ai@cam

AI and the Missions for Government: insights from a public dialogue

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In partnership with:

Hopkins Van Mil

KAVLI CENTRE for Ethics, Science, and the Public

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Foreword

Despite rapid progress in AI's technical capabilities, there remains a persistent gap between the potential of these technologies and our ability to deploy them for public benefit.

Bridging this gap requires action to articulate social needs, build understanding about how AI can help address those needs, and connect these insights to AI research and policy. Public dialogues provide a way of recentering social need in discussions about AI. By creating spaces to share aspirations for – and concerns about – AI, these dialogues can help create new understandings about the developments needed in research, policy, and practice to deliver AI that benefits science, citizens, and society.

This report presents findings from public dialogues convened in Cambridge and Liverpool during September 2024 by ai@cam, the Kavli Centre for Ethics, Science, and the Public, and Hopkins Van Mil. These dialogues set out to understand public perspectives on the role of AI in delivering priority policy agendas connected to four of Labour's Missions for Government. In discussions about crime and policing, education, energy and net zero, and health, participants shared their views on the potential benefits offered by AI and the guardrails needed to guide its development.

The results offer insights into a future vision for the use of AI in public services in the UK. By helping reduce administrative burdens on frontline service providers, optimising the systems that underpin our public services, or providing decision-support tools that allow human decision-makers to access insights from data, participants told us that AI could help transform people's interactions with public services. Participants also emphasised the importance of working with AI in ways that enhance human interactions, that protect privacy and security, and that ensure transparency and accountability in service delivery.

Across Mission areas, we heard a call to action for Government to create policy frameworks that centre public benefit and for those developing AI to engage with the public to help create a shared vision for what we need from these technologies.

We hope this work informs a continuing conversation about how we can drive AI innovations that deliver meaningful public benefit.

These dialogues benefitted from input from collaborators at the University of Cambridge, University of Liverpool, University of of Manchester, and King's College London, as well as from the time and energy of our public participants. Thank you for your contributions to this project.

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Executive Summary

About this public dialouge

In September 2024, 40 members of the public took part in two workshops, in Liverpool and Cambridge, together with AI specialists from the University of Cambridge, University of Liverpool, King's College London, and University of Manchester.

In small groups of 7-8 they discussed their aspirations and concerns for the use of artificial intelligence (AI) in public services. The conversations focused on four policy areas related to the Missions for Government: health; education; crime and policing; and energy and net zero. The workshops concluded with discussions on the kinds of guardrails and interventions participants thought were necessary to ensure AI delivers public benefit and avoids societal harm.

The public dialogue was commissioned by ai@cam, the University of Cambridge's flagship mission on artificial intelligence, in collaboration with the Kavli Centre for Ethics, Science, and the Public. It was designed and delivered by the specialist social research agency Hopkins Van Mil. The findings from this public dialogue will inform ai@cam's Policy Lab initiative, which brings research evidence to bear on the development of policy frameworks that connect AI development to wider public benefit.

Key findings

Overarching public aspirations and concerns for AI in public services highlight the potential for AI to enable Mission delivery, and indicate features that successful AI applications should demonstrate:

- Helping to reduce administrative burden on over-stretched public services and free up staff time for human interaction.
- Acting as a co-pilot for human expertise: helping, but not replacing, human decision makers.
- Speeding up processes, systems and data sharing for more immediate benefits for individuals engaging with public services.
- Ensuring a shift to AI-enabled services does not:
  - exclude or disadvantage people not using digital tools.
  - exacerbate existing discrimination through a lack of diversity and accuracy in data sources used in AI models.
  - diminish personal interactions: avoid 'AI-ing everything', which could hinder social connection and increase screen time.

There are clear expectations for guardrails and interventions that prevent misuse and promote democratic control over AI development:

- People should be able to understand when, how, and why AI is being used in public services that affect them. Broad public understanding on AI is needed, alongside transparency around the use of AI.
- Independent regulatory bodies made up of a broad coalition of stakeholders, including the general public, should govern and monitor the use of AI in each sector.
- Legal and regulatory frameworks are needed to guard against technology companies' influence over public services, and the risk that profit might be prioritised over public service quality.
- Governance and regulatory frameworks for data sharing should be agile and adapted to each context to protect privacy and enable access as appropriate.
- AI development must be collaborative and user-centred to remove bias and improve reliability.
- Robust security systems should be in place to prevent cyber threats and fraud involving AI.

Executive Summary

Aspirations and concerns specific to health, education, crime and policing and energy and net zero

Health

Aspirations:

- **Freeing medics from paperwork** e.g. reduce missed appointments, manage NHS transport
- **Preventing poor health** e.g. early years interventions
- **Improving treatment** e.g. earlier diagnosis and helping manage multiple health conditions
- **Accelerating research** e.g. speed up drug development

Concerns:

- **AI as solo decision maker** e.g. for diagnosis and treatment.
- **AI monitoring undermining privacy** e.g. constant data gathering
- **Risk of de-humanising mental health care** e.g. chatbot treatment
- **Increasing hypochondria** e.g. data fear mongering

Crime and Policing

Aspirations:

- **Preventing crime** e.g. faster identification of crime hot spots
- **Increasing trust in police** e.g. robust vetting for recruitment
- **Reducing court delays** e.g. speed up evidence gathering & assessment
- **Cutting re-offending rates** e.g. connect prisoners with tailored support

Concerns:

- **Biased surveillance** e.g. facial recognition based on biased data
- **Lack of transparency** e.g. around the data used for model training

Education

Aspirations:

- **Helping with teacher workloads** e.g. marking some homework
- **Tailoring learning and support** e.g. personalised homework tasks
- **Assisting independent learning** e.g. monitoring home schooling
- **Streamlining school admin** e.g. free school meals

Concerns:

- **Human qualities replaced:** e.g. teaching needs empathy and nurturing
- **Increasing screen time** e.g. reducing social interactions
- **Addictive algorithms** e.g. shorten concentration
- **Safeguarding and bias** e.g. children interacting with unknown entities

Energy and Net Zero

Aspirations:

- **Home energy efficiency** e.g. smarter smart meters for auto optimisation of energy use
- **National Grid optimisation** e.g. handling multiple renewable energy sources
- **Improving transport systems** e.g. monitoring traffic patterns and signals
- **Optimising land use** e.g. combining satellite imagery and other data

Concerns:

- **Affordability of AI tech** e.g. upgrades out of reach for lower income households
- **AI energy use** e.g. using more electricity than it saves
- **AI as a net zero 'quick fix'** e.g. risk of distracting from existing solutions

1. Introduction

1.1 How did the public dialogue come about?

As the new Government develops its AI policy agenda, ai@cam wants to bring public voices into the policy conversation. Recent Government announcements show an appetite to promote wider use of AI for public service delivery and policy development. Previous public dialogues suggest people hope that AI could make public services more accessible and efficient, freeing front-line resources to focus on priority tasks, but that they also have concerns about how these technologies are developed and implemented.

ai@cam is the University of Cambridge's flagship mission on Artificial Intelligence. Leveraging world-leading research across the University, ai@cam will create connections between disciplines, sectors, and communities that can unlock a new wave of progress in AI, for the benefit of science, citizens and society. ai@cam, in collaboration with the Kavli Centre for Ethics, Science, and the Public, commissioned Hopkins Van Mil to design, facilitate and report on this public dialogue on AI for public service delivery.

Hopkins Van Mil is a specialist social research agency which facilitates consultation, engagement, and research projects. The team creates safe and trusted spaces for productive and engaging discussions on the important issues that matter to us all.

1.2 What did the dialogue aim to do?

The purpose of this public dialogue was to explore the role of AI in enabling four of the new Missions for Government. These are:

- **Health:** Build an NHS fit for the future: that is there when people need it; with fewer lives lost to the biggest killers; in a fairer Britain, where everyone lives well for longer.
- **Crime and policing:** Take back our streets: by halving serious violent crime and raising confidence in the police and criminal justice system to its highest levels.
- **Education:** Break down barriers to opportunity: by reforming our childcare and education systems, to make sure there is no class ceiling on the ambitions of young people in Britain.
- **Energy and net zero:** Make Britain a clean energy superpower: to cut bills, create jobs and deliver security with cheaper, zero-carbon electricity by 2030, accelerating to net zero.

Its specific objectives were to begin to co-create a vision for the development of AI for public benefit by:

- Exploring aspirations and concerns for AI's use in the four Government missions directly focused on service delivery.
- Considering what interventions could help ensure safe, effective, and trustworthy use of AI in these areas.

The findings from this public dialogue will inform the work of ai@cam's Policy Lab during Autumn 2024, as it engages with questions about the future direction for the UK's national AI strategy and policy frameworks.

1.3 What is public dialogue?

Public dialogue is a process during which members of the public interact with academics, stakeholders and policy makers to deliberate on issues relevant to future decisions.

Public dialogue enables constructive conversations amongst diverse groups of citizens on topics which are often complex or controversial. Public dialogue was chosen as the format to ensure that participants are given time and a level playing field to discuss the issues that matter to individuals, to communities and to society.

Public dialogue is:

- **Informed:** evidence is provided on what AI is, and its current and potential uses, so that participants can give their opinions on where public input adds most value; access is given to specialists in their field.
- **Two way:** participants and specialists all give and take something away from the process.
- **Facilitated:** the process is carefully structured to ensure that participants receive the right amount and detail of information, a diverse range of views are heard and taken into account and the discussion is not dominated by particular individuals or issues.

1.4 Who were the participants?

This dialogue involved 40 public participants in total, 21 participants based in/around Liverpool and 19 in/around Cambridge.[1] Both groups broadly reflected the UK population in terms of age, gender, life stage, social grade, household income and ethnicity. The recruitment specialists iThoughts managed the process. Potential participants were asked how much they feel they already know about AI, the extent to which it plays a role in their lives and how hopeful they feel about its future use in energy, crime and policing, education and health, to achieve a range of knowledge and views.[2] Participants received £180 as recognition of their time.

1.5 What did participants in the dialogue do?

Before taking part in the day-long dialogue workshop, participants looked at a dedicated webpage which explained the purpose and format of the day.

They also watched a video introduction to AI[3] and short videos recorded by the specialists attending their workshop in which they introduced themselves and their research interests in AI[4].

The workshop began with a welcome, introductions and visual voting (Menti) questions. Participants were asked what words came to mind when they thought about 'artificial intelligence', and for one concern and one hope associated with AI.[5]

Small groups discussions followed, with the participants on tables dedicated to one of the four government missions: health; education; crime and policing; and energy and net zero. Following small group introductions, participants reviewed a prepared list of current issues[6] for their mission and were asked to add any they thought were missing. Each participant then chose 1-2 issues they wanted to discuss in the context of AI and public services.

Each small group had one or more AI specialists. Their role was to listen to participants and share their knowledge and experience of how AI is and could be used in the mission area. Before lunch, participants gathered together to listen to and ask questions of a specialist panel discussion on 'what's needed to help make sure AI benefits society'.

After lunch, participants joined a new mission area and repeated the morning's activity. The final small group discussion of the day explored the question: what needs to happen for AI to be developed for public benefit? The day ended with next steps and revisited the Menti questions on words associated with AI, concerns and hopes.

1.6 Analysis and reporting method

The workshop discussions were audio recorded with participant permission and transcribed. The transcripts were read and analysed by the reporting team (facilitators from the Cambridge and Liverpool workshops). During the writing process, the team met twice to review their analysis and findings. Quotes have been used to illustrate points.

[1] 21 participants were also recruited in Cambridge; however, 2 participants could not attend the workshop due to unforeseen circumstances on the day.

[2] Appendix A has a detailed breakdown of participant demographics and attitudes

[3] 5 things you really need to know about AI: BBC Ideas

[4] Appendix A has a list of the specialists and their roles

[5] Appendix D has the Menti responses

[6] Issues were drawn from the Labour party manifesto and other policy/think tank papers on each of the four mission areas.

2. Overarching public aspirations and concerns for AI in public services

Several common themes emerged from discussions about aspirations and concerns related to the use of AI across the four mission areas; these are outlined here. The specific aspirations and concerns for each mission are examined in detail in the following chapters.

2.1 AI helping to reduce administrative burden on over-stretched public services and free up staff time for human interactions

The potential for AI to release nurses, doctors, teachers and the police from repetitive, box ticking paperwork and administration is strongly welcomed by many participants. They hope to see frontline staff freed up to spend more time with patients, pupils and those affected by crime. In turn, they hope that this will increase job satisfaction, reduce levels of workplace stress, and improve retention rates.

> I was talking to a nurse in the NHS the other week, and she was really high up, I think she was like a Band 6 or 7, and she went, "The jobs that I have to do that I shouldn't be doing, and the paperwork that I have to do that I shouldn't be doing, I just want to care for the patients," and I think that's the same with a teacher. Public Participant, Liverpool

The dialogue's focus on issues specific to public services, such as workloads and staff retention, shifted discussions away from a more general concern about job losses, which many participants expressed spontaneously in the opening discussions. This concern remained implicit in reflections around the importance of AI not replacing staff, but enabling them to do their jobs more effectively (see below).

2.2 AI acting as a co-pilot for human expertise: enhancing but not replacing it

The words 'co-pilot' and 'balance' often came up during discussions about AI and public services. In many situations, particularly those that are about decision making, rather than administration, participants are clear that they think it is essential that a human is involved. Participants see the benefit of AI helping to analyse large data sets and share findings, but think these should be assessed and applied to real life situations by a human. This is about both judgement and accountability. Co-pilot scenarios include:

- → Assessing and reporting on scans for signs of cancer
- → Tailoring education materials to school children
- → Helping in the selection process for police recruitment

> As long as we don't think it's a solution on its own. It's part of a wider solution. I think it could be a really big help. Although these systems see a lot, they don't see things with human eyes. It becomes really important to have ways that the human perspective can creep back in. Humans can sometimes see things that they don't see. Public Participant, Liverpool

2.3 AI speeding up processes, systems and data sharing for more immediate benefits

Participants saw AI playing a role in accelerating and improving data analysis, with the result that people engaging with public services would experience more effective services, both in terms of speed and quality. Examples of this include:

- → Speeding up drug development and maintaining or improving patient safety by using AI to model drug efficacy and potential side effects in different scenarios and populations
- → Reducing the time for criminal cases to come to trial through AI analysis of evidence and streamlining of administrative processes
- → Assessing applications for special educational needs more quickly to reduce the length of time children wait to receive the support they need
- → Managing the national energy grid more effectively, increasing our energy efficiency and self-sufficiency.

2.4 Ensuring a shift to AI-enabled services does not exclude or disadvantage people not using digital tools

Choice is important. Participants want non-AI options available to those not using digital tools or those that prefer not to have AI involved in their interaction with a public service. Participants are concerned that the proliferation of AI may lead to greater disadvantage for those not using digital tools.

> I want to see it physically. I want to be able to put it in my filing. I know it might make me sound old-fashioned, but that's my generation. Public Participant, Liverpool

2.5 Preventing discrimination arising from a lack of diversity and accuracy in data sources used in AI models.

Throughout our conversations, participants questioned how comprehensive and representative the data that AI models are using actually is. The risk of AI systems making mistakes is a serious and worrying prospect, particularly when it comes to decisions about our health, education and public safety.

> If AI is data-driven, which it is, how would you be able to stop any false data from becoming part of this AI, basically? If they're taking the data from journals and stuff, obviously that's going to be correct, but there's going to also be a lot of incorrect data out there. How can we differentiate between the two different things? Public Participant, Liverpool

2.6 Enhancing, not diminishing, personal interactions: the need to avoid 'AI-ing everything', which could hinder social connection and increase screen time.

Participants find it easy to imagine a future where humankind has become too reliant on AI. They fear the consequences of losing touch with the fundamentals of the human experience, including social connections, contact with nature, and the process of creating ideas, art and objects. Participants are particularly concerned about the impact on children who, through AI, may spend more time interacting with screens and less time experiencing the real world.

