



Sense about Science

Public led, expert fed

Scientific evidence, when used responsibly, has the potential to be a great power for good. However, our lives often revolve around claims based on little, poor or poorly understood evidence. Sense about Science is changing that: they want the public to ask questions and politicians and the media to be held accountable. In this article we find out from director Tracey Brown about why and how they are doing this.

At the turn of the millennium, public trust in science was at an all-time low. Sense about Science was set up to change that. For nearly two decades now, the organisation has been encouraging scientists to take part in public discussion and challenging the public to ask for the evidence behind the decisions made by politicians and policy-makers.

In this interview, Tracey Brown, Director of Sense about Science, tells Research Outreach why they believe science and evidence are a matter of public interest, and how they are going about restoring confidence in research today.

What is the core idea behind Sense about Science?

The idea is that sound science and evidence are a matter of public interest. This means making sure that authorities see that evidence matters to people in all walks of life, and that they need to be accountable for how they use or portray science and evidence. It also means making sure that people have the tools to weigh up what they're told.

We engage the help of people across all areas of research, as well as community leaders, good journalists and politicians. Our approach to subjects is 'public led, expert fed'; that is, to start with the questions or

claims that actually confront people in different domains and work out what critical thinking and research evidence could bring to that. We are particularly interested in drawing out underlying assumptions and finding key insights that help non-specialists dig into a subject. Over the last 18 years we have also opened up areas where the evidence used in decisions is systemically obscured, such as in policy-making, use of predictive models, and, globally, clinical trial reporting.

Could you tell us a little bit about your background and how you came to be involved with the charity?

My path was headed towards social

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research, but in the early 1990s I spent time in Russia, developing an EU collaboration to build up social science and research. It was a profound thing to experience a society that had been unable to reflect openly on itself beginning to use social statistics and test explanations, and to see the energy of a new generation of researchers wanting to help people to do this. It first alerted me to the idea of scientific thinking as public empowerment. I suspect Sense about Science's focus on accountability and transparency owes something to those days.

I came out of that and into a situation in Europe in which science and society seemed pitted against each other. In the UK we'd had the BSE (or mad

cow disease) crisis and controversies around the risks of technologies. It seemed to me that those of us without specialist knowledge should be equipping ourselves to ask critical questions and apply insights; an endeavour that researchers could help with. I met the late social psychologist Peter Marsh. We both came from less educated backgrounds and shared an appreciation for how empowering knowledge is. He introduced me to Lord Taverne, who had founded the Institute for Fiscal Studies and was starting an organisation to improve evidence in public life, with a board that included Onora O'Neill who had recently given the Reith Lectures on trust, and John Maddox, then editor of Nature. I became the first member of staff.



Tracey Brown is director of Sense about Science.

You have launched several campaigns and initiatives that encourage public discussion about scientific evidence. In which specific ways are you trying to improve public education and scrutiny? Our 'Ask for Evidence' campaign equips people to ask questions about what they're told – in adverts, news stories, policy announcements and more. It is primarily to help them ask, because Sense about Science is small and even if we were ten times bigger we wouldn't be able to pursue



During Evidence Week in the UK parliament, the research community engages with MPs and constituents in short briefing sessions.



In a crisis like the COVID-19 pandemic, it matters even more that evidence used for decision-making is open and communicated.

Thought Leader

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PLEASE ADHERE TO THE FOLLOWING RECOMMENDATIONS

COVID-19

PREVENTION  Wear face coverings  Wash your hands with soap and water  Keep your social distance  Avoid large gatherings  Avoid touching your face  Avoid travelling unless necessary	IF INFECTED  Stay at home  Keep objects and surfaces clean  Call your doctor if necessary	IF INFECTED  Fever  Shortness of breath  Cough
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You should stay home for 14 days after your last contact with a person who has COVID-19.

Even if you test negative for COVID-19 or feel healthy, you should stay home once symptoms may appear 2-14 days after exposure to the virus.

a fraction of those claims. But it is also worth noting that encouraging questions is an antidote to cynicism: people are much more likely to take on board elements of scientific thinking and discuss evidence when the discussion is on their terms.

