

What do you think affects air quality locally?

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1.6 What affects air quality

Please sort and rank them based on how much you think they contribute to air pollution in the UK.

Firstly, drag and drop each card into the desired group.

Then, reorder cards by dragging them up and down to rank them from the MOST (at the top) to LEAST polluting at the bottom).

- Emission from the road transport
- Emissions from aviation
- Emissions from farms/agriculture
- Emission from domestic wood and coal burning
- Emissions from construction sites
- Emissions from energy generation
- Emissions from industrial burning
- Emissions from paints and cleaning products

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1.7 Scale of Concern

We want to ask some questions about how concerned you may be about air pollution.

Firstly, please let us know how concerned you are about air pollution on a scale from 1 to 5, and then tell us why.

Firstly, please let us know how concerned you are about air pollution on a scale from 1 to 5, and then tell us why.

Scale Labels: 1: Not at all concerned, 2: Slightly concerned, 3: Somewhat concerned, 4: Moderately concerned, 5: Very concerned

- Globally
- In the UK
- In the town or area that you live in
- On the street that you live on
- Inside your home

Please tell us which of the above concerns you the most and why 2. Please tell us which of the above concerns you the most and why

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1.8 Scale of Concern

And how much (if at all) do you think air quality needs to improve....

Please let us know what you think on a scale from 1 to 5.

Scale Labels: 1: Not at all, 2: Slightly, 3: Somewhat, 4: Moderately, 5: A lot

- Globally
- In the UK
- In the town or area that you live in
- On the street that you live on
- Inside your home

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1.9 Perception of Local Air Quality

We now want to know what you think about air quality where you live

Please complete the following sentences:

I feel the quality of the air in my local area is [...] than the country on average

- much better
- a little better
- roughly the same
- a little worse
- much worse

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2.0 Local Air Quality

How could the quality of air where you live be improved? Please complete the following sentence.

I feel like the quality of air in my local area could be improved by

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2.1 Improving Air Quality

And more specifically, how do you think the following organisations and people could improve air quality.

Please complete the following sentences?

I feel like the central government /businesses/individuals] has a role to play to help to improve air quality by

I feel like the local council has a role to play to help to improve air quality by

I feel like businesses have a role to play to help to improve air quality by

I feel like individuals have a role to play to help to improve air quality by

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2.2 Impact of Air Pollution

We would now like to ask some questions about the impact of air quality on our health and the environment.

Please use the scales to answer the question below and then list any impacts you can think of

To what extent do you think that air pollution can have a negative impact on

Scale 1: No effect, 2: Minor effect, 3: Neutral, 4: Moderate effect, 5: Major effect

- Our physical health
- Our mental health
- Our environment

Can you list any of the health impacts you can think of associated with poor air?

Can you list any of the environmental impacts associated with poor air?

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2.3 Impact of Air Pollution

We now want to find out about who you think is most affected by poor air quality.

In your view, are there any specific groups of people who might be affected more by poor air quality.

Please list the groups of people and then tell us why.

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2.4 Impact of Air Pollution

Here are some groups of people.

Please arrange them based on how much you think their health is impacted by exposure to air pollution.

Firstly, drag and drop a card into the desired group

Then reorder the cards by dragging them up and down to rank them from the MOST (at the top) to LEAST impacted

Task 1.15 The influence of air pollution on individuals (0.5 min)

Please rank the following groups of people in order of which you think are affected most by air pollution [1 being most affected and 7 being least affected]

- Pregnant people
- Young children and babies
- Teenagers
- Adults with no medical conditions
- People with conditions that affect their lungs
- People with conditions that affect their heart
- Older adults
- Me

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2.5 Air Quality Information

Only a few more activities left to complete!

Thinking about your own life, how useful would the following information be?

Scale: 1: Not Very Useful, 2: Slightly Useful, 3: Somewhat Useful, 4: Moderately Useful, 5: Very Useful

- Quality of the air today and tomorrow
- Actions you can take to reduce your *exposure* to air pollution
- Actions you can take to lessen your *contribution* to air pollution
- Effects of air pollution
- Air pollution in your local area

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2.6 Air Quality Information

Are you aware of any organisations or information sources to get information about air quality?

If so, please list any you can think of below.

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2.7 Air Quality Information

Here are some people and places that you might turn to for air quality information.

Please rank these in the order of which you might approach first if you were looking to know more about air quality.

Firstly, drag and drop a card into the group. Then reorder the cards by dragging them up and down to rank them from the FIRST (top) to LAST (bottom).

- The UK Government (including any of .gov.uk)
- A local council or the Greater London Authority
- NHS (website or leaflet)
- A health care professional
- The Met Office
- A charity
- News media (e.g. the BBC)
- Friends or family
- A teacher or educator
- A public figure or social media influencer
- A community figure (e.g. a community leader, religious leaders, youth worker)

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2.8 Air Quality Information

And finally... Here is a statement about air pollution:

"Air pollution costs the NHS and our social care system between £300 million and £1 billion every year."

Please tell us how likely is it that you would trust this statement from each of the sources listed below?

Scale: 1: Very Unlikely, 2: Unlikely, 3: Neutral, 4: Likely, 5: Very Likely

- | | |
|--|--|
| • The UK Government | • A Health Care Professional |
| • The Scottish Government | • The Met Office |
| • The Welsh Government | • A Charity |
| • The NI Executive | • News Media (e.g. the BBC) |
| • The Department for Environment, Food and Rural Affairs | • Friends or Family |
| • The Department of Health and Social Care | • A Teacher or Educator |
| • NHS (Website or Leaflet) | • A Public Figure or Social Media Influencer |
| | • A Community Figure (e.g. a community leader, religious leader, youth worker etc) |

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2.9 Thank you!

Congratulations!

You have now completed all of our tasks for this week's online activities.

Thank you for your time so far.

Remember to keep an eye on your emails this week with details of how to log on for your discussion group for the week beginning 20th March.

We look forward to meeting you properly then! Y

ou will receive your online community thank you payment after completing the second round of online activities for Wave 1, which will take place during the week beginning 27th March.

If you have any questions, please get in touch!

All the best, Penny, Rachael and Louise (Kantar Public Research Team)

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Post discussion group task (15 mins)
Live Monday 27th – Friday 31st March 2023

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1.0 Introduction

Welcome to your next online task!

Firstly, thank you for taking part in the group discussion.

We hope you enjoyed it and found it interesting.

Hearing your ideas and opinions was really useful for the team.

We now have a few questions and activities for you to complete on air quality. It should take you about 15 minutes.

Please read the task instructions carefully.

If you have any questions, please contact Marios: marios.zampetis@kantar.com.

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1.1 Scenarios

Firstly, what scenarios, if any, can you think of when you would find it useful to know about current air quality conditions?

And future air quality conditions?

Please describe a scenario when you would find it useful to know about current air quality conditions:

Please describe a scenario when you would find it useful to know about future air quality conditions:

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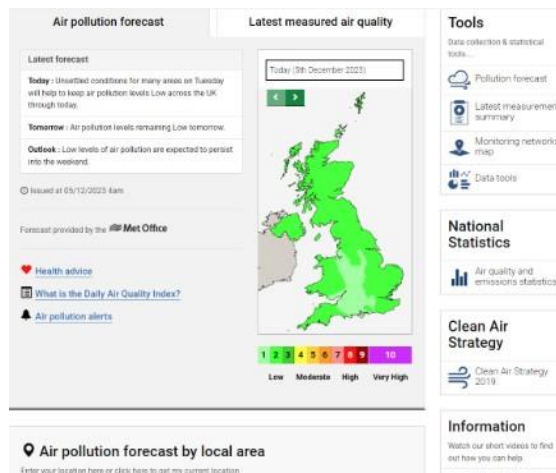
24

2.0 UK Air website

Please follow the link below to the UK Air website.

The link will open in a separate tab <https://uk-air.defra.gov.uk/>

Once you have opened the link, please keep the tab open, come back to this activity and click 'Continue'.



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2.1 UK Air air quality search

Search for the latest air quality level for your local area on the UK Air website (<https://uk-air.defra.gov.uk/>).

Once you have done that, please answer the questions below:

How easy was it to find the latest air pollution levels for your local area?

Scale: 1: I could not find this information, 2: Very difficult to find, 3: Fairly difficult to find, 4: Fairly easy to find, 5: Very easy to find

Reason for difficulty of finding air quality levels

How useful was the information on the latest air quality level for your local area?

Scale: 1: Not at all useful, 2: Slightly useful, 3: Somewhat useful, 4: Very useful, 5: Extremely useful

Reason for usefulness air quality levels

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2.2 UK Air forecast search

Now, please search for the air pollution forecast for tomorrow in your local area (<https://uk-air.defra.gov.uk/>).

