HOUSE OF LORDS

Select Committee on Risk Assessment and Risk Planning

Corrected oral evidence: Risk Assessment and Risk Planning

Wednesday 28 April 2021

10.20 am

Watch the meeting

Members present: Lord Arbuthnot of Edrom (The Chair); Lord Browne of Ladyton; Lord Clement-Jones; Lord Mair; Baroness McGregor-Smith; Lord O'Shaughnessy; Lord Rees of Ludlow; Lord Robertson of Port Ellen; Baroness Symons of Vernham Dean; Viscount Thurso; Lord Triesman; Lord Willetts.

Evidence Session No. 20 Virtual Proceeding Questions 207 - 213

Witnesses

I: Professor Brooke Rogers OBE, Professor of Behavioural Science and Security, Department of War Studies, King's College London; Professor Duncan Shaw, Professor of Operational Research and Critical Systems, University of Manchester; Dr Carina Fearnley, Associate Professor, Science and Technology Studies Department, and Director, UCL Early Warning Centre, University College London; Professor Sir David Spiegelhalter, Winton Professor of the Public Understanding of Risk, Statistical Laboratory, University of Cambridge.

Examination of witnesses

Professor Brooke Rogers OBE, Professor Duncan Shaw, Dr Carina Fearnley and Professor Sir David Spiegelhalter.

Q207 **The Chair:** Good morning and welcome to this evidence session of the House of Lords Select Committee on Risk Assessment and Risk Planning. This morning we will be dealing with two panels: first, the communication of issues around risk and, secondly, the lessons to be learned from the Covid-19 pandemic.

I welcome all our witnesses. Please do not feel it necessary to answer every question. Some of them will be directed at you specifically and not to everybody. We have a lot to get through and we hope to finish this first panel by about 11.15 am. There will be a transcript of the evidence, which will be taken and published on the committee website. You will have the opportunity to make corrections to that transcript where necessary. That is something I am told I must say.

Let us start with the questions about risks and communication of risk. Are risk registers or risk matrices, such as the National Risk Register we have—and there are local equivalents—useful tools for communicating risk to the public or for raising public awareness of threats or hazards or for communicating them to the people who need to take action?

Dr Carina Fearnley: Good morning, thank you for inviting me. The risk registers and risk matrices are very important in terms of cataloguing what the risks are out there, but I do not see them as an effective tool to communicate risk to the public. We can use some other tools, such as warning systems, to do that. I will come back to that in a minute.

The National Risk Register is very important but the word "risk" means that we tend to focus on what the risks are. By doing that we tend to ignore the things that we ignore—the ambiguities and the uncertainties around hazards and threats. Quite often those are the things that catch us out. By perhaps thinking outside the box and not calling these things risk and, therefore, being able to embrace other tools. Generic risk assessments are very important but we can adopt and utilise other tools, such as prevention, precautionary approaches and deliberation.

The National Risk Register has a two-year timeframe so we are not seeing a number of different hazards that we need to prepare for. We also are not dealing with hazards and risks that are interdisciplinary, that work across different aspects of government, different agencies and different disciplines, that are very challenging to work across when we just focus on one hazard. That is my final point on the National Risk Register, which is by focusing on one individual hazard we are missing opportunity to look at the all too frequently occurring multiple hazards that are happening or cascading events.

What is the answer to this? Warning systems are typically a very good solution to communicate risk to the public. They bring together different stakeholders and they are formalised, usually through alert level

systems, to communicate to the public specifically but also to raise awareness and co-ordinate between the many different stakeholders involved and to bring together elements of preparedness, response, mitigation and recovery, which we can see best exemplified by Covid-19.

Warning systems are a very good tool used by many countries very effectively, which could be better empowered to communicate risk to the public so that they can understand how a hazard or threat is relevant to them, what they can do about it and how they can be prepared for the decisions that they may need to make.

The Chair: That is extremely helpful, thank you very much.

Professor Brooke Rogers: Thank you for creating such an interesting session. I have worked with the National Risk Register in the UK for several years as part of the behavioural science expert group. It is very important to see the National Risk Register as a tool that is constantly evolving and changing through every iteration. Initially, it was created to inform local emergency planners, resilience professionals and businesses. Thinking about it as a public communication tool requires more of a transformation of the tool that we have at this point in time.

It is very important to recognise the evidence and the processes and the effort that go in across the risk, hazard and threat landscape to inform the categories placed into the National Risk Register. The translation of that to the local level is where I am seeing more of a struggle take place because the translation of the National Risk Register down to the local emergency planners and responders and then down into the communities themselves is the key to making this a useful and effective public communication tool.

I have seen a lot of changes in terms of attempts to make this a public communication tool, where they have stopped simply identifying the risks and threats but also said, "What does this mean? Where can you go for information? Who are some of the trusted responders?" There is also an entire section on communities and the ways in which we need to think about communities when thinking about preparedness, response and recovery.