One of our biggest concerns at the moment is that data science is developing at a very fast pace and predictive software is being used in decision-making, running systems from traffic flows to medical diagnostics to welfare payments. Across society we aren't particularly aware of the questions to ask about how reliable these applications are. The politicians announcing big data strategies have themselves perhaps gone past the point of being able to say, 'by the way, what is big data?'

What services does Voice of Young Science (VoYS) offer researchers?
 VoYS is a network of thousands of early-career researchers, engineers, scientists and medics across Europe. What unites them is a commitment to playing an active role in debates about science and evidence. VoYS is built on an ethos of responsibility for public discussion, and the need to develop the confidence and skills to do that.

We – and a large group of learned societies and other partners – support this through workshops, resources and shared experience. The workshops give early career researchers an exclusive opportunity to learn from researchers with experience in standing up for science in difficult debates, and to learn from the journalists and policy-makers who shape the debates that research lands in. Conversations about research evidence should be career-long, and by supporting that at the start, the return is so much greater.

The scientific sphere is built on hypotheses and debates while the political sphere is seeking a way to communicate in a concise way with the public. In your opinion, how can they best work together?
 I think we have to be wary of creating a false dichotomy here. Goals ('reduce emissions to protect air quality in cities') and rules ('turn off your engine while waiting') need to be expressed simply so that everyone picks up on the most important thing. It is a matter for leaders to determine what the goals and rules should be amid uncertainty. The reasoning behind them, and how evidence might change it, should be freely discussed with all the uncertainties and unknowns.

I have seen no evidence, nor had any experience in all my years at the interface of evidence and public debate, that makes me think trust is enhanced by refusing to share this reasoning. Where evidence is incomplete and uncertain it's better for politicians to say so and explain the trade-offs and calculations they have made. Asking researchers to disguise uncertainty, or just laying out a complex situation and saying 'over to you' are both abdications of leadership and shouldn't be trusted.

Is there a certain project or learning experience that you'd like to tell us about?
 We're very excited to be starting work again on Evidence Week in the UK parliament and Holyrood, with a new virtual set up this autumn that can involve constituents too. We began Evidence Week in 2018; constituents from many walks of life told the people who represent them that evidence matters and why. It is always a surprise to politicians to experience this kind of engagement from constituents and it has encouraged many Members of Parliament (MPs) not normally self-identifying as interested in science or research to take part. The research community then provides briefing sessions for MPs and constituents about

these areas and about emerging policy questions. Last year we found great success by making these into rapid three-minute briefing sessions in the UK parliament; researchers delivered hundreds of them to even the busiest MPs. A big takeaway from this is to ask, 'what are the policy questions – what can we contribute to that?' instead of 'what is my research, how do I publicise it?'. MPs can be leaping through 40 different constituency, legislative and parliamentary issues in a day. Think about how to help them.

How are you experiencing the current public health debate in light of COVID-19?

COVID-19 has been a huge challenge for us both in terms of the increased demand and the incredible number of issues we are working on simultaneously. We drafted the principles for independent scientific advice that were adopted into the Ministerial Code back in 2010 and also, with the Institute for Government, the framework for transparency of evidence. So we have been pursuing those standards because it matters more in a crisis than at any other time that the evidence used for decision-making is open and communicated. At the start of the crisis in the UK it wasn't and we quickly saw how conspiracy views flourished.

On the other hand, there has been empathy and respect for the difficult job of trying to fathom COVID-19, and let's remember that people, from the opposition parties to the general population, showed great restraint and patience with that. It is unravelling now as managing the path out of lockdown has proven harder for decision-makers, causing people to find gestures towards 'the science' laughable. Whether there is a long-term impact on confidence in public health advice remains to be seen. We have had unprecedented levels of engagement across society in discussions about modelling, data science, scientific advice mechanisms, clinical trials and all the more esoteric areas of our work! At the start of the UK lockdown, Ask for Evidence was Mumsnet's campaign of the week and people all over the country were downloading material to discuss with their kids on how we have confidence in what we read.

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