KANTAR PUBLIC

Qualitative Research Panel for Air Quality Information System Review

Overview presentation

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KANTAR PUBLIC

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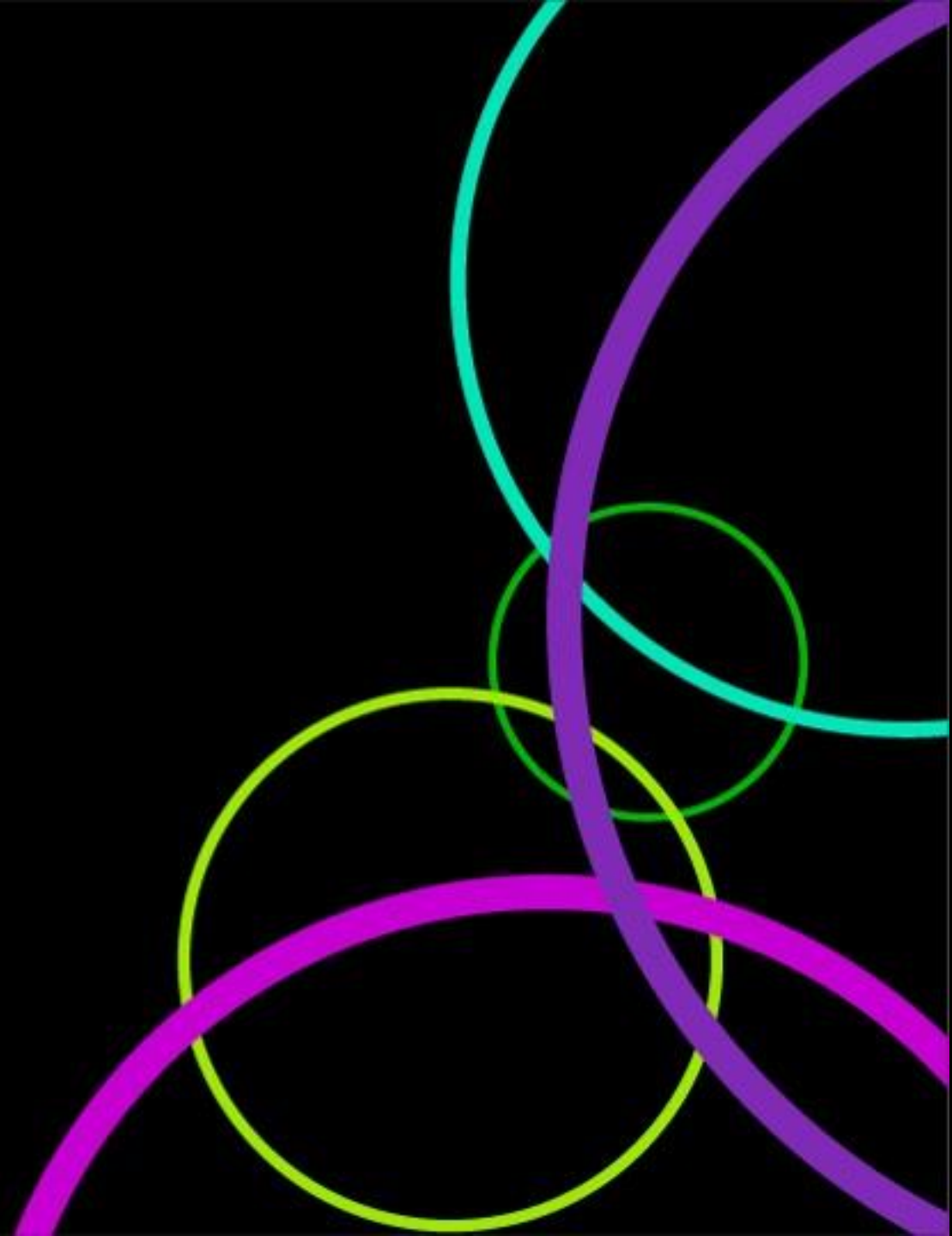
Background and introduction



Defra 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 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 multi-disciplinary steering group

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

With this in mind, **a qualitative panel was commissioned** that aimed 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
- Explore attitudes to new and existing communication materials and understand opportunities for disseminating them

The research involved a 30-participant panel across three waves of research over 7 months

Clean Air + Me panel consisted of 30 participants

- 5x carers/ pregnant people
- 10x general population
- 5x people with respiratory conditions
- 5x older adults
- 5x people with cardiovascular /metabolic conditions

3 waves of activity – each wave involved:

6x 90-minute online group discussions
(max 5 participants per group)

2x 15-minute (or 1x 30-minute) online task sessions
via the Recollective platform

Engagement with the panel dipped slightly after the first wave, predominately due to participant availability, however remained high across the waves (between 25 and 30 participants).

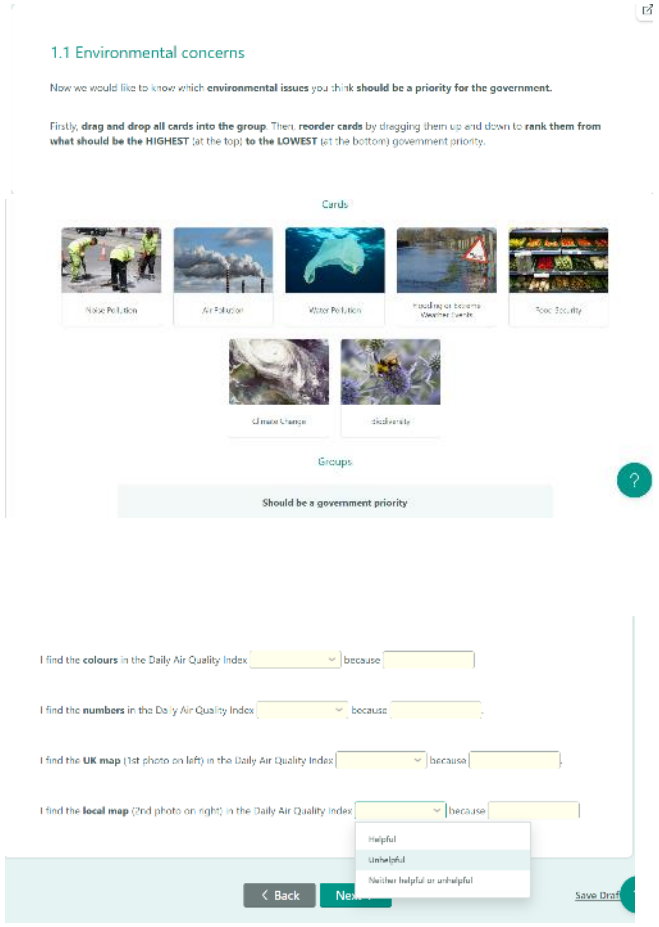
The online tasks were conducted via an interactive market research platform called Recollective

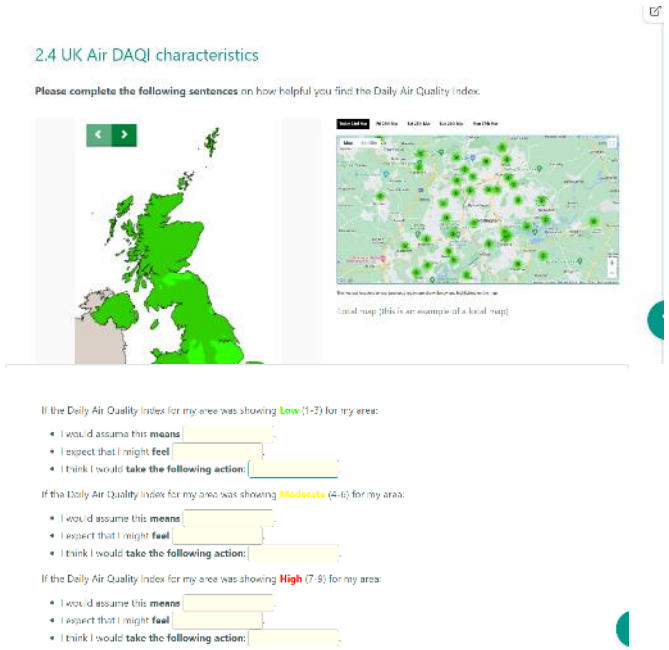
Participants were asked to conduct a range of activities including:

- Sort and rant tasks
- Image reviews of communications materials
- Uploading content to report on behavioural actions

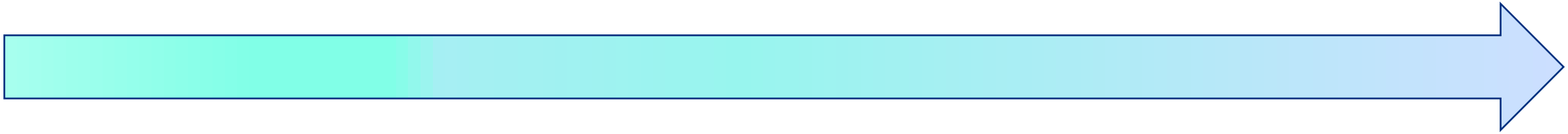
The platform was available for 24 hours a day for seven days in each wave

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





This report details the learnings that have emerged from across the waves, which explored the topics below



W A V E 1

Understanding and perceptions of air quality and air pollution

Preferred air quality information sources, content and messengers

Getting to know participants and understand their situations

Identifying key sources

W A V E 2

Encouraging behaviour change

Communicating risk

Understanding responses to behaviours in 'real life'