Once you have done that, please answer the questions below:

How easy was it to find the air pollution forecast for tomorrow in your local area?

Scale: 1: I could not find this information, 2: Very difficult to find, 3: Fairly difficult to find, 4: Fairly easy to find, 5: Very easy to find

Reason for difficulty of finding forecast

How useful was the air pollution forecast for tomorrow for your local area?

Scale: 1: Not at all useful, 2: Slightly useful, 3: Somewhat useful, 4: Very useful, 5: Extremely useful

Reason for forecast usefulness

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2.4 UK Air DAQI characteristics

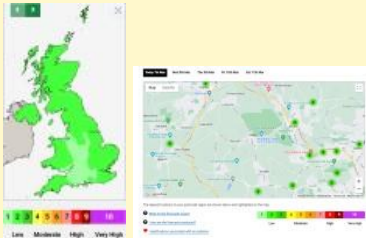
Please complete the following sentences on how helpful you find the Daily Air Quality Index

I find the colours in the Daily Air Quality Index helpful/unhelpful/neither helpful or unhelpful because

I find the numbers in the Daily Air Quality Index helpful/unhelpful/neither helpful because

I find the UK map (1st photo on left) in the Daily Air Quality Index helpful/unhelpful/neither helpful because

I find the local map (2nd photo on right) in the Daily Air Quality Index helpful/unhelpful/neither helpful



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3.0 Types of information

What sort of air quality information might be useful to you personally?

Below we have cards showing some potential types of information that might be useful.

We would like to know what type of information you would use if you had access to it.

Please drag and drop the cards with information you would be interested in having in the box at the bottom of the page called 'Things I would want to access'.

- A national pollution forecast
- An air pollution forecast for my local town or area
- A street-level pollution forecast
- A forecast that tells me at what time of day air pollution is expected to be highest or lowest
- A forecast for the next day
- A forecast covering the next 2 -3 days
- A forecast covering the next 7 days

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3.1 Types of information

Now here are some other types of air quality information.

What else might be useful to you personally if you had access to it?

Again, please drag and drop the cards with information you would be interested in having access to in the box at the bottom of the page called 'Things I would want to access'.

- Real time air quality conditions for my local time or area
- Real time air quality conditions at street level
- Information about how your areas ranks or air quality relative to rest of the country
- Sources of emissions in your local area
- The average yearly air quality in your local area
- What is being done to improve air quality in your local area

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4.0 Your final thoughts...

We just have one final question for you!

What would be your main message to us about how best to provide air quality information?

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11: Thank you!

Thank you for completing those tasks. Wave 1 of the research is now finished!

We will take a break until June now when Clean Air & Me Wave 2 will launch.

We will be in touch nearer the time with full details of your discussion group and the online activities.

Remember, for Wave 2 there will be no pre-discussion group task. Both interactions with the Clean Air & Me online community will be after the discussion group.

We look forward to seeing you again in June!

You will receive your thank you payment within 15 days of completing this task

From Penny, Rachael, Louise, Marios and Cap (Kantar Public Research Team)

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4. Presentation deck

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Qualitative Research
Panel for Air Quality
Information System
Review

Wave 1 briefing presentation

Penny Stothard and Louise Skowron

April 2023



Table of contents

1. Introduction
2. Key Wave 1 findings
3. Air quality context
4. Air quality information: sources
5. Air quality information: content
6. Air quality information: messengers
7. Air quality information: presentation
8. Typologies
9. Next steps
10. Sample



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2

1 Introduction

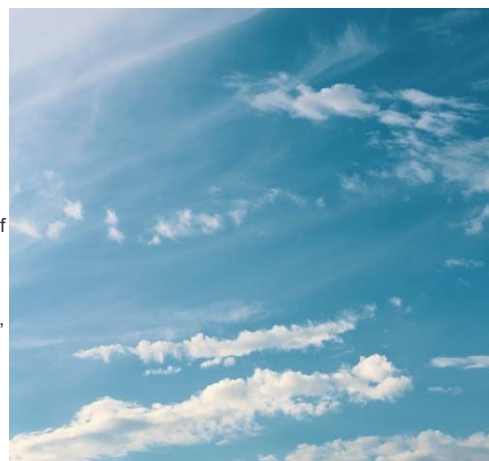
Defra has set up a qualitative panel to inform air quality communication development, focusing on how the public can reduce their exposure and contribution to air pollution

Defra and UKHSA have established the Air Quality Information System (AQIS) review to improve the quality and provision of air quality information to the public, which is guided by a multidisciplinary steering group.

The steering group has recommended that communication approaches are developed in collaboration with members of the public.

With this in mind **a qualitative panel has been commissioned** that aims to:

- Develop a deeper understanding of the knowledge, attitudes and behaviours of the general population and 'at risk' groups with regard to air pollution (avoiding it, and reducing contributions to it).
- Elicit insight into the barriers and facilitators that influence desired behaviours, and other factors relating to communications that seek to change behaviours.
- Co-design communication approaches taking into account the understanding and insights generated earlier in the project.

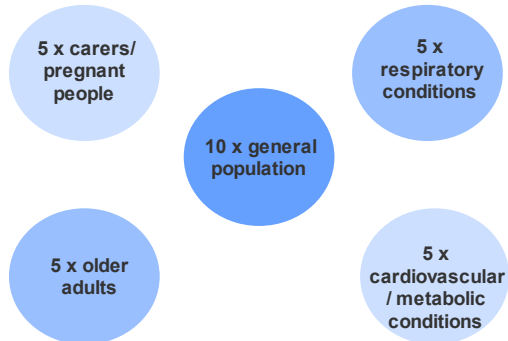


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Three waves of research will take place, involving recalling the same 30 participants to the research and in each wave conducting 6 online discussion groups and online tasks

The panel consists of 30 participants



There will be 3 waves of activity– each wave will involve:



6 x 90 minute online discussion groups
(5 participants per group)



2 x 15 minute online task sessions
via the Recollective platform

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This report details the findings from Wave 1 of the research, including the group discussions and online tasks, which sought to answer five high level research questions

- 1 What are participants' pre-existing perceptions/understanding of air pollution/quality?
- 2 What drives participants towards certain information sources?
- 3 What air quality information do participants want/expect to be able to find?
- 4 Who do participants want to receive air quality information from?
- 5 What do participants think of current examples of air quality information provision?

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Wave 1 involved participants conducting an online pre -task, taking part in an online group discussion and then conducting an online follow -up task

Pre-task	Online group discussion	Post-task
<p>Participants answered questions to provide 'baseline'/spontaneous responses regarding key air quality issues, e.g.</p>	<p>The groups explored participants' responses to the pretask and more general questions, including</p>	<p>Participants were asked to give more detail about their views on air quality information that they had seen in the group discussions</p>
<ul style="list-style-type: none"> • What they understand air quality to mean, what affects it and what impact it has on people and nature • Where air quality sits in their overall hierarchy of concerns and the 'role' air quality plays in individuals' lives • Where people would go to for information or advice on air quality • Who is/would be a trusted provider of information on advice about air quality 	<ul style="list-style-type: none"> • General information seeking influences and preferences • Relevance of air quality as a concern • Interest in and expectations of air quality information • Experiences of seeking/coming across' using air quality information • Views on air quality information presentation 	<ul style="list-style-type: none"> • This enabled us to get a clearer understanding of participants' comprehension of information overall, and their perceptions of different aspects of this

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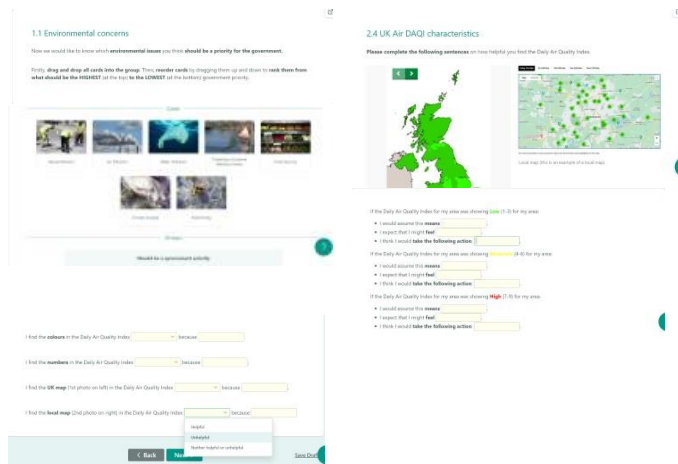
The online tasks were conducted via an interactive market research platform called Recollective