At this point in time there needs to be more disciplined effort. We should consider using a strong and firm foundation for translating risks down to that public and community level rather than saying, "Is it a tool that is fit for purpose or not fit for purpose in terms of public communication?" There is so much there that can be translated well. For example, why do we not have a public launch built around the release of the National Risk Register every time it comes about? Why are we not connecting that? Why are we not celebrating that when it comes out to the public?

If we think about this in terms of a useful tool, a lot of the public communication has been through our emergency response communication or our emergency response plans. We need to broaden that out and think about it in terms of preparedness and pre-event

communication during the event communication and recovery communications. In order to do that we need to pull on those local-level responders and plug into the translation of the National Risk Register down to the community level.

Professor Duncan Shaw: Thank you for the invitation. I will focus on the local risk registers, which are the interpretation of the National Risk Register at the local level. While I agree with what has been said about the National Risk Register not being particularly helpful as a communication tool, many members of the public may take an interest in the local risk register. But even then those tend not to be actively marketed to the public. They may be put on websites, they may be communicated in different ways, but I suspect that the majority of citizens might not even know that they exist.

The duty to publish the local risk registers does not put a measure on the value that they create. Their value in part comes from them focusing a debate among resilience partners about the local risks and the capabilities that they need locally to begin to deal with those risks. This means that the risk register can begin to act as a commissioning tool, commissioning conversations across partners, as Professor Rogers said, and commissioning conversations and activities at the community level so that we can begin to commission local communities, thinking about the risks in their area and how they can begin to deal with that; in particular, pinpointing at-risk communities.

By the risk register underpinning the commissioning of activities it can begin to have a direct impact on the public. You can imagine that local authorities and emergency planners can go into communities with the risk register and start talking about the risks that are relevant to individuals in the room, who are relevant to particular places, and can begin to bring these and make the risks real for each member of the public.

However, that takes a lot of effort and at the moment that is a bit patchy, but it puts the focus on resilience partnerships to use the risk register as a tool to communicate with communities in a very direct way rather than in an indirect way by publishing on the website.

The Chair: We will come on to the local communities issue in due course.

Professor Sir David Spiegelhalter: I am very pleased to be here, thank you for asking me. First, just a general point: there is no correct way to communicate anything and it is crucial to think of who the audience is, what you are trying to communicate, what are you trying to achieve, and then test whether you have achieved it. That is a very important background idea. The risk register is basically a good idea, and the latest version has done its best, but it is not clear what the point is of this public version. There is a need for transparency but, as has been mentioned, it gets no publicity, there is no media coverage. Nobody seems to know about it. What are people supposed to do with it? It is absolutely essential to work out what it is trying to achieve. Having

worked that out, you need good design. It also seems extraordinary that we do not know how well these documents, these risk matrices, are understood or about their impact. That is something our centre is actively working on.

I do not want to spend a lot of time on the details of the actual risk matrix—I could go on for ages about that—but there is a problem in that public version of having a single unmitigated reasonable worst-case scenario. I was on the Blackett report 10 years ago but nobody seemed to take any notice of that so I can repeat the same things. It is good to have a single story but it is very restrictive.

I was doing the volcanic ash analysis for SAGE after the Icelandic explosions and there is this obsession with one scenario when planning that through and working what its probability is. But what you are talking about is a whole class of problems with big uncertainty about what might happen. We have some sort of distribution over those possible impacts. We should be representing that a lot better to show the spread. I will not talk about the Covid one, but what was in the public version was obviously a hopelessly inadequate representation of what might happen with emerging diseases.

We need to be clear with the presentation of these risks. The 2017 National Risk Register, the pretty version, was incomprehensible, in fact. The 2020 one is hugely better, and I would say that because we helped with the design of that; in particular, trying to clarify the logarithmic axis for risks—that each band multiplied the risk, it did not just add it. There is a highly non-linear scale and that is why the design, as it has been changed, has been used.

Finally, as was also said in the Blackett review, in these analyses it is essential to make clear when we are very clear about the risks and we understand them and we are quite confident about these numbers and when we do not know very much—the quality of the evidence and the confidence in the assessment. This has become absolutely standard now in all the SAGE reports. They will give an assessment but then they will say how confident they are in their judgments, on a scale of low, low to moderate, moderate, moderate to high, or high. Again, our centre has been researching this and showing the value of these statements of the quality of the underlying evidence because some things we can model quite well and other things are much more uncertain.

Format and communication are vital, and, crucially, you need to decide what you are trying to do and to test it with audiences.

Q208 **Baroness McGregor-Smith:** Following on from that, and part of this question has already been answered, when communication is happening by government—let us talk about the senior leaders of government—what do you think are the most significant issues with that communication? It would be great to give a couple of examples of the issues that you think happen on exact communications, but then also tell us about how things have worked brilliantly as well. In view of the time pressure, we do not

need everyone to answer.