Interrogating risk communications

W A V E 3

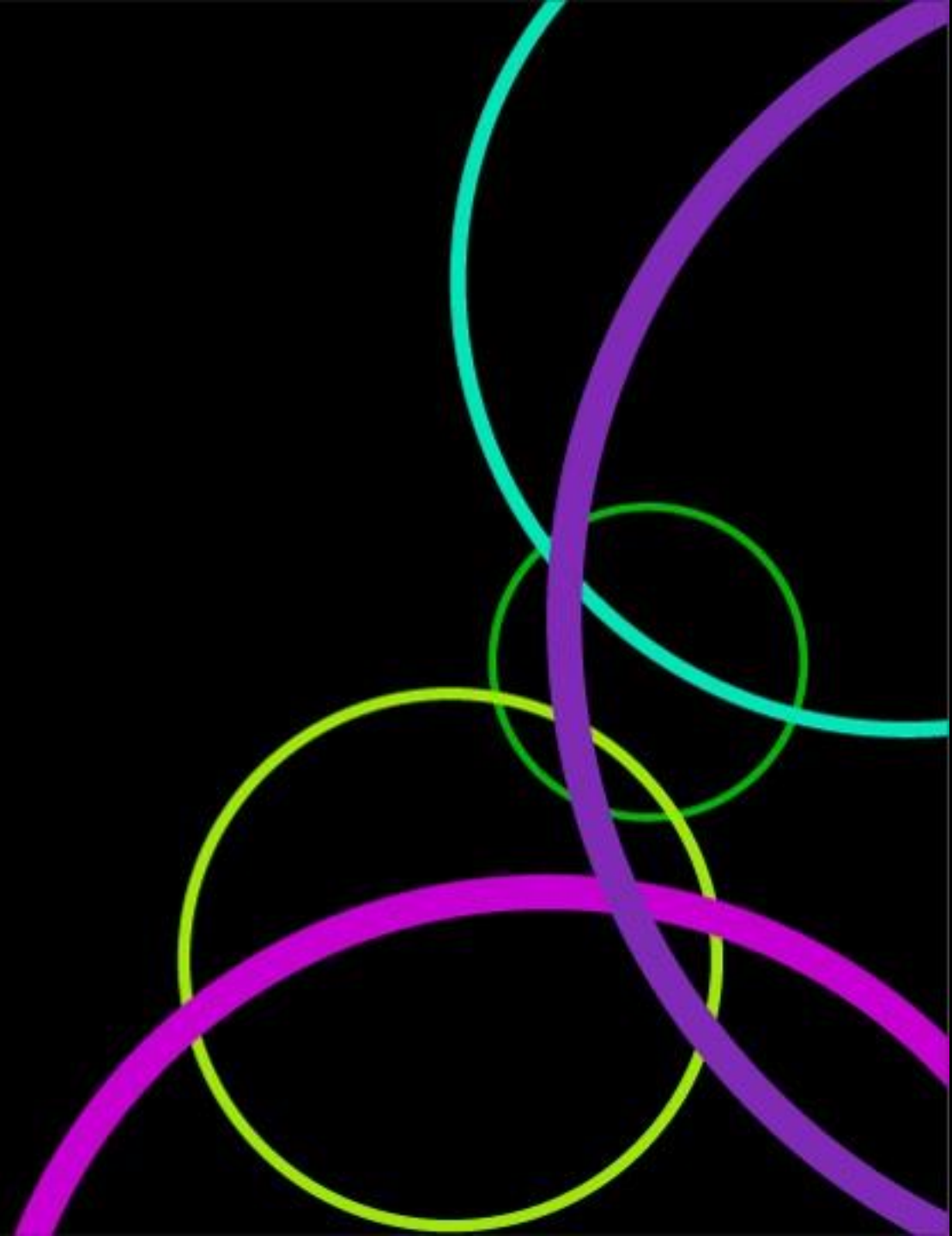
Leveraging existing opportunities for information dissemination

Attitudes to new and existing communication materials

Exploring 'moments of change' and social networks

Developing infographics and mocked up webpages

2
Overarching findings



SUMMARY FINDINGS

Key insight from the research, across all waves

1

Public understanding of air quality seems not to have moved on over the past 10 years

Air quality is a complex topic that needs to be addressed at an individual level, socially and via infrastructure to enable the public to change their behaviour

2

A key focus for communication should be that air quality has the potential to affect everyone's health

There was ignorance of the health impacts of air pollution but interest in knowing that lives may be shortened and the details of the impacts

3

In this research, there were variations in participants' propensity to act

This related to their engagement with the topic and perceived level of agency, although different groups present different opportunities for targeting and behaviour change

4

Information in this context is ideally multi-dimensional: raising awareness and influencing actions

There is a need for higher level information that introduces air quality as a topic, as well as more specific information that highlights what to do and where to find support on decision-making

5

There is a role for information that influences short term action

An accessible daily forecast of information could help to raise the profile of air quality and influence day-to-day behaviour

6

There is also a role for information that influences and supports longer-term decision making

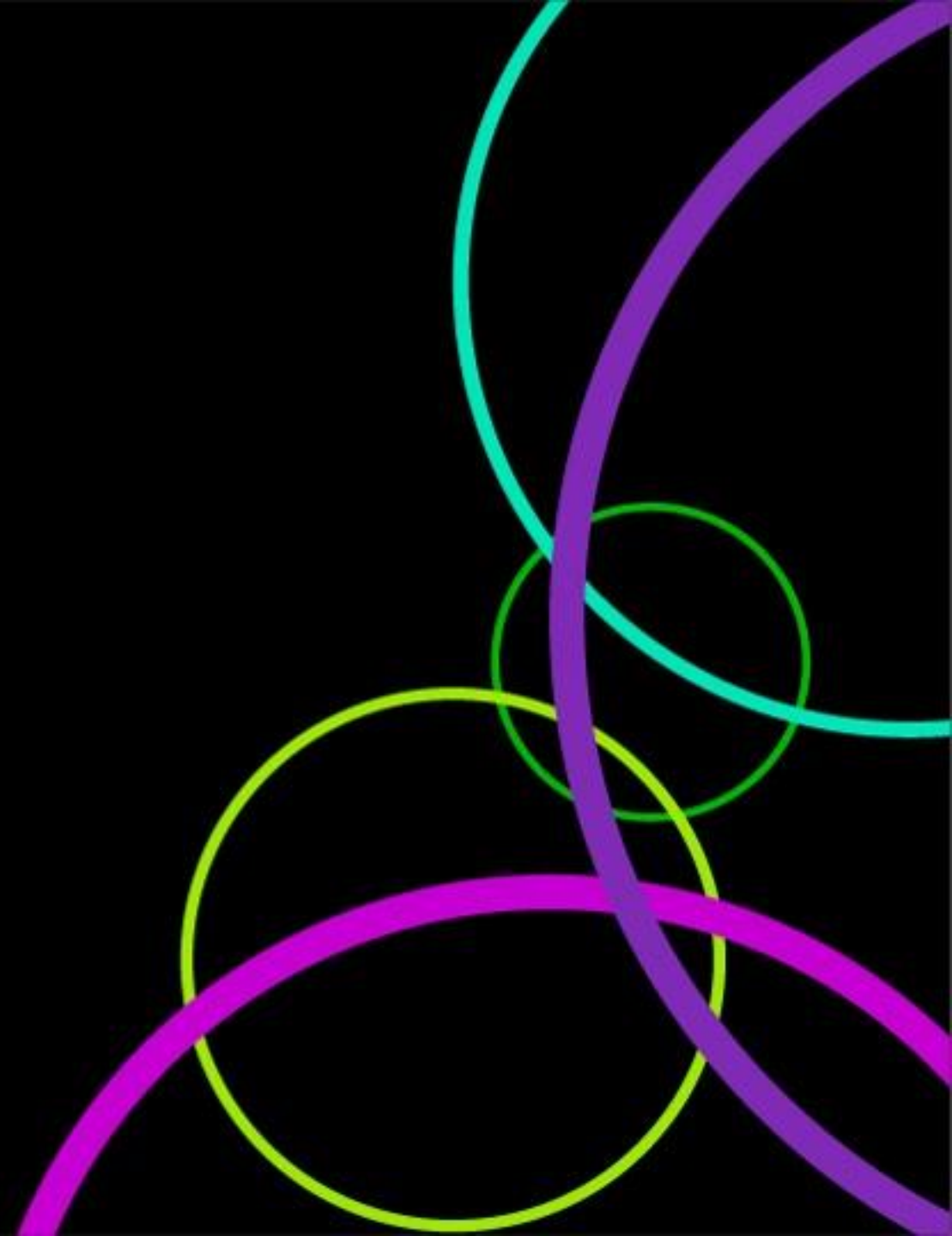
In relation to 1) behaviours in the home e.g. heating choices; 2) where people choose to live and work; 3) domestic purchases e.g. buying a gas or electric cooker; and 4) transport choices

INFORMATION ACTIONS

Key information opportunities for shifting behaviour

	Awareness raising		Influencing behaviour	
	General awareness raising	Targeted awareness raising	Shorter term	Longer term
CONTENT	Health impacts, pollutants and sources, what people can do to reduce pollution and reduce contribution, air quality forecasts	Highlighting risks to individuals, the impacts to be aware of, how to reduce risk	Simple, immediate localised air quality forecasts	Enable comparison of options, clarify costs and illustrate the benefits
FORMATS	Infographics, local news stories, share-able information to spark conversations, weather forecasts	Posters, leaflets, online information	News forecasts, web pages, apps	Air quality ratings for choices, online calculators, opinion pieces, testimony from users
SOURCES	General media, social media, NHS, schools, charities, weather apps/reports, Met Office, local news channels	GPs, pharmacists, midwives, health visitors, consultants, asthma and diabetes nurses	Met Office, local news channels	GOV.UK, comparison websites, influencer social media accounts, creation of new dedicated resources for supporting decisions
		Leverage 'moments of change' *– having children, being diagnosed with a health condition*		***Leverage 'moments of change'*** *– moving, choosing a school, changing domestic heating system/vehicle*

3. Context



CONTEXT – UNDERSTANDING

Air quality is not a priority and is relatively poorly understood and this does not seem to have shifted over time

The research revealed key knowledge gaps around:

1. **What air quality is** – and how it is distinct from climate change
2. **The impact of poor air quality on health –** and how this varies, and how risk can be reduced
3. **How individuals contribute towards air pollution** and how this can be reduced

Previous research has found similar themes:

- *General public audiences were aware of the concept of air quality at a high level, and commonly talked about it in terms of 'air pollution,' but understanding of the issue was fairly shallow* [1]
- *Participants in this research were also unaware of the connection between climate change and air pollution*[2]

[1] Defra Air Quality User Needs Report, Kantar, 2021
[2] Individuals' interpretation of air quality information: customer insight and awareness study, University of Brighton, 2011

CONTEXT – UNDERSTANDING

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

Specific knowledge gaps

Participants were generally **unaware of different air pollutants** (e.g., particulate matter, nitrous oxides) and how different industries/activities contribute to air pollution (e.g., agriculture)

It was a surprise to many that **domestic heating** is such a large contributor versus industry

Indoor air pollution was not normally a focus of attention and understanding of what contributes to it was low

CONTEXT – UNDERSTANDING

Experiences and perception of risk of air pollution also varied by local area and individual

Differences by local area

In urban areas, the negative impact of traffic on air pollution was the most salient concern, e.g.

- Walking/living on/children playing near busy roads/streets

In rural areas, participants tended to assume that there was limited risk or impact on them

- Although in the research one participant lived in a rural location with an industrial plant that caused concern for residents

Differences by individual

More top of mind for some 'at risk' groups

- Older people, people with cardiovascular conditions and people with respiratory conditions tended to be concerned about the immediate and long-term impacts
- Carers were also concerned about the impact on their children

Others assumed they were not at risk and air pollution had limited impact on them

- This included people with health conditions who were only affected mildly by their condition

CONTEXT – AIR QUALITY INFORMATION

The salience of air quality information was low

The majority were unaware of and had not sought air quality information

There were a range of different levels of interest

- **Interested but not aware** – most participants were unaware that information existed at a national or local level
- **Open but unclear what the benefit would be to them** (especially if they did not perceive air quality as having an impact on them or members of their family)
- **Not interested**

However, participants became more aware of air quality information (e.g., via weather apps) over the course of the research once sensitised

A minority had come across air quality information

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

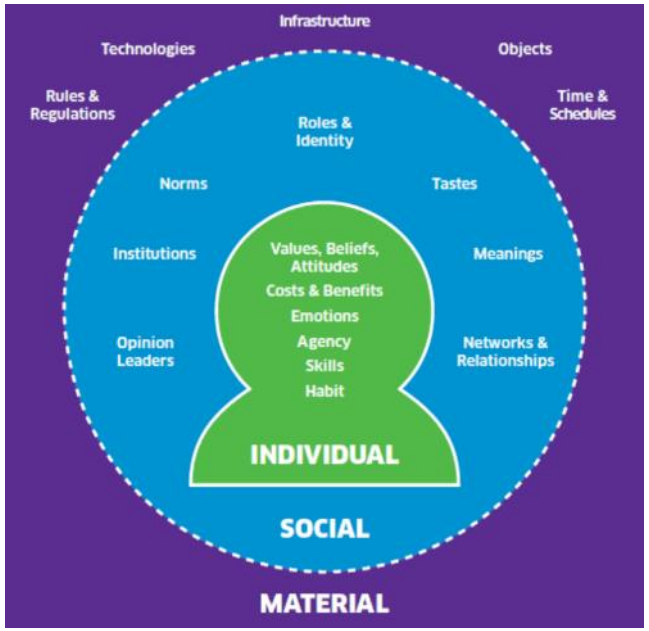
Some awareness via weather apps

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

One person reported receiving an email from Martin Lewis that encouraging readers to look at www.addresspollution.org (to assess air pollution levels and, if high, ask landlord for reduction in rent)