Participants were asked to conduct a range of activities including

- Sentence completion
- Sort and rant tasks
- Fill in the blanks

The platform was available for 24 hours a day for seven days (for both sessions)

User support was offered to participants where it was needed, although it is a relatively easy-to-use platform



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2 Key Wave 1 findings

Headline findings

- 1** **Air quality was not top of mind** for most people and there was a lack of awareness of and clarity on: the causes of air pollution, and how to reduce it and its impact on people and nature, and how to mitigate the risks. It was noticeable that participants tended to feel powerless in the context of air quality
- 2** **Beyond this, there was variation** in people's perceptions of the risk poor air quality poses for health and their perceived agency in responding to this, mainly for the cardiovascular/ metabolic group and to some degree carers: this means that in the context of air quality information different people have different feelings about it, information needs, channel preferences, motivations/barriers and propensity to change their behaviour
- 3** **Expectations of air quality information fell into three main categories** awareness raising/educational information, localised daily air quality reporting information and health related information (the latter focused on 'at risk' groups)
- 4** **Key trusted sources of information quoted in the research varied** although key to this were sources that prioritised usability and were impartial, apolitical and accurate while 'government' was not trusted, social sector bodies (such as the NHS) did have high levels of trust
- 5** **The DAQI was generally well received and well understood** although developments could include: simplifying and scaling index back; providing forecasts at a local or ideally street level giving more detail about how readings are measured and helping people understand what the readings mean and how people can respond (ideally this being easily accessed, e. by clicking or hovering over readings)

Different communication strands emerged, relevant for different people in different situations



Awareness raising information

Content

- What air quality is, how it has changed over time and key contributors to air pollution
- The impact on people and nature
- How the impact varies according to different situations (e.g. health conditions)
- What is being done to address this (government, business, other organisations) and what progress has been made
- How people can act to reduce air pollution and mitigate the risk to themselves

Messengers: NHS, Defra (possibly in partnership with others), BBC, health charities
Most relevant for: general population, carers



Daily localised forecasts

Content

- This week, by hour/time of day, at street level
- Colour coded
- Advice on what to consider doing/not doing (e.g. shutting windows, not putting out washing, stay indoors), with a focus on the positives of good air quality (e.g. go outdoors, exercise if possible)
- More detailed information available on scales/levels of air quality (e.g. meanings, PM2.5) and how measured if wanted

Messengers: Met Office, BBC, AccuWeather
Most relevant for: all



Health related information

Content

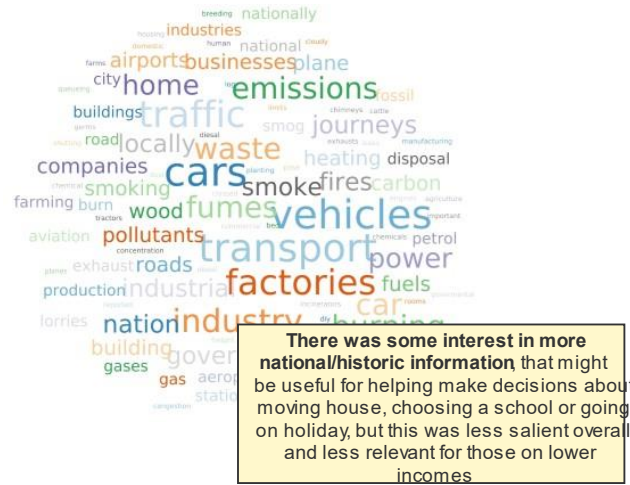
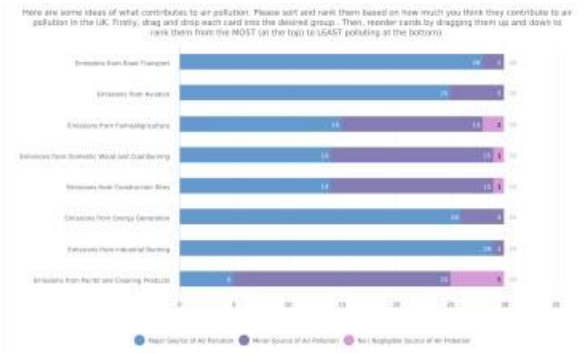
- Specific information and advice about an individual's particular condition relation to air quality
- Techniques to better understand potential responses to poor air quality
- Ways to mitigate risk and manage symptoms

Messengers: NHS, specific health care professionals, health/children's charities
Most relevant for: people with respiratory or cardiovascular conditions, carers

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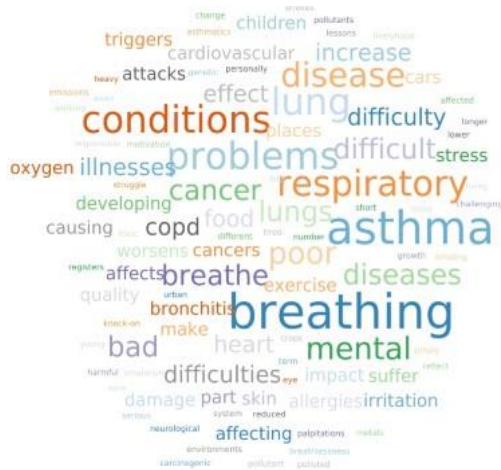
Perceptions of what affects air quality focused on transport, industrial emissions and energy generation



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Participants’ understanding of the effects of air pollution focused on the physical impact on health as can be seen by the word cloud generated by an online task



There was general awareness of who are most affected by air pollution:

- People with lung conditions i.e. asthma
- Children (especially when at car exhaust level)
- Pregnant women
- Frail people

There was also some salience of effects on mental development and health as well as nature:

- Impairs cognitive development
- Can induce depression, mood disorders
- Negatively impacts on food production, both in relation to crops and animals

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Participants’ responses to this topic varied considerably, depending on their perceptions of their own level of risk from air pollution...

Perceived level of risk



Low risk

General population

Less aware of/concerned by the negative impact of air pollution

Or, if aware of the negative impact, risk is perceived as a 'future' risk (i.e. not immediate/ currently salient)

(Rural dwellers)

High risk

People with respiratory conditions and/or cardiovascular conditions

People caring for children or others with respiratory and/or cardiovascular conditions

Pregnant people

Aware of the impact of air pollution on themselves and others

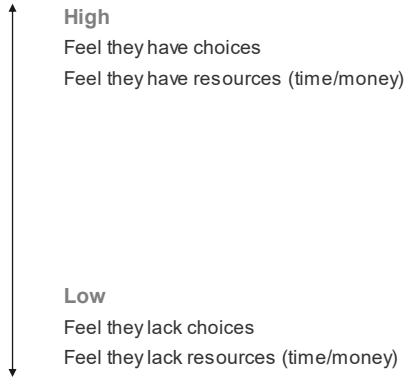
(Urban dwellers and/or those living near to industrial plants)

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...and their sense of agency

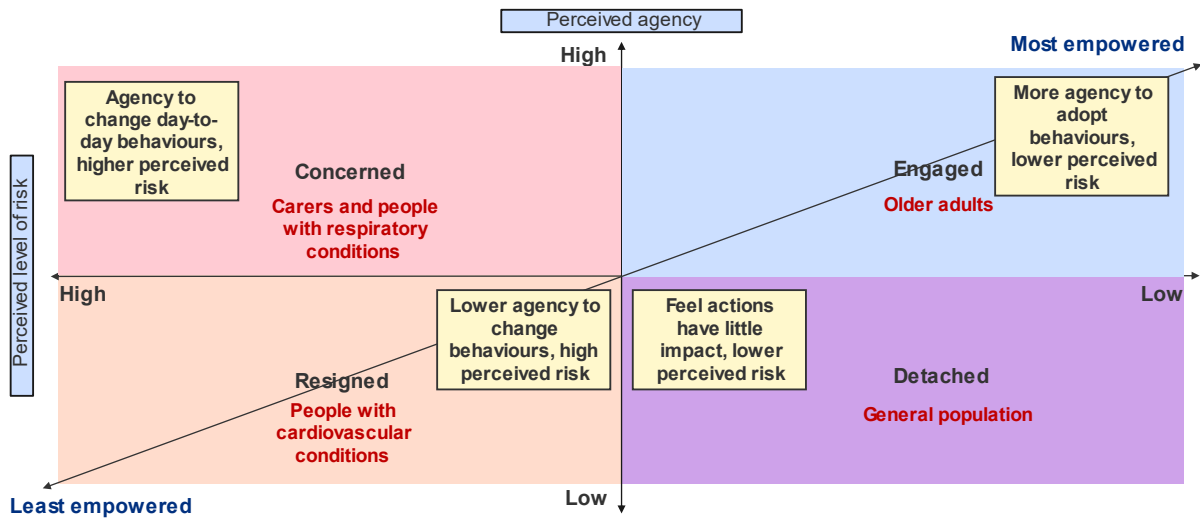
Perceived agency



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Participants fell across these two dimensions in the research



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Concerned



Hannah (pseudonym) is married and mum to 2 year old son, Bertie. They live in a fairly large house but to be able to afford it compromised on the location – a busy main road. Sometimes she feels guilty about this because she worries about how the exhaust fumes might affect Bertie. She would like to move house but they are on a fixed-term mortgage so it's not possible at the moment.

