Science and Technology Committee

Oral evidence: Science in emergencies: chemical, biological, radiological or nuclear incidents, HC 163

Tuesday 13 September 2016

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Watch the meeting

Members present: Dr Tania Mathias (Chair); Victoria Borwick; Chris Green; Carol Monaghan; Matt Warman

Questions 103 - 252

Witnesses

I: Gary Butler, Assurance Director, Atomic Weapons Establishment, Simon Earwicker, Division Head, Chemical, Biological and Radiological Sciences Division, Defence Science and Technology Laboratory, Dr Cerys Rees, Fellow, Chemical, Biological and Radiological Science Division, Defence Science and Technology Laboratory, and Dr Nick Gent, Deputy Head, Emergency Response Department, Public Health England.

II: Ben Wallace MP, Minister for Security, Home Office, and Paul McCloghrie, Deputy Director, National Risks and Infrastructure, Civil Contingencies Secretariat.

Written evidence from witnesses:

- Home Office

Examination of witnesses

Gary Butler, Simon Earwicker, Dr Cerys Rees and Dr Nick Gent.

Q103 **Chair:** Welcome to our Committee on science in emergencies: chemical, biological, radiological and nuclear incidents. Thank you very much to the guests and apologies for running a few minutes late. If you have not been in front of the Science and Technology Committee before, unfortunately we always try to cram in really interesting things in a very short space of time, so please excuse me if I interrupt you. We may ask you afterwards for follow-up questions and I hope you might give us written submissions if we have not covered them during the time. May I begin by asking you to each take a minute to introduce yourselves and your background pertaining to this investigation?

Dr Gent: I am Dr Nick Gent. I am a senior medical specialist—consultant grade, if I was in the national health service. I specialise in the health threats and risks associated with high-threat chemical, biological, radiological and nuclear events and materials. I work from Public Health England's emergency response department. We are based at Porton Down but we operate throughout the UK. Although we are principally Public Health England, we work in the full range of operational services in England, but we provide specialist services throughout the UK.

Chair: Brilliant. That is great for a beginning, thank you.

Gary Butler: I am Gary Butler of AWE. For this context, I am a senior technical adviser and part of AWE's offsite emergency response.

Chair: I am going to be picky. I have a pet hate of acronyms, although I will be using them, I am sure.

Gary Butler: Atomic Weapons Establishment—apologies. I support AWE's offsite response to CBR in national arrangements. I have been part of the organisation, with the offsite responsibility, for over 20 years.

Dr Rees: I am Cerys Rees from the Defence Science and Technology Laboratory. I am one of Dstl's senior scientific advisers who are—

Q104 **Chair:** Again, for everybody, what is the Dstl?

Dr Rees: Defence Science and Technology Laboratory. I am able to provide science advice in an emergency.

Simon Earwicker: I am Simon Earwicker, head of the chemical, biological and radiological sciences division in Defence Science and Technology Laboratory. The division is the centre of excellence within MOD—

Chair: Within?

Simon Earwicker: Sorry, within the Ministry of Defence—for all chemical, biological and radiological issues.

Q105 **Chair:** Lovely, thank you very much. Dr Gent, can you tell us how the

Emergency Co-ordination of Scientific Advice—we will be slipping into the word ECOSA—relates to the Scientific Advisory Group for Emergencies, or SAGE?

Dr Gent: It was recognised many years ago that there could be an important gap in providing science services to first-line responders between an event occurring and the formal scientific advisory systems, such as the science technology advisory cells that form in local areas to support the police and the Scientific Advisory Group for Emergencies, which is the central Government committee that supports the Cabinet Office briefing room mechanisms for handling major incidents. It was important to make sure that when an event occurred that was unusual in nature there was some way of being able to call off opinions, advice and support from the senior technical and clinical people across the three principal Government science agencies—the Defence Science and Technology Laboratory, the Atomic Weapons Establishment and Public Health England—to fill that gap.

Q106 **Chair:** You are saying there is a gap with the advisers in the Scientific Advisory Group for Emergencies.

Dr Gent: It takes time for them to come together to gather the facts and to be able to take over management and support. If we imagine a timeline from an incident occurring, we have the first responders being deployed to an incident, and they then use the training they are given in the response. There is a lot of operational response guidance and training given to them, but it is an automatic response. If they recognise that there is something outwith their training and understanding, they can then call off, using conventional telephone systems or any other communication systems, science advice, which is available in minutes and which will then—

Q107 **Chair:** That is where the emergency, the ECOSA, as we call it, comes in.

Dr Gent: That is right. The first scientific adviser and senior medical adviser would be online to those first responders within minutes. The whole co-ordinated group of science adviser services that cover all three agencies comes together in the next 10 to 20 minutes, and that bridges the gap until the formal advisory structures that sit in rooms and provide face-to-face advice come together in the one, two or three hours after that. It also has the utility that because many of us who feed the ECOSA service are part of those local and national services, we can then make sure that the continuation of information and—

Chair: It goes on.

Dr Gent: Yes, there is clean handover. It is bridging first response, augmenting first response and making sure that the national and local definitive services start with good briefings and clean handovers.

Q108 **Chair:** What is the role of SAGE—the Scientific Advisory Group for Emergencies—in that situation, or is it after that time?

Dr Gent: The SAGE group is the principal group, usually chaired by the chief Government scientist or the chief medical officer, that advises the ministerial meetings or senior officials meetings sitting in the Cabinet Office briefing rooms—the Cobra mechanism—about the science picture. They do a certain degree of peer review of the science technology adviser system that operates at local level, and they also have a role in dealing with areas of science where there may be a degree of uncertainty. The local systems will deal with the knowledge, the best-known science and the best already promulgated advice about how to manage things, but when things start to be unusual, the SAGE group is a higher level in terms of strategic management but they can also call on science resources that are unique and unusual, and co-ordinate those nationally.

Chair: Thank you. I am looking at the others, and you seem to be in agreement with that.

Q109 **Victoria Borwick:** Could you perhaps give us a flavour of where one would do something and the other would come in?

Chair: A descriptive example.

Victoria Borwick: Exactly, so we can understand fully.

Dr Gent: Certainly, comparing the local science group, the staff groups and the SAGE groups, a good example of where SAGE would have come in would have been, for instance, around the time of Fukushima where we were dealing with complex questions about exposure, pathways of exposure, risks in the food chain, what is a tolerable degree of risk and that kind of thing, whereas a STAC group might meet around, for instance, a fire at a local chemical factory where the chemicals are very well defined and we know what the offsite—

Q110 **Chair:** What group did you say?