Professor Brooke Rogers: Thinking about some of the issues about how risk is communicated, especially with a focus on senior leaders, one of the things that I worry about when I listen to senior leaders' communication is the failure to provide a credible rationale for the guidance itself and the subsequent changes. When decisions are made there should be a very open and transparent discussion about the other options that were considered. What was the problem? What is the challenge? What options were considered and why did they arrive at the course of action that they are deciding to take? We need an explanation of the choices—what evidence did they consider? The evidence, if it does not create a security risk, should be made public.

On rationale, how aware were they of the implications of making one choice over another? What trade-offs are they considering and were they aware of? It is also very important to provide feedback so we should set out clear plans for monitoring and feedback. Do not be afraid of revisiting choices in the light of that feedback. I am seeing that improving in the dialogues and discussions, but we really must set out the points at which assessments will be undertaken and feedback provided.

I also worry that many interventions, including communication, are designed before being tested in focus groups rather than building communication, co-design and engagement with stakeholders into the start of the process. It quite often feels like solutions are created and then they are tested at the end of the process rather than building in stakeholders throughout the process. That means that group participants may not reflect all sectors of society in those final focus groups. I would push communicators to build in and to indicate the efforts that they have gone to, to engage in co-creation and co-design in those processes from start to finish.

They need to allow time for sector planning. I am an independent academic but I engage quite frequently with government departments and the pace and the speed at which they have to work—sometimes it is a phone call on a Friday evening and you have to have the product ready for Sunday night for a decision to be made on Monday. A lot of the risks and threats that we need to communicate about are well known and well understood so there does not always have to be this urgency around it. We need to allow that time for sector planning.

Finally, when risk communication is shared that also needs to be balanced by communication about the changes that are being made to enable the behaviours that they are requesting to take place. If we think about Covid-19, if we are asking people to isolate in their home are we also addressing some of the business pressures and job security issues that these individuals might be experiencing that will make it less likely for them to be able to isolate in place or shelter at home? If we are asking people to do something, are we also creating enough changes in the environments around them to better enable them to do that?

Baroness McGregor-Smith: Thank you, that is helpful. Would anyone like to add by giving an example of something we have seen done well recently?

Professor Sir David Spiegelhalter: Some of the best examples have come from your colleagues in the House of Lords. I would always mention Baroness Onora O'Neill, of course, because she says, when she is talking about communicating information, the aim is not to try to be trusted, it is to demonstrate trustworthiness. Demonstrating trustworthiness is a theme that runs through any good communication, certainly risk communication. She says that information should be accessible—people have to be able to find it. It needs to be comprehensible and usable—it has to answer people's needs—and accessible so that people are able to check the working if they want.

Another of your colleagues, Lord John Krebs—former head of the Food Standards Agency—did some fantastic examples when he was bombarded with foot and mouth and scrapie and every disaster you can think of. He went through his checklist. You have to tell people what you know, what you do not know and what you are doing about it, what people can do, what the public can do, and then you emphasise that you will come back to them and things will change.

The best example I have seen of this recently was Jonathan Van-Tam two weeks ago telling the public about the risks of blood clots with the AstraZeneca vaccine and why they were not recommending it for the under-30s. Of course I would say that—he was using the graphics we produced—but he went through it very slowly, treating the audience with huge respect, as intelligent people who could understand the complex issues of risks and balancing risks and benefits and that this may differ from group to group and context to context. He told that story in his inimitable way and he is a trusted source. All those are very good examples of how it can be done.

We also have our own little guidelines, which we have been promoting. They are starting to be known as the "proved guidelines". They basically say that to be trustworthy you should be trying to inform rather than persuade people or manipulate them into thinking one thing or another. You have to give balance but not false balance—you do not pretend that all options are the same. Admit uncertainty, be open about the quality of the evidence and, as we might come to later, pre-empt misunderstandings—get in there fast and say what is not the case.

There are lots of very good examples now with very good guidelines as to how to do this.

Dr Carina Fearnley: During Covid-19 we learned some examples of where there could be significant improvements. One of the key areas was the alert level system for Covid-19. Essentially, if we are communicating a risk during a crisis, it is too late—the horse has bolted. We need to be raising risk beforehand. Alert level systems are commonly used to do that, to work from senior levels of government right down to the public

and everyone in between to issue the latest information. With Covid we found that a lot of the design issues around the initial national Covid alert level system did not work because we started to see local variances and then we started to see the three-tier system introduced, which enabled that adaptivity.

We can learn a lot from the experience of Covid-19 in the UK, from Covid-19 alert level systems around the world and from other hazards, and those alert level systems are so important in creating awareness. The lessons that we have learned from other natural hazards and threat is that decision-making is difficult. It is hard to know when to change the alert level, it is a complex negotiation, and we have to engage with a lot of stakeholders, top to bottom, bottom to top.

Equally, we need lots of open communication and dialogue. The public are a very useful source of information and we should be leveraging that and integrating that into the communication processes and decision-making processes. As part of that, to have these open multiway communication channels we need to have ongoing activities that manage risks through all times, for all hazards and threats, to be able to come in and raise awareness when we see something emerging in the UK or globally.

