Rebuilding a Resilient Britain: Trust in Public Institutions

Report from Areas of Research Interest (ARI) Working Group 3

Chair: Professor Joanna Chataway, UCL

Facilitated by:
Kyra Watt, Government Office for Science
Kathryn Oliver, Government Office for Science

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Foreword

The COVID-19 pandemic presents a fundamental challenge to our society, economy, and ways of living. We need to ensure that our response to these challenges is informed by the best possible evidence, by engaging with the right stakeholders. As a first step toward this goal, the 'Rebuilding a Resilient Britain' programme of work was launched in July 2020 to bring together researchers, funding bodies and policy makers to identify evidence and uncover research gaps around a set of cross-cutting Areas of Research Interest.

ARIs were initially developed in response to the recommendations of the *2014 Nurse Review of Research Councils*, which called on government departments to communicate clearly where their research objectives lie. The ARIs take the form of an annually updated list of priority research questions, which invite the academic community to engage with government departments to inform robust evidence-based policy making.

With the advent of the COVID-19 pandemic, however, it became clear that the societal issues affecting Britain's recovery over the medium- to long-term cut across departments. The ESRC/GOS ARI Fellows therefore worked with the CSAs and Council for Science and Technology to identify a set of ARIs relevant across all departments and sectors. Under the meta-themes of **Rebuilding Communities**, **Environment and Place**, and **Local and Global Productivity,** each led by two CSAs, nine Working Groups were formed:

Rebuilding Communities led by Robin Grimes (MoD Nuclear CSA) and Osama Rahman (DfE CSA)	**Environment and Place** led by Robin May (FSA CSA) and Andrew Curran (HSE CSA)	**Local and Global Productivity** led by Paul Monks (BEIS CSA) and Mike Short (DIT CSA)
1. Vulnerable Communities	5. Supporting Lower-Carbon Local Economies	8. Local and National Growth
2. Supporting Services	6. Land Use	9. Trade and Aid
3. Trust in Public Institutions	7. Future of Work	
4. Crime Prevention		

With input from the Universities Policy Engagement Network, UKRI, the What Works Centres, and the National Academies, each Working Group was populated with subject experts and representatives from funding bodies and government departments.

The working groups met several times over the summer and used their networks to:
a. identify a diverse range of existing or ongoing research,

Foreword

      b. synthesise evidence which can be quickly brought to bear on the issues facing departments

      c. identify research gaps in need of future investment.

This report represents the culmination of the work of one of these Working Groups. The expedited timeframe of this work, along with their specific areas of expertise, led to some variation in how each group approached the task. It should be noted that this document represents the views of the Working Group members and is not indicative of government policy.

As well as providing deep expert reflection on the cross-cutting ARIs, it is hoped that these reports, and the work that led to it, will prompt further collaboration between government, academia, and funders. Working across government and drawing from the extensive expertise of our academic community will be essential in the recovery from the COVID-19 pandemic, to rebuild a resilient Britain.

Kathryn Oliver and Annette Boaz
ESRC/GOS ARI Fellows, on behalf of the ARI team within GOS

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Foreword

List of acronyms

AI	Artificial Intelligence
ARI	Area of Research Interest
AHRC	Arts and Humanities Research Council
BAME	Black, Asian and Minority Ethnic
BBSRC	Biotechnology and Biological Sciences Research Council
BEIS	Department for Business, Energy and Industrial Strategy
CBI	Confederation of British Industry
CJS	Criminal Justice System
CO	Cabinet Office
COVID-19	Coronavirus Disease 19
CSA	Chief Scientific Advisor
DCMS	Department for Digital, Culture, Media and Sport
Defra	Department for Environment, Food and Rural Affairs
DfE	Department for Education
DfT	Department for Transport
DH	Department of Health
DHSC	Department of Health and Social Care
DIT	Department for International Trade
DWP	Department for Work and Pensions
EPSRC	Engineering and Physical Sciences Research Council
ESRC	Economic and Social Research Council
FCDO	Foreign, Commonwealth and Development Office
FSA	Food Standards Agency
GCSA	Government Chief Scientific Advisor
GOS	Government Office for Science
HMRC	Her Majesty's Revenue and Customs
HMT	Her Majesty's Treasury
HO	Home Office
HSE	Health and Safety Executive
MHCLG	Ministry of Housing, Communities and Local Government
MoD	Ministry of Defence
MoJ	Ministry for Justice
MRC	Medical Research Council
NERC	Natural Environment Research Council
NGO	Non-Governmental Organisations
NICE	The National Institute for Health and Care Excellence
ONS	Office for National Statistics
PHE	Public Health England
R&D	Research and Development
SAGE	Scientific Advisory Group for Emergencies
SME	Small and Medium-sized Enterprises
STEM	Science, Technology, Engineering, and Mathematics
STFC	Science and Technology Facilities Council
UKRI	UK Research and Innovation

Contents

1. Chair's introduction

Trust has emerged as a crucial factor in effective policy response to challenges posed by COVID-19. The question of how to encourage and promote trust is intrinsically linked to the issue of trustworthiness. The responses to the questions posed to this Working Group on Trust in Public Institutions reflect the importance of understanding the issue from both perspectives. By implication we also need to understand the dynamics of trust and trustworthiness, and associated policy initiatives, from the multiple perspectives of individuals, institutions and different social, cultural and economic groupings. Responses to the specific questions that this Working Group tackled reflect that complexity. The aim of the work was to deepen an understanding of the different dimensions of trust and trustworthiness and to do that in a way that is helpful to those exploring and framing policy options and making decisions.

2. How the evidence was identified and collated

The ARIs addressed by this Working Group were identified by departments, either through their ARI departmental refresh or through conversations with officials, and subsequently prioritised by departmental CSAs. The priority areas were consulted more widely with the CSA Network, GCSA and Council for Science and Technology.

Members of the group were identified with the support of UKRI and the Universities Policy Engagement Network, with particular emphasis being placed on diversity and inclusion. The group met on four separate occasions from the launch of the work to the submission of the report to the CSA meta-theme leads, however throughout this period, participants were encouraged to reach out to their existing networks to access a broad range of expertise.