Dr Gent: The science and technology advisory cell.

Chair: Within ECOSA.

Dr Gent: Yes. That is the local group, and ECOSA may very well feed both.

Victoria Borwick: That is level one.

Dr Gent: Yes.

Q111 **Chair:** Thank you. That was a good question. Gary Butler, the Home Office says the Emergency Co-ordination of Scientific Advice—ECOSA—has been relaunched this year. This might be for you, or it might be Dr Rees: do you know what prompted that?

Gary Butler: ECOSA has probably now given us a formal framework to work within, which clearly identifies that ECOSA will only stand until STAC and SAGE are formed.

Chair: Until the cells, which is what you mean by STAC, and SAGE, the

more strategic advisory group, are formed.

Gary Butler: Correct, because, as Nick rightly said, I, for instance, would probably advise from an ECOSA perspective but then probably either go to police gold, to STAC or to support the MOD chief scientific adviser at SAGE. That would stand down once the more formal things were established, but the important thing for us is that we have always worked as a community of three for years, from my perspective, right back to the death of Alexander Litvinenko.

Q112 **Chair:** The three communities being public health, yourself—the atomic weapons—and the laboratory.

Gary Butler: Yes. All the reinvigorated formal framework has done is to formalise that response.

Q113 **Chair:** It was not a relaunch. It was a formalisation.

Gary Butler: I think it was more of a formalisation, yes.

Q114 **Chair:** That is very helpful. Dr Rees, would you say that ECOSA, the Emergency Co-ordination of Scientific Advice, is a group of people in the same way that SAGE, the Scientific Advisory Group for Emergencies, is, or is it more a way of referring to the three branches—as we would say, the public health?

Dr Rees: From my perspective, it is about ensuring that we deliver co-ordinated scientific advice because I think that—

Chair: "We" being?

Dr Rees: All the collective. If we do not have that system, the danger is that Nick may give different answers from a health perspective from the ones that perhaps Gary and Dstl would give from a scientific perspective. It is about making sure that we do not give slightly different advice for different reasons and making sure that we have co-ordinated and given the correct information, as one.

Q115 **Chair:** You would actually co-ordinate the advice together.

Dr Rees: Absolutely.

Q116 **Chair:** It is not really about the people or linking. It is about the messaging.

Dr Rees: Yes.

Gary Butler: Could I add a little context? By the time ECOSA is called, there is probably very limited information at the scene.

Chair: Because it is a first-responder kind of thing.

Gary Butler: Correct. Really all we are trying to do is advise those first responders of precautions they may wish to take—statements they may wish to make. It is very limited advice at that point in time. We are trying to provide early advice and support during that period.

Q117 **Chair:** As Dr Rees was saying, you are co-ordinating it.

Gary Butler: Correct, yes.

Q118 **Chair:** In a very short time.

Gary Butler: It is a very short period of time.

Chair: Are we talking minutes?

Gary Butler: Yes.

Dr Rees: Yes.

Q119 **Chair:** Touching on what my colleague was saying, Simon Earwicker, in your experience do you have an example of where ECOSA—the Emergency Co-ordination of Scientific Advice—has happened during a chemical, biological, radiological or nuclear incident recently?

Simon Earwicker: I have no personal experience. ECOSA has not been called on in a real-life situation as yet.

Q120 **Chair:** In this country.

Simon Earwicker: In this country, yes, but it has been exercised through exercises held by the police or the Home Office.

Chair: Okay, brilliant. Thank you very much.

Dr Gent: May I add to that? It is not unexpected. It has not been called because we have not had those circumstances yet. There are lots of other circumstances where any of us individually get called about an issue that we recognise crosses the boundaries between us as advisers, and we routinely use those co-ordination mechanisms. We have a lot of confidence in the system because ECOSA is describing and branding so that we know—

Q121 **Chair:** Okay. You routinely do this. When was the last time?

Dr Gent: The kinds of things that we have dealt with are when we have been asked to advise and support police in intelligence-led operations where there might be discovery of hazardous materials; we have been asked for opinions and support for people like the National Crime Agency, where maybe there is a deliberate contamination threat to a food or pharmaceutical chain, whether political or for extortion.

Q122 **Chair:** Your advice co-ordination has already happened.

Dr Gent: We are asked as a group of individuals to advise on threats to the public every week. Every month or two there will be things that cross and that we co-ordinate with, so we are comfortable and confident. We know each other.

Gary Butler: It is not just about crisis either. It is preparedness. For instance, we all worked very closely during the preparation and delivery of the Olympic games.

Q123 **Chair:** I guess that is when we are talking about SAGE versus ECOSA.

Gary Butler: Yes. SAGE will probably sit only in emergencies. The formal element of ECOSA would be for that situation, but the fact is that we do not just rely on an incident to be able to work together. For a major sporting event we work together to ensure we have a co-ordinated approach to protect it.

Q124 **Chris Green:** You are saying that ECOSA responds very quickly normally.

Gary Butler: Yes.

Q125 **Chris Green:** But there is also an element of looking at evidence. How much is there a role for looking at evidence, at what has happened?

Gary Butler: At that point, with the timing of ECOSA, we have probably had a single phone call via the CBRN Centre at Ryton to one of the organisations. They have probably rung the lead. If it was chemical or biological, they have probably rung Porton. If it was a pre-CBRN event, they might have rung me. If there had been a post-event, a consequence event, it would probably have gone through Nick. At that time, there is very limited information. The big mechanism for putting the police command and control situation in place, and Government, is probably a couple of hours away, as Nick said. We are trying to provide that advice directly to whoever is in charge at the front end, to say, "If this is the type of event you believe you have, these are some of the precautions or the scientific advice we would give." It is only very briefly, probably only up to a couple of hours, that ECOSA would actually sit.

Q126 **Chris Green:** It is a very short period of time. Does ECOSA actually go on the ground or is it pretty much done remotely, and you rely upon the first responders to provide the information?

Gary Butler: We do. It is virtual, so there would be an open conference call that we would all keep open during that period of time. People would come and go—experts would come and go—from the three organisations as we tried to offer advice, but it is then directly focused on the front end.

Q127 **Chris Green:** There is a clear mechanism for when ECOSA finishes what it is doing and there is a transfer.

Gary Butler: There is, yes.