> It could possibly dumb down the population if we get that much used to using AI and we're not using our practical skills and our hands and we're just constantly pressing the screen for answers. We're not using our brain. It's like we will, over generations, it's a possibility that we could become a bit stupider [chuckles]. We're going to devolve instead of evolve, basically. Public Participant, Liverpool

3. Health

Provide medics with insights from data that can inform their decision making, accelerate progress in critical research, and reduce administrative burdens on frontline health workers

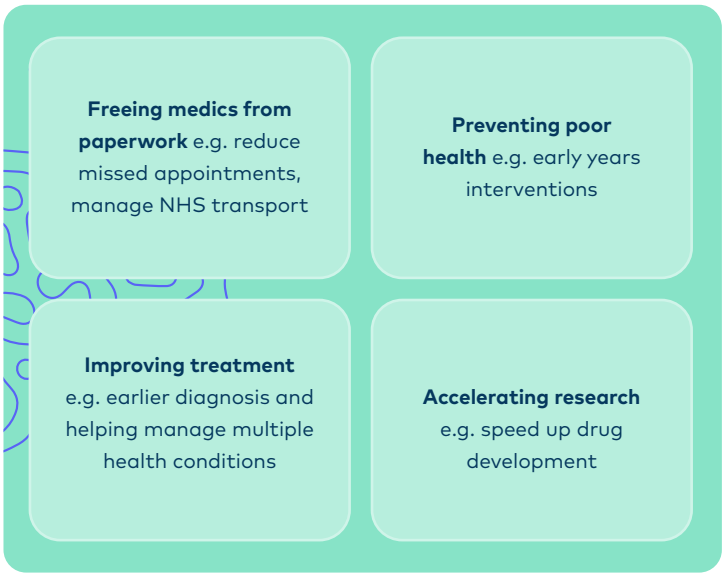
3.1 Key themes around AI and health

The NHS is under more strain than ever before. This was the underlying theme throughout our conversations on health and AI at both workshop locations. However, participants think that decisions on the use of AI in the NHS should not be made as a quick fix, in desperation, but be carefully planned. Some participants spoke about looking at the use of AI in the NHS and its consequences in the round. They also highlighted the difficulty of introducing new technologies or systems into a resource-constrained environment.

> A systematic concern with the way that the NHS is currently structured, and we need to be looking at these things as linked issues. Public Participant, Cambridge

3.2 AI aspirations specific to health:

During the conversations between participants and specialists, these areas emerged as significant opportunities for AI to improve the health of the UK and the NHS:



NHS administration and logistical planning: free medics from paperwork, reduce missed appointments, and help prioritise those who need care most

The size and complexity of the NHS, combined with the levels of demand it is experiencing, mean that participants think that there is a clear and uncontroversial role for AI to take on some administrative tasks. A hot topic for participants, particularly in Liverpool, is NHS staff burnout and the numbers leaving the service. They hope that AI systems can help reduce the amount of form-filling and repetitive information-taking by frontline clinicians and nurses and free them up to spend more time with patients.

> My wife [an NHS nurse] says that the paperwork side takes longer than the actual care. Public Participant, Liverpool

Participants see the potential for an AI tool to listen to your health appointment and then take notes. They also think AI could make the repeat prescription process more user-friendly, help with medicine adherence, reduce medicine wastage by sending people reminders of when to order repeat prescriptions, and also potentially check that medicines had been taken.

Another area identified for AI is appointment management. Participants think that in a service that is so over-stretched, it is unacceptable that clinician time is wasted by people not attending appointments. They hope that AI could identify potential DNAs (Did Not Attends), and send tailored communication on appointment times to help ensure attendance.

> Maybe people who miss appointments, their AI could track their missing appointments, and they could try to contact them via different channels, not only letters that come to the post and see which way they respond better. Maybe AI could study that and then use that channel for those patients. Not the one-size-fits-all for everyone sending the letter. Public Participant, Liverpool

Some participants think because this is an administrative improvement public consultation would not be necessary before introducing AI for appointment management.

> If you currently have software that arranges your appointments, you don't ask the public before upgrading the software. It's like that. Public Participant, Liverpool

Participants said they have already seen a trend towards automating or digitising appointments and prescriptions (e.g. myGP app and others) and see AI as a continuation of this.

AI helping to prioritise who needs care most urgently is seen as more complex, compared to those applications mentioned above, but potentially highly valuable for an over-stretched NHS. The way this would work in practice was not discussed at length (e.g. what data would be used to make prioritisation decisions), but participants think that AI's abilities to make fast decisions on large quantities of data could be useful in this prioritisation role.

> Maybe it was like a triage system because it could stop the buildup on GPs for people who go for colds and just stupid stuff. It'd be like, "No. You don't need this service, just cold and flu tablets," or some tips. Public Participant, Liverpool

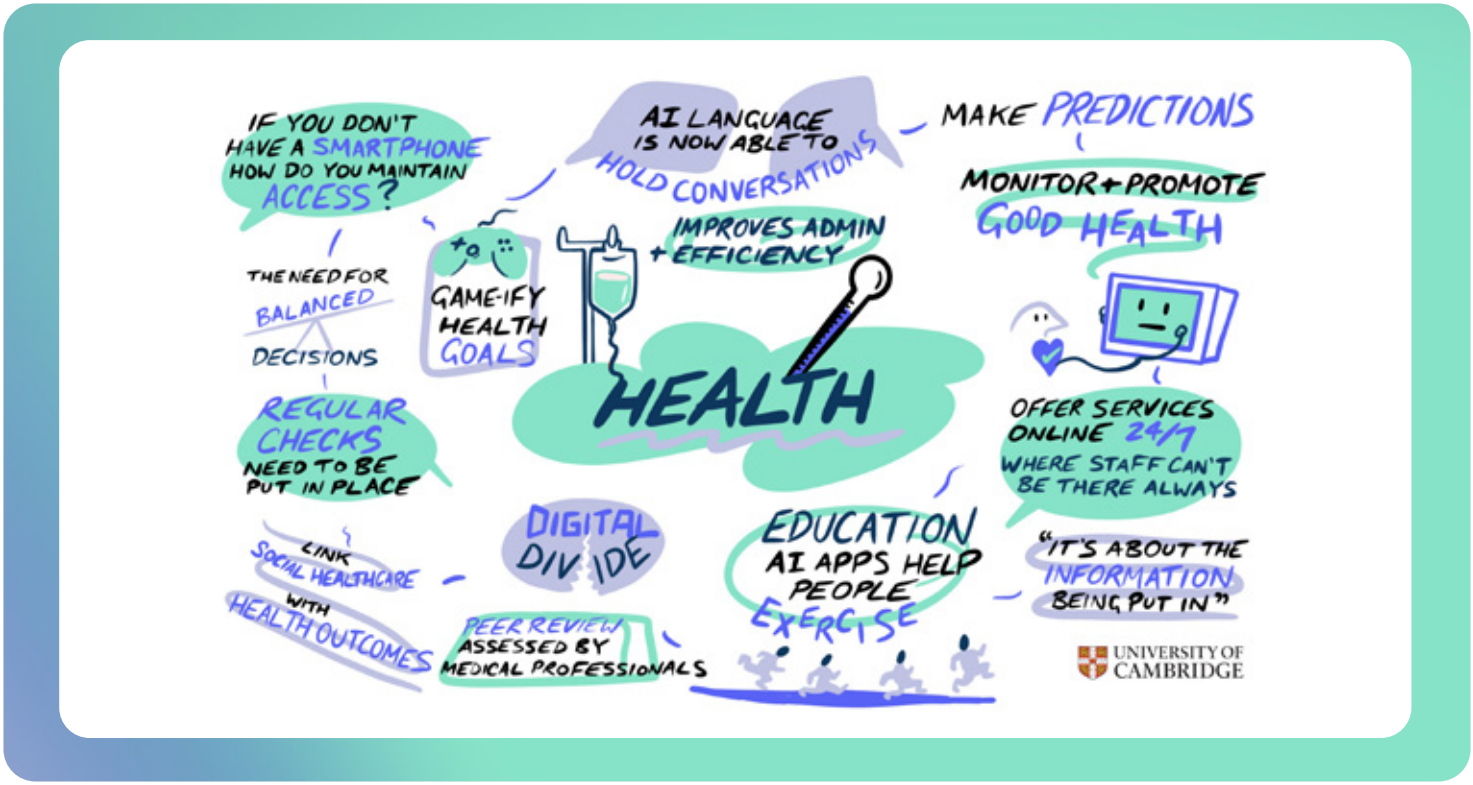
> With hospitals where you could maybe possibly have a check-in system where before you go to the hospital, you've got to phone, tell them what it is. You run that through the system, which could then signpost you to a more appropriate place. Public Participant, Liverpool

Other administrative and logistical tasks that participants believe could benefit from AI include:

- NHS transport, which could be made more efficient by better planning of patient journeys that currently use taxis; and
- Planning the location and provision of health services, by using AI to help review complex sets of housing, demographic, health outcomes and other data.

Preventing poor health: identifying communities at risk and predicting pandemics

The discussion-starters shared with participants at the start of our health conversations focused on current issues, such as difficulties accessing NHS dentistry and poorer cancer outcomes compared to other countries. Even so, opportunities for AI in preventing poor health and care outcomes were discussed and drew interest and support from several participants. In Liverpool, one of the specialists spoke about the city's Building Attachment and Bonds Service: a service where



community psychologists help parents facing difficult situations to avoid having their child taken into care. The success rate was reported to be more than 80%. Participants can see a role for AI in analysing and reporting on different data sets to help identify and support individuals and families in need of early intervention.

> " It's trying to enhance the whole community, isn't it? Not just a person or an entity. Prevention is always better than a cure. So, if you could put something in place that's going to benefit a whole community, 10 or 15 years down the line if they're all healthy, then that whole community is going to save the NHS 'X' amount of money because of the things that were put in place 15 years before. Which could be AI, looking at it and seeing where it's needed and putting the facilities in place to stop the strain on the NHS down the line. Public Participant, Liverpool

Another prevention role for AI supported by several participants is in predicting pandemics early on by using and joining up data to look for patterns of infection and symptoms in the population.

Treatment: intelligent screening, faster diagnosis, tailored treatment based on better health data

Smarter use of health data is the aspiration that runs through many participant discussions on how AI can improve treatments in the future. Some want to see a more intelligence-led approach to health screening. Rather than being largely age-based, participants hope that AI could be used to analyse people's health data, including their family history, to target screening based on their individual risk.

> " If there's a family history of certain illnesses, then you should be called in earlier to get screened for it. Public Participant, Liverpool

There are more contrasting views on the role of AI in determining a diagnosis. A few participants think that if the data for decision making is of a high enough quality AI would make the diagnosis and recommend treatment faster and more decisively that several clinicians.

> " There's always a debate on whether to take any surgical intervention, and with a condition like mine, the specialists you speak to are always exceptionally reluctant to take any sort of surgical intervention because they're almost scared of doing more damage than they would fix. Now, if an AI could suggest to me, "Well actually, it would improve x/y or z outcome to certainty to the 97th percentile," I'd probably go, "Well, sign me up tomorrow." Public Participant, Cambridge

But for most participants, AI is a 'co-pilot' for clinicians, because they expect a person to be responsible for a diagnosis and treatment decision.

> " I wouldn't just want to rely on the technology for something big like that, because obviously it's a lifechanging situation. They start the treatment and then later on you find out, "Oh no, actually, it wasn't." So, what happens with that? Public Participant, Cambridge

Participants foresee situations where AI has helped an individual gather more comprehensive and accurate data about their condition, through monitoring, to bring to their medical appointment. This would give the clinician more information to identify the most effective treatment.

> " We thought AI could track the progression of it. You have evidence and you have notes on yourself to back up everything, but you do eventually have to go to a doctor again. Public Participant, Liverpool

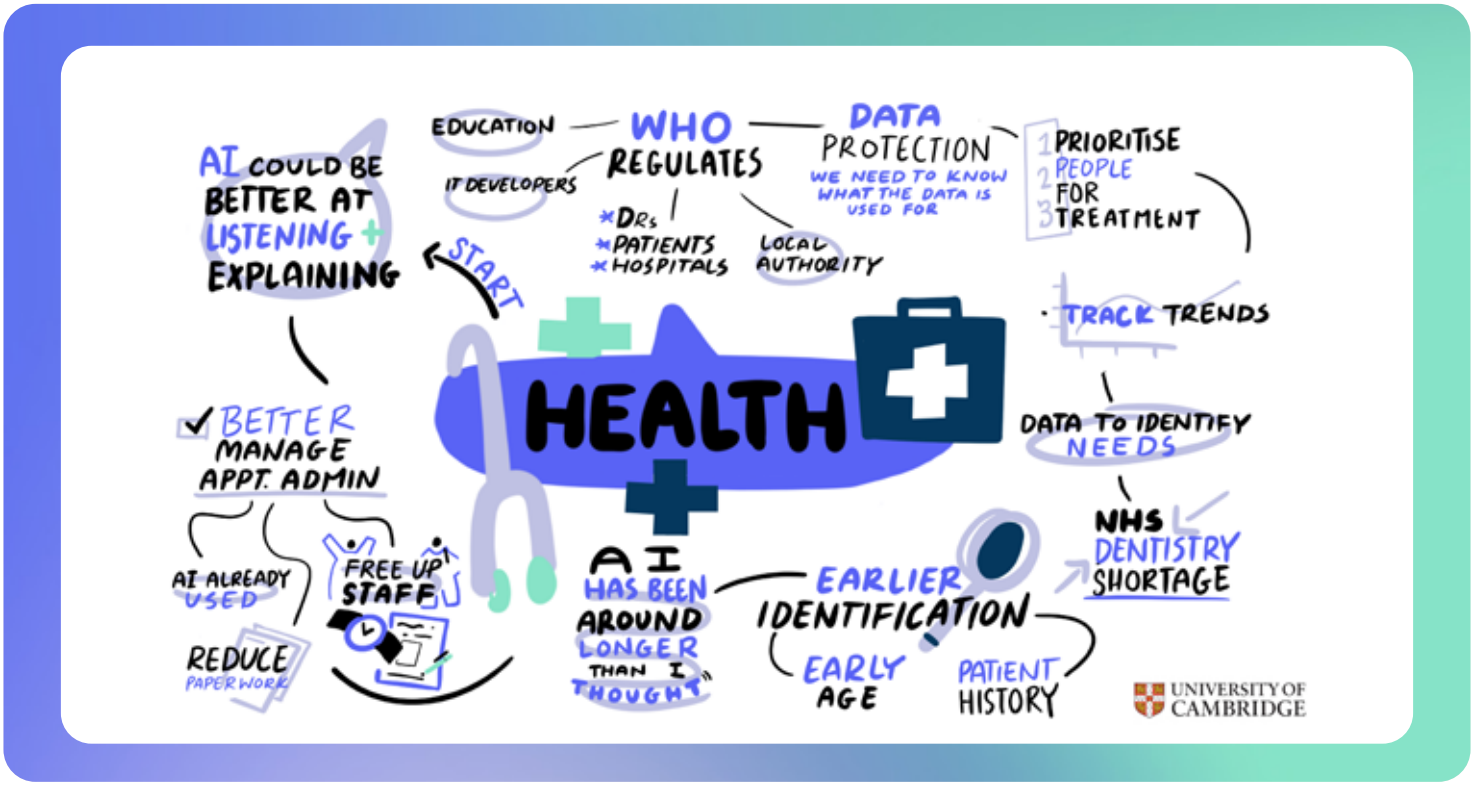
Complex health problems such as multi-morbidity and polypharmacy are seen to be challenges that are data-rich and time-consuming, and therefore ripe for AI to analyse and offer advice on a personalised basis.

> " It must be so difficult for GPs to keep track of how medication reacts with other medication on an individual basis. If there's some database that shows all that, then it can only help, can't it? Public Participant, Liverpool

Hopes for AI-enabled treatment go beyond just recommending a medication. Some participants hope to see AI play a role in helping people in a more holistic way, by providing support to make better lifestyle choices. However, they also acknowledge that AI is not a substitute for a whole system approach to better health, which would go further than individual responsibility, to include environmental

factors, education, incentives and other measures.