3. Key messages

3.1. Changing behaviours and attitudes towards the government and COVID-19, and role of the media and scientific community in influencing these

Public trust in scientists and science is generally strong in the UK (as seen in surveys by IPSOS MORI, the Wellcome Trust, and the Winton Centre), and appears not to have significantly decreased during the pandemic. Trust in the Government, and (to a lesser degree) trust in scientists associated with the Government has declined after a positive "trust bump" at the start of lockdown. This mirrors feelings of the effectiveness of the Government in tackling the pandemic (Winton Centre data). The reduction in trust in the Government over the pandemic is likely linked to the perception of "competence" and societal effectiveness and the extent to which there was a sense of perceived equity and fairness.

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Panel survey research showed that, during the first weeks of the lockdown, high levels of compliance appeared to be largely driven by a sense that: a) it was right to comply to "save lives and protect the NHS", b) it was normative to do so, and c) it was a legal requirement to do so. Crucially, the law seemed to play a role not through the traditional levels of deterrence and legitimacy, but rather through its coordination function: making lockdown a legal requirement clarified to people what they should be doing and why. Light-touch police enforcement in the early phase of lockdown seems to have been possible given these high levels of normative compliance and been successful, in that police legitimacy and trust in the police was not damaged by heavy-handed enforcement. Trust and trustworthiness are, of course, intertwined and it is important to understand that relationship. Our response to the next ARI reflects further on that issue and offers key messages which relate to both ARIs 1 and 2.

3.2. Supporting trust in public institutions and professional and scientific advice at a time of crisis, including attitudes and behaviours towards professionals and how public trust in democratic, religious, and social institutions is evolving in different countries and communities

Trust is a multi-dimensional and multi-layered phenomenon, but to achieve trust, an institution must be trustworthy, and this can be achieved through three components: competence/reliability; honesty/openness; and caring/concern/benevolence. Violations of any of these components and in particular negative events can lead to reduction of trust. This, in turn, leads to the challenge of mistrust and/or distrust which is dependent on a number of parameters including the context, the sender, the message and the receiver's characteristics. For instance, people of different ethnicity and cultural backgrounds have varying levels of trust towards public institutions, which is also dependent on message framing.

People feel greater trustworthiness towards local actors that they can relate to and thus a consistent, clear and relational message that is percolated throughout the local systems from central systems will be highly trusted. Citizens have varying levels of trust towards different public institutions. For example, trust towards NHS is vastly different than that towards the DH or Government. Thus, a segmented approach should be taken when building, maintaining or re-establishing trust:

- As described above, the main aspects of perceived trustworthiness – competence & reliability, honesty & openness, and concern & benevolence (including equity/fairness) – appear to be crucially important.
- Perceived legitimacy of power holders is vital, and that relies on trust and the components of trustworthiness.
- Additional components of perceptions of "procedural justice" include impartial decision-making (equity), citizen participation in decision-making and respectful treatment.
- Perceived trustworthiness and general levels of trust vary between countries. In the UK, trust in science and scientists is generally high, trust in journalists and the

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media is low, and trust in politicians is low – but moderate in international comparisons. The pandemic does not yet appear to have changed these attitudes substantially.

There is a large, international evidence base on the relationships between public trust in power holders, the perceived legitimacy of those power holders, and the willingness of the public to comply and cooperate with those power holders on a voluntary basis. This work points to the importance of perceived legitimacy and of procedural justice. "Legitimacy" is defined in various ways, but often seen in terms of a felt obligation to obey and moral alignment. The models also consistently show that perceived legitimacy of the police is more strongly predicted by trust in the procedural justice of officers than it is by trust in their effectiveness. "Procedural justice" is seen as having four components: impartial decision making, citizen participation in decision making, trustworthiness, and respectful treatment. The theory suggests procedural (in)justice affects a person's self-identity and the extent to which they internalize (or reject) social norms. There is also evidence that when police officers are treated in procedurally-just ways, they are more likely to identify with their institution, see it as legitimate, and comply and cooperate with its goals and rules.

Drawing on a wide body of literature, advice on maintaining trustworthiness can be summarised as:
- Be honest and upfront about the motivations behind policies - people need to know that things are done in their best interests.
- Whilst single negative events have a greater impact than positive ones, a positive pattern of behaviour or policy can sometimes outweigh a single negative event. Emphasise policies that are designed to help mitigate risks.
- We forgive false alarms much more than we forgive missed chances to stop a bad event – possibly because it's a way of assessing motives (does this person/institution prioritise our lives/wellbeing over the disruption of a false alarm?). So, the "precautionary principle" applies.
- Demonstrate trustworthiness/honesty through "intelligent openness": allowing information to be accessible, understandable, useable, and assessable. This means, in practice, making all data and information used in decision making to be seen and understood clearly and easily by the public, with all necessary references etc. to ensure that it is possible for anyone interested to check the sources and quality of the evidence, and the integrity of the decision-making process. This is good "evidence communication" (very different from normal, narrative "comms" which usually tries to lead a reader to a conclusion rather than leaving it open for them to judge for themselves).
- People judge the reliability of evidence on who they heard it from, its consistency with what they have heard elsewhere and experienced themselves, and other cues of quality such as the level of detail. Ensuring consistent messages from

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other trusted sources and explaining/anticipating potential changes of policy that might make things seem inconsistent, is important.

3.3. How will fear of pandemic resurgence affect the willingness of publics to accept greater surveillance?

Acceptance of surveillance is heavily conditioned by social location and experience of public institutions such as the police. As research on the "chilling effects" of surveillance relays, it is highly likely that those communities with negative experience of high levels of police and related surveillance are less likely to accept greater monitoring, even if conducted in a different context. In short, chilling effects are felt most keenly among marginalised and disadvantaged groups. It is here that a potential tension may arise between police surveillance and public health surveillance.

The chilling effects research identifies how high levels of existing surveillance have been proven to manifest in several consequences for those inhabiting such groups, including mistrust of other public institutions and deleterious mental health impacts. This means attempts to cultivate trust will resonate unevenly across different communities. Moreover, there is a relationship between those social groups with lessened trust in public institutions also being the sites of heightened vulnerability to COVID-19. Attempts to build trust and assurances should therefore be sensitive to this and be attenuated accordingly.

Crucially, this also links to connections between trust and trustworthiness, therefore enhancing trustworthiness is key to building trust.

A common approach to building in safeguards, and, by extension, inviting public trust in surveillance activities is to focus on privacy and data protection provisions. While useful, these are insufficient to mitigate the wider harms and concerns over the impact of such technologies. Therefore, to build trust, oversight of new surveillance initiatives should address the range of harms and concerns, provide a mechanism for transparency, and also be effective in its operation.