Saliience	Feelings	Air quality information	Propensity to change behaviour
<p>Medium saliience alongside other environment issues and worries about cost of living (saliience increased by having children/grandchildren)</p> <p>Poor air quality somewhat plays on mind but unsure what actions they can take</p> <p>Indoor air quality may be salient, especially if live on a busy road or in urban areas</p>	<p>Anxious, worried and guilty</p> <p>Concerned that poor air quality could be negatively impacting their children/unborn child and that their decisions about where to live may affect their family's future health live</p> <p>Uncertain about what they can do to improve the situation for their children or themselves</p>	<p>Welcome information to better inform day-to-day decisionmaking</p> <p>Are cautious as they do not want to be overwhelmed or feel scared about poor air quality as feel a bit powerless in what they can do</p>	<p>Open to behaviour change to mitigate the negative impacts, e.g. like choosing to go to indoor soft play with their child rather than the playground</p> <p>Need advice or support on what they could do if air quality is poor</p>
<p><i>"I don't know if I'd want to know about [pollution] levels here. I'm in a position to just up and leave. I think it might give me health anxiety."</i> Carers group</p>			

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Engaged



Andy is retired and lives in a trendy area of Manchester. He has become more aware of air pollution recently and its effects on individuals and nature. With no long-term health conditions himself he does not feel directly affected by poor air quality, however he is concerned about the wider effects locally, nationally and globally. Now he is not working he has more time to read about air quality in the paper and has raised his concerns with his MP.

Saliience	Feelings	Air quality information	Propensity to change behaviour
<p>High saliience alongside other environmental concerns in their lives such as ethically sourced food or buy local initiatives</p> <p>Poor air quality does not impact on behaviour, however is talked about in a passionate way often seeking justice for society and the environment</p> <p>May recall experiences of more visible air pollution (as a child)</p>	<p>Passionate and frustrated</p> <p>Concerned that poor air quality is negatively impacting humans and the environment</p> <p>Frustrated that governments and business are not moving faster to make change happen</p>	<p>Feels information should be more readily available about day-to-day air quality</p> <p>Believes governments need to be more open about sources of air pollution and what it is doing to tackle this</p>	<p>May have more flexibility, time and agency to adapt their behaviours day-to-day as may be retired</p>
<p><i>"I'm increasingly interested in recent years as I've become more aware of environmental health issues caused by air pollution"</i> Older adults groups</p>			

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Detached

David is in his mid 20s with no long-term health conditions or care responsibilities. He does not feel he is directly affected by the quality of the air day-to-day and feels this is more of a concern for people with asthma, lung conditions and young children. He believes everyone can do their bit but it doesn't have much impact unless government and big business are on board



Saliience	Feelings	Air quality information	Propensity to change behaviour
<p>Low saliience, however it is regarded as part of general environmental concern i.e. climate change</p> <p>Poor air quality does not impact on behaviour, as it is spoken about in more abstract terms and in relation to other, more vulnerable people more affected by air pollution</p>	<p>Indifferent and unconcerned</p> <p>While not a current preoccupation, this could change in the future if they had children of their own and/or parents who develop certain conditions</p> <p>On an individual level feel their actions have little impact on air quality</p>	<p>Interested in some light touch air quality information to build knowledge and increase general understanding of the topic</p> <p>Suspect that government may be hiding the 'real picture' due to relationships with business</p>	<p>Don't feel they need to make any changes because they are not directly affected by poor air quality</p> <p>However, there is some interest in understanding if air quality was particularly poor</p>

"If the air quality is bad what can I do? have to go about my daily life."
General population group




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4 Air quality information: sources

What drives participants towards certain information sources?



Three key factors underpinned participants' use of information sources and, although trust in sources was often implicit, some were trusted more than others

 <p>Usability</p>	 <p>Credibility</p>	 <p>Prior experiences</p>
<p>Familiarity/frequency of use</p> <ul style="list-style-type: none"> Know the platform/source <p>Accessibility</p> <ul style="list-style-type: none"> Quick and easy to locate Available in preferred format (online phone, tablet, computer, app, newspaper) <p>Ease of use/comprehension</p> <ul style="list-style-type: none"> Find what looking for easily Information presented in an understandable way <p>Free</p> <p><i>Google, Amazon, YouTube</i></p>	<p>Trustworthiness</p> <ul style="list-style-type: none"> Based on science, impartial, provides facts and data, apolitical Original source Reliable, up to date, accurate Meets expectations <p><i>Met Office, BBC, NHS, government Covid information, GOV.UK website, HMRC, other charities that give an alternative perspective than 'government'</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>"It [Met Office] seems separate to any political agenda- they are just telling you statistics and data."</i> Carers group</p> </div>	<p>Positive past experiences</p> <p>Word of mouth (from family and friends rather than online reviews)</p> <p><i>Local councils, TikTok</i></p>

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Trust in government information was somewhat mixed

 <p>Examples of trusted government information</p>	 <p>Issues with government information</p>	
<p>Covid information was seen as a good example of information provision</p> <ul style="list-style-type: none"> Referred to a range of different sources, with reference to 'at risk' groups Accurate/up to date (daily infection rate etc) Direct, able to help support behaviour change messages <p>NHS was the most trusted website in terms of content</p> <p>Other positive examples included HMRC, flood warnings and bathing water risk information</p>	<p>While it was considered to be fairly easy to access government information (e.g. at gov.uk), participants sometimes felt that it was difficult to navigate to find the specific information they needed</p> <p>Local government information tended to be less trusted to be up-to-date/accurate</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><i>"I wouldn't go anywhere else, apart from my GP, to get health information."</i> Respiratory conditions group</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><i>"I sometimes find the government websites confusing. Sometimes unclear."</i> Carers group</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><i>"Maybe I trust local government less as the information might not be available, it might not be up-to-date or could be security issues on local government websites."</i> Older adults group</p> </div>

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Participants struggled to remember behaviour change campaign messaging, although more emotive messaging was more impactful and memorable

Ingredients of impactful campaigns

Emotive framing, e.g. supported by long form documentary, high impact awareness raising 'stunts' by activists

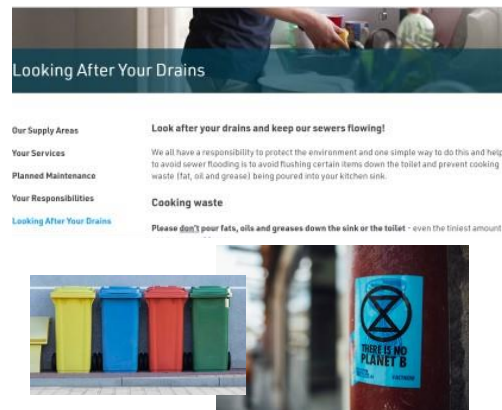
Raising awareness about a previously non-salient activity e.g. fat in drains, home insulation (Insulate Britain)

Providing a rationale for behaviour change, e.g. ULEZ not appearing to provide this

Memorable/tangible/local impact e.g. cigarette butts release toxins into the ground for 14 years, local litter picking compounded impact of lots of people doing a small thing

Clarity about what individuals need to do

And ensuring that this is easy/practical/convenient e.g. provision of cheap public transport, having consistent recycling systems so people always know what to do



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It was particularly noticeable that some participants expressed a strong sense of powerlessness in the context of action on air pollution

This seemed to be due to the amalgamation of the following issues

Abstract/long term/intangible nature of the issues – and/or a lack of clear understanding of them

Lack of clarity as to behaviours that would make a difference to mitigate the risk to themselves – and/or choice about these (i.e. limitations on where to live/work)

Lack of clarity as to behaviours that would make a difference to reducing air pollution – and/or choice about these to some extent

Lack of belief that individual action would make a difference

Lack of belief that this is being prioritised by other organisations

On a personal level you can do a little bit, like the type of car you can drive, driving less, walking more, not having a wood burner. But I don't think there is much more you can do.
General population group

"This is where some of the frustrations comes in. You want to do things on your level, small things and you do but then you read of these incidences like that [negative media stories about air pollution] and it's like what's the point. A million people doing a small thing makes a difference but then when you have a company pumping out high levels of pollution you just think...well."
General population group

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5 Air quality information: content

What air quality information do participants want/expect to be able to find?