Research: accelerating lab to clinic and tackling complex issues
Given the average time to develop a drug is 13-15 years, participants think that there must be a way for AI to speed up new drug research and maintain or improve the evidence of efficacy, for example by modelling multiple possible scenarios. A small group conversation with a specialist in Liverpool led participants to hope that AI could be used by clinicians and researchers to understand more about the side effects of medicines, including over the longer term, and to explore the potential for re-purposing medications. The idea was that AI could make this type of research more efficient and affordable, and therefore



appealing to pharmaceutical companies to carry out.

> 15 years to develop a new drug does seem ridiculous when you get to 10 years and it doesn't work. AI should surely do something positive about that. Public Participant, Liverpool

The UK's richness in health data is seen as an opportunity for AI. Participants hope that discoveries around the causes of health conditions and which treatments work best will be accelerated by AI.

> The research side of it for diseases and healthcare. I think there are always people who are going through the data collected or doing the surveys or testing and looking at the trends, and that. You could have an algorithm that will look through it for you and it'll look for the stuff. Even the trends, like, why people have died. What medications are working best and what aren't? It takes the human time out of it so it might be a quicker fix. Public Participant, Liverpool

The need to make joined-up data available for AI within the NHS
Our conversations on the issues faced by the NHS and hopes for AI led to the topic of sharing individual NHS health data. Some participants were aware of the lack of joined-up data in the NHS (e.g. paramedics not able to see your GP data), but many were not, and were shocked by this potential barrier to the effective use of AI in health. Participants call for data to be shared within the NHS for the benefit of patients, without compromising security and confidentiality or being used for commercial purposes - a guardrail which should be included in legislation.

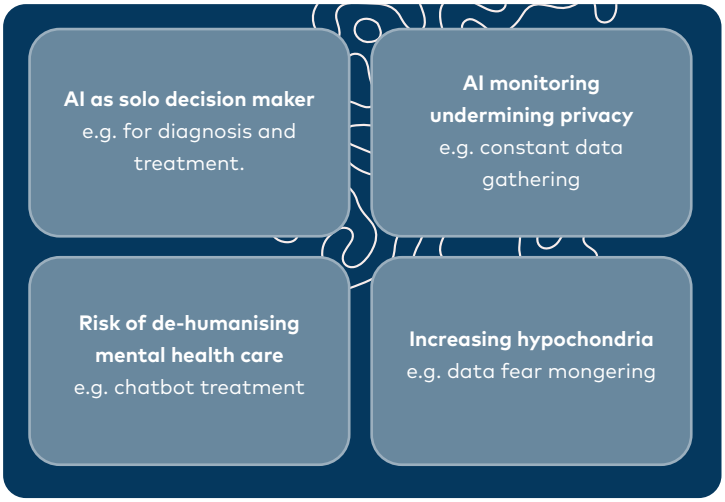
> I find it crazy how that information isn't passed on. It just really saves one's life. I just don't get that. Wouldn't anyone want that passed on? Public Participant, Liverpool

3.3 AI concerns specific to health:

Health is a fundamental of life. It is part of the essence of you as a living being. For some participants, AI in health needs to be introduced with great care and should not act without human involvement.

> I think it's healthcare, which you need to take very seriously. It's not something like you get a robot or AI to suddenly deal with. It's your health. Nevertheless, a human can make an error as well, I'm not saying that a human can't, but it's just a bit close. If it's an AI, then I think it should be backed up with a human, which is probably already happening. Public Participant, Cambridge

When discussing the areas in health where AI has a more limited or no role or potential detrimental impacts of AI, these are the areas that emerged:



AI as the sole decision maker

Participants are clear that humans are more than just the data we produce. They are concerned about AI making the wrong diagnosis or treatment decision by just relying on questionnaire data, for example, and not seeing the person in real life. Participants talked about how ill-equipped AI is to deal with not only poor data quality, but also with any health information a person has chosen, for whatever reason, to exclude. They ask if AI is considering all the factors that a clinician might see during an interaction with a patient.

> If somebody has an eating disorder, they could be in denial about it. If somebody has a drink problem, they could be in denial about it, they're not going to put that on the online questionnaire, whereas the doctor, face to face, could probably figure it out. Public Participant, Cambridge

Constant AI monitoring undermining privacy

Many participants talked about how AI could gather and make sense of large datasets, including monitoring individuals' health data. They also thought about what this meant for privacy and the psychological impact of always being tracked.

> That was very interesting that you can use those speech patterns and typing patterns and stuff like that. My only problem with that, is that the sci-fi geek in me, that it's like the computer is permanently watching and listening to me. I'm not sure how comfortable I am with that. Public Participant, Liverpool

Risk of de-humanising mental health

Several participants said that they have more concerns about AI being involved in mental health than physical health. This is because they think that the factors around cause, diagnosis and treatment of mental health conditions are more complex and nuanced than for physical health conditions.

> I feel much more comfortable with AI being used for medical cases where there is a physical issue, like with a mammogram, you can see whether someone's got cancer or not. I feel less comfortable, unfortunately, with it being used in areas like mental health, where things are much, much harder to see and understand. Public Participant, Cambridge

Participants believe that AI cannot replace human interaction as the key mechanism to help understand a person's situation. However, some do see a role for AI in helping to identify some mental health problems and potentially signposting patients to some interim support. These thoughts were often raised in the context of their knowledge and experience of long waiting times for mental health support.

> Mental health is all about someone there speaking to somebody. There is that human interaction when it comes down to mental health. AI is all right for identifying people who've got mental health problems. Definitely, it would never help when you're dealing with it. Public Participant, Liverpool

Increasing hypochondria or 'worried well'

A concern raised in both locations is that AI-generated health information, for example through the increasing use of smart watches, could lead to the NHS becoming overburdened by requests and expectations that aren't based on real medical need.

> One of mates, he's got one of those smart watches. I don't know if it's linked to any kind of AI, but, his smart watch says to him, "Because you've had more heartbeats, you need to go to the doctor and get yourself checked out." If AI is telling me things like that, that's already playing in my mind. Public Participant, Cambridge

4. Crime and policing

AI helping to understand the causes of crime, connect police resources to areas of need, and reduce the time it takes for cases to come to court.

4.1 Key themes on using AI within the Criminal Justice System (CJS)

A key message to emerge from discussions across sessions in both Cambridge and Liverpool is that AI should not be used for decision-making within the criminal justice system (CJS). Participants feel strongly that it should be humans within the CJS that interact with the public and make final judgements and decisions. Participants prefer the idea of AI being used for administrative tasks such as data collection, processing and analysis. Participants are also more enthusiastic about using AI to better understand the root causes of crime and therefore help the CJS use funding in more targeted and effective ways.

Participants in Liverpool and Cambridge spoke about existing low levels of confidence and trust in the police and the wider CJS. Discussions around AI often returned to public perceptions around police misconduct and institutional prejudice, a failure to prioritise crime and antisocial behaviour in poorer communities, and ongoing debates around how police powers should be used in relation to protests, stop and search, and surveillance. Participants argue that far more public discourse is required around what the role of police in our society should be before decisions can be made about how AI should be used by them.

Participants believe that AI could easily be misused if it is introduced in a significant way before society resolves this larger question and addresses underlying institutional flaws within the CJS with better training and a shift in culture. Trust in the police and the CJS must be repaired before the public can be expected to trust these institutions to use AI responsibly and in the public interest.

Participants are concerned that the CJS will focus on how AI can carry out policing tasks focused on punishment and control, rather than on how it can be used to address underlying societal issues that cause crime, like poverty, poor mental health, or a lack of funding in statutory services. Participants would also prefer to see AI used to provide victims and offenders within the CJS with more support, instead of using it to monitor and potentially limit the rights of the public.

> "We need to look at the causes (of crime), we need to do some more thinking and not just start using AI to plaster over them [societal issues]." Public Participant, Cambridge

4.2 Aspirations about AI specific to the criminal justice system

Preventing crime: data analysis to identify the where and why to inform better prevention

The potential of AI to prevent crime, for example in relation to shoplifting, fraud or antisocial behaviour (ASB), was discussed. Participants agree that AI could analyse data on these types of crime to identify patterns and likely locations, and consequently help with the effective targeting of police resources. For example:

- Identifying patterns in large datasets to prevent or intercept fraud.
- Featuring ASB hotspots on online maps to help the public avoid or take precautions in those areas.

Participants are less certain about the idea of using AI surveillance to constantly monitor local areas that experience high levels of ASB or shoplifting. Whilst participants acknowledge that AI surveillance has the potential to act as a deterrent, it would require human police officers to follow up and make arrests. Participants argue that constant AI surveillance would feel invasive and cannot replace the need for more officers on the street to prevent these crimes and make people feel safer.

While participants acknowledge the potential for AI to find hotpots or patterns of crime from data, they question how this would translate to improved outcomes for communities. Participants do not believe the resources exist to direct more front-line officers to areas of high crime – particularly in communities that already suffer from high rates of crime and ASB – and therefore doubt that AI-enabled police intelligence could translate to real-world action.

Participants are concerned that AI will be used to target 'blue-collar crimes', such as shoplifting or low-level drug dealing, as opposed to crimes committed by more privileged segments of society, like tax evasion. The preference would be for AI to instead be used to help society better understand the causes and costs of crime. For example, by analysing a range of data sources to understand the links between crimes like shop lifting and ASB with unemployment levels, lack of opportunities for young people, and poverty. AI could then be used to assess potential effectiveness of implementing anti-poverty measures versus tackling low-level crime through the criminal justice system.

> "Why are these people shoplifting? Is it because they can't afford it? Have they got certain habits that they need help with? What are the underlying issues for why this is happening? Let's tackle that. Is there a reason? Poverty? Are they using drugs? What is it?" Public Participant, Cambridge

Increasing trust in the police and experiences of policing: improving police recruitment and assessment processes and transparent use in sensitive situations

Participants see the potential role of AI in developing a more effective recruitment system that could help to increase trust in the police. AI could be used to improve processes by:

- More thoroughly vetting the personal details of new recruits
- Supporting the psychological assessment of new recruits (alongside human judgement) to ensure they are placed in appropriate roles
- Through assessments, helping to create tailored training and support packages for each police officer.

> "Trust in the police has been undermined by failures in vetting and appalling misconduct of some officers. I think AI can help this, because the fact is that we, as a society, we know how to compile information. I don't think it should be such a difficult matter to bring the right people into the police force. I think we have the means to do that... AI is about data, isn't it? If we put the right data [into AI] about the people we're employing into the police force, then we most probably can make sure the right officers [are hired]." Public Participant, Liverpool

Another way AI could be used to address the lack of trust in police is by replacing the role of police officers in situations where police presence can be intimidating. For example:

- Where a victim may want to make a report without speaking to or being questioned by a police officer, for example when reporting domestic abuse or sexual assault. AI apps could be used instead.
- In situations where heavy police presence may be seen as aggressive, for example at a peaceful protest. AI could monitor the protest and reduce the need for immediate police presence.

Participants emphasise that initiatives of this kind would have to be accompanied by transparent communication on how AI was being used and how data would be collected and stored. Participants are clear that using AI in these ways would not necessarily improve trust in the police but improve the experience of the public due to existing levels of mistrust.

Reducing delays in court proceedings: evidence management, case scheduling and resource allocation

Participants see a role for AI in speeding up the process of gathering,

assessing and validating information and evidence to reduce the time it takes for a case to get to court. They also suggest that AI could be used to prioritise and schedule court cases, as well as to effectively allocate available resources. Participants hope that these types of initiatives could help alleviate the distress caused to victims by delays in court proceedings. Furthermore, participants see a role for AI in providing victims with regular updates on the progress and status of a case, to help victims feel informed and acknowledged.

Help prevent reoffending: identifying ex-offender support services
Several participants took up the issue of the high numbers of offenders leaving prison without links to opportunities for employment, education and training. Participants identified several ways in which they believe AI could help:

- Provide prisoners with assessments to identify a range of different needs in relation to neurodiversity, learning disabilities, psychological disorders or mental health, and determine any relevant and available support.
- Identify and connect prisoners with available educational, training, and skill building opportunities based on their interests and past experiences.

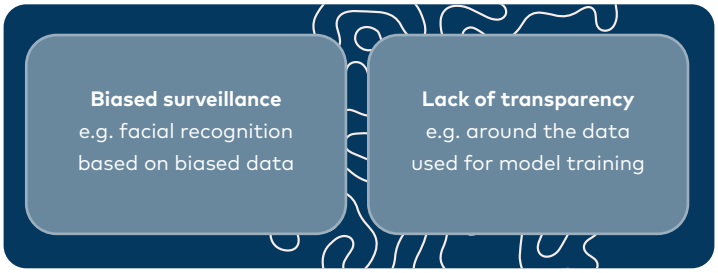
In the context of staffing shortages, participants can see a role for AI in supporting prison and parole staff to assess the needs of prisoners and match them with available opportunities and support. AI could also be used to improve the sharing of information between relevant stakeholders providing prisoners with support.

Participants strongly advocate for AI being used alongside staff, acting as a 'co-pilot'. The role of AI should be limited to making needs assessments and identifying support, and it should be humans providing the support. However, participants do feel that AI could be used to provide prisoners with interactive skill and educational courses, and not just signpost offenders to online courses.

> "I think a lot of the ideas need to be about AI being like a co-pilot to someone. I think it has to be that. So not taking the human away." Public Participant, Liverpool

Participants do not want AI to predict the likelihood of reoffending and influence decisions about resource allocation and parole. A specialist gave an example of AI being used to assess how likely it will be that a criminal will re-offend using data from 130,000 prior inmates on gender, age, where they live, and previous convictions. The data provided by the AI model is then used to allocate resources within the prison system and make decisions about parole. Participants raised concerns that an AI programme of this kind would, for example, judge that a criminal would be more likely to reoffend if they came from a deprived area.

4.3 Concerns about AI specific to the CJS



Biased surveillance: risk of mistakes based on biased data
The use of AI facial recognition technology in policing is a key concern for participants. Several spoke about how problematic facial recognition could be in terms of accuracy, bias and privacy. Participants believe that the risk of identifying the wrong person is high, and higher still for people of colour, the elderly, women and children. Participants also feel that using AI surveillance to predict suspicious behaviour is problematic. Participants questioned whether AI would be fed data about human behaviour based on biased assumptions about people's motives and character because of how they walk, talk, dress and act. Furthermore, participants are not convinced that AI would be able to understand context when making judgements on human behaviour.

> "I'm brown skinned and my mouth will move a bit more or I'm constantly fiddling with my foot... I fidget in all kinds of different ways. I've got ADHD. If facial recognition would see my brown skin, and then I'm moving differently to other people, will they see me as a terrorist?" Public Participant, Liverpool

Whilst some participants think the risk of AI facial recognition technology making mistakes is worth it if it leads to catching dangerous criminals, others suggest the accuracy of facial recognition technology must be much higher if mistakes could lead to arresting innocent people or sending them to prison.

Others feel like they need more information about the risks before they can have an informed opinion about the use of AI surveillance in policing. This would require a lot of transparency from government and police forces on how AI facial recognition technology would be used, what data they would source, and how they would store and use new data going forward.

> "It's great if you can catch the odd criminal [with AI surveillance]. But what are we sacrificing for that? We need to be more aware of what we're going to lose. So, people need to honestly tell us what we could potentially lose so that we can all make informed decisions. I don't think anyone really knows exactly what the verifications of this are." Public Participant, Cambridge

Participants also said that the use of AI surveillance feels invasive and infringes on the human right to privacy or to protest. Concerns around consent were also shared. Participants believe the public should be able to consent to having their images and information used by facial recognition technology, or to how new data collected about them by facial recognition technology is then used (especially if it is then sold to companies that use that information for profit).