3.4. Importance and prevention of cybercrime and misinformation

Cybercrime is an extreme case of violation of trust. Contrary to the popular belief, research shows that cybercrime is not socio-demography dependent. However, it is significantly dependent on psychographic variables. For instance, the volume of cybercrime targeting older people is greater, however, they are no more vulnerable to fraud and cybercrime than other cohorts. People with inherent risk-taking behaviour and low self-regulation seem to be more vulnerable and this has direct well-being consequences.

The current approach to tackle misinformation – fact-checking and debunking – is good but not highly effective in changing behaviours. A better approach will be pre-bunking or nudge techniques. CO and the World Health Organisation are partnering

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with Dr Sander van der Linden to release a COVID-19 debunking campaign "Go Viral!" on 5th October 2020.

Research has shown that 20-30% of people across multiple countries find some misinformation around COVID-19 convincing (e.g. that the virus was engineered in a laboratory in Wuhan). While higher performance on numeracy test and trust in scientists leads to lower susceptibility to misinformation, socio-demographics (such as age, gender) again does not predict the overall susceptibility. Research shows that psychographics and culture are good predictors of susceptibility to normative and informational influences. Thus, focusing on sociopsychographics may yield better results in reduction of cybercrime and management of misinformation.

3.5. Importance of GCSA and a strong science system to produce and deliver robust evidence

Science advice to policy makers (and anyone else) should be premised on the understanding that scientific knowledge, and particularly advice premised upon it, can legitimately be viewed from different perspectives. Science advice is not "value-free"; rather, actors from both science and politics should be open about their values and goals. Such openness helps to build mutual trust. Developing trust will further rely on overt recognition that there will often be inherent tensions and trade-offs in the content and processes of science advice, and the preferred resolution of these will be socially, culturally and politically contingent. The aim of scientific advice should be to inform, not proscribe, policy, which will often be developed agonistically via processes of debate and dispute. Wider stakeholder groups and citizens should therefore be integrated into the process: other than in exceptional circumstances the advice offered should be publicly available and couched in terms that foster widespread understanding of the issues at stake.

Those offering advice should do so by applying principles of full, open, honest and critical discussion and disclosure, including assessment and characterization of uncertainty and risk and to learn from systems leaders in areas such as systems engineering and complexity science. As complete a range of scientific opinions should be represented in the advice provided, and uncertainties and ambiguities fully disclosed. Advice should also draw on a wide range of disciplinary and cultural voices, to maximise the potential for insight and minimise the potential for hidden biases and tunnel-vision. And it should combine analytical rigour (demonstrate technical competence) and deliberative argumentation that makes clear the value judgements (and the intentions) upon which it is based.

There is an opportunity to embed systems-led approaches for tackling local, national, and global policy challenges which are complex and socio-technical nature. Taking a high-level/big picture view to identify linkages, interdependencies and points of failure across a range of typically complex challenges or large-scale (e.g. infrastructure) projects could help policymakers to understand the level of connected and cumulative change that exists across multiple policy areas, and help to identify

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leverage points where appropriate policy interventions can be made. Systems thinking requires deeply interdisciplinary approaches to science advice that includes knowledge from across engineering, humanities, physical science and social science as well as non-academic practical experience in order to appraise and respond to changes in socio-technical systems, particularly in times of emergency. Systems thinking can improve decision-makers' appreciation of the technological and commercial feasibility, cost, integrity, safety, security and resilience, and timescales for deployment to any policy intervention.

3.6. Improved knowledge management systems
There is a pipeline of knowledge generation:
1. Commissioning and production of research knowledge and evidence.
2. Dissemination between researchers (e.g. scientific publishing system).
3. Synthesis of evidence from primary research.
4. Dissemination of evidence synthesis to policy makers, publics etc.

There are issues with all stages of this pipeline. Some that arise are:
- A weakness in methodology of completed studies that means that their results are not useful (e.g. a recent Campbell review that looked at 7,000 studies attempting to evaluate trauma-aware counselling for school children and found not one was methodologically sound enough to draw conclusions).
- A lack of emphasis on important and useful outcome measures (e.g. effect sizes, rather than statistical significance; cost effectiveness; potential harms of policies).
- A skewed incentive system caused by the current scientific publishing model – with publication of "high impact papers" the only measure of quality for researchers, causing pressures for questionable research practices and incentives favouring particular types of research that don't always match with practical requirements (e.g. incentives for systematic reviews or cost effectiveness analyses often missing).
- An underdeveloped system for communication and dissemination of synthesised evidence for policymakers and other interested parties (e.g. through the What Works and similar research evidence portals and toolkits), which have unclear or highly variable methods of communicating effectiveness, heterogeneity of effectiveness for different groups, financial costs, potential harms and quality of evidence (the key outcomes wanted by decision-makers).
- A lack of training in evaluation and understanding of evidence within the relevant policy-making professionals.

To address these issues requires a comprehensive look at the way that research (including review work) is commissioned, alternatives to the current scientific publishing system, greater development of good evidence communication methods and portals, and professional training in evidence evaluation.

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3.7. How can government priorities be influenced by the evidence of the effects of different policies on the wellbeing of the people?

"Wellbeing" is a concept which allows government to concentrate on policies that align with public concern, enhancing trustworthiness. While the exact definition of "wellbeing" remains hotly debated in the literature, advocacy for well-being policy broadly emphasises a shift away from traditional material concerns like income and life expectancy towards psychological health and ensuring the social and economic conditions for human flourishing (e.g. political enfranchisement, environmental quality, walkability, reduced local crime, and easier commutes). There has been interest also in well-being during the pandemic and lockdown.

We now know enough about it (the ONS has been collecting wellbeing data since 2011) to consider policy applications. Key relevant considerations might include:
- Policies to improve psychological wellbeing, such as the Healthy Minds curriculum.
- The effects of commuting time (and working from home) on subjective wellbeing.
- The effects of loneliness (see the Cox Commission on Loneliness).
- The ONS' long-term data on anxiety, children's wellbeing, "happiness", and feeling of meaning to life. Some of these are being measured intensively during the pandemic by academic groups as well.

By attending to these issues of direct relevance to the public, the government could potentially be demonstrating its commitment to the same values and priorities – key parts of trustworthiness.