CONTEXT – BEHAVIOUR

The Individual, Social, Material (ISM) behavioural model can help to illustrate the inter-relation of factors and why the issue is so complex to address



Individual

Low awareness of the health impacts – no positive reason to change (for self or others)

Low awareness of how different activities contribute to air pollution – and how individuals can act to change this

Low sense of agency: unclear how individuals can make a difference (assume industry is to blame), costs of some actions may be high

Social

Low salience of air quality as an issue (not a national/local/personal topic of conversation)

Lack of 'opinion leaders' or influencers, unclear what the role of institutions is in this context

Low salience of information and/or clarity on what to do with it

Material

Public transport infrastructure perceived as expensive, not joined up and unreliable

Heating infrastructure favours fossil fuels currently

CONTEXT – BEHAVIOUR

While participants were open to acting, this needs to be enabled at different levels

Individual

Giving a reason to act – clarifying the health impacts, encouraging ability to take responsibility for the environment

Showing that there are actions that all people in all situations can put into practice

Showing that the actions are easy, convenient, practical and may improve people's health and wellbeing

Showing the impact of individual actions

Promoting actions that are inclusive and relevant to all, i.e., include those without a car, who are less mobile

Social: local/national

Raising awareness of the issue

- Via opinion leaders/influencers
- Via daily air quality readings

Communicating the actions government/industry are taking

Providing reliable information to help guide day-to-day and longer-term decision-making

Showing the impact of collective actions – how individual actions 'add up' and how others in a community are acting

Material: infrastructure/ policy

Improving reliability and joining up transport infrastructure (public transport and electric vehicle charging points)

Technological nudges: engines automatically switching off, option to combine online deliveries

Financial incentives: around domestic energy sources and transport choices

Demonstrating commitment that we are 'in this together': rules and regulations for industry, enforcement, penalties

CONTEXT – BEHAVIOUR

Participants were open to reducing their contribution to air pollution

Transport

Driving less/at different times was often felt to be relatively difficult to achieve

- Especially those living rurally, workers, families

More achievable actions included:

- **Turning off engines** while stationary
- **Reducing deliveries/collecting from pick up points**
- **Encouraging choice of electric vehicles**
- **Flying less**

Active travel/via a new route tended to lead to feelings of greater wellbeing

Domestic heating/ appliances

Homeowners were more empowered in this context than renters, and would be encouraged by

- Financial incentives
- More information on the choices available
- Confidence infrastructure exists/experts are available to advise/install

Indoor pollution

Indoor pollution was an area over which participants felt they have a large degree of control

- Interest in more information around precisely what to do to improve indoor air quality

CONTEXT – BEHAVIOUR

There was also openness to reducing exposure to air pollution

Changing when/where exercise

Participants were sometimes doing this already (whether due to air pollution reasons or not)

Walking as far from the road as possible created a talking point

However, these actions were irrelevant for those with restricted mobility

'It would be good to understand the science or reasons for this – if you walk X metres away from traffic your air is X% better'
General population group

Other possible actions

Other actions suggested by participants included:

- Avoiding strenuous activity outside
- Closing windows
- Wearing face masks

Without guidance on how to reduce exposure there is a risk of individuals making uninformed decisions

'It's been a bit of a nightmare recently, because of the really hot weather, but it's busy on the roads and at peak times I would definitely not open my windows because of the air pollution'
Carers group

CONTEXT – INDIVIDUAL VARIATIONS

Participants' responses varied considerably, depending on their confidence in their health…

Perceived confidence in health

Low confidence

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)

High confidence

General population

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

Or, if aware of the negative impact, confidence in health is perceived as something that may decline in the future (i.e. not immediate/ currently salient)

(Rural dwellers)

CONTEXT – INDIVIDUAL VARIATIONS

…and sense of agency

Perceived agency

High

Feel they have choices

Feel they have resources (time/money)

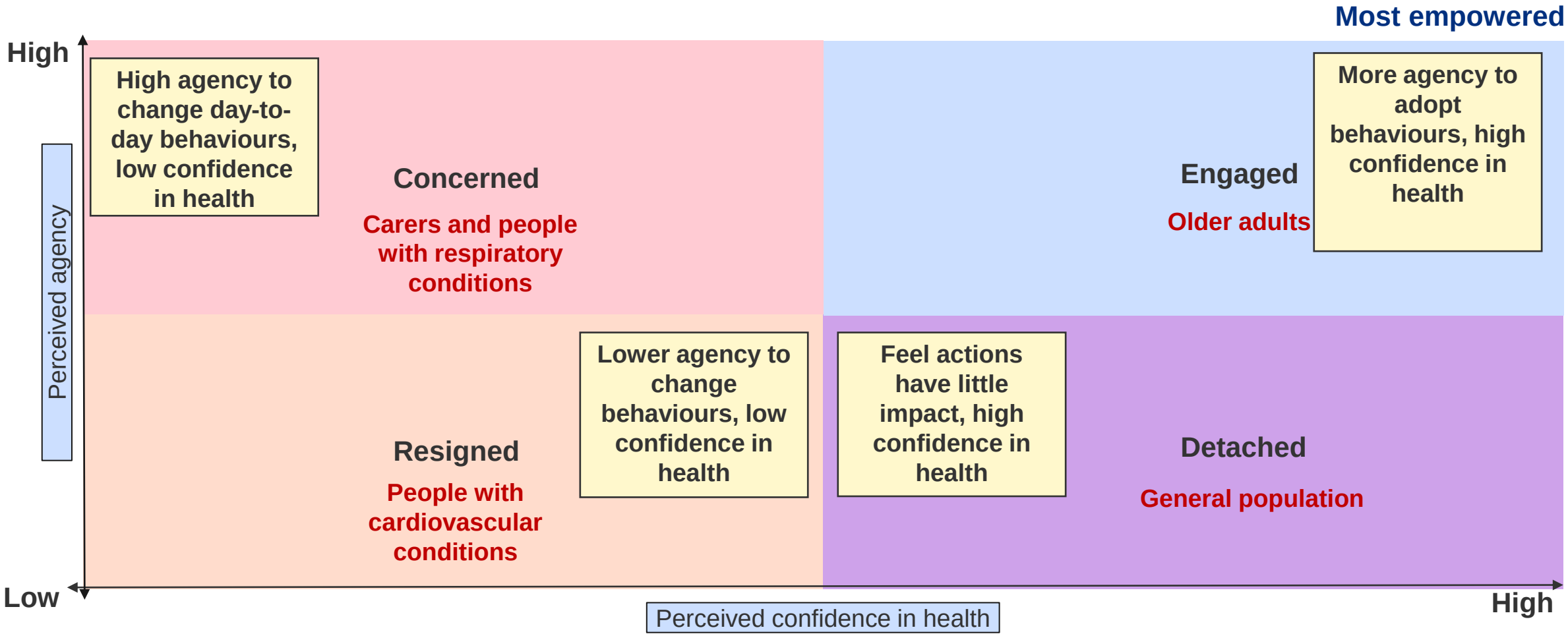
Low

Feel they lack choices

Feel they lack resources (time/money)

CONTEXT – INDIVIDUAL VARIATIONS

Participants fell across these two dimensions in the research



CONTEXT – INDIVIDUAL VARIATIONS

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 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 is not possible at the moment.

Feelings

Anxious, worried, guilty

Concerned about the impact on their family

Uncertain about what to do

Set against worries about other environmental issues and the cost of living

Personal situation

Relatively large social network (family, friends, colleagues, children's friends)

May be interested in environmental issues

Key barriers

Others depend on them, which may limit behavioural flexibility (e.g., need to drive children)

Concerns about safety (e.g., walking in dark, safety of appliances)

Key opportunities

Motivated to limit impact of air pollution on children

Open to information **during pregnancy, when choosing/ moving house, choosing a school**

Education via healthcare practitioners and children

CONTEXT – INDIVIDUAL VARIATIONS

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, although 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.

Feelings

Passionate about concern that poor air quality is negatively impacting humans and the environment

Frustrated that governments and business are not moving faster to make change happen

Personal situation

Social networks vary, according to age and mobility

Tend to have flexibility about behaviour, as they are often retired

Believe government needs to be more open about air pollution

Key barriers

May not perceive themselves as 'at risk'/have high confidence in their own health, so may not try to protect themselves from air pollution

Lack of mobility may mean that their ability to change behaviour is restricted (e.g. walking limited distances, caring for partner with health needs)

Key opportunities

Healthcare practitioners signposting to information as appropriate

Educating via grandchildren and community networks (e.g. hobbies, clubs, churches, day centres)

Clear guidance about adapting behaviour (e.g., travel choices)

CONTEXT – INDIVIDUAL VARIATIONS

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 thinks 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.

Feelings

Indifferent and unconcerned

Although could change in the future if circumstances change (e.g., have children, parents develop health conditions)

Feel their actions have little impact

Personal situation

Variable social networks but normally including friends, family and work colleagues

Not particularly engaged with environmental issues – tend to be busy and pre-occupied with other issues

Key barriers

Lack of a reason to engage

Lack of awareness of the impact of air pollution on everyone's health

Cynicism about government and industry

Key opportunities

Educating and raising awareness via social media, influencers

Information and clear guidance about the impact of air pollution on everyone, how they can adapt their behaviour (contribution to pollution) and the impact of this

CONTEXT – INDIVIDUAL VARIATIONS

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.