A final issue that became particularly prominent in the UK was standardisation. We ended up with different alert level systems for Covid in Scotland, Wales, Northern Ireland and England, and that created some confusion, especially for those who live on the borders. We need to make sure that there is a level of standardisation that makes things simple and clear for people to understand but at the same time is able to accommodate the complexities, the adaptiveness, the emerging situation that is happening as well. We can learn a lot from best practices from other nations, other hazards and our own experiences, and utilise alert level systems far better.

Baroness McGregor-Smith: We could spend quite a lot of time just on this one piece but we will have to move on. That was interesting, thank you.

Q209 **Baroness Symons of Vernham Dean:** Professor Spiegelhalter said that there was no one correct way to further communication. Clearly, information and information tools are required to help individual members of the public to assess risk themselves and to respond proportionately to something like Covid-19, but social media is increasingly powerful and can be the means of spreading a lot of misinformation and arguably has been the means of spreading misinformation about Covid-19. How do you counter the social media in that way? What sorts of tools are available? Should there be more restraints or more constraints on how we deal with social media?

Professor Sir David Spiegelhalter: That is quite a broad question because underlying that is an assumption that if only we could tell people the facts about things and get the numbers out to them, suddenly they

would all approach risk rationally. It is a bit of an old-fashioned point of view that if only we could get people to think rationally then things would be all right. There is a slight feeling of a deficit model there that it is due to their deficit of understanding that people have problems with appropriate prioritisation. That is quite dangerous because we have to admit that there is risk as feeling and risk as analysis. Risk as feeling is hugely important and we should not dismiss it as being purely an emotional reaction.

If we dealt with everything just according to magnitudes we might say, "Terrorism is not that important because it hardly kills anybody compared with other things, why spend all this money on all this security?" But people get very upset when people are killed by terrorists. That is a reasonable response—that outrage that these things should not happen in society. We have to be careful about thinking we can just put everything in numbers and get the numbers right and then people will agree with us, because different numbers mean different things to different people.

At the same time, I also believe it is enormously important that any information out there should not be misinformation; information, facts, magnitudes are incredibly important. They are not sufficient but they are important.

If we move on to the other topic about this, I would go back to what I said before. There is a huge need to pre-empt misinformation, to get in there first and to realise what is going on, to listen to what is circulating. I am a big fan of my colleague Sander van der Linden's idea of inoculating people. You tell them the misinformation before they hear it from somebody else: "Do you know there are people going around saying that vaccines are injecting a chip into you or something? It is just not the case." Get in there with trusted communicators to correct that information.

It is not just about correcting facts, it is also—it is an interesting idea—what you need education for in schools, to understand the techniques that are used on social media to manipulate opinion and spread misinformation; not just correcting one single fact at a time but trying to understand the process by which people receive misinformation and how to try to spot it and deal with it. That should be part of the national curriculum, just like other personal safety things are included as well.

Baroness Symons of Vernham Dean: You cannot always get in first. If you do not know what the social media will say—

Professor Sir David Spiegelhalter: If you listen, if you are aware, if you are on there, you cannot always get in there first but you should know what is circulating from different groups, what is circulating on all these different platforms and things like that and be ready to counteract and to confront it.

Baroness Symons of Vernham Dean: So keep monitoring?

Professor Sir David Spiegelhalter: Absolutely. Listening is essential. Do not be taken by surprise. It should not be purely responsive mode. At the same time, you do not want to build it up into a huge threat but to be aware of it and to say, "Yes, we know about this but this is just not the case". Experiments my other colleagues have done show that this can be effective. There will always be a group of people who you just cannot shift, but in terms of preventing them influencing others, you have to get in there first as a counter to it.

Baroness Symons of Vernham Dean: Dr Fearnley, are you broadly of the same view?

Dr Carina Fearnley: Yes, I absolutely agree with everything that Professor Spiegelhalter has said. Risk communication and thus building trust and credibility is incredibly important to stop all miscommunication. That means using multiple channels, being clear and transparent, providing relevant, timely information and addressing those uncertainties. A good example is the United States Geological Survey. It is excellent at providing all its scientific data and educational resources and it has become a trusted source that people believe in and go to and they ignore what other people are saying.

I see the core of miscommunication and misinformation as part of education. Again, what David said about education is so important—teaching schools and communities so that they have the fundamentals to deal with any risk or uncertainty and know that uncertainties can exist and how they should manage those. Equally, we need to listen to the people who do have very controversial or non-conventional opinions, engaging with those people and trying to understand their perspective, because there may be a way to understand it better and move forward

We have to make sure that we are creating transparency, credibility and trust. Incidentally, that was one of the key issues with the Covid-19 alert level system because it followed a security model. We did not know much about the Joint Biosecurity Centre. It created this opaqueness and that always creates a bit of mistrust, which is absolutely vital in a crisis.