> "We're already seeing the use of facial recognition in other countries picking people out of the crowd in protests, and we've already got some of the strictest anti-protest laws we've had in a while in this country. And I'm just very concerned about [AI facial recognition] being used to infringe on our right to push back. People are out protesting the climate, protesting horrific war crimes happening around the world. And we're going to give the police more power to isolate those people?" Public Participant, Cambridge

Lack of transparency: questions to answer
Participants consider openness and transparency to be essential when using AI within the criminal justice system. Concerns were raised that the government would withhold certain information about the use of AI within policing or the wider CJS for reasons such as national security. Participants want transparency on the following questions:

- How is the AI programme developed?
- Who develops the AI programme?
- How will the AI programme be quality assured and continually audited?
- How will the AI programme be implemented?
- What are the objectives and intended impacts of using the AI programme?
- Who decides what type of data will be fed into the AI programme?

- → What data is being used by the AI programme and where is it sourced from?
- → How biased or inaccurate might this data be?
- → How is data created by the AI programme used and will it be sold on?
- → Who within the CJS has access to the AI programme data and why?
- → How will data be stored and kept secure to ensure not all police have access?

Participants are concerned about a lack of transparency around the data being fed into and created by AI programmes used within the CJS. For example, if data about existing recorded crime is being used by an AI programme, participants suggest that this data will often be biased. For example, following discussions about an AI programme that predicts the likely occurrence of crime in any given area, participants in Liverpool argue that police tend to take more seriously and respond more effectively to crimes reported in affluent areas as opposed to more disadvantaged areas. The AI programme will therefore be fed inaccurate and biased data, and further exacerbate an already prejudiced system. Participants suggest the need for a transparent and open adjudication process for evaluating any data being used by AI programmes within the CJS.

> " The crimes in the less affluent areas, a lot of times, are a lot more serious. Crimes happen more frequently and nothing really gets done. Then something that's just less serious [in affluent areas] is reported and the police respond so much quicker." Public Participant, Liverpool

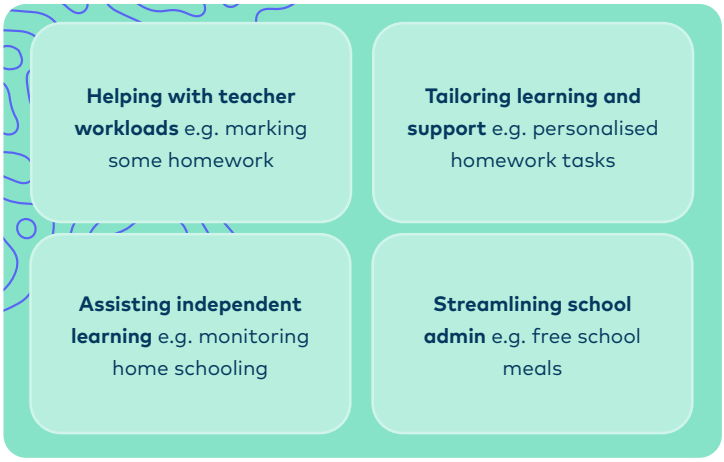
5. Education

AI is useful for teachers, but risks screen overuse and reducing human interaction for students

5.1 Key themes from discussions on AI and education

Across all groups there is enthusiasm about the potential for AI to relieve overworked teaching staff of administrative duties. In this context, AI is seen as the right tool to help fix a real problem. In contrast, when it came to the roles AI could play which affect children's education more directly, participants were very wary of the potential for AI to exacerbate major issues young people are already facing due to screen overuse.

5.2 Aspirations for AI specific to education



Helping with teacher workloads: reducing admin and increasing time for teaching and pupil support

Participants strongly agreed with discussion prompts that referred to teachers being overburdened with paperwork and student support duties, in addition to their role as educators. This leads to stress, burnout and difficulties with attracting and retaining staff.

> " The bureaucracy could be taken off teachers' hands. I'm sure there's a list of, 'why am I doing this when it doesn't feel like my job?' Public Participant, Liverpool

AI could take over or speed up repetitive administrative tasks, allowing teachers to spend more time doing meaningful work with students. Participants suggested AI could help with a range of tasks, including:

- Marking subjects with clear-cut answers such as maths or grammar.
- Monitoring marks and progress over time.
- Timetabling.
- Streamlining lesson planning.
- Providing flexible online teacher training so staff don't miss classroom time.
- Taking care of the initial stages of neurodivergence assessments which involve 'box ticking' to free up time for special educational needs coordinators to spend with the child.
- Communicating with parents; drafting emails, reports and newsletters.

For AI to be genuinely useful to teachers, many participants feel strongly that it should be designed in collaboration with users, and teacher training should be provided (explored more in the sections below).

Tailoring learning and support to individual students

Many participants spoke about the growing recognition of the need to accommodate neurodiversity and different pupil learning styles in the classroom, which teachers have limited capacity to identify or cater for. AI could be used to help analyse how individuals learn best and where their strengths and support needs lie. This analysis could provide guidance to teachers and students and develop bespoke AI assistance or tutoring in addition to teacher support.

> " Use AI to get a personality type of who you are and how you learn best. AI can then implement how to learn that way Public Participant, Liverpool

Participants also think that AI could also be used to potentially ease the discomfort of certain social interactions or sensory differences amongst neurodivergent children, by providing more individualised ways of learning.

> " Kids with ADHD or autism might prefer to interact with an iPad than they would a person, it could lighten the load for them. Public Participant, Liverpool

Assisting with independent learning and support beyond the school environment

The increase in home-schooling since the Covid pandemic and the shortage of support and monitoring for home-schooled children led some participants to see a role for AI in:

- Providing guided, managed and user-friendly access to curriculum resources that children could use independently of parents or teachers if necessary.
- Regularly monitoring the quality of home education.

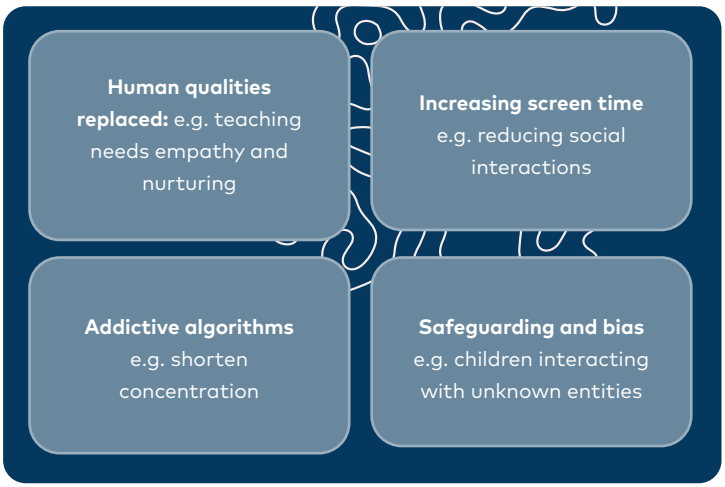
AI providing emotional support in light of stretched youth mental health services was discussed across the groups. Some participants could see the benefit of a non-judgemental, impersonal and constantly available service from AI 'therapists' or chatbots. However, many had serious reservations about safeguarding in this context (see section 5.3)

Streamlining school-wide organisational systems or administrative tasks

Participants could see AI helping to:

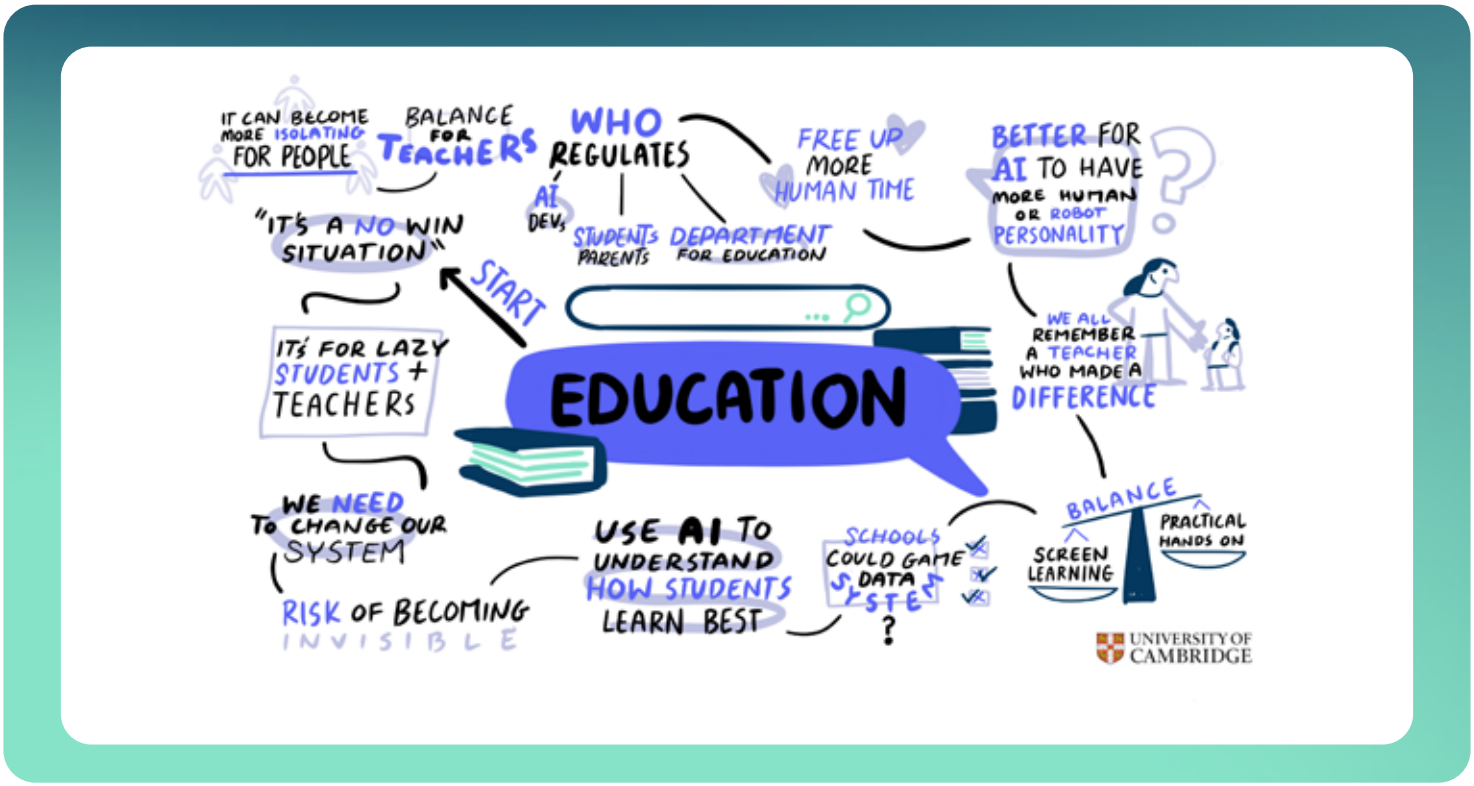
- Manage free school meals provision using government data directly, to ensure all eligible children are automatically included, instead of families going through onerous application procedures.
- Draft documents such as job adverts, and sifting and reviewing applications to help with recruitment.

5.3 Concerns specific to education



Teaching and learning require human qualities which AI should not attempt to replicate

Participants feel strongly about the importance of maintaining a nurturing, empathetic and personal approach in teaching.



Teachers are able to 'join the dots' between what is going on at school and at home and provide the right support in a sensitive way. Mistakes could be made, and children's wellbeing affected, if AI becomes involved in this aspect of the role.

> " You need people who really know those children and their families. (They) need support in so many different ways, like referrals, breakfast clubs... if you take that away it would be tragic. Public Participant, Cambridge

Planning and delivering lessons requires nuance, judgement and questioning rather than providing answers. Similarly, accurate grade prediction or assessment of a child's ability requires a teachers' knowledge of less tangible aspects of a child's potential, such as their levels of motivation.

> " You could predict that child's going to be an amazing athlete but only a teacher would know if they had the drive. Public Participant, Cambridge

From a student point of view, the learning process involves exploration, self-expression and making mistakes. Some participants feel strongly that these human elements of learning could be stifled by AI systems driven by quantifiable results.

Increased use of AI in education could lead to more screen time which risks narrowing learning experiences and affects cognitive, physical and social development.

> " Education isn't just about learning, it's about preparing children for life, and you don't do all of that in front of a screen. Public Participant, Cambridge

There is a widespread belief across the locations that children today spend too much time on screens. Many participants feel strongly that school should provide time in the 'real world' - away from screens. Some participants referred to the Smartphone Free Childhood movement, where school communities are encouraged to help change the norms around children using smart technology, to reintroduce caution and control.

> " A lot of parents are beginning to not want their kids to do these things on an iPad. How is a parent going to feel if their children are being taught by AI or spending more and more time on screens? Public Participant, Cambridge

Specific concerns around AI narrowing the scope of learning include:

- → Children losing the motivation to problem solve or produce original work if they are exposed to how easily AI can perform these tasks for them.
- → Time spent on screens means less time engaging in the rich variety of human interactions needed to develop essential social skills and build confidence.
- → Practicing hands-on skills needed for creative or manual work could come second to screen-based learning, leading to skills shortages.

> " If everything's just touch and swipe, it's taking away practical, hands-on learning. Things in life are still going to need building and making. Public Participant, Liverpool

Mental health problems and feelings of isolation could worsen with a reliance on AI

Some participants are concerned that AI could further expose children to algorithms designed to hold their attention, which could cause addictive behaviour and shorten concentration spans. Many participants pointed out that children are already suffering from social anxiety, depression, phobias or behavioural problems, which they connected to spending too much time isolated in front of screens.

> " It's having a negative impact on people's mental health. Kids are becoming agoraphobic and they don't want to go into social situations. Public Participant, Liverpool

The nature of AI as a new technology which can impersonate others raises serious safeguarding issues

By its very nature, AI can involve children interacting with an unknown entity that can be mistaken for a human or a character. Some participants believe that this scenario puts children at risk of

manipulation and abuse, especially in the context of AI therapy bots or virtual friends. Children could be sharing sensitive or personal information and receiving inappropriate responses, or unknowingly interacting with someone who has hacked into the system.

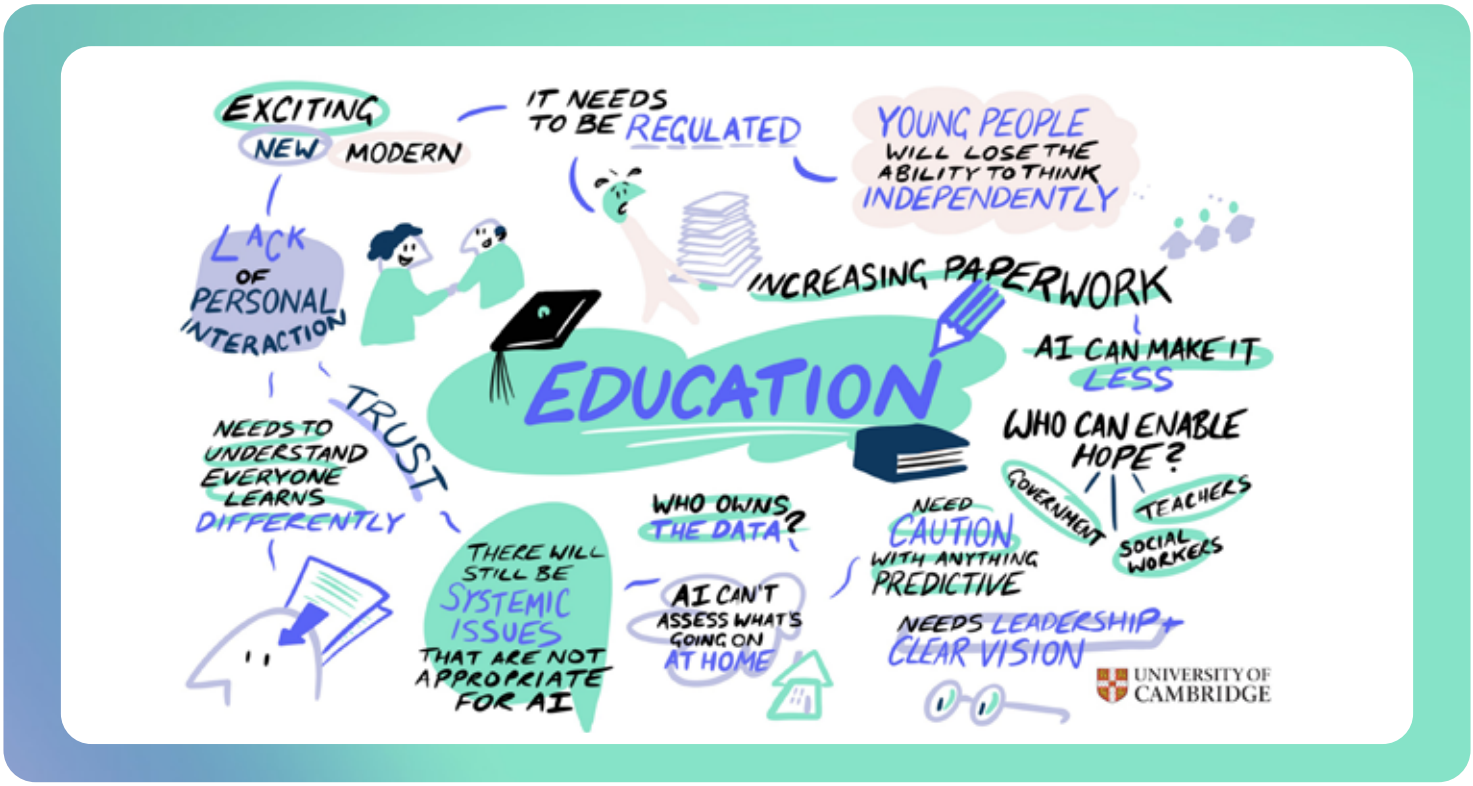
> Who is it she's talking to? I don't know what questions she's asking, it might not be appropriate answers that she's getting back. My fear is if someone's looking at her without her even knowing. Public Participant, Liverpool

In the context of children's safety, participants are troubled by what they see as a current lack of transparency and regulation around AI.