Feelings

Emotional, worried, distressed

Concerned that poor air quality is negatively impacting on their health and that this is worsening over time

Personal situation

Variable social networks, depending on age, mobility and economic activity

Highly attuned to health topics

May have already taken drastic action to change their situation (e.g., moving house)

Key barriers

Perceive they have few choices (they may have already taken as much action as they can)

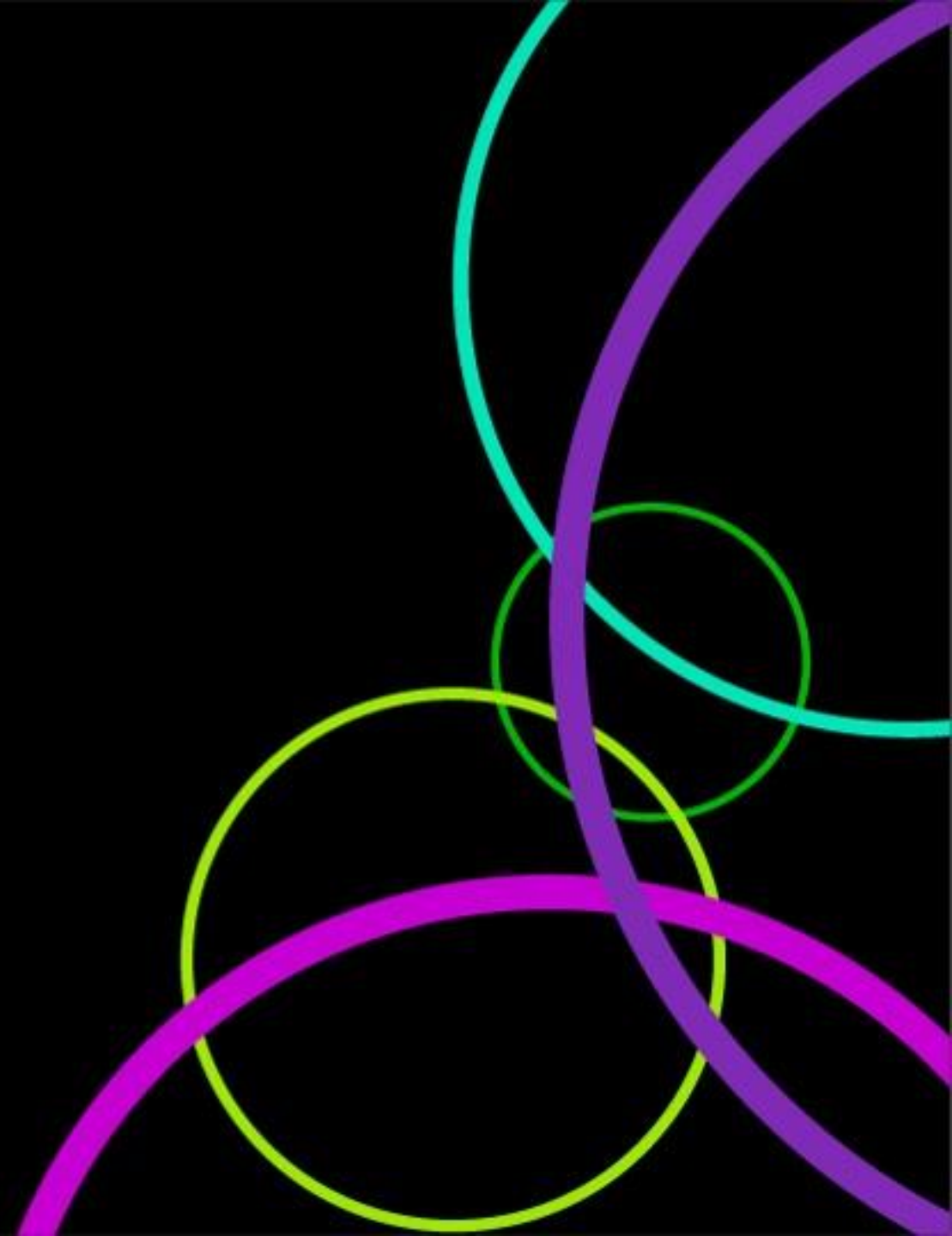
Cynicism around government and industry acting – feel this needs to be done to support them changing their behaviour and showing collective action

Key opportunities

Healthcare practitioners signposting them to more information at point of diagnosis

More information on choices they have for managing their condition at times of high air pollution

4. Role of information



INFORMATION – OVERALL ROLE

In this context, there are roles for different types of information

Awareness raising

General awareness raising

Information detailing

- The issue itself and how it impacts on health
- The main sources of air pollution
- Key air pollutants and what generates them
- How different people's actions contribute
- What can be done to reduce contribution (and what is being done)

Targeted awareness raising

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

- Highlighting the issue to 'at risk' groups
- What impacts they should be aware of in their own body
- How they can reduce their exposure to, and therefore the impact of, air pollution

Influencing behaviour

Shorter term

Simple, immediate localised forecasts

- This week, by hour/time of day
- At street level, colour coded
- Advice on what to do (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)
- Option (if desired) to access more detailed information about air quality such as scales (e.g. PM2.5)

Longer term

Historic air quality information to influence choices, e.g.,

- House, school
- Travel destination
- Choice of heating technology

Further information to support decision-making

- Providing information on costs, comparisons and other people's experiences

INFORMATION – SOURCES/MESSENGERS

Participants suggested using a range of different sources and messengers

Friends/family/ social network

Awareness raising

Discussion of local/national topics

'Word of mouth' recommendations (e.g., for new technologies)

Social groups can set new norms

Events at local centres/school can help to start conversations

Healthcare

Awareness raising

Via NHS website

Influencing behaviour

Signposting to relevant information on health impacts and how to reduce risk via healthcare practitioners

However, needs to be easy to deliver (participants were concerned about burden)

Education

Awareness raising

Included in the curriculum and embedded in everyday life at school

Part of school-based community activities

Media

Awareness raising

Met Office, BBC and local news channels trusted for information

Social media providing 'conversation starters'

Influencing behaviour

Assumption that local air quality forecasts would be part of local news

Other

Awareness raising

Government less generally trusted overall, although GOV.UK may be a good source of 'neutral' information

- Especially if information is clearly based on scientific research conducted by well-respected institutions

Charities can provide a trusted, reliable alternative perspective (e.g., Asthma UK)

INFORMATION – VARIATIONS

Different groups present different key information opportunities

Concerned

Via midwives and health visitors

Via schools

How to reduce impact of air pollution on children

Engaged

Via GP practices/health centres

Via schools (grandchildren)

How they can reduce the impact of air pollution on their health

Detached

Via news and forecasts

Via social media

Impact of air pollution on everyone

Resigned

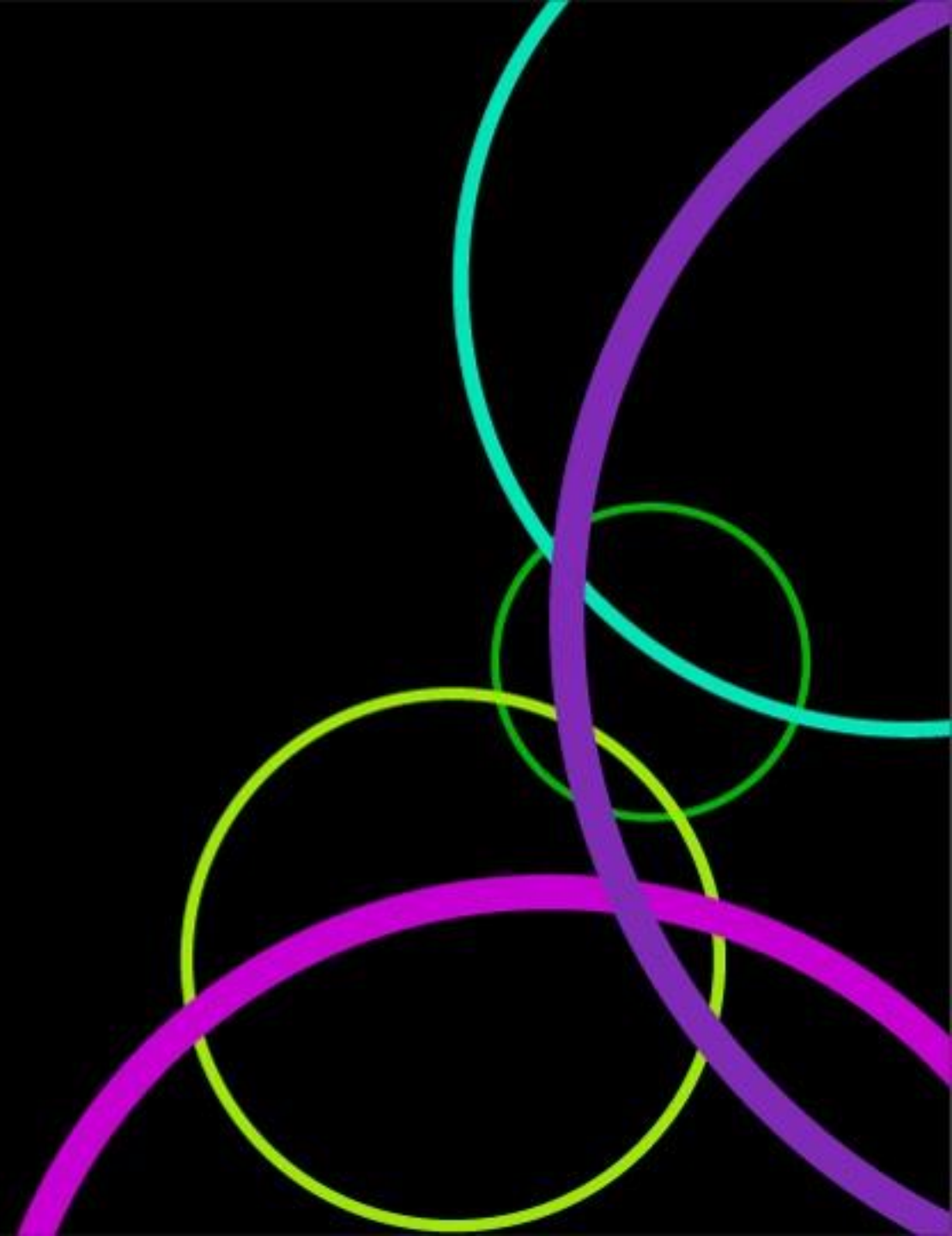
Via specialists

Via news, forecasts and social media

How to reduce impact of air pollution on their health

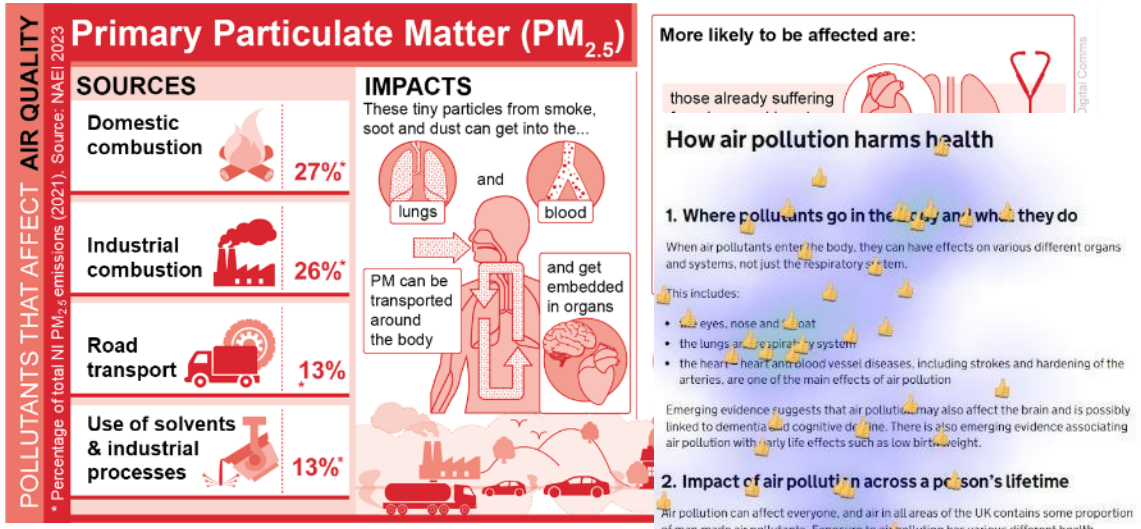
Messages around how individuals can reduce their contribution are relevant across the board

5. Awareness raising



AWARENESS RAISING – MESSAGING

Participants overwhelmingly focused on health impact as the most motivating reason to care