Q210 **Lord Willetts:** If I may just follow up on that, this is getting to the heart of the issue for this session, which is the balance between the top-down model and the bottom-up model. Of course, individuals may legitimately have different appetites for risk and different risks may be relevant for them in different ways. It might be interesting to hear from Professor Rogers or Professor Shaw about how we try to reconcile those two different ways of thinking of this.

Professor Brooke Rogers: I will try to balance that. I am also going down the education pathway in terms of knowledge and awareness of risks but also familiarity with the trusted or with the evidence-based sources which will be involved in communicating about these risks.

As an individual, if I am trying to think about the risks in my world and the risks in my daily life, I will be receiving information from a variety of

sources: from Twitter and other platforms, from the newspapers that I read, from conversations with my hairdresser—if I ever get an appointment—and things like that. I will have a variety—a combination of expert and lay views on risk as well as my personal experiences. Professor Spiegelhalter was talking about risk as feelings. That drives my risk-as-feeling response.

On an individual level, I will make choices about what I consider to be an acceptable level of risk, thinking about some of the risk perception principles. Is it something that is familiar? Is it something that I feel that I have control over or do I trust, am I even aware of, and do I know who the organisations are, who are supposed to have control over those risks? Do I feel like the impacts of this risk are fairly distributed or will they impact different groups, maybe myself and my family, to a greater degree than other groups? Those qualitative factors will inform my personal assessment of that risk. I am interested in the quantitative factors as a person, a member of the public, but the qualitative factors are more powerful in my decision-making.

However, we have seen, and there is a very strong evidence base for, the power of the collective communication and the collective response. When I am thinking about that individual understanding of risk I want to address the personal understanding, the personal perception of risk, the motivation to gauge in the behaviours that we are asking for and the environment that enables that motivation.

If I am thinking about the collective response, I am trying to think about asking someone to think about the impact of risks and the likelihood of risks through my behaviour that I might bring about for other people. There is very strong literature around that to say that we can have those conversations and we can translate that individual understanding of risk to that collective understanding of risk. We are seeing and we do see very high levels of engagement with the interest of trying to protect others from those risks.

Lord Willetts: Professor Shaw, do you have any advice on this and just what it means for the way in which risk is formulated, if different people have different attitudes?

Professor Duncan Shaw: Lord Willetts, this is not my area. I would probably defer to other members of the panel.

Q211 **Lord Clement-Jones:** I come to the question about how we can better mobilise the public as a resource to support national resilience; for example, through volunteering or personal preparedness. The Committee was quite taken by what Jim Kronhamn of the Swedish Civil Contingencies Agency urged the Committee. He said we need to see the UK public as subjects not objects in this respect. How far would you take that, starting with Professor Shaw? In particular, of course, in the integrated review that there is a proposal for a civilian reservist cadre, which sounds slightly interesting.

Professor Duncan Shaw: That is a very interesting idea of having the public as subjects. I would go even further to say they can be active subjects. They are part of this and they should be viewed as such. That means we need to take a strategic approach to supporting communities, to supporting the public to prepare for and respond to emergencies, given that the public are usually the first to arrive at and the last to leave a disaster. In the UK we have this notion of community resilience and it is quite a difficult concept to pin down, which means that local authorities and national government are trying to understand what it means. But it is difficult to know how we can mobilise the community. It is difficult to know when that resilience has been lost.

We have been doing some work around how we operationalise community resilience as a set of local resilience capabilities. As you have said, it is about volunteers, organising spontaneous volunteers, but it is much more than that. It goes further by bringing together the capabilities of individuals, organisations that are in the communities, community groups and then of association networks that are made up of all these three groups.

The aim is to understand how we can reduce the severity and likelihood of impacts, and then to enhance communities as they prepare, respond and recover, through cohesive community action that is co-ordinated. We think that we can accomplish this by helping communities to become aware of the risks, by helping them to help us to understand what the vulnerabilities are, because communities should be able to pinpoint vulnerabilities more effectively than somebody who is quite distant from a community. Then we should help them to develop resilient behaviours, looking at how they can sustain themselves by being on standby, by having very productive relationships with cat 1 and cat 2 responders.

We have been thinking about what these local resilience capabilities support. We can see that they can support the development strategy. This is about communities being co-developers of response, recovery and resilience strategies to deal with the local risks that communities face, to look at the local vulnerabilities that many experience and what they can do to prepare. Communities can also provide intelligence and we have talked about that a little bit already this morning.

This is about communities providing two-way communication channels back up into government so that when something changes in the community there is a surveillance mechanism there to ensure that local knowledge can be pushed up into government, so it can begin to adapt its understanding of what the risk is. That also helps us to identify who are the most vulnerable. We have systems such as this running in the UK already, such as flood wardens, who go around communities to understand what the flood risk is and how that is changing.