Problems of bias and inaccuracy are particularly salient in an education context

Participants are concerned about unreliable sources or discriminatory language infiltrating educational content. Where AI replicates biases, breaking the cycle of poor outcomes could be harder for certain groups of children, in the case of predicted grades for example.

> Even if you just have pupil premium next to your name this can have an effect on predicted grades. Public Participant, Cambridge



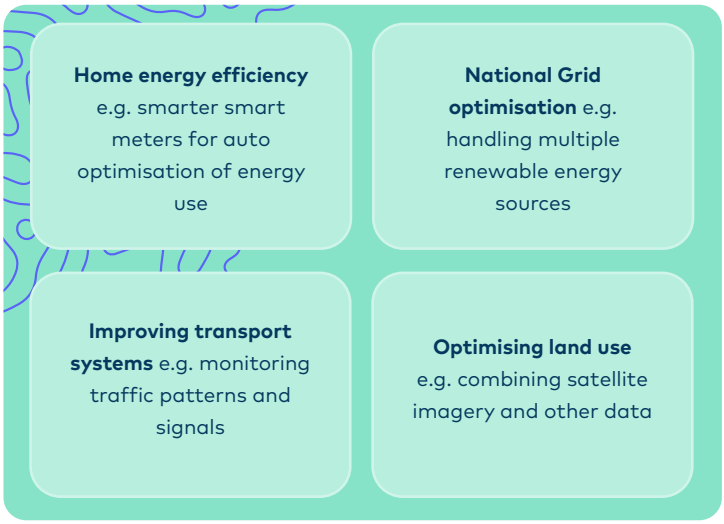
6. Energy and Net Zero

Increased energy efficiency could benefit society, but questions remain about whether AI will help us reach net zero

6.1 Key themes for AI and energy and net zero

Participants across all groups were very interested to hear about the ways that AI could improve efficiency across the energy sector and provide tangible benefits in their daily lives, such as by reducing household bills. However, questions remained about AI's contribution to reaching net zero. There was a sense that more fundamental ongoing issues should be prioritised over the uptake of new technology as a 'quick fix' to the climate crisis, and that the energy used by AI itself could contribute to the problem.

6.2 Aspirations specific to net zero and energy



Improving home energy efficiency: reducing bills and alleviating fuel poverty

In the context of the cost-of-living crisis and increases in household bills, participants across all groups are positive about the potential of AI to help reduce energy costs, including:

- AI helping to analyse home energy performance and suggesting improvements, from the level of individual households to entire regions.
- Even smarter 'smart meters' helping people understand and manage energy consumption better, use energy at the most economical times and even making optimisations automatically.

Several participants suggested that AI could improve take up of government support by matching households with government schemes and/or tradespeople:

- Home energy costs could be analysed alongside census data to identify where financial support is needed and ensure it reaches all those that qualify.
- Navigating complex home energy upgrade schemes could be made easier by AI informing and connecting eligible households and local suppliers.

Updating and centralising the national grid for efficiency, sustainability and resilience

When choosing issues to discuss, many participants focused in on needing to update the National Grid to meet the increasing demand for electricity, integrating more renewable energy sources and achieving as much energy independence as possible.

Participants see AI having the capability to optimise an increasingly complex energy system, suggesting it could:

- Process huge volumes of smart meter data and balance supply and demand flexibly and quickly.
- Incorporate multiple renewable energy sources of various scales and manage the variability of wind and solar.
- Streamline the development of new renewable energy projects; speeding up impact assessments and providing visual simulations to help stakeholders understand changes so informed decisions can be made faster.
- Identify possible risks and faults in nuclear energy systems, which could be missed by humans.
- Centralise a fragmented system by removing bureaucracy, duplication of work or by predicting and alleviating supply chain issues to increase resilience.

> " Everybody being able to generate on their roofs or in their gardens, selling energy from your car back to the grid, power being thrown different ways at different times. You've got to be resilient and independent. Public Participant, Cambridge

Optimising transport systems to reduce emissions and save time

Many participants complained about problems in our transport system and the difficulty of reducing personal transport emissions. Participants suggested that AI could:

- Monitor traffic and improve navigation systems so drivers take the most efficient routes.
- Improve the efficiency of public transport.
- Run ride-sharing apps to reduce fuel waste.
- Connect with electric vehicle infrastructure to assist with journey planning.

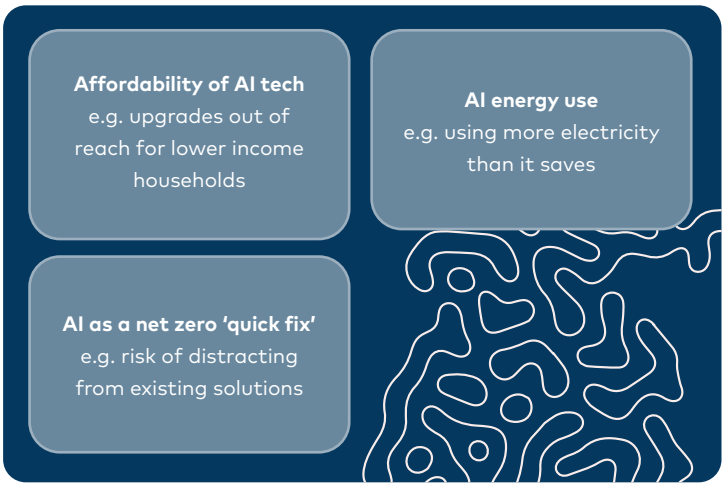
Some participants also see a role for AI in optimising electric vehicle technology and fuel efficiency.

Optimising land use, town planning and carbon accounting

AI using geospatial data to contribute to optimal land use in the context of net zero goals is supported by several participants. For example, by identifying locations for renewable energy generation, or measuring the potential emissions of a particular industrial or commercial site.

> " Through satellite data you could see whether or not green spaces were being used and whether or not farming land was being used for its best benefit. As in, do you grow agriculture there, or do you just put a shed load of solar panels or wind turbines in there? That's where the AI comes in because it could do the maps. Public participant, Liverpool

6.3 Concerns specific to net zero and energy



Focusing on technological fixes could distract from more effective solutions or even contribute to the climate crisis

In different ways, participants across the groups are concerned about the potential for people in power to view AI as a 'quick fix' to help reach net zero. This is raised in the context of government responsibility for making tough decisions in order for the UK to reach its net zero target.

> Is the infrastructure not a more important aspect than putting in AI systems? Government for years now has known that we need that infrastructure, but it's always been someone else's problem, the next government to sort out. Public Participant, Liverpool

Many participants pointed out that electric or autonomous vehicles require a great deal of energy and finite resources to manufacture. Some suggested that less glamorous but more impactful solutions such as fixing public transport should be a priority.

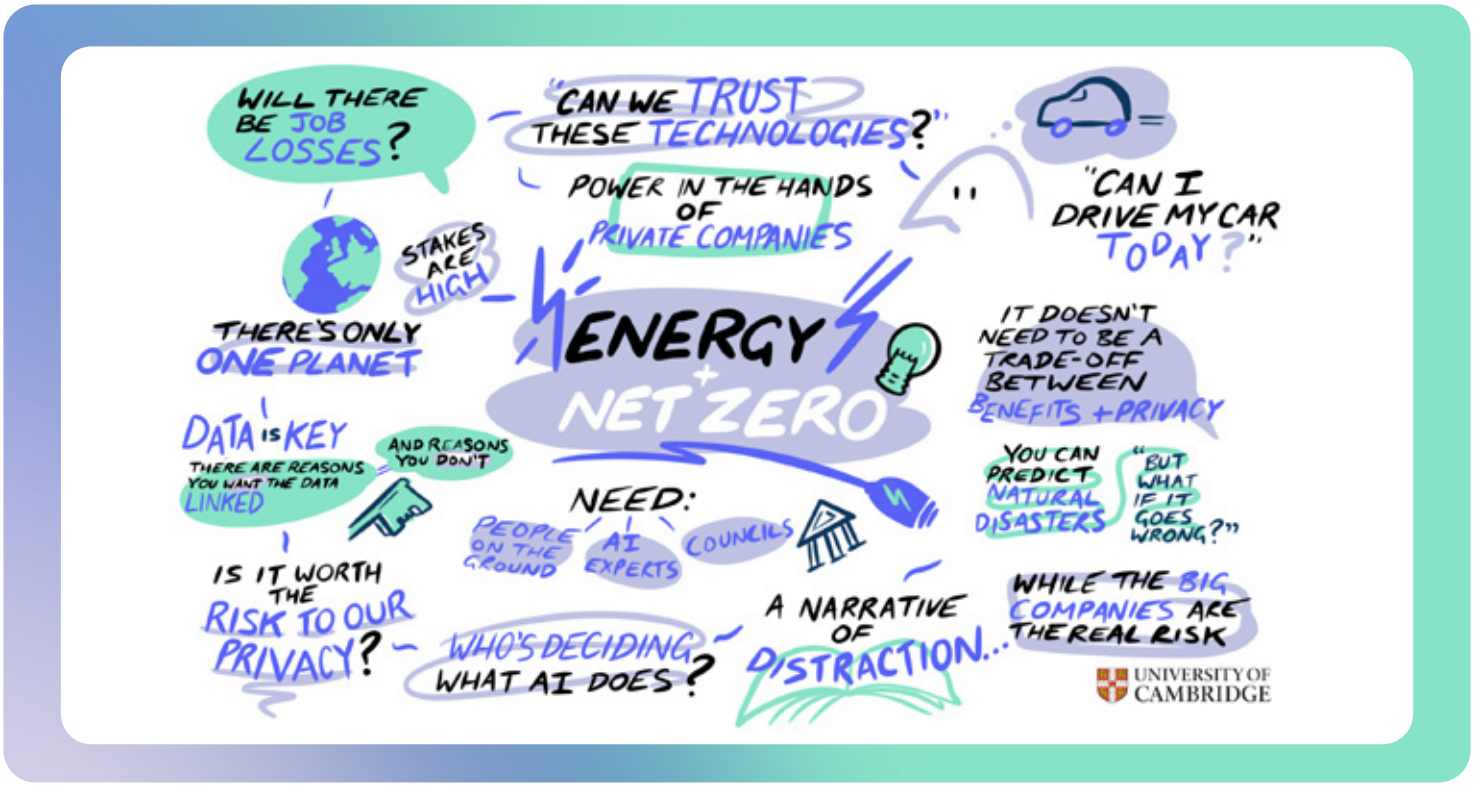
> Whenever I think about autonomous vehicles I just keep thinking, 'it would be nice if the trains just worked, or the buses.' Public Participant, Liverpool

Learning about the amount of electricity AI itself uses led participants across all groups to question whether AI would be a net contributor of emissions and worsen the problem.

The affordability of AI technology and its sources of funding

The question of who would pay for large scale technological upgrades came up in every group discussion. Many participants are concerned that the burden would fall on the taxpayer, or that only people who could afford to make upgrades would be able to reduce their emissions or benefit from the technology.

> Not all households can afford installing a smart system in their house or more insulation or whatever. The people who get the technology are not the people who are in fuel poverty. Public Participant, Liverpool



7. AI in public services: Expectations for guardrails and interventions

In the final hour of the workshops, participants talked about what needed to be done, and by whom, to bring out their aspirations and avert their concerns in relation to AI in public services.

7.1 Broad public understanding on AI is needed

> We're all a part of it. We're all using it every day and we don't even realise that we're using it. Public participant, Liverpool

A key theme emerging from all the groups is that AI has a growing influence in everyday life, yet the public have very little knowledge about how it works or who is responsible for it.

Participants want Government departments and AI developers to provide training and public information to bridge this knowledge gap across society. This included calls for:

- AI to be part of the national curriculum so children learn from a young age about how it works, what it can be used for, what the dangers are and how they can protect themselves from harm.
- Quality teacher-training to ensure responsible adults know as much as young people about new technologies, so they can provide guidance and ensure AI is not undermining learning or wellbeing.
- Workplace training across the public sector and beyond to cover the functionalities and pitfalls of AI so institutions and businesses can make informed decisions about how best to harness the technology.
- Public information campaigns in traditional and social media to provide easily accessible information about the principles and risks of AI, who is providing it, what data is being collected and why, and how to opt out of using it.

7.2 Independent regulatory bodies with sufficient powers should govern and monitor the use of AI in each sector

Participants across all groups expressed low levels trust in both national Government and the tech industry. Many participants believe that weak or non-existent regulation, vested interests and profit-making motives, lead to a situation where large, globally mobile corporations have free reign to develop AI in ways which benefit their own interests above those of the general public.

To harness AI in public services for the benefit of society, participants across all groups called for a collaborative, democratic approach to establishing independent regulatory bodies.

> Make sure AI is in the community (...) a community which is made up of a lot of individuals' interests rather than some big business's interest to maximise profit Public participant, Cambridge

They suggested that governance should involve representatives of all stakeholders in each sector:

- **Government** representatives to provide centralised leadership.
- **Regulators** with power to intervene to shape AI development and use.
- **Developers** and businesses for the technical, industry and delivery expertise.
- **Universities** to provide impartial evidence.
- **Charities**, advocacy groups and public sector staff to bring lived and user experience to ensure AI works for the communities involved.
- **Citizens**, including children and young people, to include the opinions and perspective of the general public.

Participants hope that regulators would have the power to impose and enforce restrictions and not just provide guidelines. Participants suggested that they should be responsible for:

- **A code of ethics:** guidelines for the use AI in the public sector, with a clear scope, vision and values.
- **Transparency:** ensuring information is in the public domain around who is involved in providing AI, what data is being gathered, and how it is being used.
- **Accountability:** clear lines of responsibility for when mistakes are made where AI is involved, and what the sanctions are.
- **Consent and choice:** ensuring that institutions and members of the public have the choice over whether AI is used in particular circumstances. Alternatives must exist for those who need them and the option to withdraw must exist if AI proves problematic.
- **Evidence:** uses of AI in each sector must be based on proof of its benefit to the public. Targets must be set, and results monitored and acted upon.
- **Impartiality:** biases must be actively pre-empted, monitored and removed.
- **Security:** expert oversight or scrutiny is needed to ensure AI systems are safe and secure.