The current salience of air quality information was very low and most participants had not actively sought air quality information



Not sought air quality information (majority)

Not aware – most participants were unaware that information existed at a national or local level – were interested, just unaware

Not interested

Unclear what difference it would make to them (especially if they did not perceive air quality as having an impact on them or members of their family)



Come across air quality information (minority)

Participants with respiratory conditions tended to be familiar with information on the pollen count, although did not always recognise this to be air quality information

Some awareness of air quality information at the bottom of weather app information

One example of a person receiving an email from Martin Lewis encouraging readers to look at www.addresspollution.org (to assess whether air pollution was high, which may encourage landlord to reduce rent)

Some participants also recalled air quality information during extreme environmental events i.e. Saharan sandstorms, as part of weather forecasts and news stories

Air quality information was perceived as falling into three categories



Awareness raising information

Education about air quality

- What it is and how it has changed over time
- Key contributors to this
- The impact on people and nature
- How the impact varies according to different situations (e.g. health conditions)
- What is being done to address this (government, business, other organisations)
- How people can act to reduce air pollution and mitigate the risk to themselves

National/local progress updates on air quality – and detail on how/who is contributing to improvements



Daily localised forecast

Simple, immediate information to direct day-to-day behaviour

- This week, by hour/time of day
- At street level
- Colour coded
- Advice on what to consider doing/not doing (e.g. keep windows shut, don't put out washing, stay indoors)
- Focus on the positive for good air quality (e.g. go outdoors, exercise)
- Detailed information on scales/levels of air quality (e.g. PM2.5)



Health related information

Specific information and advice delivered by health care professionals based on knowledge and understanding of an individual's condition

There was some interest in more national/historic information that might be useful for helping make decisions about moving house, choosing a school or going on holiday, but this was less salient overall and less relevant for those on lower incomes

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Awareness and understanding of air quality was low and participants were keen to know more



More information on the extent of the impact of air quality on human health was welcomed

- Some suggested that there would have been less pushback on some policies (e.g. Ultra Low Emissions Zone) because of this

However, the challenge is clearly in providing clear and honest information that does not frighten people or leading them to assume there are no solutions, which may lead them to turn away from the issue

"There's nothing specifically out there about air quality- there is lots about climate change but no linked to air quality."
Respiratory conditions group

"Everyone should know. Information would help a lot more people open their eyes to this and start making changes. It might give people a bit of a wake-up call."
Carers group

"A lot less people would be shocked or angry about this [ULEZ] if they knew why it were being implemented. And people would be more willing to work with the government."
Carers group

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In general, it was felt that accessible, daily forecast information would help to raise the profile of air quality as an issue and prompt people to think about its relevance to them

Features of daily information

Easily accessible

Town/area or street level

Easy to understand (top level information, using established information norms, that can help guide behaviour)

Indicates time of the day when pollution levels are to be highest and lowest

Provides simple advice on how to respond to air quality information, including ideas for when air quality is good

Option to quickly access more detail e.g. descriptions of air quality levels to help with understanding

"I didn't know air quality information was out there, I don't know where to look for it."
Carers group

"I might think twice about going out that day and stay inside with my air purifier."
Carers group

Localised, daily and short-term forecasts were most relevant to participants, followed by day forecast

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Specific information needs were also identified for some of the 'at risk' groups



Respiratory conditions

Better understanding of how air quality can impact condition

Advice on how to mitigate symptoms

Knowledge on how to manage condition in the future, e.g.

- What to avoid and when
- When reliance on inhaler may increase

Plot symptoms on a calendar next to air quality reading to support with building knowledge

Individualised discussions with healthcare professions



Heart conditions

What others living with the same condition as them have done to reduce their exposure to air pollution

Actions to improve internal air quality



Carers/pregnant people

Better understanding of how air quality can impact developing foetus and pregnant person

Possible impact on young children – cognitive development, respiratory system

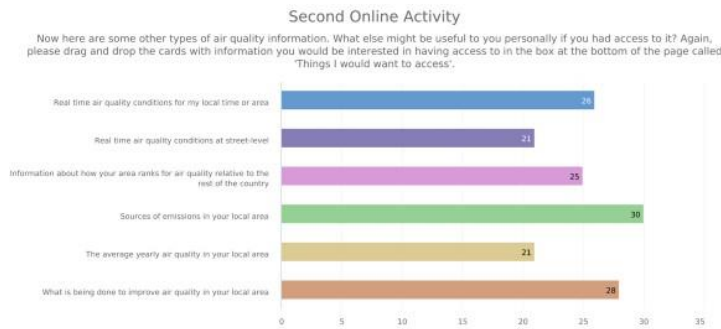
What conditions children are more at risk of developing if exposed to different levels of air pollution over time

Better understanding of internal air pollution risks

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When asked in a prompted online task about what type of air quality information participants would want to receive, participants' responses were as below



The top three types of information were:

- Sources of emissions in your local area
- What is being done to improve air quality in your local area
- Real time air quality conditions for my local area





At a more detailed level, participants voted for which type of air quality information they would find most useful

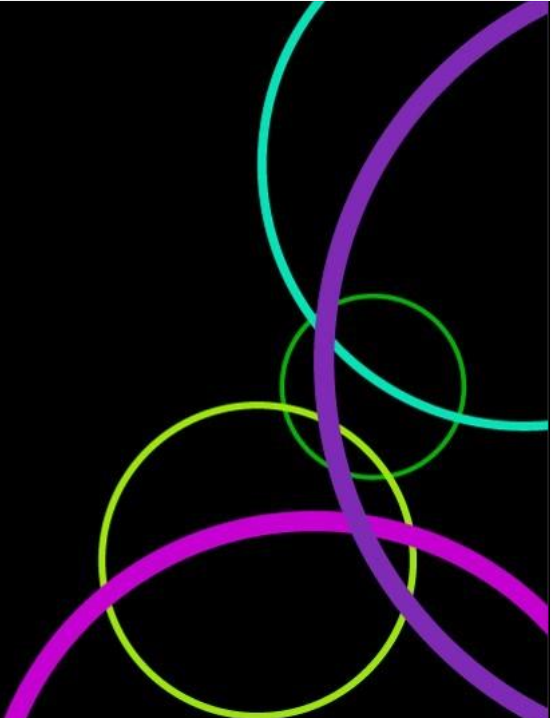


The two most useful types of information were:

- Actions to reduce exposure to air pollution
- Actions you can take to lessen contribution to air pollution

Participants highlighted different ways they would use information to make decisions to lessen their exposure to air pollution

 Daily decision-making	 Short to medium term planning	 Long-term planning	 Behaviours
<p>Localised and timely information could influence</p> <ul style="list-style-type: none"> • Running/cycle/dog walking routes • When to leave the house, e.g. what time to go to work to avoid peak polluting times • Opening windows • Hanging out washing • Taking inhaler when leaving the house • Medication levels 	<p>Short-term</p> <ul style="list-style-type: none"> • Planning when and where to go for a long walk • Choosing where to take child to play - indoor soft play vs outdoor playground • Whether to invest in an air purifier <p>Medium-term</p> <ul style="list-style-type: none"> • Learning how to manage asthma better • Mitigating symptoms of long-term conditions • Where to go on holiday 	<p>Moving house</p> <p>Where to raise children</p> <p>Choosing which school to send children to</p>	<p>Modifying individual behaviours to reduce contribution to air pollution</p> <p>Working with local community to reduce collective contribution</p> <p>Although this was predicated knowing precisely what behaviours would be relevant in response to air quality levels</p>



6
Air quality information: messengers

Who do participants want to receive air quality information from?

However, it became apparent that the messenger organisation and channel for communicating information would be influenced by the type of information



Awareness raising information

Defra (establishing Defra’s credentials/interest in this area)
 NHS– statistics on people exposed to air pollution and likelihood of developing conditions
 Charities
 Local authorities
 Schools
 News stories- news reports(especially BBC), local and national newspapers
 Advertising campaigns
 Social media



Daily localised forecast

Formats– integrated into weather reports (similarly to pollen readings), e.g. via

- TV
- Apps
- Online
- Smart phones
- Widgets
- Newspapers



Health related information

NHS– online and via interactions with health care professionals i.e. GPs, asthma nurses during review, cardiologists, midwives
 Condition charities i.e. Asthma UK, British Heart Foundation
 Children’s charities

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There was a good deal of scepticism about the role of government in promoting information about air quality



This emerged from participants’ negative perceptions of central government as it was assumed that government would

- Take a party political view
- Want to ‘cover up’ poor health outcomes due to air pollution
- Support big business(whose interests were suspected to undermine air quality and human health)

“Government are not interested in telling the locations of where the air quality is not good.”
Older adults group

“The car and chemical industry lobby government and so the government has not done as much as they should because of them.”
Older adults group



Interestingly, participants did not put local government or NHS information in the same negative ‘government’ category

- Is there an opportunity for Defra to position itself as an expert organisation on the issue of air quality or as an intermediary that brings together expertise to consider and advise on these issues?