Communities can also help to manage their own preparedness, to monitor their own response and their own recovery activities. Here it is about communities developing their own governance, their own processes, support, training and continuity plans so that they can operate

effectively, even if a disaster does emerge or does occur. They can co-ordinate their own supply and demand, so they can look to understand where the offers of support are coming from, where the needs are that those offers can begin to support, and then co-ordinating also with other community groups and local government and national government efforts that are going on so that everybody is working together. They can deploy local volunteers. They can have business continuity plans. They can have neighbours feeling empowered to act.

Most of this has already been happening during Covid. We have seen and experienced a masterclass in this over the last year. Resilience partners, local authorities, need to think about how they can sustain this effort in a way that will continue to reduce risks for other emergencies that might happen.

We do not need everybody in our communities to act in this way, we just need enough businesses, enough people, to take some responsibility, to take action in order to make a difference, but we need to recognise that communities are in very different places. While some might be able to act as public subjects in communication, we know that not all can. There are different levels of maturity out there, so the importance of the resilience partners being there to manage risk and to deal with that on their behalf is absolutely central.

Lord Clement-Jones: You are implying this is quite patchy. Although there are some places where these mechanisms are it is not universal, some communities have got stuck into this. Would you support the idea of a civilian reservist cadre, as it is called? When we took evidence from the military, they warned against creating another, what they call, enthusiastic but not knowledgeable generic capability. They were rather doubtful about this but you are more enthusiastic.

Professor Duncan Shaw: Absolutely. When we look at the USA, SARVAC in Canada, the efforts within Japan, THW in Germany or INJUV in Chile, they are all excellent examples of the public being responsible for their own resilience and being empowered by local government to take action. This is not something that is unusual. This is standard practice in places where they recognise that local government support structures that are there cannot do everything. We cannot have a passive public who are waiting for everybody to come to save them.

We recognised this in the east coast flooding when it was realised that if east coast flooding hit, demand would exceed the supply of support. The public are there, they will be looking to see what they can do to help, and they will come, whether or not we are ready for them to come. We should get ourselves ready and be able to provide them with a very clear route to provide that support in a structured and safe manner.

Lord Clement-Jones: Chair, perhaps I might some of the other witnesses whether they have a particular view on this. Professor Rogers, do you have a view on how you mobilise the public and whether or not we need more formal structures to do that?

Professor Brooke Rogers: I defer to Professor Shaw on this. His work is amazing in this area and he covered so much ground with that that I cannot do justice to it with my evidence in this area.

Lord Clement-Jones: Do any of our other witnesses have a view on this?

Dr Carina Fearnley: I absolutely support Professor Shaw's statements and I just wanted to take more of an international perspective on this. The United Nations is very keen to endorse people incentive models in terms of developing resilience. That is why we have the sustainable development goals because it brings together sustainability and resilience, uniting communities and giving them the power and the resources to respond to things. Community-based early warning systems have been incredibly successful because the community has ownership about creating its own warnings and, therefore, being able to respond to them and have the resources. A very important lesson for me is to make sure that the local communities and upper government are communicating and working together.

One of the very terrible things that we learnt in the Tohoku crisis in 2011 was that while the warnings were issued by the Government about the tsunami, many people followed the advice and they went to their local evacuation platforms or structure to get to high ground. Unfortunately, those structures had been designed on the basis that it was going to be a magnitude 8 earthquake. It was a magnitude 9 earthquake so the tsunami was that much larger, which unfortunately meant that a large amount of the public walked to their death on the top of this platform. We need to make sure that the science is there and the local communities are understanding. For many of those people, they could have got to high ground instead but they chose to go to the vertical evacuation structure.

These are incredibly complex problems and we need to have open dialogue. As Lord Willetts said, the challenge from going top down to bottom up and meeting in the middle is incredibly difficult. But putting people in the centre of that, as Professor Shaw stated, is absolutely vital.

Lord Clement-Jones: With the creation of that rather more formal structure to bring that together?

Dr Carina Fearnley: Exactly. I may be banging the drum a little too much but that is why I am a fan of warning systems because I feel that they bring everything together into a practical mechanical advisory tool that gives people impetus to act and do something because they can see the purpose of it and the relevance of it.

Professor Sir David Spiegelhalter: I do not think I have anything to add. It just reflects this idea of treating people with respect rather than objects to be manipulated and, crucially, listening to them about what is important to them. That reflects the idea of co-production and all these things we have talked about throughout the session.

The Chair: Professor Shaw, can I just ask you on that, what do you mean by "communities"? How do you create a sense of community that is relevant to this?

Professor Duncan Shaw: We talk about communities as being individuals, as being businesses or organisations, as being community groups and as being associations or networks of all three of those. That does not only talk about a member of the public, it talks about that network, that cohesive community presence that is there.

It might be that those groups are co-located in a particular space; it might be that they are not co-located and that they are more distributed because they share particular characteristics. In terms of what we have been talking about today, normally they are co-located as in a flood is in a physical place.