7.3 Legislation must be in place to guard against technology companies' influence over public services and profit being prioritised over public service quality

> Fears about robots taking over are a distraction, it's not the Terminator we should be scared of, it's the big companies having all the power. Public Participant, Cambridge

There is particular concern amongst participants that decisions on the uses of AI in the public sector are motivated by profit rather than by benefit to society. Many participants want to see robust legislation, enforcement, and penalties ensuring appropriate and effective control over the ways AI companies operate in public services, ensuring:

- Personal data from public services is never used for commercial gain.
- The use of AI in public services is based on robust evidence of benefit to the public.
- Corruption and vested interests are unable influence the uses of AI in public services.
- Efficiency savings made by AI in public services are reinvested in the sector
- Competition laws are sufficiently robust to tackle monopolies in the tech industry.

7.4 AI development must be collaborative and user-centred to remove bias and improve reliability

Many participants feel strongly that measures must be put in place to ensure that AI outputs are equitable, inclusive and impartial, and not based on biased, incomplete or simplistic data. These measures should ensure:

- Diversity and representation in the design and monitoring of AI systems. Participants suggest ensuring that teams working on AI design in the private and public sectors are from a broad a spectrum of backgrounds.
- Inclusion of underrepresented sources including language and images, to tackle normative limitations and assumptions in the development and use of AI systems.
- Collaborative, user-centred, ongoing design. Participants feel strongly that frontline staff in public services, along with managers and service users, should be actively involved in design. They hope that this will maximise the quality, sophistication and impartiality of outputs, on an ongoing basis.

7.5 Data sharing regulation should be agile and adapted to each context to protect privacy and enable access as appropriate

In discussions about the tensions between protecting privacy and the benefits of data sharing, many participants recognise that regulation should be context specific. The principles of consent and confidentiality should be foundational, but flexibility should be built in where data sharing within a particular service benefits the public. For example:

- → Sharing data across the health system could enable faster and safer decision-making, especially in emergencies.
- → In the case of managing energy systems, some participants feel that tackling fuel poverty and providing support to the most vulnerable is of greater benefit than blanket protection for confidentiality, especially where data is not considered sensitive or personal.

7.6 Robust security systems should be in place to prevent cyber threats and fraud involving AI

A key concern for participants is the volume of personal data being brought together by AI, and the concentration of power that this entails. Many participants expressed concern that the stakes are incredibly high if essential systems in the public sector fail or are compromised by nefarious actors. Robust security systems and back-up plans must be in place, with clear lines of accountability if systems are compromised or crash.

On a more individual level, many participants are concerned about the nature of AI enabling fraud and impersonation, which requires specific new legislation and penalties.

7.7 Developing the policy response

Across all groups, participants called for a more democratic approach to the use of AI, including the provision of public information and education, and stakeholder collaboration in regulation and design.

There is an expectation of seeing the development of robust regulation of AI to harness the technology for the benefit of the public rather than all benefits accruing to the tech industry.

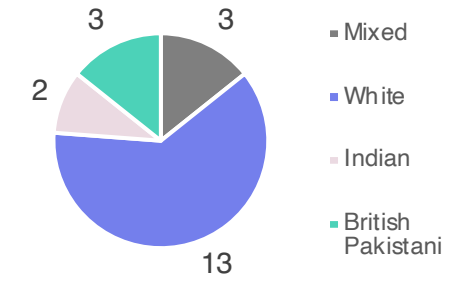
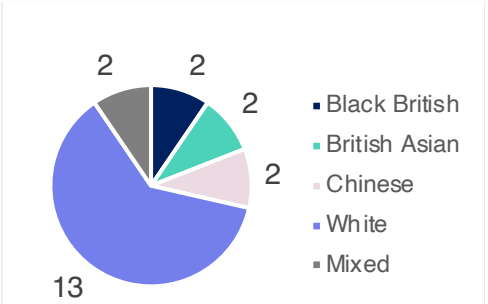
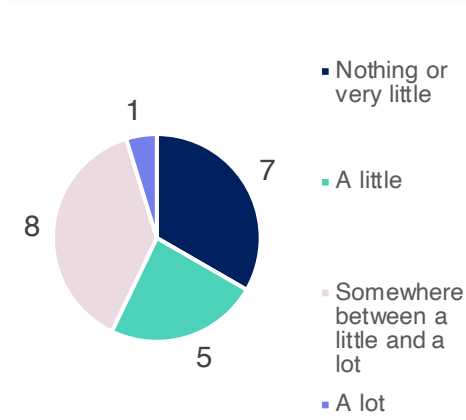
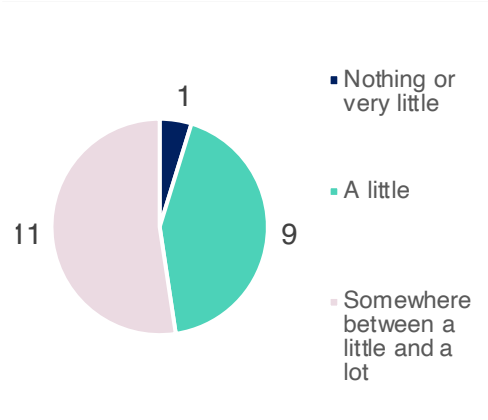
> " AI needs to be managed, not just by the private companies, the Government need to manage what's going on, not just give AI a free reign. Public Participant, Cambridge

Appendix

Contents

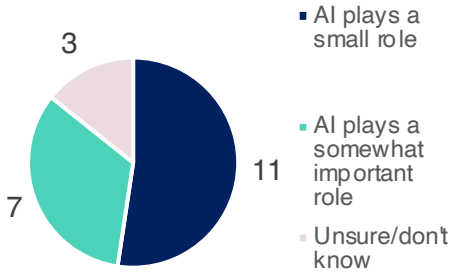
Appendices

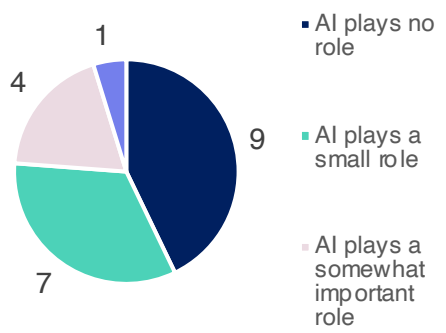
A. Participant demographics and attitudes

	Cambridge	Liverpool
Male	11	11
Female	10	10
Age: 18-24: 25-44: 45-54: 55-64: 65+:	 4 7 4 4 2	 2 10 7 2 0
SEG: B C1 C2 D E	 3 6 5 6 1	 0 9 3 6 3
Ethnicity		
How much do you feel you already know about AI: Nothing or very little A little Somewhere between a little and a lot A lot		

To what extent does AI play a role in your day-to-day activities and our experience of daily life?

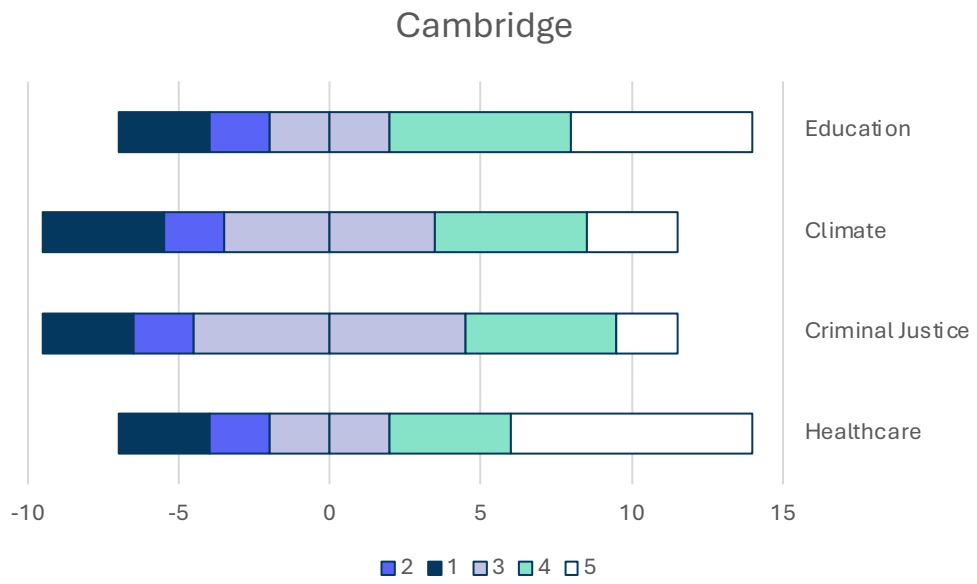
Unsure/ don't know
AI plays no role
AI plays a small role
AI plays a somewhat important role
AI plays a very important role





How hopeful do you feel about using AI in the future to improve each of the following:

(1= Not at all hopeful and 5= Very hopeful)



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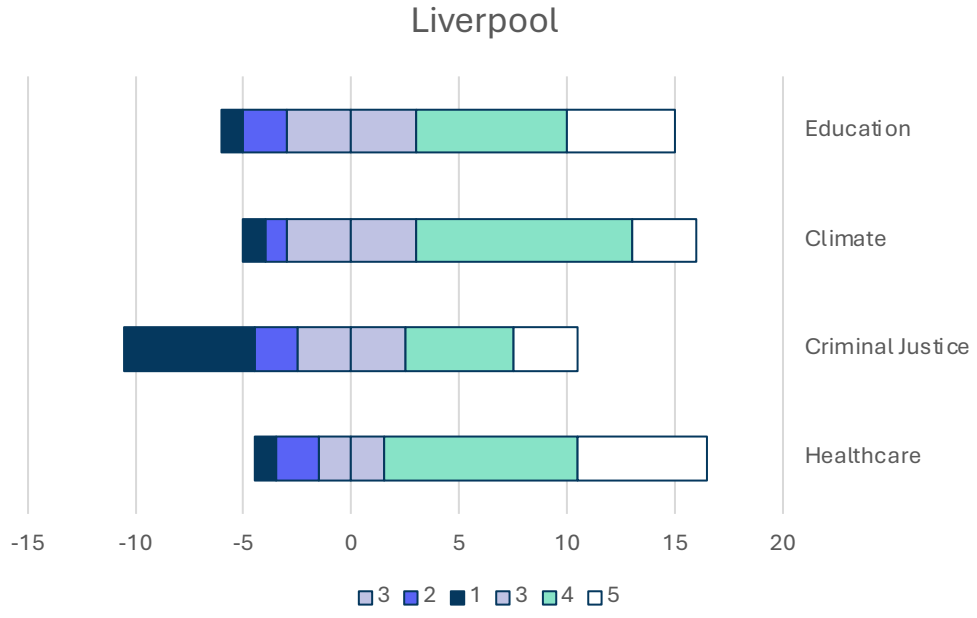


B. List of speakers

John Ainsworth - Professor of Health Informatics, University of Manchester

Catherine Bowden - Research Associate (Law and Ethics), University of Manchester

Iain Buchan - WH Duncan Chair in Public Health Systems, University of Liverpool

Ryan Daniels - Senior Machine Learning Engineer, University of Cambridge

Ann Kristin Glenster - Senior Policy Advisor on Technology Governance and Law, University of Cambridge

Neil Lawrence - DeepMind Professor of Machine Learning, University of Cambridge

Jessica Montgomery - Director, ai@cam, University of Cambridge

Sarah Morgan - Senior Lecturer in Healthcare Engineering, King's College London

Sue Sentance - Director of the Raspberry Pi Computing Education Research Centre at the Department of Computer Science and Technology, University of Cambridge

Mo Vali - Physics PhD candidate, Department of Computer Science and Technology, University of Cambridge

C. Issues listed by topic

Healthcare

- Waiting time targets are being missed across the NHS, including for GPs, community and mental health services, A&E and planned procedures.
- The UK has higher cancer mortality rates than other countries.
- By 2040, almost 1 in 5 of the adult population in England are projected to be living with major illness, an increase of 2.5 million people (37%) since 2019.
- There is a shortage of NHS dentistry services.
- The need for mental health services has been growing rapidly.
- 1 in 7 over the age of 65 (1.4 million people) are not getting the care they need.
- Childhood obesity has risen sharply in recent years to become a national public health concern.
- The NHS is experiencing a growing maintenance backlog with hospitals having to contend with leaky roofs, out-of-date equipment and crumbling buildings.
- People living in more deprived areas of the UK tend to die earlier than people living in the least deprived areas. They also spend a greater proportion of their lives in poor health.
- Staff shortages are widespread across the NHS and social care, impacting care quality and access.
- A significant number of hospital beds are used by people who could be discharged if the necessary support and care services were in place in the community.
- The NHS workforce is experiencing high levels of burnout.
- Public satisfaction with the NHS is at a 40-year low. In 2022, only 29% of the public was 'very' or 'quite satisfied' with the NHS.
- The cost of new medicines is rising. Medicines are the second highest area of NHS spending after staffing costs.
- More than 237 million medication errors are likely made every year in England. It is estimated this leads to an additional 1,700 lives lost each year, and £98million in extra costs for the NHS.
- Acute exacerbations of chronic obstructive pulmonary disease account for roughly 1 in 8 emergency hospital admissions in England.
- People living with dementia are likely to face problems with obtaining an accurate diagnosis, accessing treatments that can help their symptoms, and getting care that addresses their needs.
- Care for cardiovascular conditions is going in the wrong direction – rapid access to treatment has deteriorated and the mortality rate started rising again during the pandemic.

Crime and Policing

- Prosecution rates for rape are low with many victims dropping out of the justice system.
- Trust in the police has been undermined by failures in vetting and appalling misconduct of some officers.
- Three out of ten UK adults who have experienced or witnessed anti-social behaviour say they feel unsafe walking alone in their area.
- Fraud is the most commonly experienced crime in the UK, accounting for over 40% of crime in England and Wales.
- Police face a looming staffing crisis with one in five officers planning to quit.
- Over one quarter of cases wait for a year or more to come to trial, prolonging the distress to victims, witnesses and defendants.
- Three out of five prisoners leave prison with no identifiable employment, education or training outcome. These are risk factors for reoffending.
- Many probation staff are managing more than 70 cases, against a suggested case load of 30 to 60.
- The policing of protests has raised questions about whether the police have the right powers to respond to changing protest tactics, and whether they are using them correctly, in order to protect the rights of the public.
- Half of businesses and around a third of charities report having experienced some form of cyber security breach or attack in the last 12 months.
- Shoplifting offences recorded by police in England and Wales have risen to the highest level in 20 years.
- The number of local, community-focused officers has decreased in England and Wales by 27 % since 2015.
- The police receive a domestic abuse-related call every 30 seconds. But it is estimated that less than 24% of domestic abuse crime is reported to the police.

Energy and Net Zero

- The UK's electricity grid needs upgrading to handle the variable nature of wind energy.
- Current energy storage solutions (like batteries) are insufficient to manage the variability of wind energy.
- New wind farms face opposition from local councils and communities, citing concerns about visual impact, noise and effects on property values.
- Wind turbines can pose significant risks to birds and marine life. Environmental regulations require impact assessments which can delay or halt projects.
- Nuclear plant projects, like Hinkley Point C, often face construction delays and cost overruns, which add financial risks and make future nuclear projects hard to justify economically.
- Public fear of nuclear accidents, exacerbated by disasters like Chernobyl, results in opposition to new nuclear plants.
- The UK's electric vehicle charging infrastructure is underdeveloped, particularly in rural areas. This can deter buyers, especially for those who don't have access to home charging.
- The global supply of EV batteries is currently constrained by a shortage of key materials and insufficient production capacity.
- A large-scale shift to electric vehicles will significantly increase electricity demand. The UK's electricity grid will need substantial upgrades to cope with this.
- Carbon Capture technologies are very expensive to build and operate.
- Billions of pounds worth of green energy products are on hold because they cannot plug into the UK's outdated electricity system.
- The transition to net zero will result in job losses. This will disproportionately affect certain groups, such as older workers or those in regions heavily dependent on fossil fuels.
- Fuel poverty relates to households that cannot meet their energy needs at a reasonable cost. In 2023, 13% of the English population were fuel poor. That's almost 14 million households.
- As of 2023, the average Energy Performance Certificate rating for homes in England and Wales was D, meaning they are not optimised for reducing energy consumption or costs.
- Geopolitical instability makes ensuring a reliable and resilient energy supply highly challenging.
- Climate change-induced flooding and coastal erosion poses serious risks to livelihoods and people's wellbeing.
- Livestock farming is a significant source of methane emissions in the UK. Farming is responsible for around 12% of the UK's total greenhouse gas emissions.
- Sustainable farming targets are unrealistic, and many farmers are struggling with the transition to net zero as it affects their production and earnings.