Key content

The specific impact of air pollution, e.g.,

- Which organs it affects and how
- How individuals might recognise that they have been affected (e.g., change of skin colour, feeling out of breath, persistent cough, sore throat/eyes)

The reduction in lifespan as the key impact of air pollution

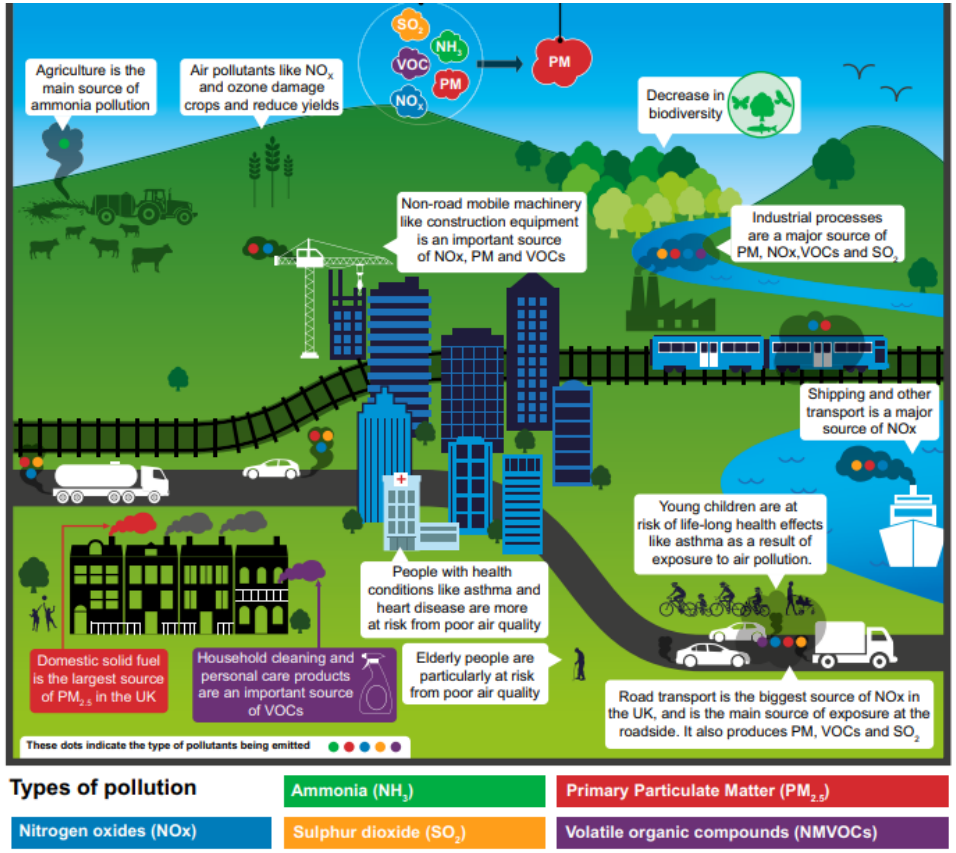
Emphasis on how everyone is affected, not just the groups illustrated

- Refer to indoor and outdoor pollution
- Provide call to action, i.e., advice on how to reduce exposure to air pollution

Preference for information to be framed around health impact on individuals versus more general focus on the costs for the country

AWARENESS RAISING – MESSAGING

Background information is interesting to some but needs to be ‘entry level’



Key content

Better explanation of different pollutants

- What they are and how they affect people
- Which are the most important and why
- What are the sources
- How levels have changed over time

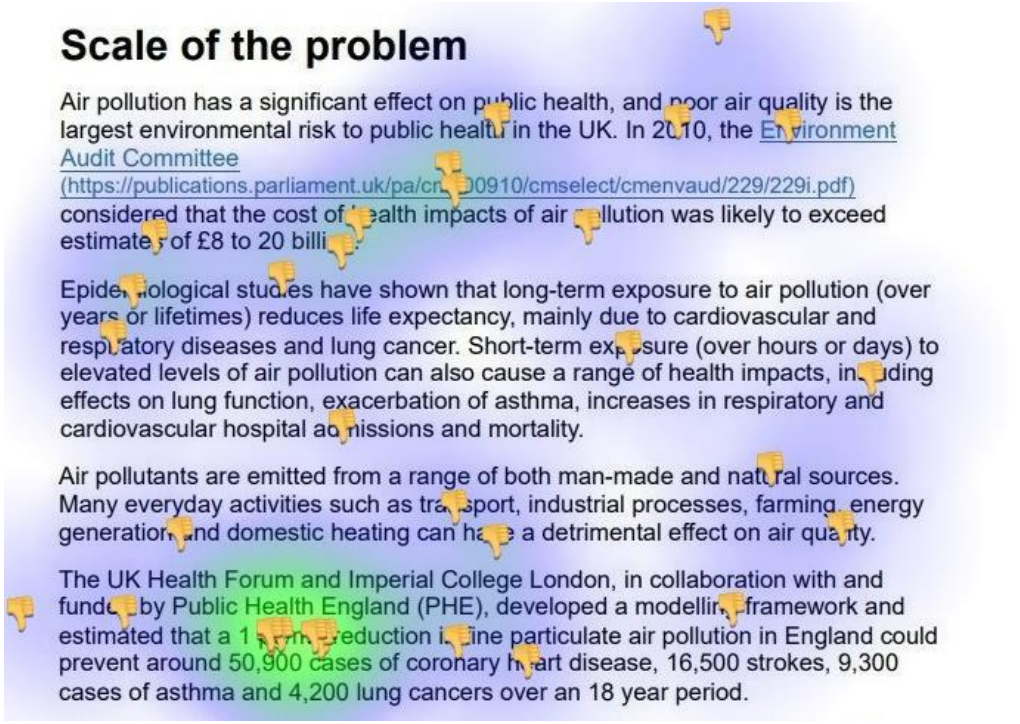
Information on what people can do to reduce impact – and what will have most effect

Emphasise a positive message, if there is one, e.g..

- If people change behaviour, levels can reduce and/or they have reduced over time

AWARENESS RAISING – PRESENTATION

Some guidelines around presenting this information emerged



Scale of the problem

Air pollution has a significant effect on public health, and poor air quality is the largest environmental risk to public health in the UK. In 2010, the Environment Audit Committee (https://publications.parliament.uk/pa/cm201011/cmselect/cmenvaud/229/229i.pdf) considered that the cost of health impacts of air pollution was likely to exceed estimates of £8 to 20 billion.

Epidemiological studies have shown that long-term exposure to air pollution (over years or lifetimes) reduces life expectancy, mainly due to cardiovascular and respiratory diseases and lung cancer. Short-term exposure (over hours or days) to elevated levels of air pollution can also cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions and mortality.

Air pollutants are emitted from a range of both man-made and natural sources. Many everyday activities such as transport, industrial processes, farming, energy generation and domestic heating can have a detrimental effect on air quality.

The UK Health Forum and Imperial College London, in collaboration with and funded by Public Health England (PHE), developed a modelling framework and estimated that a 1 [illegible] reduction in fine particulate air pollution in England could prevent around 50,900 cases of coronary heart disease, 16,500 strokes, 9,300 cases of asthma and 4,200 lung cancers over an 18 year period.

Key guidelines

Break up text and simplify wherever possible

Use non-technical language, assume no pre-existing knowledge

Infographics can help illustrate an issue but readers may need help knowing how to 'read' them

- Where to start, how to interpret etc

Where possible, layer information

- Provide top level content, allowing reader to reveal more detail (if they wish)

Consider how information could be adapted/shared for social media

- Create 'stories' or 'shorts' with audio content
- Push via social media to create a conversation online, to trigger or support face-to-face discussions

AWARENESS RAISING – HEALTHCARE PRACTITIONERS

These professionals were often seen as playing an important role in raising awareness around air pollution

GP/pharmacist

Via NHS Health Checks

- Include air quality questions, e.g., do you have a wood burner, what times/where do you exercise, do you tend to cycle on busy roads?
- Highlight risks/steps to avoid exposure, which may help to normalise conversations about air quality

However, not expected to be experts on air quality – role should be in raising issue and signposting to more information

Midwife/health visitor

Pregnancy/having a baby is an ideal time to raise the issue of air quality

- Expectants/new parents will do anything to protect their unborn/new baby – they tend to read information and act upon it

Opportunity to place information about air quality within information given to new and expectant parents

Information in health settings

Waiting rooms and areas were recognised as opportune spaces for displaying accessible air quality information

- GP/hospital waiting areas
- Pharmacists

This **may prompt patients to proactively raise the issue** with their practitioner and be given/signposted to more detailed information if wanted

AWARENESS RAISING – HEALTHCARE PRACTITIONERS

Beyond check-ups, it was felt that in certain circumstances, practitioners should proactively offer air quality information and advice

Opportunities

Patients with respiratory and cardiovascular conditions, should know about the effects of poor air quality and why they are at higher risk during

- Asthma reviews
- Consultants' appointments

For patients who display new symptoms such as a persistent cough, healthcare practitioners could ask questions about exposure to air pollution, such as having a wood burner at home or walking/running/cycling along busy roads (similar to questions asked about smoking habits and exposure to second-hand smoke)

During seasonal times of high air pollution, pharmacists could offer information to people buying antihistamines and/or display information about how to limit exposure

'If I went to the pharmacy and the air quality was bad then I would expect to see a poster up and, if I had a cough as well, I would expect to receive a leaflet from the pharmacist'
General population group

AWARENESS RAISING – DISSEMINATION

There were some ideas for how to disseminate this type of information

Key channels

Government awareness campaign (using normal channels)