“If the NHS did an air quality campaign or the Ministry of Health then people would listen and get curious. There is a sentimental factor, people value the NHS. There is not a lot of faith or trust in the government.”
General population group

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7 Air quality information: presentation

What do participants think of current examples of air quality information provision?

Participants favoured clear, simple and accessible air quality information that was easy to understand at a glance



Air quality information will be encountered by people who are likely to be

- Time poor
- Coming across a great deal of data throughout the day
- Unlikely to seek it out proactively
- Learning to understand and interpret air quality information at least initially (before becoming more familiar with it)

This means information needs to be

- Clear, simple and relevant for people's day-day lives
- Easy to digest, understand and respond to
- Available through familiar communication channels, e.g. TV, apps and radio, and familiar sources to have a broader reach

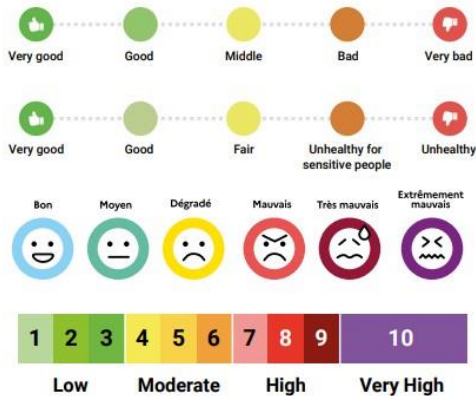
Most participants perceived weather forecasts as an obvious format – this may be based on familiarity with pollen count readings within weather reports

"Everything is presented in such a faster way now and the pace of life is fast and can be complicated, with many aspects to juggle, so a cursory glance should be informative but for those who need it the option is there to get more."
Generation population group

"It should be kept simple [number charts and colour schemes] and then have the option for people to click somewhere to receive more detailed information."
Generation population group

"Make it accessible in everyday life to get the message out there on the importance of air pollution, like news, apps, home screens on web browsers..."
Carers group

Participants liked the simplicity of the current air quality scales and in general these were universally understood



Positive attributes included

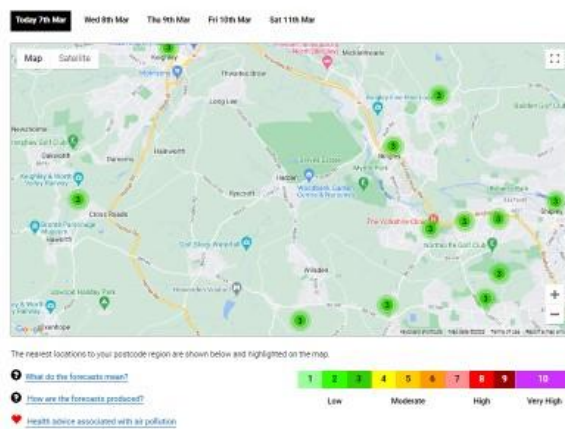
- **Effective and easy to understand**
- **Universal understanding** that green/blue is positive and red is negative
- Welcomed **combination of features** such as colours, words, numbers and emojis to **reinforce understanding**
- Good approach to teach children about air quality
- **Accessible** for those with low proficiency of English or low literacy



Negative attributes included

- **Too many gradients**: ideally simplify to 5 bands and reduce use of colour to traffic light system (green, amber, red) and use green for good and red for bad (not purple)
- **Word descriptions are open to interpretation** i.e. who are sensitive people, what is the actual difference between high and very high- needs to be clarified (e.g. hover over icon for more information)
- **No guidance or advice** as to how user should respond

There was a clear preference for localised information with a postcode function to quickly retrieve more relevant information



Positive attributes included:

- **Localisation of the information** i.e. where they lived or their destination, maximised relevance
- **Gives the capability to plan a few days ahead** though this was not obvious at first to some
- **Useful to include key while users become familiar** with bandings



Negative attributes included:

- **Not detailed enough**– ideally this would be available at **street-level** to **impact very local decisions** e.g. which route to take, where to go outdoors
- Despite the key, it **lacks explanation of what the bandings mean** or what influences the reading
- Again, **no guidance or advice** as to how to respond to air pollution level

While the importance of more technical information was recognised, it was felt this was overwhelming and too detailed for the general public



Participants felt they would not engage with this air quality forecast because:

- **Too much information** is presented at onetime and they were unable to work out what is relevant to them
- It was **too difficult to interpret** and they would **not invest time** to try and understand it
- The **different readings had no meaning to them**, i.e. they did not understand the differences between and significance of particles and gases
- **The language was not understood**, i.e. PM2.5, NO2, SO2
- **Visually unappealing**

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Some welcomed a brief forecast description; however, it was felt by most that would ideally be provided by 'hovering' over the scale online if users wanted more information

Latest forecast

Today: Northerly winds and showers will keep air pollution Low across the UK today.

Tomorrow: Low levels of air pollution will continue across the UK on Wednesday.

Outlook: Air pollution levels are expected to remain Low across the UK through the weekend.

CURRENT AIR QUALITY

TODAY 23/02

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AQI

Fair

The air quality is generally acceptable for most individuals. However, sensitive groups may experience minor to moderate symptoms from long-term exposure.

Based on Current Pollution

Learn more at [plumtree.katib](#)



Positive attributes included:

- Offered a bit more context to the air quality reading than the basic indexes
- Helped to explain the reasons for air pollution level
- Highlighted the potential impact for certain groups



Negative attributes included:

- No immediate visual representation of reading
- Lack of key or scale to interpret the colour/fair banding
- No explanation of 49 AQI



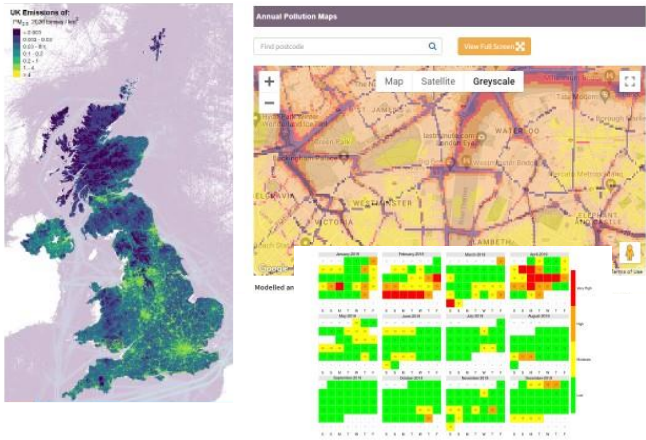
Suggestion that a narrative description could form a second 'layer' of information that sits behind a 'quick access' scale.

Users could click through or hover for additional information, i.e. how the reading is measured, what it means, practical advice

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National/historic air quality information was not top of mind for most, although some felt that there were occasions on which it could be useful



Historic air quality information was felt to be interesting for the local area, although this has the potential to frighten residents if the information is poor

- Some suggested that it could be used as a means of showing positive progress made on air quality in a local area
- Presentation in a map rather than calendar format was felt to be easier to read/interpret

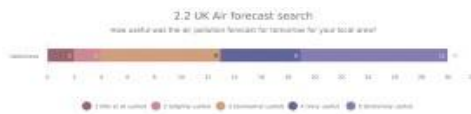
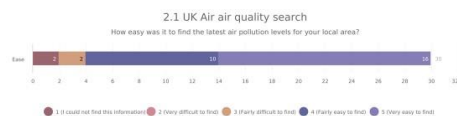
National air quality information was felt to be more relevant for decision making regarding where to live or where to go on holiday

- Although these types of decisions were only relevant at intermittent times within people's lives
- And not perceived as being relevant to all (especially those on lower incomes)

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When tasked to find local air pollution levels (on UK Air) in their local area, most participants found this fairly or very easy; however, the usefulness of information was more questionable



Positive attributes included:

- Quick and simple to enter postcode and get reading
- Liked the use of the map to visualise location
- Felt the reading was clear and concise
- Some spotted the FAQs which they found useful