Education

- Childcare and early education are increasingly unaffordable and unavailable.
- A change in government can alter education priorities, assessment strategy, funding and more, which can affect schools' decisions, budgets and approaches.
- Funding does not go far enough in helping councils support children and young people with special educational needs and disabilities.
- New research suggests a shift towards more screen learning may be contributing to poorer text comprehension skills (reading).
- The COVID-19 pandemic has had a negative impact on overall performance levels – reversing a decade of progress in reading.
- Nearly one in five teachers in England has been hit by a pupil this year.
- Home-schooled young people are at risk of becoming invisible and unsupported in the system.
- The overall number of teachers in state-funded schools has not kept pace with increasing pupil numbers.
- Teachers are spending more time addressing issues that would typically fall outside the remit of schools, including family conflict resolution and mental health support.
- It is increasingly difficult to recruit and retain staff of the calibre required.
- Harsh eligibility requirements and complicated bureaucracy mean many children living in poverty miss out on free school meals.
- Technology available in schools often does not meet their needs or provide proper training in digital skills.
- According to a survey of teachers, a majority have seen the number of safeguarding referrals within their school rise in recent years.
- Curriculum narrowing has meant that many children and young people have missed out on subjects such as music, art, sport and drama.
- The COVID-19 pandemic has had a negative impact on the availability and accessibility of teacher development opportunities.
- Unacceptable numbers of pupils are learning in poorly maintained or potentially unsafe buildings.
- A greater proportion of primary and secondary teachers reported pupils fighting, pushing and shoving compared with two years ago.

D. AI Stories

These stories were developed by HVM as a prompt to discussion. Participants were told that they are not formal case studies, but reflect some ideas from a range of academic and AI development sources about the potential of AI in the context of the four Missions.

Healthcare

AI could help doctors to detect heart disease

Who? A research study carried out in 7 NHS hospitals and community health centres in London involving over 1000 people who needed to be seen for symptoms for heart failure (such as breathlessness, chest pain) or other related conditions.

What? The study found an easy-to-use 'smart' stethoscope, which uses AI, identified people with heart failure correctly 9 out of 10 times. Few were missed by the stethoscope, and few were incorrectly identified as having heart failure when they did not.

Why? The smart stethoscope could help GPs to detect heart failure, rather than having to refer people to hospitals or specialist clinics. This could lead to heart failure being detected earlier, leading to improved outcomes for patients and savings for the NHS.

AI predictions could reduce pressure on A&E

Who? University researchers looked at more than 100,000 linked ambulance and A&E care records from across Yorkshire.

What? The researchers developed an AI model which could help paramedics to predict who does not need to go to A&E. The AI model correctly predicted which people did not need to attend A&E 8 out of 10 times. It looks at factors including a patient's mobility, their pulse and blood oxygen, allergic reactions and chest pain. The model was found to be fair – working equally well regardless of people's age, gender, ethnicity or where they lived.

Why? Ambulances in England take around 350,000 people a month to A&E. It is not always easy for paramedics to decide whether or not to take someone to A&E by ambulance. Avoiding unnecessary ambulance trips to A&E would help the service run more smoothly.

AI could help to reduce the number of missed appointments and improve waiting times

Who? A pilot study by Mid and South Essex NHS Foundation Trust using an AI tool developed by a company called Deep Medical.

What? The AI tool is used to predict likely missed appointments and offer back-up bookings. It considers a range of factors including the weather, traffic and the person's job, and then offers a back-up booking for appointments most likely to be missed. During the pilot, its use led to a 30% fall in non-attendances and an additional 1,910 patients were seen.

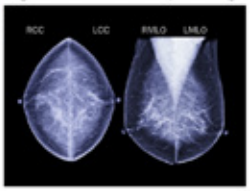
Why? Eight million (6.4%) NHS outpatient appointments were not attended by the patient last year. It is estimated this has an annual cost to the NHS of £1.2 billion and also that continuing to use the AI tool could save the hospital trust involved in the pilot £27.5 million a year.

AI could support with breast cancer screening

Who? A company called Kheiran Medical Technologies has developed an AI tool which is being trialed in a small number of NHS hospitals.

What? The AI has been designed to analyse mammograms (a X-ray used in breast cancer screening). It can act as the second opinion after a radiologist has carried out the first assessment. Should the tool and the radiologist disagree, another radiologist is brought in to give their opinion. This means there is always a human involved in the assessment and their decision always has priority over AI.

Why? Currently in the NHS, every mammogram is checked by two radiologists. The process is thorough but labour-intensive and staff shortages can lead to delays. Using AI for the second opinion frees up clinicians to spend time with patients, reduces the pressure to find more radiologists and has the potential to screen greater numbers of women more quickly.



AI could help to improve processing patient feedback

Who? Imperial College London, working with the local NHS trust

What? An AI tool has been developed to analyse patient feedback collected from the Friends and Family Test, which is used to gather feedback from patients in their own words across the NHS . The tool can analyse 6000 comments in 15 minutes, versus four days if done by NHS staff.

Why? Feedback from the Friends and Family Test is not used routinely due to a lack of human resource and time. Using the AI tool has been shown to change the way teams see and react to feedback, freeing up their time to implement timely patient-centred service improvements.

Retrospective facial recognition technology could identify people of interest to the police

Who? All police forces use the Police National Database facial search facility.

What? Retrospective Facial Recognition is used after an event or incident as part of a criminal investigation. Images are typically supplied from CCTV, mobile phone footage, dashcam or doorbell footage or social media. These images are then compared against images of people taken on arrest to identify a suspect.

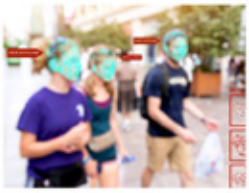
Why? This is a key tool for the police to identify suspects more quickly and accurately. It can also help identify missing or deceased people.

Live Facial recognition (LFR) technology to identify a suspect in real time

Who? South Wales Police, the Metropolitan Police Service and Northamptonshire Police.

What? The technology uses live video footage of crowds passing a camera and compares their images to a specific list of people wanted by the police. It lets forces place their effort where it is likely to have the greatest effect. Following a possible LFR alert, it is always a police officer on the ground who will decide what action, if any, to take.

Why? The technology can precisely pick a face out of a dense crowd, something which would be impossible for an officer to do. It means the police can quickly and accurately identify wanted criminals and take them off the streets.



AI could make crime scene investigations less biased

Who? University College London

What? Forensic science involves interpreting evidence in the context of the case e.g. examining a human skeleton as part of a murder case. UCL are using eye tracking tools to measure where forensic scientists look at crime scenes and for how long. They are capturing this data alongside interviews with forensic scientists about what they have seen and their thoughts and conclusions about e.g. the cause of death.

Why? A lot of the methods in forensic science are visually based, meaning they are reliant on the experience of the observer. Therefore, there is often some subjectivity and bias in how evidence is interpreted. AI could help make it more transparent about how decisions such as about cause of death are arrived at. It could also use data from hundreds of case examples to help develop new forensic science techniques.

AI to help manage emergency calls

Who? UK startup Untrite AI & Humberside police

What? An AI system for use in emergency call centres. The AI transcribes the conversation between the call handler and the caller. The AI system will notify the call handler if there is relevant information about what the caller is saying. For example: when the caller tells the handler the name of her husband and his date of birth, the AI quickly retrieves his details. It flashes up that the man has a gun licence, which means that police officers need to get to the home as soon as possible. The system has only been used in mock call centre situations.

Why? Designed to make dealing with the thousands of calls received each day more efficient and help to prioritise police call outs. Untrite says the trial suggests that the software could save operators nearly a third of their time. The next step would be to trial the system in live call centres.

Amsterdam: Generating sustainable materials

Who? Researchers at the University of Amsterdam

What? Researchers are using AI generative modelling to create new, sustainable materials to be used in construction across the city. The team is initially focused on creating energy storage salts, sustainable steel, safe plastic and new plant proteins.

Why? Researchers believe these new materials will lead to better and slower degradability of buildings, more energy efficient buildings.

AI to decarbonise dairy farms

Who? Llist.io, an agri-tech start up based in London

What? Llist.io are developing AI powered intelligence to support decarbonisation, with a focus on dairy farms. They are developing high-accuracy sensors which can be placed in grassland and use AI to provide soil and crop data related to emissions. As well as gathering the data, AI will be used interpret the data and translate it into actionable areas for emissions reduction. In 2023 they were awarded £130,000 by the UK government as part of the Artificial Intelligence (AI) for Decarbonisation Innovation Programme.

Why? Agriculture is a major source of both nitrous oxide and methane emissions in the UK, accounting for 69% of total nitrous oxide emissions and 48% of all methane emissions in 2020.

Zurich, Switzerland: building a city using augmented reality

Who? Zurich city urban planning department

What? In 2023, Zurich in Switzerland was awarded the title of 'world's smartest city'. Zurich's town planning department uses AI in different ways to make the city as sustainable as possible. **Public Transport**: AI helps in optimising public transportation schedules and routes based on usage patterns and demand forecasts, leading to more efficient and reliable services. **Spatial Data Analysis:** AI is used to analyse large datasets related to land use, building patterns, and environmental factors. This analysis helps in making informed decisions about zoning, land development, and green spaces. **Energy Consumption**: AI tools analyse energy usage patterns across different buildings and districts to identify opportunities for energy efficiency improvements and support sustainable urban development. **Air Quality Monitoring**: AI analyses data from air quality sensors to monitor pollution levels and identify sources of pollution. This information supports efforts to improve air quality and implement effective environmental policies.

Why? Zurich aims to be a smart city to enhance urban living, improve sustainability through the use of advanced technology and data-driven solutions and set an example for other cities to follow.

Boston USA: Envisaging a bicycle-city future

Who? Researchers at MIT (Massachusetts Institute of Technology)

What? The US city of Boston wants to be more bike-friendly, and planners have been looking to Copenhagen as a good example to follow. But locals are concerned about how such changes could impact their city. Now generative AI is helping Bostonians envisage a different layout for their city. Researchers have overlaid a Copenhagen-style of bicycle infrastructure on top of existing Boston infrastructure and building environment so that residents can have a tangible sense of what their city would look like with an in-built bicycle network.

Why? Bike-friendly cities offer numerous benefits that enhance the quality of life for residents and contribute positively to the economy and the environment. In October 2023, the EU announced its 'Europe Declaration on Cycling' which formally recognized the vital role cycling can play in decarbonizing the bloc's transport sector.

Using AI to recycle more waste

Who? Greyparrot, a startup based in London

What? Greyparrot have developed an AI system that analyses waste processing and recycling facilities to help them recover and recycle more waste material. They tracked 32 billion waste items across 67 waste categories in 2022, and identified 86 tonnes of material on average that could be recovered but is being sent to landfill.

Why? Waste is a big producer of methane and is responsible for 16% of global greenhouse gas (GHG) emissions, according to the United States Environmental Protection Agency. Reducing landfill waste plays a vital role in achieving net-zero targets by cutting methane emissions, conserving resources, promoting energy efficiency, supporting the circular economy, and encouraging sustainable consumption.

Icebergs are melting – AI knows where and how fast

Who? Scientists at the University of Leeds

What? AI has been trained to measure changes in icebergs 10,000 times faster than a human could do it. Scientists at the University of Leeds say their AI can map large Antarctic icebergs in satellite images in just one-hundredth of a second. This will help scientists understand how much meltwater icebergs release into the ocean – a process accelerating as climate change warms the atmosphere.
For humans, this task is lengthy and time-consuming, and it's hard to identify icebergs amid the white of clouds and sea ice.

Why? Measuring the rate at which icebergs are melting and the amount of meltwater this releases into the ocean is crucial for understanding and addressing climate change and its impacts.

Education

AI could help to engage children in history with role-play

Who? West Ewell Primary School in southern England.

What? Students used the AI tool ChatGPT to explore Victorian perspectives on the introduction of the railways. Answers from ChatGPT helped students to imagine different perspectives on the railways from the time. Through role-play, students then acted as local homeowners, the town mayor, railway owners and local children. The AI supported students to think about the impacts of the railway on their characters' lives.

Why? Teachers found the use of AI not only deepened students' understanding of historical perspectives but also enhanced their critical thinking and communication skills. The approach created an engaging and interactive learning environment that captivated students' attention and fostered a genuine interest in the subject matter.

AI could help teachers to mark homework

Who? Ferham Primary School in South Yorkshire.

What? AI was used to "read" pupils' writing and provide bespoke feedback against selected objectives to do with spelling, sentence structure and punctuation, and the genre of writing. The feedback is based on a majority of positive feedback alongside actions or areas to develop.

Why? Teachers are spending excessive time on the marking and feedback of writing, leaving little room for the planning of personalised support. The AI helped to provide pupil-friendly feedback in such detail as busy Primary teachers could not physically manage due to time constraints.

AI helps to create a revision timetable for students

Who? For students to create revision timetables for their upcoming exams or assessments.

What? Students can use AI to create a balanced timetable across different subjects and areas for improvement. The student might give the AI the following prompt:

'You are an expert tutor and project planner ... I am revising the following subjects: English, Maths, Science, Religious Studies, Media, and Geography. Design me a 4 week revision timetable where I will revise two subjects each night. I will revise for a maximum of 135 minutes per night. Leave Saturday night free from any revision. Science and English require slightly more revision to weight the distribution of these slightly heavier.'

Why? Student can struggle to construct a revision timetable that will help them to prioritise effectively as well as find strategies to help knowledge retention. AI helps to give students a structure so they can spend more time doing the work rather than organising the work.

AI can generate reading materials tailored to children's learning needs

Who? Woodmansterne Primary School in London.

What? A set of AI-generated texts were specifically tailored to include focus sounds, high-frequency words, and key spellings essential for literacy development at the Year 2 level. The AI-powered speech provided accurate pronunciation and intonation, serving as a model for students to emulate as they read along.

Why? In the UK there is progress to be made in the reading level of children. Different causes such as the pandemic, screen time and inequality have contributed to some children falling behind. Children made faster progress in reading pace and expression than they would have done without the AI.