Local centres, e.g., schools, councils, local news, community centres

Place-based advertising, e.g., local TV, billboards, bus stops

Local council websites

GPs' surgeries, healthcare practitioner information

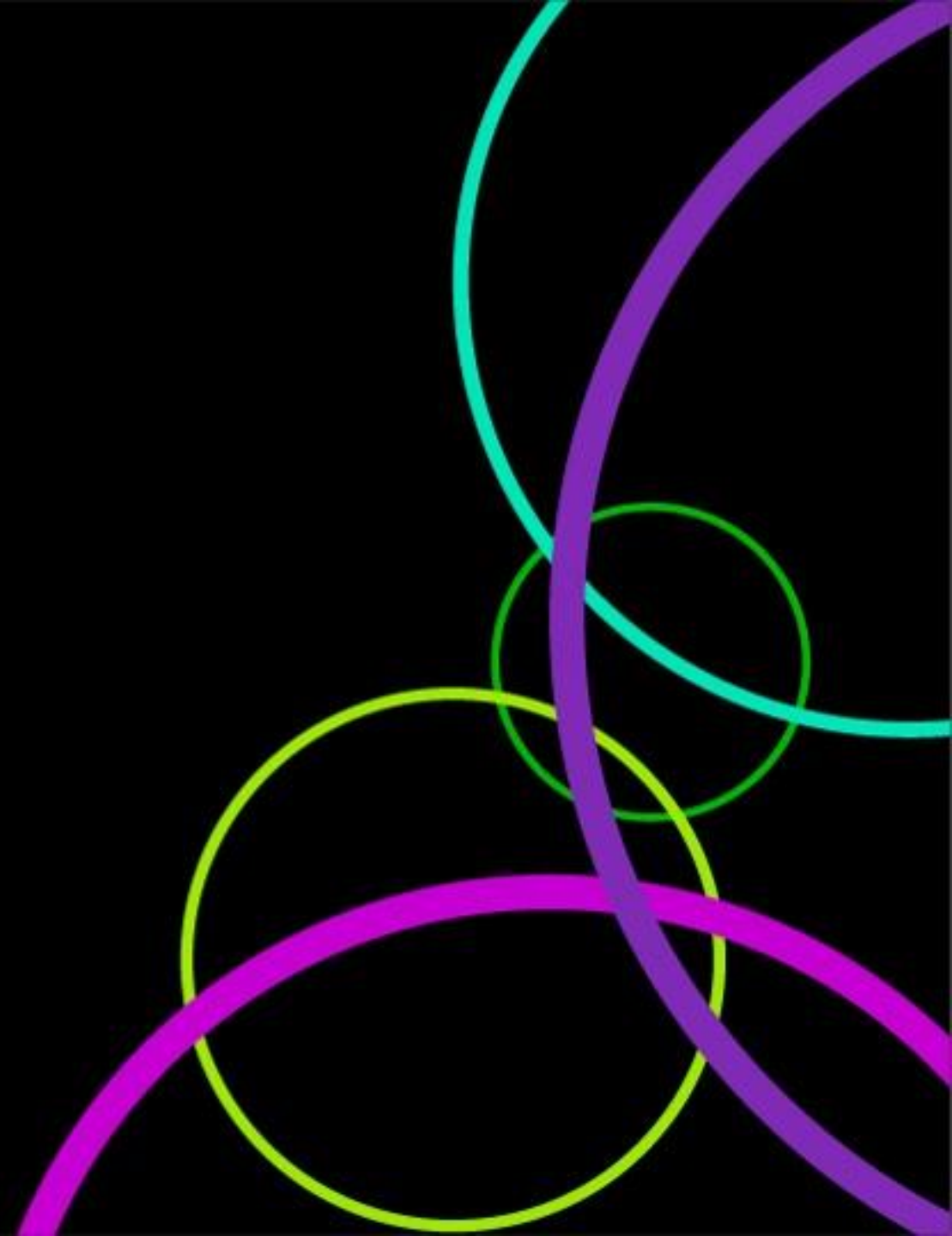
Social media – in a share-able video format with a short audio

Considerations for social media

Ensure information is 'share-able' on social media so it can become a talking point in personal networks

- Consider developing 'shorts' and 'stories'
- Add audio narrative
- Where possible, develop dynamic/animated/interactive features

6. Influencing action



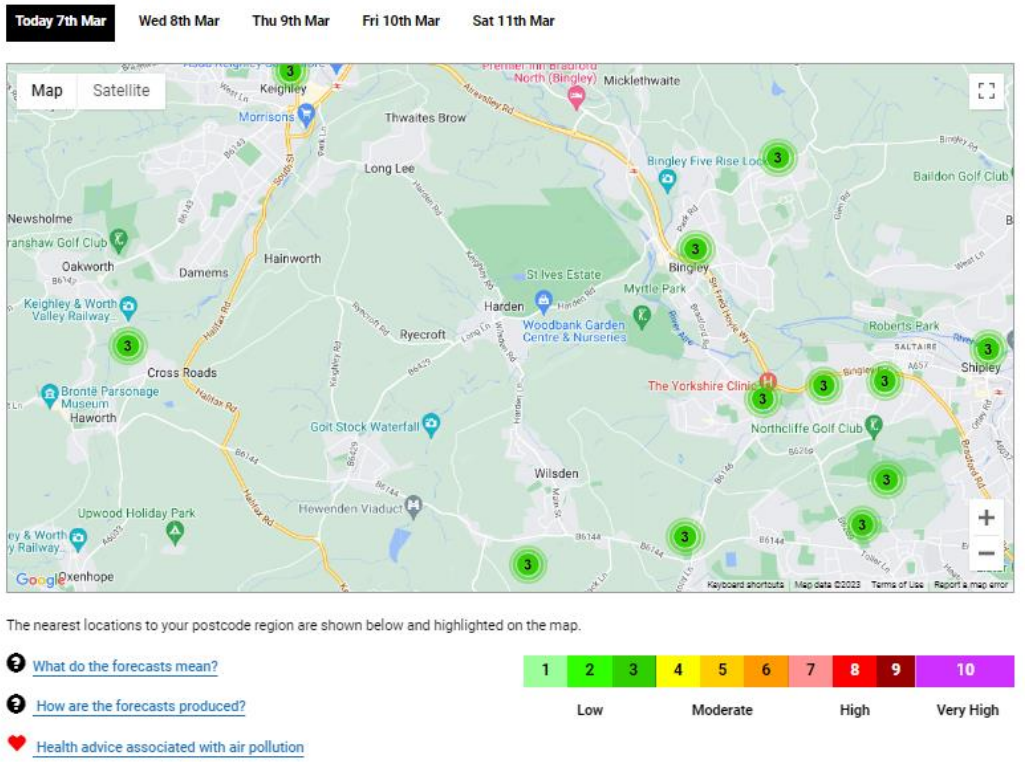
INFLUENCING ACTION – SHORT TERM

An accessible daily forecast of information could help to raise the profile of air quality and influence day-to-day behaviour

Opportunities

The availability of localised and timely information has the potential to influence

- When people exercise and where (e.g., particular routes, where children play)
- When people use their cars (e.g., avoid peak polluting times)
- When to open windows/hang out washing
- Whether people with asthma take their inhaler when leaving the house
- How much medication people with relevant conditions take



INFLUENCING ACTION – SHORT TERM

Participants identified key features of localised information

Key information features

Easily accessible

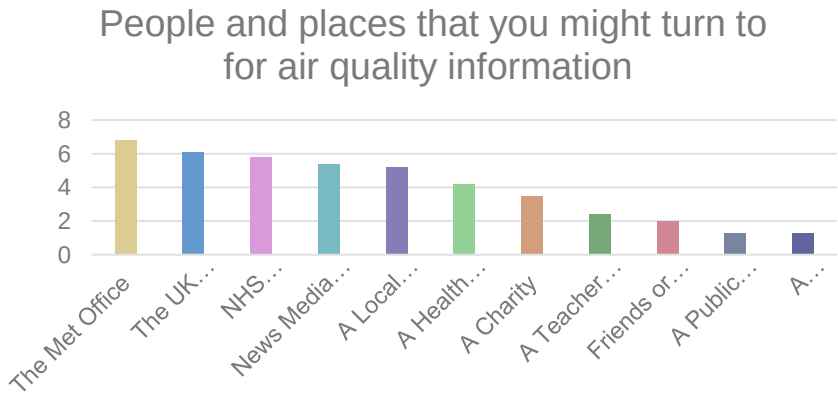
Provided at town/area or ideally at street level

Easy to understand (top level information, using established information norms e.g. RAG rating, that can clearly help to guide behaviour)

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

Providing 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



The Met Office was the overall favoured source of air quality information, although others were also suggested

INFLUENCING ACTION – SHORT TERM

‘At risk’ groups particularly felt that an air quality forecast could help them

Respiratory and heart conditions

Prompts better understanding of **how air quality can impact condition**

Gives advice on how to mitigate symptoms and manage condition, e.g.,

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

Enables tracking of symptoms (e.g., on a calendar) next to air quality reading

Could support discussion with healthcare practitioners

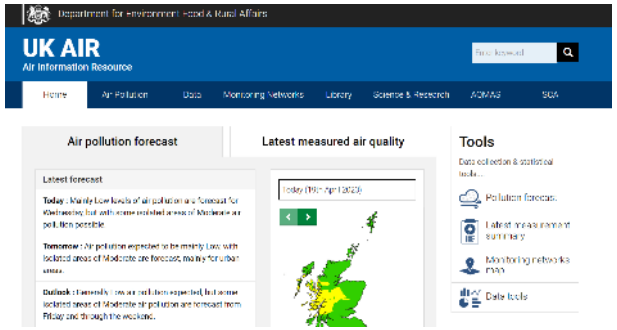
Carers/pregnant people

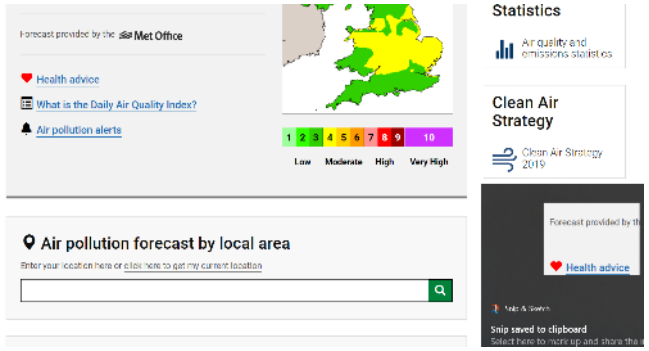
Prompts focus on **how air quality can impact a developing foetus, and the health of a pregnant person and babies/children**

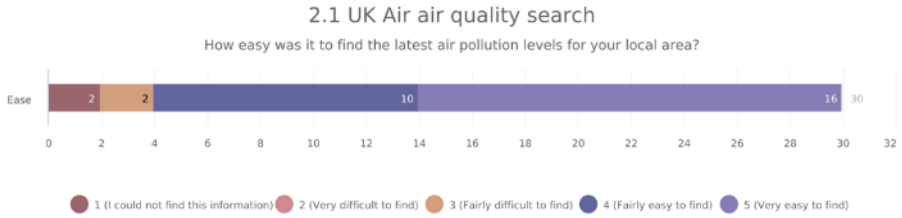
Helps take action to mitigate the effects on children in general, as well as those with asthma/other respiratory conditions

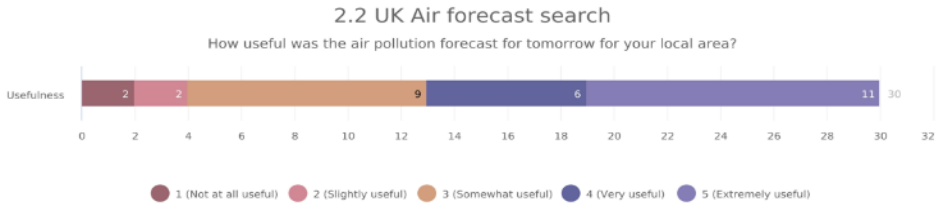
INFLUENCING ACTION – SHORT TERM

Participants often found it difficult to use and interpret the current Daily Air Quality Index provided on UK Air









Key developments

Greater clarity about the scale used

- Some confusion about whether the scale refers to ‘air quality’ or ‘air pollution’, which meant misinterpretation of the rating was possible

Greater clarity about how to use the webpage

- Not all realised the map is interactive or that they needed to scroll to the bottom

More detail about what is being measured

- Ideally providing the ability to find out more detail on this

More direction regarding how to respond to the reading

INFLUENCING ACTION – SHORT TERM

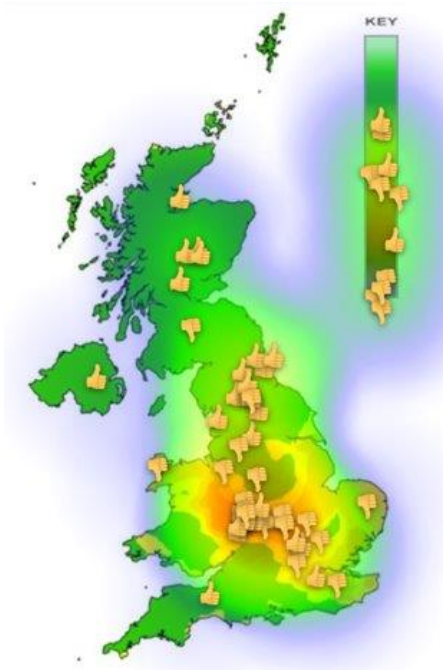
There was consensus that a ‘red amber green’ system used to communicate risk is easy to understand