Q128 **Chris Green:** What is the main limiting factor for the speed at which ECOSA can work?

Dr Gent: It is people recognising that they need to speak to us, because we use the call-off mechanisms that we use for our everyday emergencies that people are familiar with: 24-hour call-in systems; people who are rostered; and people for whom we have call-off lists if there is any problem with the first availables. We already have an audit trail on knowing that we are accessible. People recognising that something is unusual and that they need potentially to vary their advice is possibly the most rate-limiting thing.

Q129 **Chris Green:** I suppose the response varies to some extent depending on when the first responders decide they need to escalate the situation.

Dr Gent: Yes.

Chris Green: That depends enormously upon their training and their experience.

Q130 **Chair:** May I butt in on that, just to clarify? Who do you mean by people? Is it the public, St John's, the police, the clinics?

Dr Gent: We would never tell anybody that they did not have a right to speak to us. If anybody gives us information that there is something of significance that harms the public, we act on it. We might not be the right people to act first of all, but we do not tell people to go away and speak to somebody else. We take the information, give advice and then we make the internal contacts. Preferably it should come through the police and the police national—

Q131 **Chair:** So 999 would know to co-ordinate with you.

Dr Gent: Every constabulary call centre has an inspector on duty and we would normally expect—

Chair: Great, thank you.

Dr Gent: But if something comes in through one of our poisons advice lines, our chemical advice lines, the radiation call-off or whatever, we join those up behind the scene so that people do not have to say they need an ECOSA response. We would recognise it and channel it all through the right way.

Chair: Thank you.

Q132 **Chris Green:** We all like to measure things and to have targets. What is the target time for a response from ECOSA? Is there one?

Dr Rees: In terms of calls coming directly to us, we tend to give advice within the first five minutes of getting the call, but very much with the recognition that as we have more time available, and as more information becomes available, we will refine that advice. In terms of ECOSA, we would aim to have people on a telephone conference call within 10 minutes and get that first advice out, if it needed all three organisations, in the first 10 minutes, so it is a very quick response.

Q133 **Chris Green:** Do you think a target timetable or a target time would be helpful or unhelpful?

Dr Rees: We all recognise that it is important to get the advice out as quickly as possible, and I am not sure we could get it out any quicker than it is going, to be honest. If someone said they needed advice within 15 minutes, absolutely we would act to try to achieve that.

Q134 **Chris Green:** That is as professionals realising the seriousness of the situation.

Dr Rees: Absolutely.

Q135 **Chris Green:** You would do it as a professional, rather than having a timetable. If there was a target perhaps people would delay until the end of that target to gather the evidence, when perhaps they ought to have responded a little more quickly.

Gary Butler: Of course every scenario will be different. We may well get significant evidence, significant information, fed back to us from the first responders or we may get nothing at all. At that point, the onus is on us to put our heads together to decide what advice we are going to give.

Q136 **Chris Green:** How long does it take for ECOSA to morph into STAC? Is it a couple of hours or so?

Chair: Ahem.

Victoria Borwick: No acronyms.

Chris Green: I am sorry; I mean how long does it take for the Emergency Co-ordination of Scientific Advice to morph into scientific technical advice cells?

Dr Gent: It is dependent on those cells becoming available. We give a commitment that we will continue in operation until the science and technical advice cell and the Science Advice Group for Emergencies say, "We are comfortable, we have our personnel in place, we've got the briefing, we've got the communication system and you can stand down." We wait till we are told by them that they are comfortable.

Q137 **Carol Monaghan:** Dr Gent, if the incident was happening in Scotland, as opposed to England, what body would play the part of Public Health England in the response?

Dr Gent: First of all, we have very good relationships with our public health counterparts in Scotland, Wales and Northern Ireland. The resource that we provide out of the emergency response department, through colleagues in the Atomic Weapons Establishment and the Defence Science and Technology Laboratory, is a unique UK resource. We promise to provide the same service that we provide anywhere in the UK if an emergency service in Scotland asks for it, but we would also make sure that we called our equivalent colleagues in Scotland to make sure that, where they wished to take the lead and where they wanted support from us, it was given. They take the responsibility for saying what they want from what we can offer, but we make that available and there are no issues, boundaries or borders around that. We just say we are there and available: "How can we help?"

Q138 **Carol Monaghan:** The ECOSA trigger would still happen in Scotland.

Dr Gent: Yes. If there was a trigger from Scotland, we would respond to it as a group.

Q139 **Chair:** But that has not happened in reality yet, because it has not been needed. Would that be the case?

Gary Butler: Not under the new formal framework that exists.

Dr Gent: There are instances when we are asked for scientific, technical and clinical advice from colleagues throughout the UK. Where we uniquely hold that and where they wish us to provide it, we provide it without let or hindrance; it is done.

Q140 **Victoria Borwick:** Moving on a little bit, when we are talking about the difference between the chemical and biological, radiological and nuclear incidents and the hazardous materials emergencies, does the response vary as to whether or not it is a result of malicious intent or an accident, for want of a better word?

Gary Butler: It probably varies with regard to the flavour of the hazard. I think the definition of CBRN is an important one. From our perspective, CBRN is potentially terrorism, but it is certainly police-led and probably a result of criminal activity, whereas a hazardous material accident could be, until it was proved otherwise. It is probably slightly different. From a radiological and nuclear—

Victoria Borwick: It could be a road accident, for example.

Gary Butler: Correct. From a radiological and nuclear perspective, there are some quite formal responses. There are national arrangements for incidents involving radiation, in which all the nuclear licensed sites and nuclear facilities would have a response, and that is very much based upon where you are in the country.

Q141 **Victoria Borwick:** Presumably it could be a nuclear-waste train, though.

Gary Butler: It could be, yes.

Q142 **Victoria Borwick:** It could, therefore, be travelling.

Gary Butler: It could be travelling, but there are geographical response areas. AWE, for instance, would cover some of the south, the Thames Valley and the M4 corridor as immediate responders. The mechanism is probably still through the police under a NAIR, and AWE's resources would—

Q143 **Victoria Borwick:** What was that?

Gary Butler: Under the national arrangements for incidents involving radiation.

Victoria Borwick: It is for the sake of those watching.

Chair: And me.

Gary Butler: I apologise.

Victoria Borwick: I imagine by this time they will have gone off for a strong coffee.

Gary Butler: We are incredibly acronym-rich in CBRN—CBRN in itself, there you go.