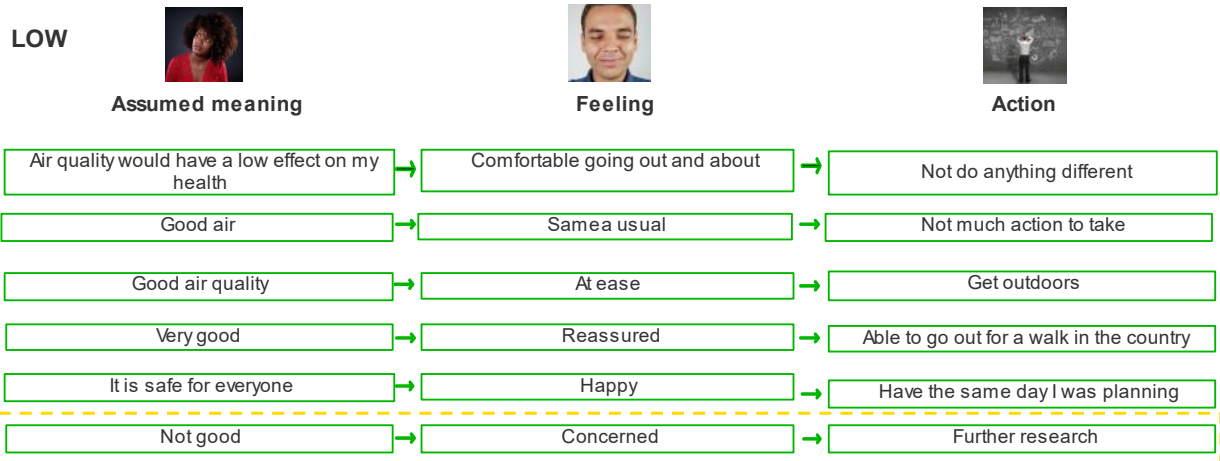
Negative attributes included:

- Not fully obvious to all they needed to scroll to bottom of webpage to locate postcode search: repositioning the search box, potentially above or next to the map, would improve user experience
- Many did not realise the map was interactive
- Reading location may be based a few miles away from your location so less useful
- Too simplistic and lacking in detail of what is being measured – some respondents questioned accuracy of the reading they were given
- Lack of advice or guidance on how to respond to the reading

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Understanding of DAQI was very good overall: assumed meaning, and anticipated feelings and actions to low DAQI generated similar responses

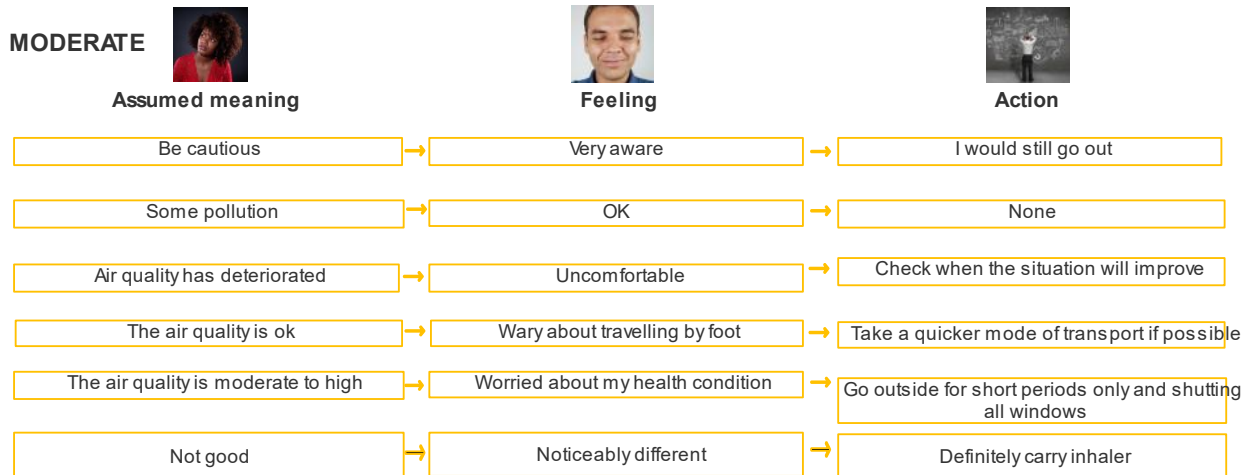


N.B. 2 participants misinterpreted the 'direction' of the scale and perceived 'low' to mean 'low air quality' rather than 'low air pollution'

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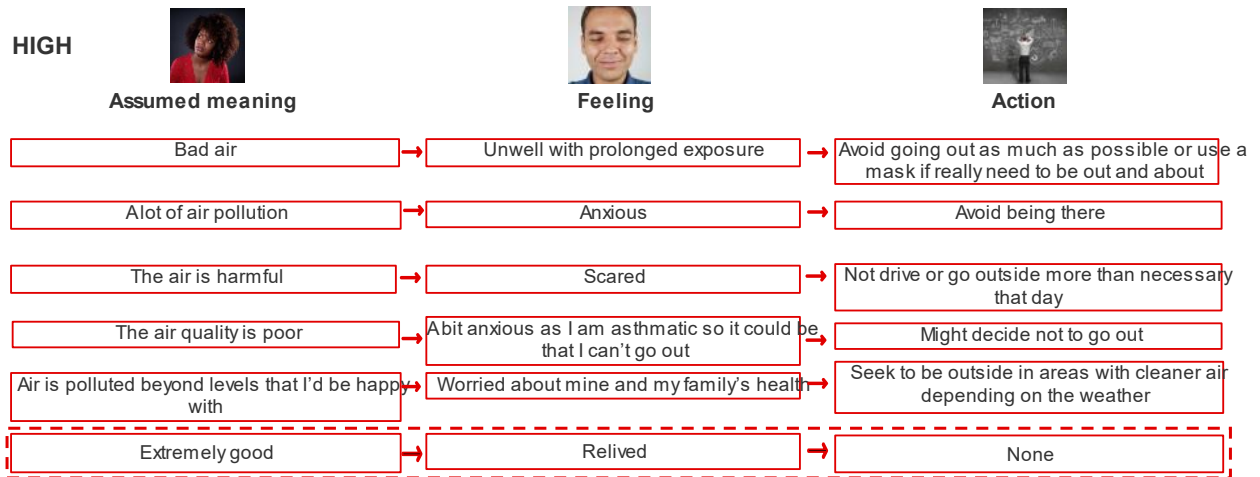
Assumed meanings, feelings and actions to moderate DAQI reading generated more varied responses



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Assumed meanings, feelings and actions to the DAQI high reading were similar across responses

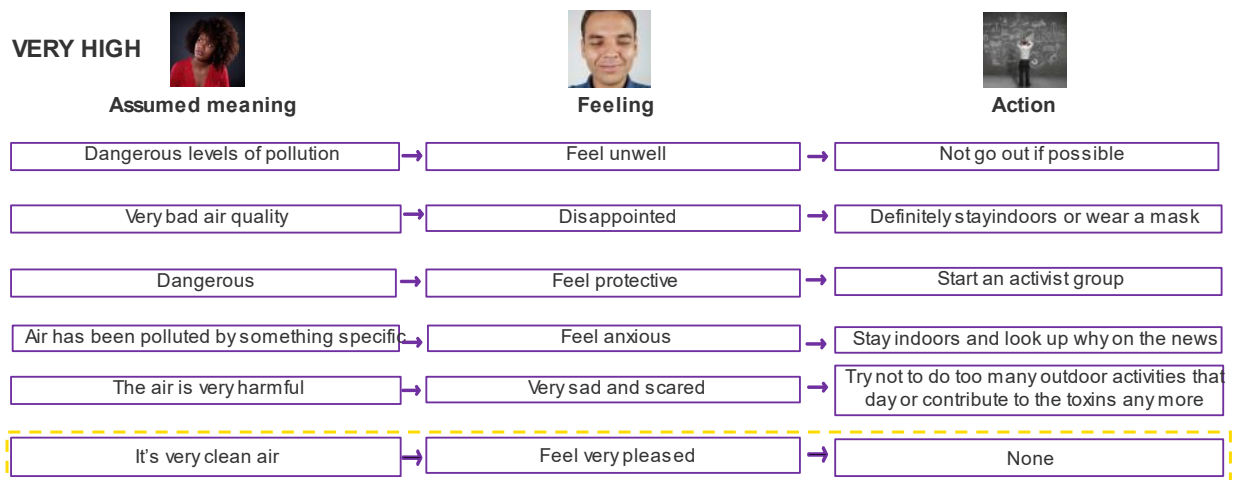


N.B. 2 participants misinterpreted the 'direction' of the scale and perceived 'high' to mean 'high air quality' rather than 'high air pollution'

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A DAQI very high reading generated mixed feelings however similar anticipated actions



N.B. 2 participants misinterpreted the 'direction' of the scale and perceived 'high' to mean 'high air quality' rather than 'high air pollution'

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8 Typologies

How did participants' needs regarding air quality information vary across the sample?