Q212 **Lord Robertson of Port Ellen:** This is a fascinating discussion and this Committee has now been looking at this matter for some considerable time. There is a huge amount of reading that we have done and have had to do as a consequence of it. We will, at the end of the year, produce a report closely informed by the evidence that we have both read and interrogated in these sessions. Some of my friends, when I say I cannot do anything on a Wednesday morning with them because I am involved in a House of Lords Select Committee looking at risk assessment and risk planning, say, "Yes, fine, George, but at the end of the day you will produce a report that nobody will read and nobody will act on".

It is a good point and it reflects a cynicism among the public generally. When we come out with our report do you, as experts in the field, have any ideas about how we get the policymakers, whether at a national or a subnational level or even an individual level, to pay attention to the learned conclusions that we come out with?

Professor Sir David Spiegelhalter: That is quite a big ask to tell you what to do about that. The pat answer, as you say, is that you make it worth acting on. It has to be something that engages people, that people want to take notice of. You have a head start, because you can litter it with pictures of disasters and chaos and all that sort of thing, in getting some interest in this, particularly after having gone through this pandemic, so it is timely in that way. But in the end it has to say something, it has to come up with something people could act on and it has to have a few absolutely clear recommendations. It is easier to make a recommendation about a change in an actual establishment of an organisation, but the crucial thing is one needs a change in the culture.

As we have gone through this session, there is a culture of treating the public with respect, engaging them and listening to their problems, not just being in a situation of telling them what to do "because these are the important risks that the authorities up there have decided". That change of mindset and culture is one of the most important things. It is also, of course, one of the most difficult things to promote. I cannot tell you what to do, sorry.

Lord Robertson of Port Ellen: There are endless reports. We are covering a lot of ground that has been covered before. You get these reports, you get the "to do" lists at the end of it, but not a lot is done about it. For instance, Operation Cygnus in 2016 was about a pandemic, yet we ended up with only 1% of PPE being produced domestically and, therefore, a crisis. Will our report be treated any differently?

Professor Sir David Spiegelhalter: You have to try to make sure that it is not by just making it something that does land. The natural thing, of course, is to engage with the media beforehand, have a communication strategy, but also have a follow-up. If you just do the report, hand it over and that is the end, people can just take no notice of it—like they did of our Blackett report. Nobody took any notice of that either, as far as I can see. It said many of these things 10 years ago. You need a strategy for the continuing engagement of this.

Dr Carina Fearnley: Getting anyone to invest in an uncertain future is hard when we have so much to invest in of risks and issues that we are currently 100% facing. However, my experience has been that money talks and we need to demonstrate that there is a cost benefit to this. Every single pound that is invested in disaster preparedness saves society typically between £8 or £10. This is a phenomenal investment. To me the answer is very simple. What we need, though, is leadership to enable the experts that we have here in the UK to ensure that the things that need to be done can happen and we have the expertise to do that.

Professor Duncan Shaw: I will focus more on local government—I think that was part of your question—and on individuals. For local government to act or think differently about risk assessment, currently to discharge a duty it is about conducting and publicising a community risk assessment, but there is an opportunity to do much more.

The report or your advice could ask that peer review processes start within local resilience forums to give them some rapid feedback on whether the risk planning that they are doing is good practice, so to begin to start sharing information across that and encouraging a peer review process to take place. In the medium term there needs to be a stronger assurance process on LRF performance. We assess the performance of schools, nurseries, of so many things, but we do not evaluate LRFs. To get people to listen to what is in your report would be to advocate for an assurance process that begins to understand what is good performance and what is underperformance.

In terms of organisations and individuals, which you also asked about, big business is already on top of this. They have enough structures in place to be able to cope. So you should put your limited resources on small or local SMEs, on communities who may be less prepared, who may be more interested in what lessons your report will have for them.

I agree with what has been said about communication, but there is an element of people needing help to understand and visualise the risk. We have not talked much yet about visualising: having interactive resources

of an area, being able to help a business visualise what will happen to its stock if a flood happens and if the floodwaters come into its operations, helping members of the public by being powerfully honest about what it is that they will experience. It is giving very clear guidance to associations, to community groups, so that they can go and prepare these SMEs and households.

Lord Robertson of Port Ellen: Professor Rogers, do you have an idea about how we can land recommendations that would be listened to and acted on?

Professor Brooke Rogers: I have a few ideas. We need to think about this in terms of short-term gains and longer-term strategies as well. The risks will not wait for us to get all our systems and our house in order so we still need to be planning, responding and recovering as we move through this risk landscape.

We also need to take a moment to pause and think about the health of the different components of our system, almost to do a full systems health check and think about our data. What data, what information, do we need for the variety of risks and threats in our landscape? How much certainty do we have around that and where is evidence needed? Those conversations can be held much further upstream than when an event is taking place.

We need to think about people. I often see in industry and when I am working with government that the individuals tasked with thinking about preparedness, response and recovery are also tasked with many other different roles and jobs. In some cases it is a box-ticking exercise that they need to demonstrate that they are thinking about this, but there is an actual skillset here. If we think about emergency planners and local authority responders, there is a skillset and we have such a strong skillset in the UK that we send this expertise around the world. Let us make it a core function in our different departments and in our industries here—give people the time and the ability to work in and focus on this role.