Victoria Borwick: We are conscious that this is watched by greater numbers than the audience in this room, so I support the Chair on the use of acronyms.

Gary Butler: The arrangements are well tested. There is also the RADSAFE organisation, which is the nuclear industry itself; it has its own arrangements. The difference between RADSAFE and the national arrangements for incidents involving radiation is that with RADSAFE you would know the manifest, so you would know what actually was in it. Under the national arrangements for incidents involving radiation you might not know at the particular time, so the resources that you deployed might be different.

Q144 **Victoria Borwick:** That covers the next question. There is no time wasted in determining whether the Emergency Co-ordination of Scientific Advice is needed. As soon as you know what it is, obviously the right teams step into action. How do you know which the right teams are?

Gary Butler: I am speaking purely for radiological and nuclear—my colleague will talk about CB; we train and exercise very carefully. The assets that we would deploy for national arrangements involving radiation would very much be monitoring assets initially, because it is probably consequence-led. If it is CBRN, hopefully we are there to prevent the event, so the assets that would be deployed, again, would be very different. Those assets are very much trained and exercised both internally and collectively as an organisation to make sure we have the right capabilities in place.

Q145 **Victoria Borwick:** Our view here and what we are really trying to find out is whether it is clear. Does everyone know what they are doing? Are we having the fastest and clearest response? That is what we are trying to get to in the middle of this mire.

Dr Gent: I think you are making a very good point, if I have understood it correctly. There is a multiplicity of different potential responders. How do the people who are first on scene, or the police commander, know which resource to call off?

Victoria Borwick: Absolutely right.

Dr Gent: One great advantage of ECOSA is that those of us who provide that national service know and understand all those resources, because it might not be readily apparent which bits of chemical, radiological or biological response for incidents Public Health England can do versus what the Defence Science and Technology Laboratory or the Atomic Weapons Establishment can do. We know our strengths between us and we advise the police commander and say, "You need so-and-so and we have already spoken to them." We take that out of their way.

Q146 **Victoria Borwick:** Mr Earwicker, was there something you wanted to come in on?

Simon Earwicker: From Dstl's point of view, our focus is very much on deliberate chemical, biological or radiological releases and the types of

materials that might be used. That is where our particular expertise comes in—our deep understanding of those materials. That is our particular contribution to the ECOSA response and the science and technology advice.

Q147 **Victoria Borwick:** Let us go back to try to put some flavour into this. If there was a lorry spill and you knew what was on the manifest, as you would probably, you would not need ECOSA. It would be dealt with locally.

Dr Gent: It is more likely to be dealt with as a hazmat, because it is clear; the science would be known because it has been described through all the hazmat processes—the training, the manuals and so on. A hazmat has a very fixed response. They use key clues like the manifest, the cards on the backs of lorries and things like that.

Q148 **Chair:** The good thing for the first person on the scene is that it does not matter to them.

Dr Gent: No.

Q149 **Victoria Borwick:** That is what we need to have done. What is the equivalent of ECOSA, the Economic Co-ordination of Scientific Advice for a hazmat—the hazardous materials—incident from the point of view of local responders, or will they just call—

Chair: I think you meant "Emergency Co-ordination."

Dr Rees: That would generally be led by the fire and rescue service who would respond and be able to deal with a hazardous materials incident directly.

Q150 **Victoria Borwick:** Fine. Moving on to Fukushima, which I think was touched on, and the advice given, was that viewed as a hazardous materials incident or was it viewed as a chemical, biological and radio-nuclear emergency? If, heaven forbid, the equivalent occurred over here, we are trying to understand the levels of who would be involved.

Dr Gent: That was an incident that was dealt with purely at a national level. It was dealt with by the Cabinet Office briefing room mechanisms—the Cobra committee structure directly chaired by the Foreign Secretary.

Q151 **Victoria Borwick:** It was dealt with by Cobra.

Dr Gent: Yes. It was advised by the Scientific Advisory Group for Emergencies chaired by the chief Government scientists. On that, the principal scientific advice about the risk to British nationals in Japan, and more widely through foodstuffs and transmission through transport systems, was given by the Atomic Weapons Establishment and ourselves in Public Health England. The Atomic Weapons Establishment and the Office for Nuclear Regulation could obtain information about the materials that had been released. Using the Met Office and others we could get dispersal patterns, so I was getting predictions about what materials would be deposited that people would be exposed to. My scientists in Public Health England were turning that into exposure information as to

what degree of radiation exposure British nationals were getting in, say, Tokyo, or whatever, and what the contamination routes were into food and foodstuffs. We were turning that into human risk, and also into human messaging so that we could advise people in Japan and people who had an interest or were travelling to and from Japan what that meant to them in terms of hazards to their health.

Q152 **Victoria Borwick:** If, heaven forbid, something happened here, could you run through the chain of command?

Dr Gent: Yes. We would do exactly the same thing. We practise for fixed nuclear sites and for movement of special nuclear materials and chemical materials every year from very high level, what are called the tier 1 exercises, which exercise across Government and all the administrations of the UK, down to practising at local level to make sure the communications, the understanding and the pre-fixed response are there and things are working quickly.

Victoria Borwick: I was conscious that prior to the Olympics we reviewed all those potentials, particularly the nuclear trains. Thank you.

Q153 **Matt Warman:** Can you tell us how often the ECOSA process has been triggered in recent years?

Dr Gent: Never.

Q154 **Matt Warman:** In any sense.

Dr Gent: In the sense that a call comes in to one or other of the parties that makes us want to co-ordinate our activities to make sure that advice is given to protect the public and protect responders, I would say that it is probably two or three times every quarter. We have conversations between some of us most months.

Gary Butler: The difference is that it may never escalate beyond that.

Matt Warman: That is my point.

Gary Butler: It may never escalate to the Scientific Advisory Group for Emergencies or a science and technical advisory cell being formed. It may well be dealt with by one of the organisations in isolation or us collectively, and that is advice, but it may never become a major issue.

Q155 **Matt Warman:** How often do you test the process? You mentioned a dry run for a nuclear event, or a train or whatever. How rigorous is that testing process?

Dr Gent: We audit our response at times when we have been asked for advice on what would be the equivalent systems. We always look back at our response. We try to put in a formal test, just us as a team, once a year, and we are increasingly trying to put it in through all the exercises. For instance, we have an exercise coming up in Cumbria next month and we are putting an ECOSA response into that. We put it into an exercise two months ago. We are trying to make sure that people are familiar with it and we take every opportunity we can to make sure it is comfortable.