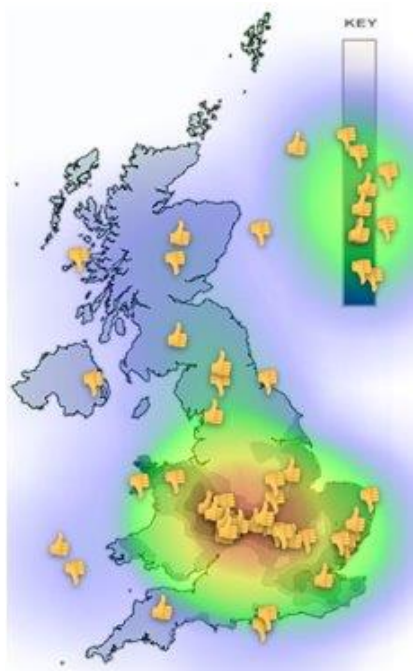
Key preferences

Participants overwhelmingly preferred RAG approach for denoting risk

- Most correctly interpreted this as a colour scheme, assuming ‘green means safer, no threat, all is well’, easy to differentiate between different ‘bands’ of pollution
- Whereas use of a single colour with gradients caused much more confusion

‘Clearer difference in colours and more visually striking. Also uses colours commonly associated with ‘bad’ and ‘good’





However, our inference is that there is a need to make clear that the lack of a short-term risk is not misinterpreted as no risk at all.

INFLUENCING ACTION – SHORT TERM

There were also some preferences revealed regarding the wording of risk communication

Framing of scales

Framing with health (US) provoked concern and anxiety

Framing with pollution (China) induced more anger (as well as anxiety)

Approach A (US):

- Good
- Moderate
- Unhealthy for sensitive groups
- Unhealthy
- Very unhealthy

Approach B (China):

- Good
- Lightly polluted
- Moderately polluted
- Heavily polluted
- Severely polluted

Framing of 'at risk' categories

Participants felt that **referring to people who are 'at risk'** versus the 'general population' implies that the latter group is 'safe'

In the context of them understanding more about the health impacts of air pollution, participants felt it would be more relevant to **indicate a spectrum**

'At greater/higher risk'; 'at lower risk'

INFLUENCING ACTION – INFORMATION SHARING

Some participants were interested in sharing information to receive air pollution alerts and suggested a range of possible models

Opt-out system from local council

- Based on postcode area
- Information could be tailored by individual according to preference

Facility to opt-in via NHS app

- Many already using this anyway
- Assumed this holds current health information on conditions and could be further tailored, depending on need

Development of a new healthy living app

- Sign up to set targets for outdoor exercise etc
- Air pollution information

Key requests

Alert messaging (via app notifications or texts)

The facility to **choose message frequency** and level at which alert is sent (e.g., every day, when air quality is 4+)

The facility to **access different layers of information**: top level, able to click through to more detailed information

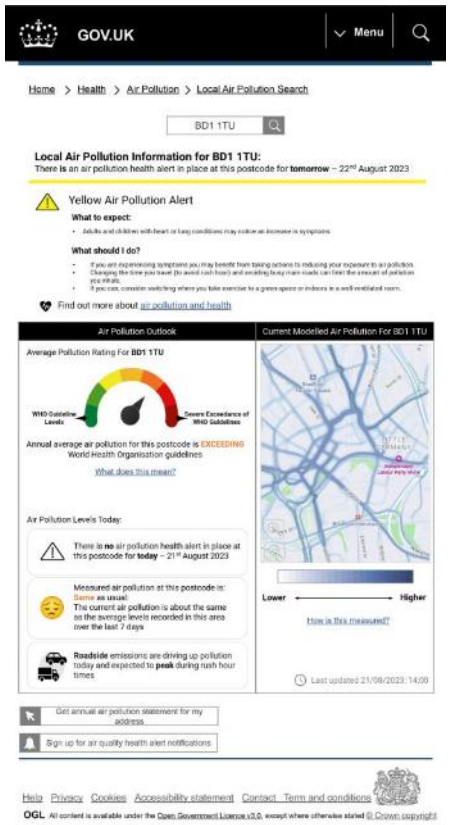
Information on reasons for air pollution (e.g., traffic on the M25)

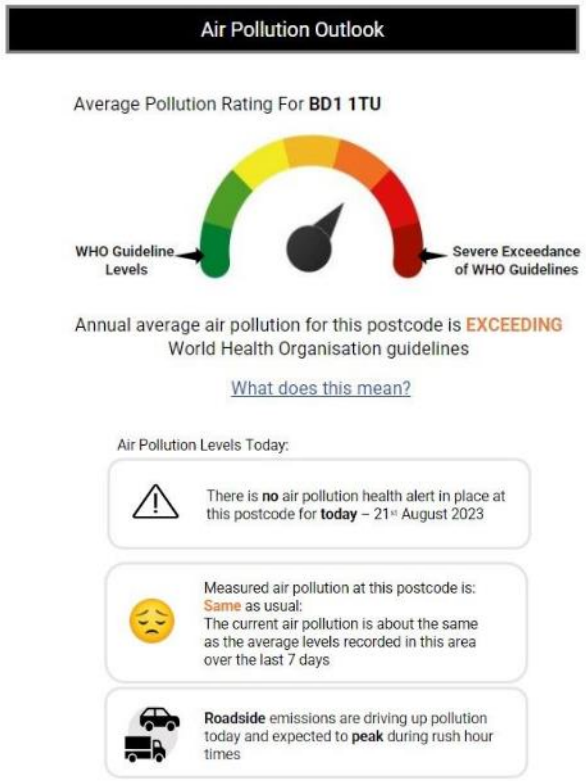
Ability to link to background information on air pollution (causes/impacts), including symptoms to look out for

Information provided shows choices and not is presented too negatively to scare people

INFLUENCING ACTION – LONGER TERM

Participants were positive about the availability of a means of understanding air pollution in a location in the longer term to support their decision-making





Key requests

Elements work together cohesively at a visual level, i.e., colour coding (ideally RAG), icons, symbols, and are explained via a key

Logical flow of information from short term to long term risk, i.e., today's reading at the top, tomorrow's alert and then the annual rating

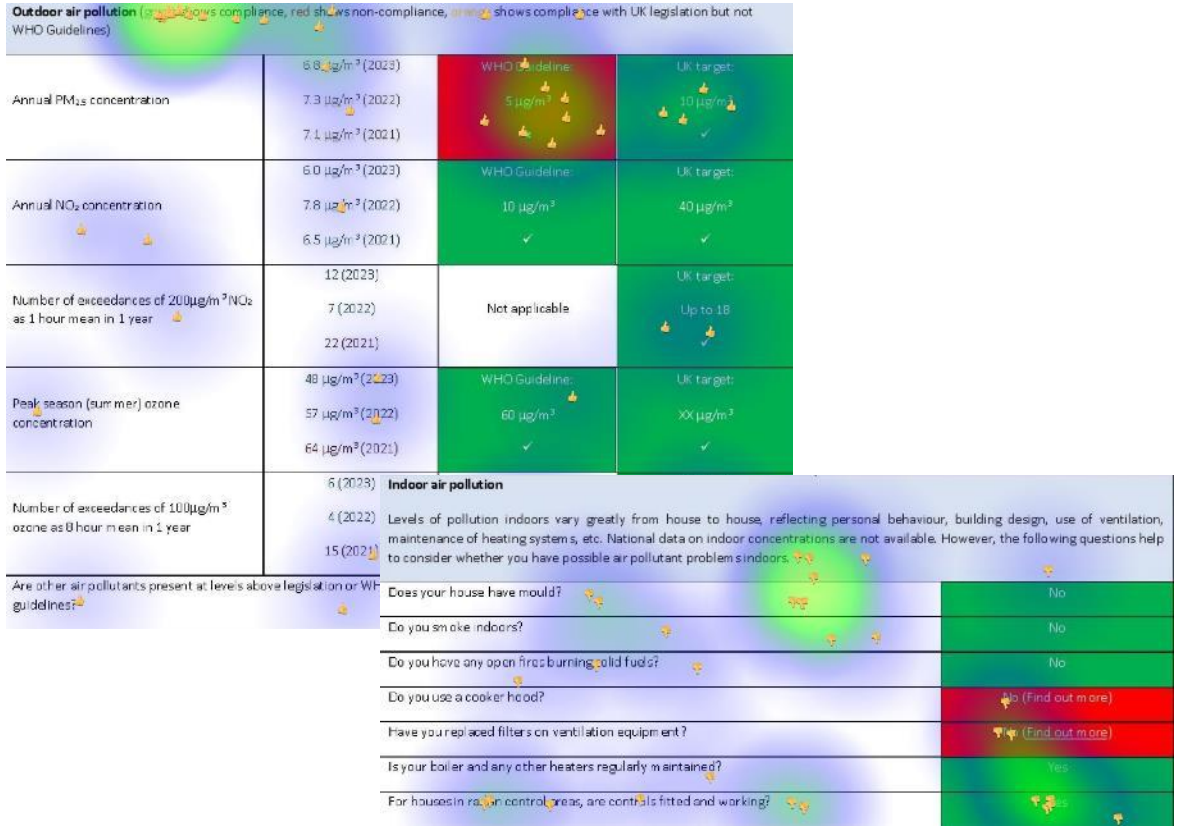
Concise text, short sentences, use of bullets

Further information available if wanted, e.g.,

- How the rating has been collated/what contributes to it/what it is based on
- Advice on how individuals can help improve the rating (if relevant)
- Link to further advice where relevant (e.g., if pollution is high)

INFLUENCING ACTION – LONGER TERM

Participants were interested in sharing household details to obtain a pollution statement but these need to be set out in non-technical ways to ensure they are comprehensible



Key components

Introduction to the information, giving background on the context, the pollutants and what the information shows

Explanation of specific terms (e.g., click on/hover over for detail, link to further sources for greater information) on

- Different pollutants
- What constitutes ‘solid fuel’

Colour coding of level for relevant period (RAG)

Visual representation of direction of travel (e.g., upwards/ downwards arrow)

Give details of how to improve indoor air pollution

INFORMATION – RESPIRATORY CONDITIONS

Participants were keen for asthma advice to be created collaboratively and provided consistently