4. Evidence Gaps

4.1. Importance of GCSA and a strong science system to produce and deliver robust evidence

The societal and media contexts for science advice are very different to those that applied when SAGE guidance was published in 2012. During COVID-19, the interactions between science advice, media reporting and public trust has emerged as an important topic. Yet we lack systematic evidence on this area; in particular, how science advice is being presented by government, how it is being framed in the media, and how the public are making use of scientific advice from official and non-official sources.

Systems approaches are valuable at an early stage of policy formation, to inform conversations about managing the complexity and solving the problem. Further work on how systems approaches can usefully add to the evidence base (including the type of evidence, alongside other approaches such as longitudinal studies and case studies) would support the continuous improvement of the quality, diversity and

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relevance of evidence. It would also provide a valuable reflection on the interconnections between different sources of expertise and policy.

Disciplinary diversity is an essential component of systems thinking, yet there is currently little evidence comparing the diversity and effectiveness of knowledge utilisation in different countries' science advice systems. Understanding the benefits of sourcing and applying multidisciplinary advice and finding ways to marry this to the demands and rhythms of the policy process would lead to a stronger science advice system. An international comparison of disciplinary diversity in science advice would help to learn lessons from other countries, and ensure the UK has a world-leading science advice system fit for the significant policy challenges of the next decade.

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Annex 1: List of participants and contributors

Chair: Professor Joanna Chataway, UCL
Facilitator: Marine Shah, Royal Academy of Engineering

Working Group members:
Professor Christina Boswell, Edinburgh
Professor Ben Bradford, UCL
Dr Daisy Fancourt, UCL
Dr Alexandra Freeman, University of Cambridge
Professor Pete Fussey, University of Essex
Dr Natalie Garrett, Met Office
Nancy Hey, What Works Wellbeing
Professor Jon Jackson, London School of Economics
Lord Professor Richard Layard, London School of Economics
Laura Mason, AHRC
Dr Noel Nelson, Met Office
Andrew P, OCSA
Dr Warren Pearce, University of Sheffield
Dr Paul Quinton, College of Policing
Professor Paurav Shukla, University of Southampton

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Annex 2: List of ARIs considered by this group

1. Changing behaviours and attitudes towards the government and COVID-19, and role of the media and scientific community in influencing these.

2. Supporting trust in public institutions and professional and scientific advice at a time of crisis, including attitudes and behaviours towards professionals and how public trust in democratic, religious, and social institutions is evolving in different countries and communities.

3. How will fear of pandemic resurgence affect the willingness of publics to accept greater surveillance?

4. Importance and prevention of cybercrime and misinformation.

5. Importance of GCSA and a strong science system to produce and deliver robust evidence.

6. Improved knowledge management systems.

7. How can government priorities be influenced by the evidence of the effects of different policies on the wellbeing of the people?

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Annex 3: Evidence and resources relevant to ARIs

ARI	Resource	Key Messages
Changing behaviours and attitudes towards the government and COVID-19, and role of the media and scientific community in influencing these	Onora O'Neill on Trust vs Trustworthiness: https://www.ted.com/talks/onora_o_neill_what_we_don_t_understand_about_trust?language=en Onora O'Neill on Intelligent Openness and trustworthiness: http://downloads.bbc.co.uk/rmhttp/radio4/transcripts/20020427_reith.pdf https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4953592/pdf/269.pdf Data on trust in science/scientists/governments and media sources, Apr-Jul, from around the world: https://osf.io/jnu74/ Jackson et al (2020) The lockdown and social norms: Why the UK is complying by consent rather than compulsion? Bradford et al (2020) Policing the lockdown: Compliance, enforcement and procedural justice Posch et al (2020) What makes Britons trust police to enforce the lockdown fairly? Communicating the Pandemic: Improving Public Communication and Understanding (forthcoming research project led by Professor Stephen Coleman) Yesberg et al. (2020). Track, trace and trust	Onora O'Neill says we cannot seek to be trusted, only to be trustworthy. She argues that we can demonstrate trustworthiness through honesty, reliability and competence. And "intelligent openness": allowing our information to be accessible, useable, and assessable. Trustworthiness is usually said to have three main criteria (different researchers describe them slightly differently): competence/reliability, honesty, and caring/concern. O'Neill argues that we can demonstrate trustworthiness through 'intelligent openness': allowing our information to be accessible, useable, and assessable. (i.e. you can find the information, it is in a useful form, and you can assess its quality for yourself – such as seeing all the references or knowing the workings of the algorithm). Panel survey research showed that, during the first weeks of the lockdown, high levels of compliance appeared to be largely driven by a sense that: a) it was right to comply to "save lives and protect the NHS", b) it was normative to do so, and c) it was a legal requirement to do so. Crucially, the law seemed to play a role not through the traditional levels of deterrence and legitimacy, but rather through its coordination function: making lockdown a legal requirement clarified to people what they should be doing and why to "save lives and protect the NHS". Light-touch police enforcement in the early phase of lockdown seems to have (a) been possible given these high levels of normative compliance and (b) been successful, in that police legitimacy and trust in the police was not damaged by heavy-handed enforcement.