Q156 **Chair:** In those exercises the three groups are involved.

Dr Gent: Correct.

Gary Butler: Yes.

Q157 **Matt Warman:** Are there any occasions, thinking back, when the process should have been triggered and it was not, or are you conscious that it works?

Dr Rees: I think we probably all agree that it works and, importantly, that the police and the other emergency services are calling for scientific advice when they need it. The national CBRN centre has a really important role to play in that, as they tend to be the portal through which the information or the requests for information come to us, and those happen very frequently. While we have not necessarily stood an ECOSA up, the Defence Science and Technology Laboratory is called definitely on a weekly basis. I was on call as our senior scientific adviser two or three weeks ago and dealt with four requests for four separate incidents. That is probably fairly average.

Simon Earwicker: The response that Dstl provides is not designed specifically around supporting ECOSA. It is built from our long history of supporting operations, so we have established mechanisms that are tested for other purposes—overseas support, for example—which give us confidence that the ECOSA mechanisms will work.

Q158 **Matt Warman:** Is it because over that period of time you have refined how scientific advice is provided that actually ECOSA has not been triggered in that sense? You have managed to pre-empt a lot of those situations.

Dr Rees: That is probably true. It is probably also about scale of event, to be honest. Thankfully, we have not had a large-scale event that required that kind of response.

Q159 **Chair:** You talked about overseas. Is any advice given and received from countries like Syria where there is a lot of chemical warfare going on? Are you using that information?

Simon Earwicker: Yes. We have been consulted regularly over the past few years in relation to Syria.

Q160 **Chair:** Are you advising NGOs or the people who are getting the mustard gas, the hydrogen cyanide and the chlorine? Are you giving your expertise, or is it there and available?

Dr Rees: We provide advice to other parts of Government generally, who then use that information as necessary.

Q161 **Matt Warman:** May I move on to the appetite for information during emergencies, at whatever level? Could you give us a flavour of what the media pressure is at the height of any of the situations you have dealt with?

Gary Butler: From an Atomic Weapons Establishment view, and probably from a Defence Science and Technology Laboratory view, we tend to focus very much on resolution of the technical incident. Quite honestly, some of our scientists are not generally trained in public-facing media. They would very much talk in scientific language, so we tend to defer—pass the buck, if you like—to Nick and his organisation to take that very technical information and present it in such a way that the general public can perhaps have greater understanding of it.

Q162 **Matt Warman:** Do those scientists have permission to speak to the media, or is it something they would have to apply for if they wanted to?

Gary Butler: I do not think there is anything that says we cannot speak to the media. However, it is not something that we have ever been asked to do.

Q163 **Matt Warman:** Do you feel that Public Health England's response is the sensible way of doing it, because obviously the media are not always that keen to wait when something is going on?

Dr Gent: We try our best to anticipate media needs. We recognise that giving reassurance and proper information to the public is an important part of our role—information about what they need to do to protect their own health and safety. That is a key part of what we do. People have to be safe, and to feel safe when they are safe, or they need to know what to do if they are placed in any danger. We put quite a substantial amount of response there. We have a significant media team feeding the traditional media and social media, making sure there is advice and guidance on accessible internet sites, and bidding into media outlets if we think there is information that needs to be put out, or indeed briefing the media directly. For example, with Ebola we ran a lot of training sessions for media people, both to keep them safe if they wanted to visit west Africa but also for them to understand the nature of the disease and the advice people had. We try to make sure that we have senior trained clinical staff who can be credible, because they are medics or senior scientists and so on, to lead that part of our response.

Q164 **Matt Warman:** Finally, is your focus, therefore, on pre-emptive information, on making sure people know what might be the sensible course of action to take, not going to a certain country, or whatever, rather than necessarily saying that you can definitely tell them what is going on when an incident has happened, whatever the incident is?

Dr Gent: The ideal is that you can pre-empt things and that your knowledge is perfect, but when you cannot, you need to be absolutely honest about what you know so that people can make judgments as to how good your advice is. You need to be clear about the advice and make sure it is in language that can be understood, not misinterpreted. The other thing we are very keen on when things change, particularly if we have misjudged something, is the dynamic of re-evaluating again and again; it is so important to us, especially, for instance, in ECOSA. If things change, we should say they have changed and why. If it is because you have made a mistake in interpreting it, you should be

honest about that, so that people understand the reason why it has changed.

Chair: That is very clear.

Q165 **Chris Green:** Dr Gent, the new framework for the chemical, biological, radiological and nuclear response includes a move away from wet decontamination to dry decontamination. Can you explain first what that change is and the practical differences, and could you explain the scientific evidence behind that decision?

Dr Gent: Certainly. When we first started dealing with the possibilities of chemical, biological and radiological terrorism, deliberate release and so on, the evidence framework for what was good at removing contaminants—hazards that people still carry about with them on their clothing or in their body and so could continue to cause harm—was very limited indeed. There was a lot of myth and ideas about what would work, but they had never been tested. There was a programme to put together the science, a lot of which was done by organisations around this table, particularly the emergency response department, Public Health England, from our site in Porton Down, to look at the best way of doing things. It is very clear that the absolute ideal was that you remove all clothing and wash people down using warm water, detergent and a washing aid like a flannel or a sponge, and that is a counsel of perfection. What was put in place were mass decontamination units that could support that for large numbers of people, and those are still around. However, we also recognised that there was an overhead in doing that which was undesirable in that it could take one or two hours to get such equipment to a scene, to manage people. That was undesirable, particularly if people were injured.

Q166 **Chris Green:** Especially with open wounds, for example.

Dr Gent: Yes. It was not ideal for people who needed proper definitive hospital care because, for instance, the release was an explosive release, so there were life-threatening injuries. We then had a programme to look at all the elements of decontamination; for instance, how effective was just removing an outside layer of clothing? To be honest, that is very good and we tested it by putting simulants on to people—simulants they could not see, that only showed up in ultraviolet light—and asking them to do decontamination steps, such as simply removing clothing, then photographing them under ultraviolet light to determine quantitatively how much material had been removed. We looked at that and we looked at simply dry decontamination—removing things, brushing things down—and the use of absorbent materials to remove liquid contamination, how good and effective they were, and at simple showering, such as just hosing down without detergent being used. We quantified all these things. We now have what we call an interim operational response, which is what needs doing quickly at the scene. For instance, if there is a caustic injury, where the skin is burning and so on, we do not wait an hour for a shower system; we use simple, water-based decontamination to remove that element. If it is an oil—

Q167 **Chair:** That is wet decontamination.