AI could allow students to attend teacherless classes

Who? A GCSE class at David Game College, a private school in London

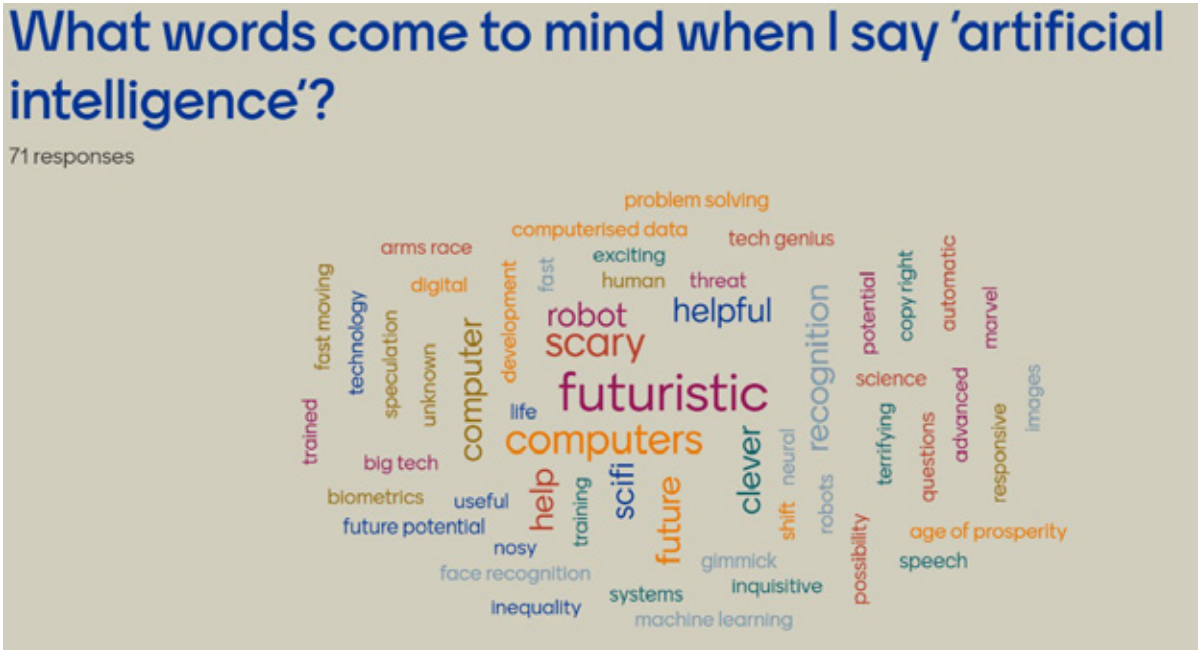
What? In the "teacherless class", GCSE students learn using a mixture of AI on their computers and virtual reality headsets. AI is used to learn what each student is doing well at and what they need more help with, and then adapts their lesson plans for the rest of the term. Strong topics are moved to the end of term so they can be revised, while weak topics are tackled sooner. Three 'learning coaches' remain present in the classroom to monitor behaviour and provide support.

Why? The school believes using AI in this way could help to personalise education by finding out exactly what each pupil is struggling with, whereas a teacher may not have time to understand this in detail for all their pupils.

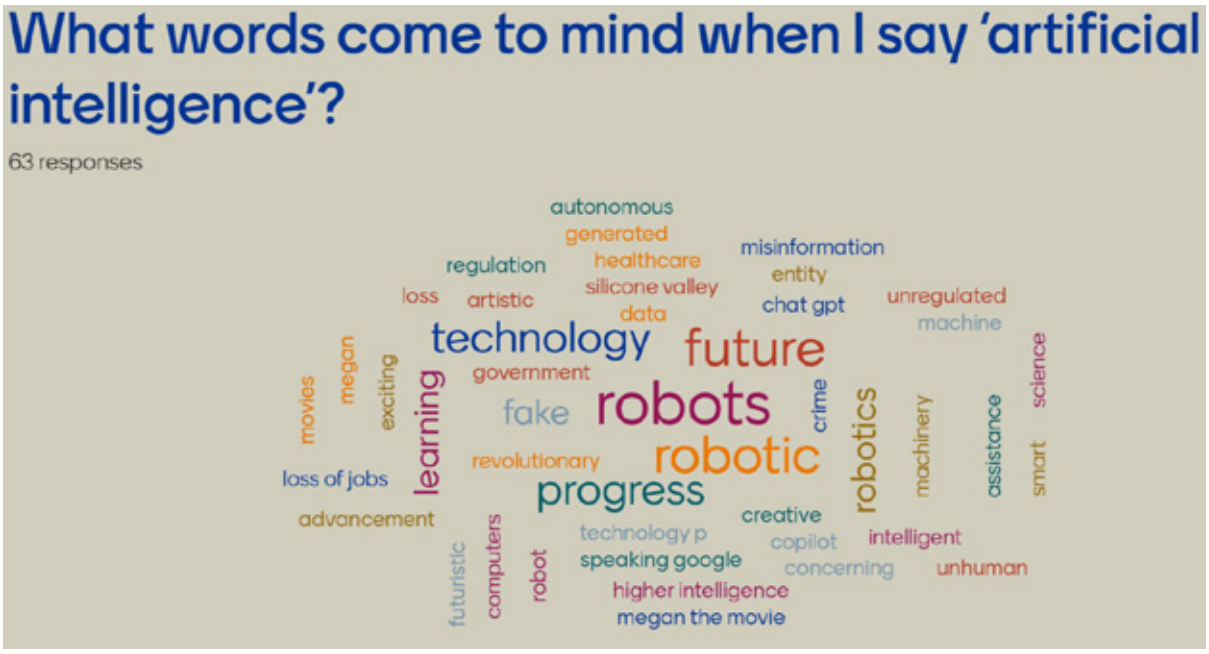
E. Mentimeter Responses

This section sets out responses to questions posed in Mentimeter during the dialogue. Questions 1 - 3 were asked at the start of the dialogue day; questions 4 - 6 at the end.

Q1. Cambridge



Q1. Liverpool



Q2. Cambridge

Share one concern you have about AI for the future of the UK	
Corner cutting in public service	More profiteering in public services
can be more inaccurate than correct and true	Lack of privacy.
Worry about what is going to happen in the future - the unknown	There is a problem of nuance - even though ai is powerful it can fail when specific things are needed that it cannot be trained on.
Safeguarding!	My one concern is that Robots take over and end up replacing people in workplaces
Too invasive	That children will rely on it and lose the ability to think independently
Changing needs for workforce- different education requirements	Lack of personal interaction
Chance	That humans will have no purpose and might be at risk

Infringement of civil liberty	Left behind
No one knows the future about AI, how it's going to be used and what's it's going to be used.	Less boring work - three-day weekend
Ethics and security	World becoming too digitalised.
Uncontrollable and unverifiable	Systems need to be secure
AI going out of control	Independent bodies need to be ready to monitor
No regulation	Weak research

Q2. Liverpool

Share one concern you have about AI for the future of the UK	
Job losses	Everything becomes fake
I'm scared a lot of people will lose their jobs	The lack of regulation. So much trust is being put into AI what makes it so accurate.
Fake news	Robots taking over
Removing jobs from people	Not progressing
The data it is fed has a biased agenda	The loss of jobs due to the increase in use if AI therefore deeming certain people surplus to requirement in some work sectors
Hacking our personal details	Using our data without consent
Less human interaction	Malfunctioning
Loss of jobs and very robotic world ahead of us	Ai making decisions on our well-being. Who is in control of Ai and what is stopping it from taking over
None	More online crime
The mistakes it will make on the road to getting it right	Transparency about how AI is regulated and risks are mitigated.
Hackers	Job loses
AI might take over the regular jobs of people, resulting in more unemployment.	Too much control fake news less human interaction war fare
Creating false information	Loss of jobs

Q3. Cambridge

Share one hope you have about AI for the future of the UK	
Improvement in quality of healthcare	It helps everyone
hope for it to be more helpful in everyday scenarios	Speed up certain processes - eg identifying people at airports/in medical emergencies/crime purposes etc
AI could look after us and help us survive together	Helping in health research.
It will make lives easier	That it might help reverse or control global warming
Helpful not too invasive	The volume of data it can crunch in quick time
New technology can improve patient care	Finding out helpful information
Equal opportunity for everyone	Solve health issues eg create cancer cure
Leading regulation	Shaping global view on how to safely deploy ai
That it can be nationalised and used for the good of society, not profit	Keep us safe
The possibilities are endless, and moving with the times - AI is the way forward. It's exciting.	Mediating a potential arms race
Provide a vast improvement to medical services	Solve more crimes
Technological advancements	

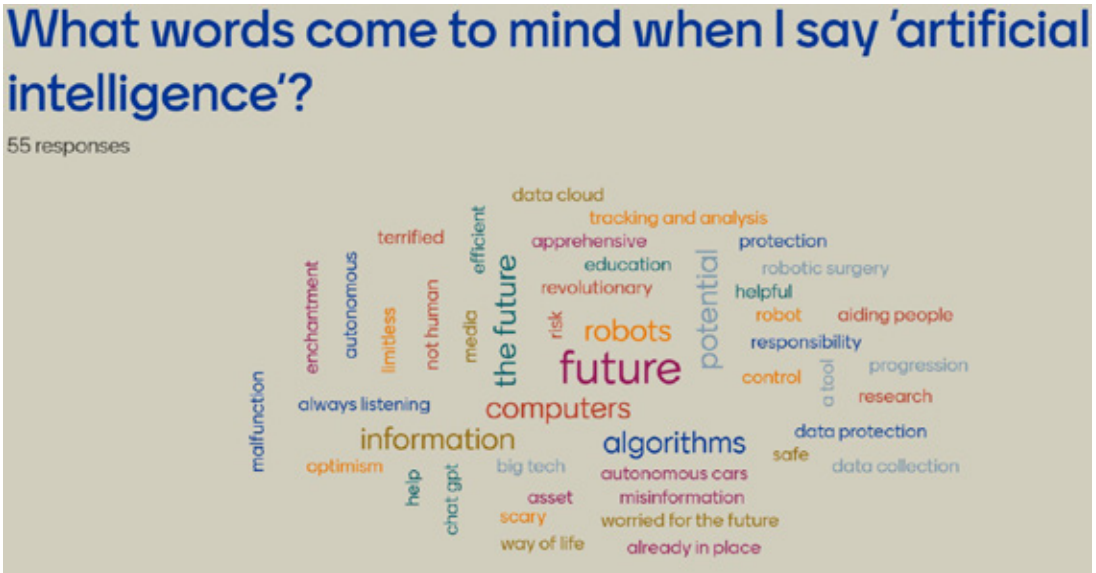
Q3. Liverpool

Share one hope you have about AI for the future of the UK	
None	Advancing technology improves people's lives

None!!!	That it will help with the current NHS helping to deal with the backlogs of appointments.
It leads to a more efficient and sustainable future	Less crime especially online
Curing terminal medical conditions	It will save a lot of time
Better for research purposes	Ai is used to stop world issues
Not too sure at the moment as don't know too much about it	Faster resolution to problems
Better future	Better healthcare
I don't have any hope don't know enough about it yet	Better productivity in certain work sectors.
Number of healthcare professionals is reducing. AI could bridge that gap	Keeps UK ahead of the game
Once it becomes more stable, it will be less biased and more efficient	NHS improved
Advances in healthcare beyond human capability	Crime prevention
Cures poverty brings peace to the world	Crime prevention
Help target crime	The lack of education to the public so there understanding remains negative
That it can reduce inequality and give people more freedom in their lives.	

Q4. Cambridge

Q4. Liverpool



Q5. Cambridge

Share one concern you have about AI for the future of the UK	
lack of rules and legislation	Working people will pay the price when the tech companies fail
Idiots running the show with no knowledge in AI	Humans won't be valued. AI will take over the world. 😭
Not everyone understanding	Consensus as a society on how to use it - first we need to know what it is and what it can do. Then decide together. Education
Nothing	Losing human interaction
Private companies not doing things in the publics best interests	Overuse too soon.
3-day weekend	Being too intrusive
It will take over	Negative control where humans can no longer play a part
Expensive	Accuracy/outcomes of what it produces
🤯🔫	Trust & lack of data provided
Data can be sold	Not enough control
Simplify tasks in the workplace	Currently it's a Wild West with inadequate control
More cybercrime	Confidentiality

Q5. Liverpool

Share one concern you have about AI for the future of the UK	
Loss of human contact	Making us not as important
Replacing human interaction	Transparency
Malfunctioning	Using Ai to increase people's workload
Misinformation of data and job losses	That in the wrong hands it could be used detrimentally
Misuse	That it has to work alongside humans and not take over
Losing human interaction	Monitoring
Taking jobs	That the population will become reliant on it. And practical learning may deteriorate
None	Lack of responsibility and accountability
That its monitored and regulated	Abuse. Ai used to spread misinformation causing disorder
Who is in control	The public still won't have the education to fully understand what Ai is
That it will be used for more damage then good.	Affability
Regulating it may be difficult	

Q6. Cambridge

Share one hope you have about AI for the future of the UK	
be more inclusive	Efficiency of mundane tasks without taking away human interaction
Kids happier	Increase efficiency in certain areas
Less boring work	Education and health
Time saving and beneficial	I hope it does more good than bad
Being more helpful in healthcare research	That it's used as a tool alongside people to have a positive impact
Efficency	Rapid medical advances
Finding out information what you want to know.	Solve crime, better lives, less tax please
Improved efficiency in healthcare	That through trust and trails we can build a better future 🤪
Nationalised AI, run in the interests of people do not profit	That humans will not be taken over by AI and the fear it will be in the wrong hands

Q6. Liverpool

Share one hope you have about AI for the future of the UK	
Absolutely None!!!!!	Support
It worksout	That it will work for the good of the world

That AI can improve people lives and help society thrive	That AI would generally improve the standard of living.
Improve the quality of people's lives	Solve world hunger
Medical advancement	That it can reduce the working burden and help people to live more fulfilling lives
That it makes a positive impact on everyone's life	Ai will make the admin side of a lot of people's lives easier so they have more time for what is important to them
Make the world a better place	safe, accurate, assistance
Takes the pressure off and give a better quality of life	Improving social conditions
None	Ai could improve all the important sectors in the uk by reducing the strain on services and creating more time for staff to do more important work
It will be part and parcel of many services in the long run and benefit us.	That jobs won't be lost and AI will be there to help
A partner for humanity	

Time	Agenda
8:30-9:30	Set-up
9:30-10:00	Participant & Speakers Check-in
10:00-10:05	Welcome & introduction to the workshop
10:05-10:15	Introduction to ai@cam
10:15-10:20	Mentimeter Questions
10:20-10:25	Instructions for activity 1
10:25-10:30	Participants (pre-allocated to topics) move to their group areas

F. Process Plan

About ai@cam
ai@cam is Cambridge University's flagship mission on artificial intelligence. Leveraging world-leading research across the University, ai@cam will create connections between disciplines, sectors, and communities that can unlock a new wave of progress in AI, for the benefit of science, citizens and society.

Aim & objectives of the workshops
To understand public views on the use of AI in 4 of the mission areas that the Labour Government set out in their manifesto, including aspirations, concerns, and interventions they would like to see to ensure the safe and effective use of AI in these areas.

Energy and net zero: Make Britain a clean energy superpower: to cut bills, create jobs and deliver security with cheaper, zero-carbon electricity by 2030, accelerating to net zero	**Crime and policing:** Take back our streets: by halving serious violent crime and raising confidence in the police and criminal justice system to its highest levels
Education: Break down barriers to opportunity: by reforming our childcare and education systems, to make sure there is no class ceiling on the ambitions of young people in Britain	**Health:** Build an NHS fit for the future: that is there when people need it; with fewer lives lost to the biggest killers; in a fairer Britain, where everyone lives well for longer

Explore aspirations and concerns relating to the use of AI in the four selected missions for government.
Begin to co-create a vision for the development of AI for public benefit, by:
Generating insights into how publics would like to see AI used for public benefit;
What qualities or features public participants would like to see in an AI-enabled/supported future;
Exploring what interventions public participants think are necessary to ensure AI is used safely and effectively.

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10:15-10:20	Mentimeter Questions
10:20-10:25	Instructions for activity 1
10:25-10:30	Participants (pre-allocated to topics) move to their group areas
10:30 - 10:45	Small group introductions & reviewing our first policy area
10:45 - 11:00	Specialist speaker briefing on topic
11:00-11:15	Paired discussions on policy issues & AI
11:15 - 11:55	Small group discussion
11:55-12:05	Break
12:05-12:20	Specialist speaker panel: AI and us: how to ensure AI benefits society
12:20-12:30	Plenary Q&A Session
12:30-1:15	Break
1:15-1:20	Reminder of PM Agenda
1:20-1:35	Small group introductions & reviewing our first policy area
1:35-1:50	Specialist speaker briefing on topic
1:50-2:30	Small group discussion
2:35-2:50	Break
2:50-3:00	Summary of Hopes & Concerns shared

3:00	Turn into small groups (same groups as afternoon session)
3:00-3:50	Small group discussion: interventions to help
3:50	Turn towards the main space
3:50-4:00	Menti Reflections on the day & next steps
4:00	End

For questions about this report, get in touch via the information below:

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