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	Solymosi et al. (2020). Functional and Dysfunctional Fear of COVID-19: A Classification Scheme. Paul Slovic on perceived trust and risk perceptions: Slovic, P. (1993). Perceived Risk, Trust, and Democracy. Risk Analysis, 13(6), 675–682. doi:10.1111/j.1539-6924.1993.tb01329.x Eiser & White on trust in institutions: https://www.kent.ac.uk/scarr/events/Eiser%20%2B%20White %20lsepaper.pdf Bavel, J.J.V., Baicker, K., Boggio, P.S. et al. Using social and behavioural science to support COVID-19 pandemic response. Nat Hum Behav 4, 460–471 (2020). Wolf, M. S., Serper, M., Opsasnick, L., O'Conor, R. M., Curtis, L. M., Benavente, J. Y., . . . Zheng, P. (2020). Awareness, attitudes, and actions related to COVID-19 among adults with chronic conditions at the onset of the US outbreak: a cross-sectional survey. *Annals of internal medicine.* Anneliese Depoux, PhD, Sam Martin, PhD, Emilie Karafillakis, MSc, Raman Preet, MPH, Annelies Wilder-Smith, MD, Heidi Larson, PhD, The pandemic of social media panic travels faster than the COVID-19 outbreak, *Journal of Travel Medicine*, Volume 27, Issue 3, April 2020. Fancourt, D., Steptoe, A. and Wright, L. (2020) The Cummings effect: politics, trust, and behaviours during the COVID-19 pandemic. UKRI Public Opinion on Science Tracker – due to publish results early September (fortnightly opinion tracker running across 20 weeks April to August 2020)	Note from Winton Centre: We have found that trust in the communicator is a necessary precursor to accepting and acting on advice. And when asked why people trusted/distrusted various sources of information on COVID the most common reason given was judgement of the source of the information and their motivations (e.g. "I think they might be trying to reassure people so are playing down the numbers" or "A more dramatic story clearly sells for them" as reasons for low trust; "I think they have our best interests at heart" as a reason for high trust). Research carried out in May found that people were generally willing to use a contact-tracing app associated with the NHS, partly because doing so signals collective solidarity in the fight against the virus. Levels of trust in government were also crucial. People who trusted the government to put out clear messages, make the right decisions in terms of protecting the public, listen to the science, and steer the economy in the right way, not only tended to trust that their privacy and data would be safeguarded, they also tended to infer as a result that contact-tracing was an appropriate tool to help fight the pandemic. Worry can be a negative and debilitating experience that damages mental health and discourages healthy re-engagement with the world, but it can also be a problem-solving activity, directing people's attention to problems, and encouraging them to act accordingly. This study found that dysfunctional fear of COVID-19 was not a predictor of compliance with lockdown or willingness to re-engage with social and economic life.

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		Paul Slovic argues that risk perceptions increase when competence in those in a position to mitigate the risks is seen to be lower. So 'crises in trust' are often the result of 'crises in confidence' of those in power/control (imagine your perception of the risk of a nuclear power plant near you if you did/did not think that the management of it was competent). It's well known that negative events tend to have a greater impact than positive ones ('trust arrives on foot and leaves on horseback'), but Eiser & White suggest that overall trust doesn't go extinct so there must be some maintenance of trust despite a constant stream of bad events. They suggest that it is maintained by a few other psychological effects: 1) We don't like to change our minds/opinions (so we will tie ourselves in mental knots to avoid believing information that conflicts with our prior beliefs) 2) We distinguish between one-off events and a pattern of behaviour (or policy). Whilst single negative events have a greater impact than positive ones; a positive pattern of behaviour or policy can sometimes outweigh a single negative event. 3) We forgive false alarms much more than we forgive missed chances to stop a bad event – possibly because it's a way of assessing motives (does this person/institution prioritise our lives/wellbeing over the disruption of a false alarm?). So the 'precautionary principle' applies. In addition, they acknowledge the importance of openness as a demonstration of honesty. Using African studies of Ebola crisis suggests that enlisting local voices to help build engagement and trust in health officials can increase the success of such public health measures.

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		US cross-sectional sample suggests that only 1 in 10 respondents was very confident that the federal government could prevent a nationwide outbreak. Those with low health literacy had greater confidence in the federal government respons and they were also less worried and less prepared. Stereotypical images (e.g., Chinese setting, Chinese people) attached to the pandemic become more viral leading to negativity towards a particular community. Social media intelligence should be harnessed to enhance the needed mobilization of the public and local communities to avoid such occurrences. Trust / trustworthiness / mistrust and distrust differ significantly. Moreover, absence of trust is not mistrust. People undulate across these dimensions based on the context and circumstances.
Supporting trust in public institutions and professional and scientific advice at a time of crisis, including attitudes and behaviours to wards professionals and experts**,** and how public trust in democratic, religious and social institutions is evolving in	**PUBLIC TRUST IN SCIENCE** NatCen (2019) Public confidence in official statistics 2018 Wellcome Monitor Dommett, K., & Pearce, W. (2019). What do we know about public attitudes towards experts? Reviewing survey data in the United Kingdom and European Union. *Public Understanding of Science,* Department of Science and Technology Studies (UCL) **PUBLIC TRUST IN INSTITUTIONS** Bradford et al (2014) Why do 'the law' comply? Jackson et al (2012) Why do people comply with the law?	Findings from Dommett and Pearce review (2019): • There is insufficient survey data available to strongly support any claims regarding public attitudes to experts. • The evidence that does exist suggests broadly positive public attitudes towards experts, rather than the somewhat bleak commentary associated with descriptions of a 'post-truth' era. • There is scope for survey questions to provide improved macro-level descriptions of some of the attributes and expectations associated with experts, and that concepts from the academic literature can provide structure for such questions. Survey data has the potential to complement more granular, qualitative approaches. There is a large, international evidence base on the relationships between public trust in power holders, the perceived legitimacy of those power holders, and the

| different countries and communities | Mazerolle et al (2013) Legitimacy in policing: A systematic review

Nagin and Telep (2020) Procedural justice and legal compliance

Fair cop 2: Organisational justice, behaviour and ethical policing: An interpretative evidence commentary

Roberts and Herrington (2013) Organisational and procedural justice: A review of the literature and its implications for policing

Marinthe, G., Brown, G., Delouvée, S. and Jolley, D., 2020. Looking out for myself: Exploring the relationship between conspiracy mentality, perceived personal risk, and COVID-19 prevention measures

COVID Social Study

Freeman et al (2020) Risk Perception of COVID-19/coronavirus

Ipsos: Trust the Truth

https://www.theage.com.au/national/victoria/lessons-of-black-saturday-ignored-as-australians-forget-research-shows-20190205-p50vtw.html | willingness of the public to comply and cooperate with those power holders on a voluntary basis. Much of this work is on policing and public compliance with the law, but there are studies in a wide range of other services and institutions (e.g., tax, courts).

Statistical models based on survey data from developed, capitalist countries typically show that self-reported public compliance with the law and cooperation with the police are more strongly predicted by the perceived legitimacy of the police than they are the perceived likelihood of being caught and punished. 'Legitimacy' is defined in various ways, but often seen in terms of a felt obligation to obey and moral alignment. The models also consistently show that perceived legitimacy of the police is more strongly predicted by trust in the procedural justice of officers than it is by trust in their effectiveness. 'Procedural justice' is seen as having four components: impartial decision making, citizen participation in decision making, trustworthiness, and respectful treatment.