Dr Gent: It is, but it is done in an immediate way. It might be just a bucket and sponge, it might be a tap, or it might be a garden hosepipe. It uses what is there; it is about making sure things are done quickly, using things that are available on scene, absorbent materials, like nappies, bandages and so on. We quantified how effective they are so that people can do things quickly before definitive things arise. Also, we have defined circumstances where you do not need to do decontamination, and these are probably the most important.

Q168 **Chair:** In a sense, you are talking about appropriate decontamination.

Dr Gent: Yes.

Chair: But the framework suggests a different emphasis.

Q169 **Chris Green:** The gist I am getting is perhaps a more pragmatic approach.

Dr Gent: Pragmatic and proportionate.

Chair: Rather than didactic.

Dr Gent: Yes, but now we have that research base, through all the elements I have described, so we have a good base to say that we know what works and, "In certain circumstances, do enough." In certain circumstances, it might be appropriate to do the full wet-based decontamination, particularly where you have large numbers of people and you can pre-position equipment and things like that. We now have a much more diverse range of options that can offer, as you say, the pragmatic and can get rid of some of the things like delays that we were worried about in definitive care.

Q170 **Chris Green:** In that sense, if you had a standard operating procedure that required wet decontamination, the first responders, the people responsible for that, would say, "Don't do anything until all the equipment arrives," which may not be for many hours, and people may be suffering in the meantime.

Dr Gent: We come back to one of the purposes of ECOSA. It is there for giving advice. One of the things I get asked more frequently than anything else is, "What do we need to do to decontaminate people in this incident?" Often my response is, "You don't need to decontaminate in these circumstances. Just get them to hospital. Get rid of the delay." The interim operational response using pragmatic methods is about stopping people suffering while they are waiting. It is about recognising things like caustic injury and giving the emergency services the guide to say, "Just use water in whatever method available. You need to irrigate those wounds, that skin," because that is part of managing and stopping suffering, and it is making the person safe to get to definitive care quickly.

Q171 **Chris Green:** Both the Emergency Planning Society and the Institute of

Physics and Engineering in Medicine have queried whether or not sufficient research had taken place to make those decisions. Do you see any legitimacy in that? How would you respond to their concerns?

Dr Gent: I would be delighted to show them the research. We have been doing 10 years of research at Porton Down, both ourselves in Public Health England and some of our colleagues, about effectiveness. We have a number of European projects, the ORCHIDS projects, for instance, which are in the public domain, and describe the effectiveness of wet decontamination. There is a whole range of other programmes where we looked at individual elements—simple wash-down, detergent, washing aids, removal of clothing and things like that. There is a literature that is in part open, because there is a certain element about national resource and national capability that is of use to our first responders, but also to people who might want to perpetrate attacks. There is a certain amount of the literature and some of the science detail behind it that is not public, but I am privy to all of it and I am confident that we know as much about the methods of decontamination and their effectiveness as we can, but we are continuing to research.

Q172 **Chris Green:** The new framework has led to "reductions in mass decontamination resources and trained equipped police," but the Home Office tell us that this is "in line with value for money principles." Are you content that decisions are made on good science rather than pressures from budgets?

Dr Gent: I understand that there always have to be decisions made about limited resources. The initial operational response model and the interim models offer very good ways of managing acute situations. I understand that the issue about how many of the larger response units will be available is under consideration, and it is clear from the evidence I have given you that they have a role. I would not personally like to be involved in the hard political decisions about having to balance resources and I understand the difficulties that people like yourselves face in having to balance, discuss and debate them.

Q173 **Chris Green:** Is there anything about which you could say that the science would suggest one thing but what we are actually doing is something else?

Dr Gent: We would be delighted to review the options that are finally decided on and do work on estimating the risk associated with the alternative models. At the present time we have a very rich set of operational guidance and pragmatic ways of managing things.

Q174 **Chair:** Just going back to the research, we had the Emergency Planning Society talk about—double acronym—an optimisation of research project, for want of saying the whole thing, ORCHIDS. They said there was no examination of decontamination of hair. Can you comment on that, because they are questioning the science?

Dr Gent: Yes. There have been three or four more projects looking in detail about elements from the ORCHIDS projects. The ORCHIDS project—

Q175 **Chair:** So you would accept their criticism.

Dr Gent: There is always a level of additional scientific research that you can do. In terms of hair, it is not something that I feel or find is a particular issue, because it is an area of the body that we can manage straightforwardly.

Q176 **Chair:** Okay. Is there any learning from secondary contamination, again in Syria, in the doctors who died? I do not know if it was chemical or biological, but what learning was there from that?

Dr Gent: We have looked in detail at events around the world, and probably the most important and influential were the Aum Shinrikyo incidents in Japan with a—

Q177 **Chair:** I am talking about what has happened in the last few weeks.

Dr Gent: We look at all of these and a number of people like myself are involved in working around the middle east, training and so on.

Q178 **Chair:** Are there any on wet-dry decontamination, because that is the ultimate first response, isn't it?

Dr Gent: We only teach in areas of the world where there is no water. We only teach dry response, because it is the only thing that can be done, so we have a fact base of observation as to its being effective.

Q179 **Chair:** Is that secondary contamination not preventable?

Dr Gent: Secondary contamination is not preventable in whole. You start with a wholly contaminated incident scene. Every time you decontaminate people, you move people, and the contaminant reduces and reduces. You will always be able to find some if you look hard enough. The question is whether it is significant and still causing harm to that person, to the people providing the care or people in the family.

Chair: Carol, you wanted to ask a question.

Q180 **Carol Monaghan:** Are there any research gaps in relation to CBRN preparation and response and if so, how are they identified? Who would like to answer?

Gary Butler: Obviously, we try to identify gaps. If there is a constantly evolving threat, we constantly review our technology to try to identify any gaps that may exist. There are no glaring gaps that I can identify, but we obviously continue to upgrade our training, the information we provide to first responders and the information we provide to our own responders, to ensure that any gap at all is minimised, but there are no glaring gaps that I can identify at the moment.

Dr Rees: From a chemical and biological perspective, we have research funding from both the Home Office and the Ministry of Defence to enable

us to look at evolving and emerging threats and to enable us to respond as well as we can. We are very keen that we pull our research through into our operational capability, so that we are giving the best possible response we can.