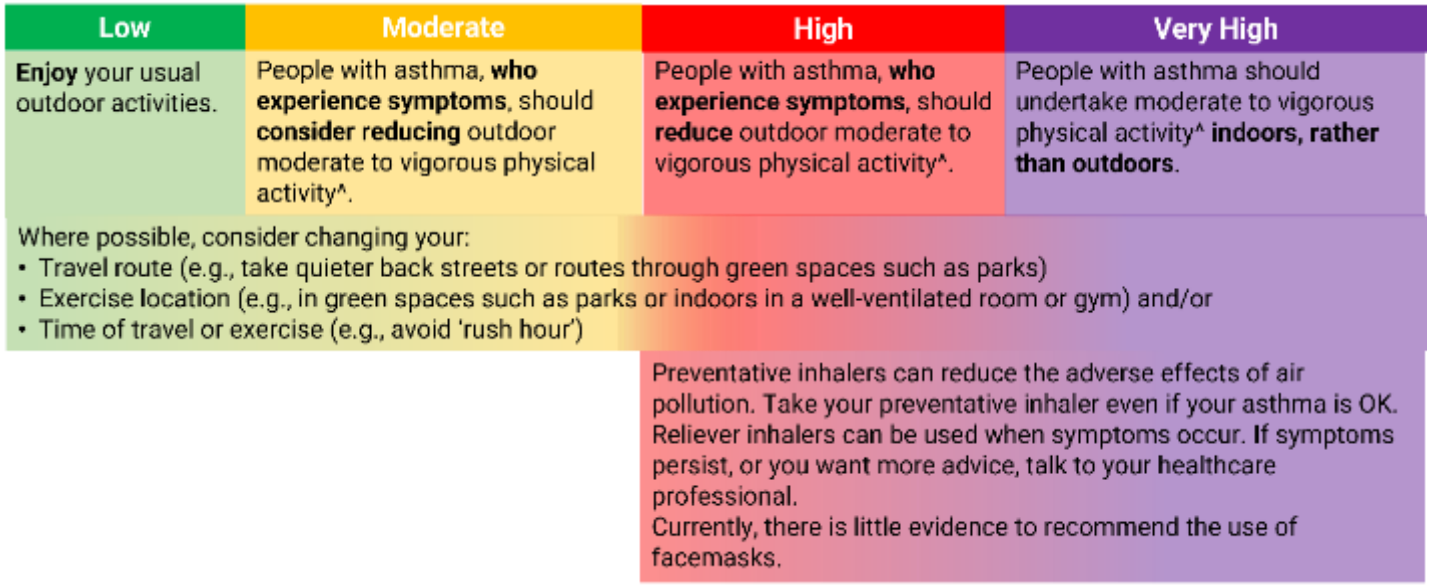
Key requests

Created in collaboration with an expert group (e.g., Asthma UK)

Clearly set out, concise, visually striking

Show realistic actions that are easy to understand and follow

Give 'new' information



INFORMATION – SUPPORTING DECISION-MAKING

Participants suggested ways of supporting their longer-term decision-making such as buying white goods, a car or upgrading heating systems

Enable comparison

Create air quality rating similar to existing energy rating stickers

Ask **comparison websites** to include air quality impact

Impartial information to explain which products are better for air quality and why

'We bought loft insulation recently and it was a learning curve to find out what the thickness of the insulation should be, it was difficult to find out the optimum thickness'
Older adults' group

Clarify costs

Online calculators to estimate long-term savings

Information on grants, eligibility criteria and how to access them

'They say you will save all this money on your bills but when you try to work it out and the cost of installing it, you'd have to have it for about 20 years before you'd even make that money back'
General population group

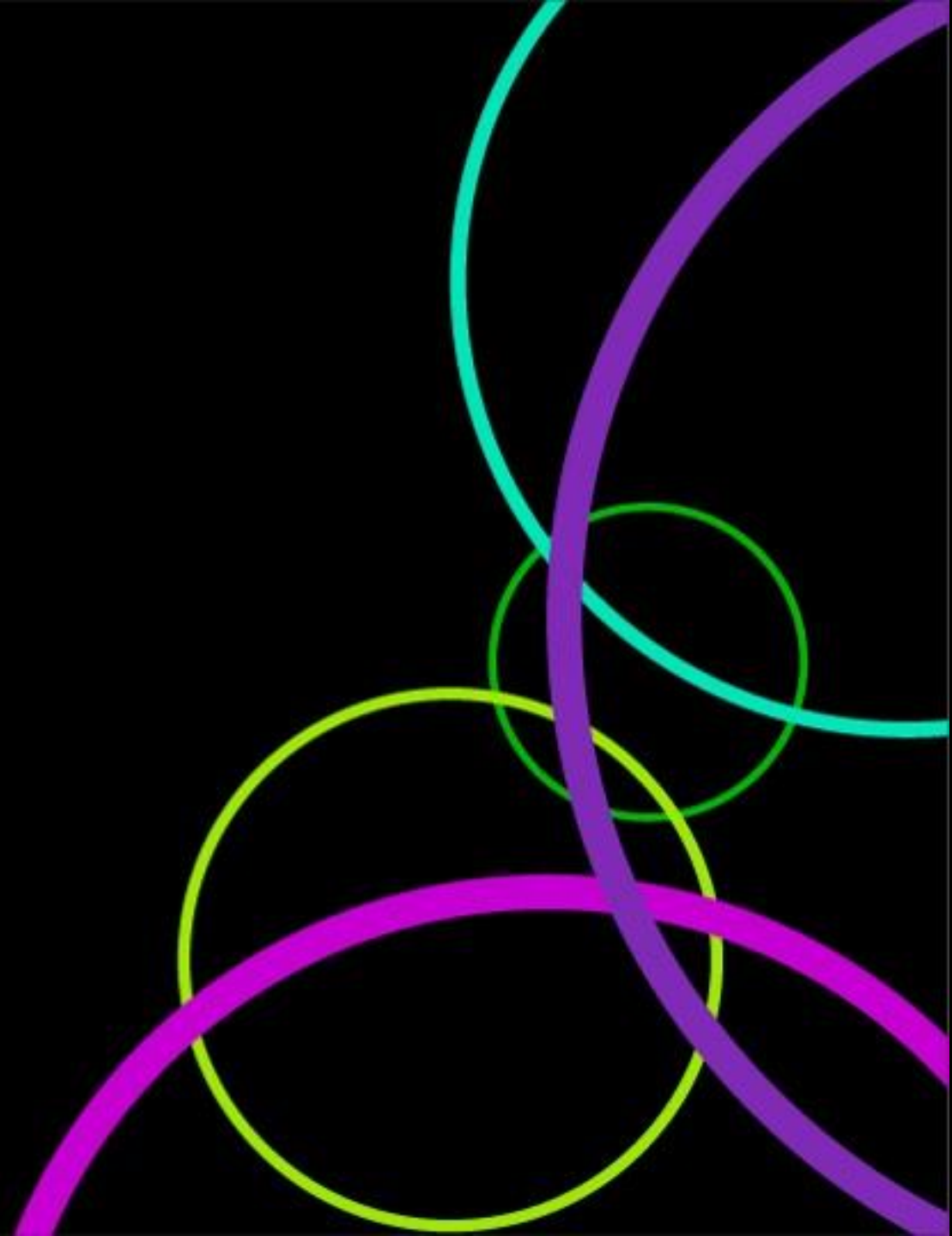
Illustrate the benefits

Opinion pieces that promote positive experiences

Experts/celebrities/influencers promoting the benefits of specific decisions

'I'm not convinced about making the switch. It will cost a load of money and I don't know anyone who this [heating systems/insultation]. There's not enough critical mass for me to take action'
Respiratory group

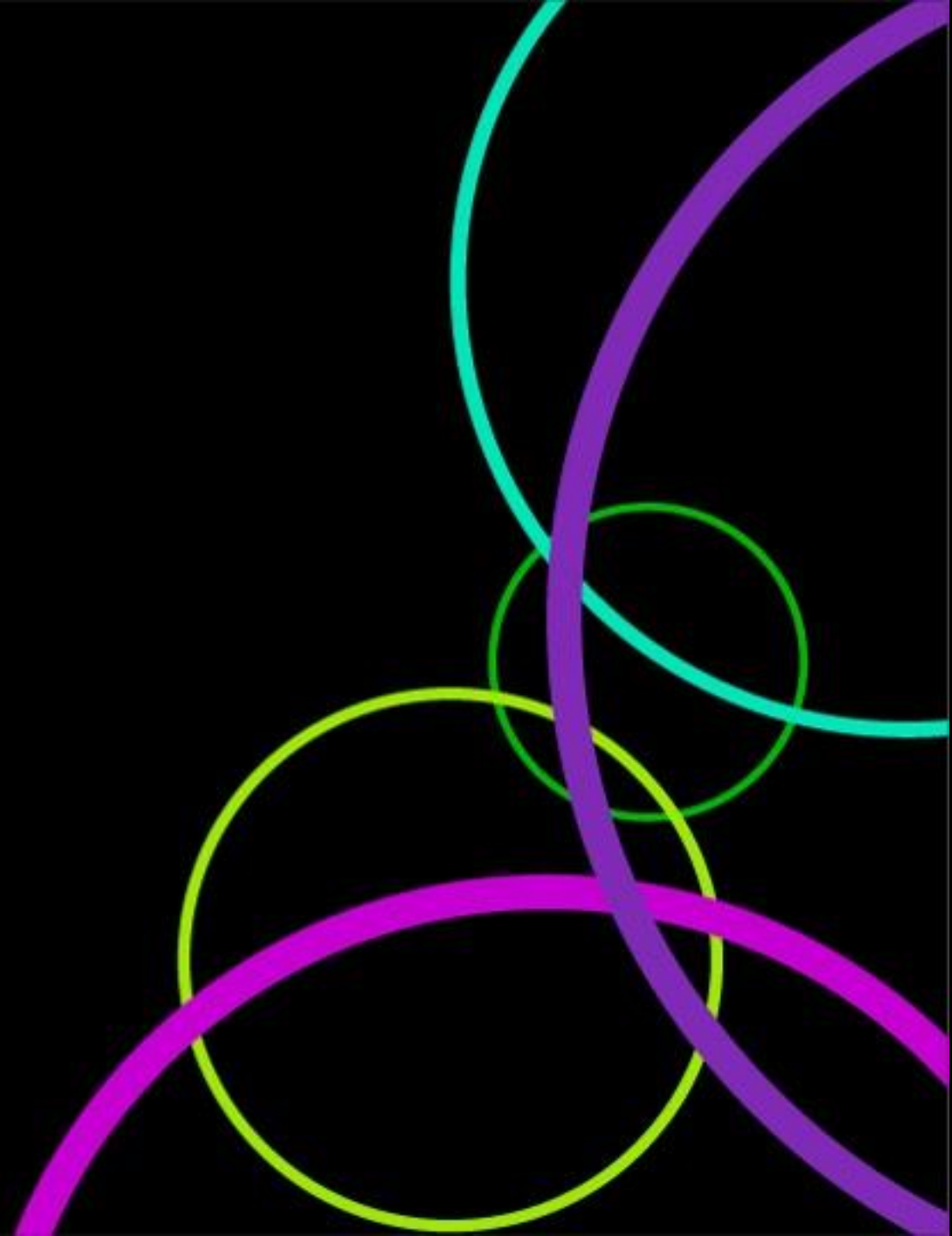
7. Discussion



Any questions?

- Which areas are seen as a priority by the steering group?
- How feasible is it to implement these actions?
- Are there any quick wins – what areas does the steering group/Defra have greater influence over?
- Where are the opportunities to collaborate with partners, and how can the steering group/Defra develop these?

8. 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) Excluding pregnant people, parents of children under 5, people with respiratory or cardiovascular health vulnerabilities and those over 65	All aged 18-65 (excluding group 6) 14 men, 16 women 8 people from minority ethnic backgrounds 28 from England, 2 from Wales 11 living in urban settings, 12 in suburban, 7 in rural Mix of household incomes, with 13 having incomes of less than £30,000 pa
2	General population		
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	
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	
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	
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	