The theory suggests procedural (in)justice affects a person's self-identity and the extent to which they internalize (or reject) social norms.

There is also evidence that when police officers are treated in procedurally just ways, they are more likely to identify with their institution, see it as legitimate, and comply and cooperate with its goals and rules.

In developing, divided and post-conflict countries, procedural justice has been found to be less important because more fundamental questions about the basic functioning of the state, the police and other institutions (e.g., because of corruption). |

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There is also extensive evidence from a range of sectors to suggest that similar relationships are found within organisations. Employee perceptions of procedural justice by supervisors and senior leaders predict identification with the organisation, which in turn predicts a wide range of positive work behaviours. This is important because internal procedural justice may be necessary for external procedural justice.

People can trust science and still not act on it – the way it is communicated will affect the interpretation (see catastrophic fire warnings ignored in Australia leading to needless deaths).

Citizens views about politics and public institutions are multi-layered. For instance, people have implicit trust of the government as a public institution, however, they also are skeptical about various component parts. Sometimes, the trust is reversed wherein there is a greater trust in the component part (i.e., the local Member of Parliament) than the overarching body (i.e. the parliament).

People develop baseline of trust and then discount facts. Thus, the role of scientific community and trust needs further reflection.

Structural inequalities play a role in shaping public trust, so that trust can be seen as a privilege enjoyed by majority groups - see this summary of the literature by Helen Kennedy on why distrust is logical for many disadvantaged groups; this is important as it goes beyond questions of misinformation and political polarisation https://www.adalovelaceinstitute.org/shoud-more-public-trust-in-data-driven-systems-be-the-goal/

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		People feel greater trustworthiness towards local actors that they can relate to and thus a consistent, clear, and relational message that is percolated throughout the local systems from central systems will be highly trusted. Citizens have varying levels of trust towards different public institutions. For example, trust towards NHS is vastly different than department of health or the government. Thus, a segmented approach should be taken into account when building, maintaining or re-establishing trust.
How can government priorities be influenced by the evidence of the effects of different policies on the wellbeing of the people?	The European Social Survey (2016): Looking through the Wellbeing Kaleidoscope accompanied by the What Works Wellbeing Summary Adler, M. (2013). Happiness surveys and public policy: what's the use? *Duke Law Journal, 62*, 1509–1601. Clark, B.; Chatterjee, K.; Martin, A. and Davis, A. (2019). How Commuting Affects Subjective Well-Being. Forthcoming in *Transportation.* doi.org/10.1007/s11116-019-09983-9 De Neve, J.; Ward, G.; De Keulenaer, F.; van Landeghem, B.; Kavetsos, G. and Norton, M. (2018). The Asymmetric Experience of Positive and Negative Economic Growth: Global Evidence Using Subjective Well-Being Data. *Review of Economics and Statistics,* vol. 100, no. 2, pp. 362–375 Foa, R.; Gilbert, S. and Fabian, M. (2020). COVID-19 and Subjective Well-Being: Separating the Effects of Lockdown from the Pandemic. *Bennett Institute for Public Policy Working Paper.* Retrieved 16/09/2020 from: https://www.bennettinstitute.cam.ac.uk/media/uploads/files/Happiness_under_Lockdown.pdf Frijters, P.; Clark, A.; Krekel, C. and Layard, R. (2020). A happy choice: Well-being as the goal of	Where there is a) low wellbeing and b) a big difference in wellbeing, it affects public trust compliance and resilience. Those with higher wellbeing are more likely to look after their health and play their community part. Recent years have seen an upsurge of interest in wellbeing among policymakers. In the UK, ONS has been collecting well-being data since 2011, and the What Works Centre for Well-Being acts as a knowledge warehouse and connects research to policymakers. Elsewhere, New Zealand and Wales have made well-being a government priority and reoriented both budgeting and impact evaluation around the concept (New Zealand Government 2019, Wales Government 2015). While the exact definition of "well-being" remains hotly debated in the literature, advocacy for well-being policy broadly emphasises a shift away from traditional material concerns like income and life expectancy towards psychological health and ensuring the social and economic conditions for human flourishing (e.g. political enfranchisement, environmental quality, walkability, reduced local crime, and easier commutes). There has been interest also in well-being during the pandemic and lockdown (Foa et al. 2020, Layard et al. 2020). While the scientific understanding of psychological well-being is still developing (Martela and Sheldon 2019), we know enough to consider policy applications. Some scholars advocate the use of life

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government. *Behavioural Public Policy, 4*, 126–165. doi:10.1017/bpp.2019.3

Layard, R.; Clark, A.; De Neve, J.; Krekel, C.; Fancourt, D.; Hey, N. and O'Donnell, G. (2020). When to Release the Lockdown: A Well-Being Framework for Analysing Costs and Benefits. *CEP Occasional Papers,* #49. Retrieved 16/09/2020 from: https://cep.lse.ac.uk/pubs/download/occasional/op049.pdf

Lordan, G. and Macquire, A. (2018). Healthy minds: Interim paper, retrieved 04 March 2020 from: https://pdfs.semanticscholar.org/64d5/4ba84b847902af82dcc74d58bb1150cdd1ad.pdf

Marsh, H.; Huppert, F.; Donald, J.; Horwood, M. and Sahdra, B. (2020). The Well-Being Profile (WB-Pro): Creating a Theoretically Based Multidimensional Measure of Well-Being to Advance Theory, Research, Policy, and Practice. *Psychological Assessment*, vol. 32, no. 3, pp. 294–313

Martela, F. and Sheldon, K. (2019). Clarifying the Concept of Well-Being: Psychological Need Satisfaction as the Common Core Connecting Eudaimonic and Subjective Well-Being. Forthcoming in *Review of General Psychology.* doi.org/10.1177/1089268019880886
NZ GOV (2019). Wellbeing Budget 2019. Retrieved 15/09/2020 from: https://www.treasury.govt.nz/sites/default/files/2019-05/b19-wellbeing-budget.pdf

ONS (2018). Children's well-being and social relationships, UK: 2018. Retrieved 16/09/2020

satisfaction data in cost-benefit analysis (Frijters et al. 2019), though this ambitious agenda is controversial (Singh and Alexandrova 2020, Adler 2013). Other efforts include assessing the efficacy of policies designed to improve psychological well-being, such the Healthy Minds curriculum (Lordan and MacGuire 2018), which teaches mood management and other mental health skills in schools. Researchers are also investigating the impact of various policy settings on psychology, such as how commuting time affects subjective well-being (Clark et al. 2019). This research is increasingly being translated into policy action. For example, the Cox Commission on Loneliness resulted in the appointment of a 'Minister for Loneliness'. As the science of measuring well-being settles and more data becomes available, research to policy links are likely to increase. The ONS additionally collects data on anxiety, feelings of meaning in life, and 'happiness' (positive mood), and is developing indicators children's well-being, as under-16s are typically excluded from official statistical surveys (ONS 2018). Longer psychometric surveys, such as the 15-item well-being profile (Marsh et al. 2020), can be used to measure additional aspects of psychological wellbeing. In summary, well-being data can influence policy in a variety of ways, as a benchmark or as one of many inputs alongside other economic and social indicators.