Q181 **Carol Monaghan:** Do you have any issues in terms of recruitment and retention of suitably qualified personnel to work in these areas?

Gary Butler: I can probably speak for the Atomic Weapons Establishment. We do not recruit emergency responders. We recruit the best engineers and scientists to work primarily on our core programme and deliver the nuclear deterrent. Once individuals have relative experience within that, we utilise those skills and make them emergency responders, because the strength of the response organisation is that those people are practising their skills on a day-to-day basis and all we are taking them to do is to learn to operate in the field. We have a voluntary organisation for our response and we constantly have more people wishing to join our response than we have places for, so we do not actually have gaps.

Q182 **Chair:** What is the name of that organisation?

Gary Butler: That is AWE's response organisation. It is a voluntary response organisation.

Dr Gent: For Public Health England, I would have to say that this area of work is attractive. We get people who want to be involved. Likewise, we take people who have the clinical, scientific and technical background to a high standard, and then we add the emergency response. The problem is that we then have some very highly desirable people, and there are other organisations out there that will aggressively recruit them and can offer terms and conditions of service that we cannot match. It is a particular problem, for instance, with mathematical modellers, scientists and computer people; they are a very good example. We recruit some absolutely superb people, but retaining them against the offers they get from outside, with their knowledge, experience and ability, is difficult.

Q183 **Carol Monaghan:** Can I ask specifically about engineering expertise within your organisation, because information given to the Committee is that engineering expertise continues to be a problem with people who can do engineering modelling from beginning to end? Are these types of staff difficult to come by?

Gary Butler: From the Atomic Weapons Establishment perspective, we do not have a problem recruiting engineers. In some particular skills, we have a problem in retaining engineers—along the lines Nick defined—with regards to greater opportunity and greater incentive outside in the private sector, but it does not impact on our ability to respond to CBRN emergencies in the UK.

Simon Earwicker: The position is the same for Dstl. We are all subject to the same market conditions that draw away people who have those unique skills. It is a very common position for all three of us.

Q184 **Chair:** Thank you. We had a submission from the Civil Contingencies Unit, and I do not know if you know whether this is within your remit, that there is concern that local responders are not aware of the expertise. Simon, what is your opinion on that?

Simon Earwicker: My understanding is that the CBRN Centre engages with the local resilience forums.

Q185 **Chair:** You are not aware of the problem.

Simon Earwicker: They are the conduits between the resilience forums locally and the expertise that exists in the three organisations. I have no experience of that not working effectively.

Q186 **Chair:** Is ECOSA—we are back to the acronym—special to the UK or is it a model that is used by other countries, and if others are doing it differently, how do we know we are the best?

Dr Rees: The thing that works well in the UK is that all the organisations involved are relatively small and are able to communicate with each other on a regular enough basis that the advice is coherent. There are also only three agencies involved. The complication in some other countries may be that there is such a vast number of agencies involved in responding to different types of incidents that it can be very difficult to ensure coherence. Certainly, from the US perspective, the US looks at the UK as a really joined-up response, mainly because we are so small and there is one agency for each type of response.

Chair: Small is beautiful. I like it.

Gary Butler: It is. May I just make the point that it is not a closed shop? Clearly, we do not have all the expertise, but during the forming of ECOSA, which would be very quick, very sharp, it is probably unlikely that we would reach beyond our capabilities. But, of course, as an event runs, there are places like the National Nuclear Laboratory, the Forensic Explosives Laboratory and the National Physics Laboratory, and all the scientific assets in academia, that we could draw upon as we had more time.

Chair: Brilliant.

Dr Gent: I have a lot of experience of working on radiological and nuclear response issues, particularly around terrorism in Europe and radiological chemical issues for the World Health Organisation. The fact that there are three principal Government scientific agencies that have the depth that Public Health England, the Atomic Weapons Establishment and the Defence Science and Technology Laboratory have is quite unusual. There are some large countries that can sustain that, but they are few and far between. That degree of integration, particularly not just integration between them as emergency science responders but integration with law enforcement services so that we can always put the principle of protection of the public first, is quite remarkable and unusual.

Chair: Thank you. I am grateful for your time. What has been well

demonstrated is how you have answered almost as a team, so it gives me confidence in what you were saying originally about your co-ordination. As mentioned, if we ask you afterwards for extra written information, I would appreciate it if you could give it to the Committee. Thank you very much.

Examination of witnesses

Ben Wallace MP and Paul McCloghrie.

Q187 **Chair:** Welcome to the Science and Technology Committee. I am sorry to have kept you waiting for a few minutes. I would like you to introduce yourselves and give us a brief—less than a minute—outline of your responsibilities and, Minister, if you could do so pertaining to chemical, biological, nuclear or radiological incidents.

Paul McCloghrie: My name is Paul McCloghrie. I am the deputy director for national risks and infrastructure in the civil contingencies secretariat, which is part of the Cabinet Office. In the civil contingencies secretariat role, we co-ordinate support across Government on all aspects of crisis management; it starts with risk assessment through to capability building, incident response and recovery from incidents.

Q188 **Chair:** How long have you been in that position?

Paul McCloghrie: I have been in the civil contingencies secretariat for three and a half years.

Q189 **Chair:** Thank you. Minister.

Ben Wallace: I am Ben Wallace, Minister for Security in the Home Office. With the CBRNE, I cover the counter-terrorism threat, trying to mitigate that threat and ensure that our intelligence services and police have all the tools to prevent it happening, both at home and abroad, overseas, but also, in the unfortunate and unlikely event of something happening here in the UK, that our response is informed and able to deliver the best solution possible to make sure that terror and panic do not spread and that people get the treatment they need.

Q190 **Chair:** Thank you very much. We have a few questions and we are always time pressured, so if we do not cover things, we may ask you to write to us with information after this session. Minister, how is the Home Office investing in research and development to support planning and response in chemical, biological, radiological and nuclear incidents? By the way, we avoid acronyms as much as we can.

Ben Wallace: If I could, I would ban them. I thought the MOD was bad, but the Home Office has acronyms for acronyms. First of all, we spend about £6 million a year. We spend about £30 million over the Parliament period on science and technology, and obviously on research and advice. We also—

Chair: This is for these.