Concerned

Hannah is married and mum to 2 year old son, Bertie. They live in a fairly large house but to be able to afford it compromised on the location – a busy main road. Sometimes she feels guilty about this because she worries about how the exhaust fumes might affect Bertie. She would like to move house but they are on a fixed-term mortgage so it's not possible at the moment.



Information needs	Information channels	Motivations and barriers	Changing behaviours
<p>Entry-level daily air quality information</p> <p>Easily accessible, clear format</p> <p>Clear, actionable steps for how to lessen exposure to air pollution on a day-to-day basis for themselves and/or people they care for</p> <p>Some more detailed information, relevant to their situation, e.g. how to better manage health condition, what impacts young children</p> <p>Balance between information and advice without overwhelming them</p>	<p>Familiar and reliable sources, such as daily weather reports accessible via their phone</p> <p>Messengers include BBC, Met Office and Google</p> <p>More specific, individualised information, especially delivered via health care professionals</p>	<p>Motivated by their circumstances, i.e. own/others' health, caring responsibilities, wanting to make their living environment and situation better</p> <p>A lack of agency in making significant changes, like where they live, may prevent them from engaging with information</p> <p>However, willing and possibly able to make 'smaller' day-to-day changes</p> <p>Overwhelming them with negative information will disengage them and perpetuate feelings of helplessness</p>	<p>Keen to understand what they can do to reduce their contribution to air pollution</p> <p>Willing to modify day-to-day behaviours to reduce exposure to air pollution for themselves and others</p> <p>Want to know more about ways to manage their circumstances, e.g. health condition or pregnancy, better as to get better health outcomes</p>

Engaged

Andy is retired and lives in a trendy area of Manchester. He has become more aware of air pollution recently and its effects on individuals and nature. With no long-term health conditions himself he does not feel directly affected by poor air quality, however he is concerned about the wider effects locally, nationally and globally. Now he is not working he has more time to read about air quality in the paper and has raised his concerns with his MP.



Information needs	Information channels	Motivations and barriers	Changing behaviours
<p>Keen to raise the profile of air quality as a standalone concern</p> <p>More detailed information, including research and evidence about air quality that sets out the issue, who is contributing, the impact on health and policies to improve it</p> <p>Localised information about the situation where they live</p> <p>Day-to-day air quality information with suggestions of ways to respond</p>	<p>Awareness raising:</p> <ul style="list-style-type: none"> Government agencies and local authorities Schools and NHS <p>Day-to-day information:</p> <ul style="list-style-type: none"> Met office Newspapers Online – websites and apps 	<p>Motivated to achieve environmental justice for all and see themselves as having a role in making this happen</p> <p>Unaware of where to locate information and uncertain of how to respond both on an individual level day-to-day and at a political level</p> <p>Some scepticism about transparency of government and its relationship with business</p>	<p>Eager to consider how to adapt own behaviours to lessen their impact on air quality</p> <p>Willing to respond to air quality information in ways that are proven to be effective</p> <p>Seeking opportunities to work with groups and organisations to promote change in others</p>

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Detached

David is in his mid 20s with no long-term health conditions or caring responsibilities. He does not feel he is directly affected by the quality of the air day-to-day and feels this is more of a concern for people with asthma, lung conditions and young children. He believes everyone can do their bit but it doesn't have much impact unless government and big business are on board.



Information needs	Information channels	Motivations and barriers	Changing behaviours
<p>Light touch advertising campaign that raises awareness of air quality and how individual actions can make a difference</p> <p>Top line daily air quality information with ability to access more detailed information if interest grows</p> <p>Drip feeding ideas of how to reduce their impact on air pollution and demonstrate who is doing what</p>	<p>Above-the-line marketing with broad reach and grabs attention i.e. social media, TV, outdoor ads</p> <p>Daily air quality information incorporated into existing weather app forecasts</p> <p>BBC weather, Met Office, Google, AccuWeather</p>	<p>Low motivation as air quality lacks relevance to them and is not seen as part of their identity</p> <p>Low belief that individual actions has much impact so easy to disengage</p> <p>Possibly this group needs to be brought along on this issue by others/at a local level?</p>	<p>May consider making some easy changes if:</p> <ul style="list-style-type: none"> Actions can be shown to make a difference Air quality is made to feel more relevant to them, i.e. link to own identity with current and future decision-making scenarios

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Resigned

Teri has a cardiovascular condition and lives in a polluted area. She can see polluted air when she goes out and can feel it on her chest. She worries that this will worsen as she ages. Her cardiologist has told her to move to somewhere less polluted but she doesn't think she'd be able to get a job easily in an unpolluted area.

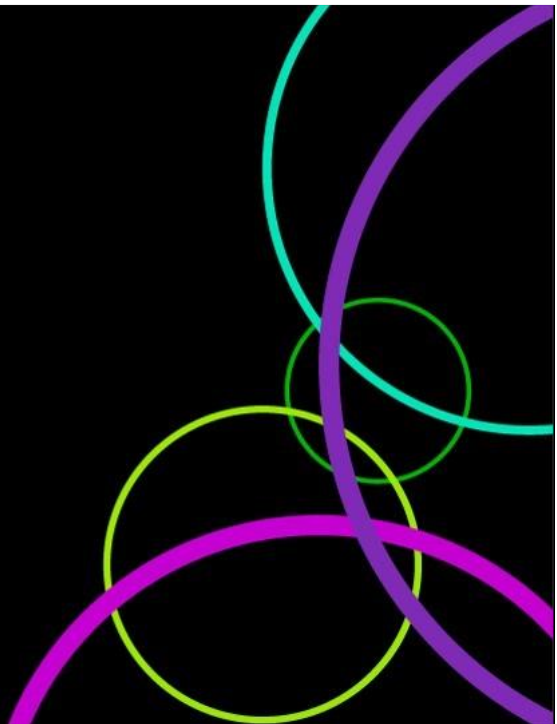


Information needs	Information channels	Motivations and barriers	Changing behaviours
<p>Real-life stories and testimonials of what others in similar situations have done to reduce their exposure to air pollution</p> <p>Localised information about interventions and policies that aim to improve local air quality</p> <p>Feedback on progress, i.e. is the situation improving</p>	<p>Government agencies and local authorities</p> <p>Independent charities</p> <p>NHS</p> <p>Healthcare providers</p> <p>Local news</p>	<p>Low motivation as feel 'trapped' by their circumstances and helpless to change these, i.e. significant long-term health conditions and where they live</p> <p>May be motivated by positive experiences of others and evidence that others are acting to make a difference</p> <p>Uncertain of how any changes to their day-to-day behaviour can make a difference— so these need to be spelled out</p>	<p>Sceptical that modifying their actions day-to-day is going to make any significant difference</p> <p>Learning about what others in similar situations have done may nudge them to consider what they could do</p>

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9 Sample



Makeup of the panel in detail

30 participants convening in 6 group discussions(5 participants per group)

Group no	Group type	Further group-based criteria	Other criteria
1	General population	1 person living in an area within decile 1 of the most deprived geographical areas and 1 person within decile 2 (total for both groups)	All aged 18-65 (excluding group 6)
2	General population	Excluding pregnant people, parents of children under 5, people with respiratory or cardiovascular health vulnerabilities and those over 65	14 men, 16 women
3	Pregnant people/parent or guardians of children under 5	1 pregnant person, 4 parents/guardians of under 5s 1 person living in an area within decile 1 of the most deprived geographical areas and 1 person within decile 2	8 people from minority ethnic backgrounds 28 from England, 2 from Wales
4	People diagnosed with respiratory health vulnerabilities	4 people with diagnosed asthma (2 mild impact, 2 moderate impact), 1 person with COPD 1 person living in an area within decile 1 of the most deprived geographical areas	11 living in urban settings, 12 in suburban, 7 in rural
5	People diagnosed with cardiovascular health vulnerabilities	3 people with cardiovascular conditions, 2 people with type 2 diabetes 1 person living in an area within decile 1 of the most deprived geographical areas	Mix of household incomes, with 13 having incomes of less than £30,000 pa
6	Older adults	All aged at least 66 years old 1 person living in an area within decile 1 of the most deprived geographical areas	