If we think about our tools, are they fit for purpose? Can they be shared across different risks and threat areas? Can they be shared across departments? So many of these issues, these risks, are multi-department and multi-organisational issues. We need to think also about connections. We see this with exercising all the time, when you sit around the table or you go out into the field and you look at what works and what does not work. We need to make sure that those connections are understood so that when something goes wrong we know who will be involved and take those forward.

We are always looking at the public response, but we also need to think about the government response in terms of establishing baselines. We think about public assumptions and public perceptions of risk, but we often fail to incorporate the policymaker assumptions and expectations and the civil servant assumptions, even the critical national infrastructure

industry assumption. What do they think this risk entails and how do they think it will play out? The assumptions that they are making about the public behaviours and information need to impact the policies and approaches that they put in place so that we can join this up.

My final comment is about co-designing and co-producing a set of standards and values that are shared between government and industry and communities so that we are moving towards this shared language and understanding of what a high-quality response looks like and what an ethical response looks like as well. We need to also monitor and assess our progress once we establish that baseline understanding of the many different approaches that we are bringing to this to help us move forward into a shared response.

Lord Rees of Ludlow: I have a very brief follow-up to Professor Rogers. Do you think that if we want the Government to pay attention to any recommendation we make, we have to do this via the public by ensuring that there is press coverage and a clamour from the public to do something about it? Is that the only way you think that we will get the politicians to take seriously any recommendations?

Professor Brooke Rogers: Definitely not. The public need to be involved but the Government, I know, are incredibly interested in this and working all hours to try to land or to even facilitate these conversations. The Council for Science and Technology is thinking about this type of issue strategically as well. There are many different stakeholders and many different levers that we can pull, the public being one of those.

Q213 **Lord Rees of Ludlow:** We are almost out of time so we move to our last question, which is the same for every session, which is to ask each member of the panel what single recommendation they would like to see in our report—one recommendation each.

Professor Brooke Rogers: My experience of watching events unfold always makes me focus on the data: what do we know, what do we need to know and how will it be made available? That is government data sharing internally, that is industry data going in to support our government systems and our communities, and that is also data and information in terms of public expectations, understanding and abilities to respond.

Dr Carina Fearnley: I would like to see a national agency that has the authority and mandate to co-ordinate prevention, mitigation and disaster risk activities for risks and emergencies across the UK, like many other countries do. But within that, what I would really like to see is a warning committee that brings together the warning components of different agencies and ministries that can work together as a co-ordinated body, working across those different silos. They would, of course, have their own remit within their own agencies to issue warnings, but there are lots of advantages from such a committee that can check and balance between centralisation and the autonomy that is needed, the local

requirements that are needed, working across those silos to learn lessons, to co-produce knowledge and to enhance our warning effectiveness and be able to withstand multiple cascading crises that cut across multiple agencies. This collective could feed into the National Risk Register and, of course, help facilitate public education awareness activities, which will then help create better science and risk communication.

Professor Duncan Shaw: I would like to advocate for a review of legislation on community resilience. As we have discussed, disasters belong to our communities. Statutory responders are there to help but the communities will be there before, during and after the emergency. Community resilience as a capability is not regarded at the moment. It is not in the national resilience capabilities programme so it is not given special attention in that sense. It is important to embed in policy the steps that we need to begin to operationalise community and local resilience as a capability, putting a renewed focus on nurturing those capabilities that exist in the communities, which have been developed during Covid and will be lost if we do not put special attention on them; and establishing those partnerships that we need to work across individuals, businesses, community groups and all three groups of associations. Let us think about how we can respond to what is in the integrated review for security and developing that resilience at home through building local resilience capability.

Lord Rees of Ludlow: Thank you. Sir David, one final recommendation.

Professor Sir David Spiegelhalter: I know that people have suggested that there should be a chief risk officer for the country. I am not sure of the exact bureaucratic way in which that should best be done, but I do feel, as has been mentioned before, that there is a need for some body, person, thing, agency—with a high profile. At the moment the National Risk Register is dribbled out and nobody takes any notice of it. These issues are so important and they cut right across government. We have seen the mess that we have gotten into through insufficient preparation, so it is very timely to think about this area. It needs a much higher profile. I am not sure of the right organisation or the way to embed it, but there needs to be some systematic investment in this as an issue in the country. In particular, any chief risk officer, or whatever that is, needs to have absolute scrutiny of what they are trying to do, who the audiences are, what the intention is, and what the impact is of all the work: is it actually working? Is it actually happening?

The Chair: That brings the first panel to an end. You all know so much about your subject that it was incredibly concentrated stuff. We will have to read very carefully the words of wisdom that you have given us. Thank you very much indeed for some very valuable stuff.

I now suspend the meeting to bring in the next panel of witnesses.