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| | from: https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/march2018

Singh, R. and Alexandrova, A. (2020). Happiness economics as technocracy. *Behavioural Public Policy, 4*, 236–244. doi:10.1017/bpp.2019.46

Wales GOV (2015). Well-Being of Future Generations ACT 2015 | |
|---|---|---|
| How will fear of pandemic resurgence affect the willingness of publics to accept greater surveillance? | Links to health surveillance/contact tracing, inequality and broader human rights implications:
Evidence on human rights implications of contact tracing app published by Joint Committee on Human Rights

Range of surveillance impacts and approaches towards effective human rights compliant oversight:
Murray, D. and Fussey, P., (2019) Bulk Surveillance in the Digital Age: Rethinking the Human Rights Law Approach to Bulk Monitoring of Communications Data. Israel Law Review. 52 (1), 31-60 (also includes summary of chilling effects research – skip to p43)

Fussey, P., and Murray, D. (2019) Independent Report on the London Metropolitan Police Service's Trial of Live Facial Recognition Technology

Varied impacts of surveillance among different communities (including chilling effects). Much of the work is from the US. These two papers focus on mental health impacts:
Abigail A Sewell and Kevin A Jefferson, 'Collateral Damage: The Health Effects of Invasive Police Encounters in New York City'(2016) Journal of Urban Health: Bulletin of the New York Academy of Medicine | Acceptance of surveillance is heavily conditioned by social location and experience of policing etc. Drawing on the work on 'chilling effects' of surveillance, it is highly likely that those communities experiencing high levels of police surveillance are less likely to accept greater surveillance. In short, chilling effects are felt most keenly among marginalised and disadvantaged groups. It is here that a potential tension may arise between police surveillance and public health surveillance.

The chilling effects research identifies how high levels of existing surveillance have been proven to manifest in mental health impacts and other outcomes within communities. This means attempts to cultivate trust will resonate unevenly across different communities. Moreover, these are also likely to be the places of highest vulnerability to COVID-19. Attempts should therefore be sensitive to this and be attenuated accordingly.

Crucially, this also links to connections between trust and trustworthiness, as discussed on the call and is central to Onora O'Neill's work on trust. Therefore, enhancing trustworthiness is key to building trust:

A common approach to building in safeguards, and, by extension, invite public trust in surveillance activities is to |

24

	Abigail A Sewell, Kevin A Jefferson and Hedwig Lee, 'Living under Surveillance: Gender, Psychological Distress, and Stop-Question-and-Frisk Policing in New York City' (2015) *Social Science & Medicine* Often cited general chilling effects studies: Elizabeth Stoycheff, 'Under Surveillance: Examining Facebook's Spiral of Silence Effects in the Wake of NSA Internet Monitoring' (2016) Journalism and Mass Communication Quarterly 296 Jon Penney, 'Chilling Effects: Online Surveillance and Wikipedia Use'(2016) Berkeley Technology Law Journal 117 More contextually, the two most prominent US studies of race/ethnicity and surveillance are probably: Browne, S. (2015) Dark Matters: *On the Surveillance of Blackness*, Durham, NC: Duke The CUNY report 'Mapping Muslims', comprising interviews with communities under enhanced NYPD surveillance	focus on privacy and data protection provisions. While useful, these are insufficient to mitigate the wider (a) harms and (b) concerns over the impact of such technologies. Therefore, oversight should address the range of harms and concerns, and also be effective in its operation. Something also missing in many forms of surveillance oversight is an accessible provision for remedy.
Importance and prevention of cybercrime and misinformation	**CYBERCRIME** Home Office (2013) Cybercrime: A review of the evidence Wall et al (no date) Policing cybercrime: Evidence review Centre for Criminal Justice Studies (University of Leeds) Cybercrime and Security Innovation Centre (Leeds Beckett University) Cybercrime Centre (University of Cambridge) Cybercrime Research Unit (University of Central Lancashire)	There is no clear evidence that demographics such as age, gender and income are definitive predictors of vulnerability to fraud. Individual difference variables such as risk-taking behavior may actually play a role. However, much further evidence is required. From Winton Centre: we see a correlation between performance on our numeracy tests and susceptibility to misinformation. The link is probably not so much about numeracy but about a way of thinking. Others have found links between performance on what are called 'cognitive reflection tasks' and belief in misinformation. Both of these are about critical thinking rather than knee-jerk emotional responses to things.

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	The Defence Science and Technology Laboratory Online Harms and Cybercrime Unit (University of East London) **MISINFORMATION** Infodemic: Combatting Covid-19 conspiracy theories (forthcoming research project led by Professor Peter Knight) https://www.pnas.org/content/116/7/2521.short https://doi.org/10.1177/0956797620939054 The Alan Turing Institute Crime and Security Research Institute (Cardiff University) Dawes Centre for Future Crime (UCL) Department of Journalism, Media and Cultural Studies (Cardiff University) The Defence Science and Technology Laboratory Human Rights Big Data and Technology Project The RAND Corporation University of Liverpool Inoculation against COVID misinformation project: University of Cambridge: https://www.psychol.cam.ac.uk/covid-19-research	"Prebunking" or innoculation to misinformation has been found to be a successful strategy: overtly warning people "some people might tell you..." and giving specific examples of likely misinformation. This allows people to be "on their guard" for misinformation around a topic.

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	AARP (2003). Off the hook: Reducing participation in telemarketing fraud. Retrived from https://assets.aarp.org/rgcenter/consume/d17812_fraud.pdf Anderson, K. B. (2019). Mass-market consumer fraud in the United States: A 2017 update. Staff Report of the Bureau of Economics, Federal Trade Commission	
Importance of GCSA and a strong science system to produce and deliver robust evidence	Cash, D. W., Clark, W. C., Alcock, F., Dickson, N. M., Eckley, N., Guston, D. H., Jäger, J., & Mitchell, R. B. (2003). Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences, 100*(14), 8086–8091. https://doi.org/10.1073/pnas.1231332100 Cassidy, A. (2019). *Vermin, Victims and Disease: British Debates over Bovine Tuberculosis and Badgers*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-19186-3 Doubleday, R., & Wilsdon, J. (Eds.). (2013). *Future Directions for Scientific Advice in Whitehall*. Centre for Science and Policy. http://sro.sussex.ac.uk/47848/ Jasanoff, S. (1990). *The Fifth Branch: Science Advisers As Policymakers*. Harvard University Press. Jasanoff, S. (2005). *Designs on Nature: Science and Democracy in Europe and the United States*. Princeton University Press. Jasanoff, S. (2011). Cosmopolitan Knowledge: Climate Science and Global Civic Epistemology. *The Oxford Handbook of Climate Change and Society.* https://doi.org/10.1093/oxfordhb/9780199566600.003.0009	The literature on science advice has developed steadily since its foundational texts (Cash et al., 2003; Doubleday & Wilsdon, 2013; Jasanoff, 1990; Pielke Jr., 2007). Key insights include how the production and use of science for decision-making varies according to national traditions (Jasanoff, 2005, 2011), the existence of inherent tensions and trade-offs around the content and processes of science advice (Pearce et al., 2018) and how different communities value evidence in diverse ways depending on their background and interests (Cassidy, 2019). The most authoritative review of the field is supplied by SAPEA, who provide a range of recommendations based on empirical evidence, the theoretical literature and the personal reflections of science advisers (2019, pp. 15–17). These can be summarised as: • Science advice must focus on a critical review of the available evidence and its implications for policymaking, including an assessment and characterisation of uncertainty. • Science advice should inform, not prescribe, policies. • There is no universally applicable model for structuring scientific advice for policymaking. • Science advice for policymaking involves many legitimate perspectives and insights so it is essential that the complete range of scientific opinions is represented and that all uncertainties and ambiguities are fully disclosed.

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	Obermeister, N. (2020). Tapping into science advisers' learning. *Palgrave Communications*, *6*(1), 1–9. https://doi.org/10.1057/s41599-020-0462-z Palmer, J., Owens, S., & Doubleday, R. (2019). Perfecting the 'Elevator Pitch'? Expert advice as locally-situated boundary work. *Science and Public Policy*, *46*(2), 244–253. https://doi.org/10.1093/scipol/scy054 Pearce, W., Mahony, M., & Raman, S. (2018). Science advice for global challenges: Learning from trade-offs in the IPCC. *Environmental Science & Policy, 80,* 125–131. https://doi.org/10.1016/j.envsci.2017.11.017 Pielke Jr., R. A. (2007). *The Honest Broker: Making Sense of Science in Policy and Politics.* Cambridge University Press. SAPEA. (2019). *Making Sense of Science for Policy Under Conditions of Complexity and Uncertainty.* Science Advice for Policy by European Academies. http://doi.org/10.26356/masos Bradford et al (2020) Live facial recognition: Trust and legitimacy as predictors of public support for police use of new technology Fussey, P., and Murray, D. (2019) Independent Report on the London Metropolitan Police Service's Trial of Live Facial Recognition Technology. Davies et al (2018) an evaluation of South Wales Police's use of automated facial recognition	• Access to diverse disciplinary perspectives, particularly from the humanities and social sciences, can help correct for unintended and hidden biases when interpreting data. • Science advice is not 'value-free'; rather actors from both science and politics should be open about their values and goals, helping to build mutual trust. • The most highly recommended science advice process combines analytic rigour with deliberative argumentation. • Stakeholders and citizens should be integrated into the process. • Science advice is not limited to policymakers but includes science communication to the wider society. There are multiple measures of system effectiveness, especially for complex AI-driven surveillance tools such as facial recognition. Scope exists to use specific measures in instrumental ways to pursue a specific argument (e.g. for or against deploying a technology). Building trust should be predicated on an open conversation around the full range of evidenced benefits and harms. Very course-grained/utilitarian views of public support are often used to justify new surveillance measures. Part of the issue – identified separately in the Bradford & Fussey work – is the significant variation of acceptance, trust and outcomes depending on social/demographic location. Given heightened emphasis on racial justice and minority rights, among other concerns 'evidence' in this sense should account for such disparities, e.g. the significance of minority views.

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	The Academy of Medical Sciences 'Preparing for a challenging winter 2020/21' report (produced following Chief Scientist's request, and discussed at SAGE) The Royal Academy of Engineering and National Engineering Policy Centre (NEPC): COVID-19: Engineering a resilient future: from ideas and insights to collective engineering advice Supply chain challenges, lessons learned and opportunities Rapid review of engineering factors that will influence the spread of COVID-19 in hospital environments Rapid review of the engineering approaches to mitigate the risk of COVID-19 transmission on public transports Stimulating R&D for a faster and better recovery Work on using engineering systems approaches to tackle complex problems: The Royal Academy of Engineering and National Engineering Policy Centre (NEPC) "Sustainable Living Places, a systems perspective on planning, housing and infrastructure" The Royal Academy of Engineering and National Engineering Policy Centre (NEPC) Net Zero: a systems perspective on the climate challenge. The work builds on work done for the Council for Science and Technology, A Systems Approach to Delivering Net Zero: Recommendations from the Prime Minister's Council for Science and Technology (unpublished).	
Improved knowledge management systems	Example of a tool for public engagement with knowledge management systems: https://storymaps.arcgis.com/stories/17ffb61f988c4cc7bce7dc98e3022c79	

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	Evidence Synthesis for Policy report (Royal Society/Academy Medical Sciences): https://acmedsci.ac.uk/file-download/36366486 EPPI centre report on communication of policy-level evidence via online portals: https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/CFHI_EVIDENCE_STANDARDS_REPORT_V15_PRINT.pdf?ver=2018-12-03-105142-067 Communicating policy-level evidence: https://doi.org/10.1057/s41599-018-0121-9	

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