Ben Wallace: This is for CBRNE, in that sort of environment. The examples I can use are in our submission, but when we contribute to things like the model response, the ORCHIDS research that we have seen, which looks at decontamination issues, the type of research we fund ranges from scientific research to personal protection equipment, equipment used to mitigate the effects. We also look at other areas such as exercising and making sure that the fire and police services invest in the right kit and that we make sure that that kit is maintained, as well as DIM kit—detection, identification, and monitoring equipment, I think—and making sure that is up to speed, modern and capable of doing the job it is supposed to do.

Q191 **Chair:** At another Committee hearing, we heard about the importance of social science in emergencies. Is there investment in social science research pertaining to these kinds of incidents?

Ben Wallace: I am not aware that we have a specific project. We have a behavioural unit that looks at human behaviour, often as applied to terrorists and people who might potentially become terrorists.

Q192 **Chair:** What about on the public response to an emergency?

Ben Wallace: It is civil contingencies who have the general response.

Q193 **Chair:** We had a lot of learning, obviously, from Ebola and things like that.

Paul McCloghrie: We have a behavioural science expert group that looks at the risks we consider, which include the CBRN risk, and provides advice to us on what the public reaction might be to those.

Q194 **Chair:** Might there be investment in the research there?

Paul McCloghrie: That is done on a very low-cost basis. We get support from collections of academics and people from Government agencies to provide that information.

Q195 **Chair:** Minister, different Departments have different responsibilities when it comes to these kinds of incidents. Who co-ordinates investment in the research pertaining to other Departments?

Ben Wallace: The MOD is the main sponsor of Dstl, the Government's science labs, and they really—

Chair: The Ministry of Defence is the main sponsor of the defence laboratory.

Ben Wallace: Of the Dstl, yes. They fund about £600 million of that, and that includes Porton Down and areas like that. A lot of the knowledge base is contained in three main bodies: Public Health England, when it comes to biological; when it comes to atomic, we are talking about Aldermaston—

Q196 **Chair:** But it is the Ministry of Defence that co-ordinates the research.

Ben Wallace: The research is often demand-led, so it can be triggered by a review. For example, we constantly review the process in which we respond and the anticipated needs of people affected. When we look at decontamination times and limits, that will trigger us, effectively, to commission scientific advice, and that advice, as I am sure you can guess, is not massive in certain areas. There are not huge numbers of scientists.

Q197 **Chair:** That is helpful. On the research side, you quite fairly say it is demand-led. Our concern might be that if it is demand-led, how do you know where your gaps in research are?

Ben Wallace: There are three or four things. We exercise regularly. We do about one exercise a month. We have done about 20 in the last two or three years and they are exercises at all levels. Obviously, in exercising you find gaps. We started the process in about 2006 with the model response study, and then a response framework was triggered in about 2010—a review—as a result of gaps identified in the working process. That framework produced the current response, which is the way we deal with incident response—the immediate operating response followed by specialists. It is constantly being reviewed, because of the environment of civil contingencies, who regularly review most of their national risk assessment because we are risk-informed and intelligence-informed, and that triggers reviews, but also because the academic community and Dstl share—

Chair: The defence laboratory.

Ben Wallace: Yes. Dstl scientists were involved in the effective removal of chemical weapons in Syria. They were involved in advice—

Q198 **Chair:** On that note, we have been told, thankfully, that in this country we have not had incidents—I expect there are lots of exercises and it is being tested—but with Syria, is there information that you are getting because of all the chemical and biological incidents that are happening out there? We were talking about the doctors who have suffered.

Ben Wallace: It is of public record that we have had attempts to detonate bombs, so we had the trial and conviction of an individual who tried to make a dirty bomb.

Q199 **Chair:** Forgive me. I am not being clear. What I meant was that, because right now there are people who are undergoing chemical and biological warfare and there is obviously information on the ground and first responders have died because of not doing decontamination, is the Department getting information from that real life, from the exercise to those real-life examples?

Ben Wallace: Yes. Like anything, first of all, we share intelligence and expertise but also we encourage our scientists, in the university sector and in the defence, Dstl-type labs and at Aldermaston, to make sure they are part of an international community. Just like medical procedures and medical solutions, that is part of being an academic, as such. We encourage them to do that and we have always had nuclear inspection

teams that would go to visit places like Iran, and there were British scientists embedded in those—I used to go regularly to Vienna to see them. That is how we learn, because, as you say, it is actually very rare. The last conventional chemical war was Iran-Iraq, and we are seeing evidence of events in Syria. In general, the widespread knowledge that was probably there in the era of the cold war is not as widespread, but we keep it very up to date and we make sure that it goes to the scientists. Really, the Government's chief scientific adviser is charged with making sure that scientific advice to the Government is up to date and of appropriate quality.

Q200 **Chair:** To what extent can you rely on research councils to prioritise research based on those kinds of incidents, chemical or biological?

Ben Wallace: "Rely" is probably the wrong word. When we identify a need, we go out and commission it, or the chief scientific adviser would if he felt there was a gap, either through one of the regular reviews we do, or in a post-incident study. We have a Home Office chief scientific adviser as well. They are charged to go out and make sure that advice is commissioned or up to date.

Q201 **Chris Green:** Mr McCloghrie, could you explain what role the civil contingency secretariat plays in the preparation for chemical, biological, radiological and nuclear incidents?

Paul McCloghrie: Certainly. I will start with risk assessment. The civil contingencies secretariat co-ordinates production of the national risk assessment, which is a classified Government document produced every two years. In that, we consider all the risks that might impact on the UK and UK citizens, including CBRN risks. The point of doing that is to have a common framework across Government for thinking about how likely things are and what kinds of impacts might be felt by the country from those sorts of events. From that we produce planning assumptions; we look at the most significant consequences of the risks we identify and develop planning assumptions. For example, in that space we will look at the number of contaminated casualties that the various risks might generate and create a planning assumption for the maximum number of contaminated casualties we think the risks lead to, and that then feeds into a capability-generation programme. The Departments own the risks. Effectively, we own the processes and the Departments own the risks. When the capabilities are generated, Departments can look again at the risks they own and think about what kind of bespoke planning they need to do, knowing that the generic capabilities have been built, wherever in Government they have been built.

Q202 **Chris Green:** As to the advice that is given, how much consideration do you take of cost when you are actually saying this is the response we need? How much are you constrained in terms of cost?

Paul McCloghrie: Cost does not factor into our considerations for preparations. We are looking at the risks and the impacts of those risks, and the planning assumptions effectively are the most significant impacts

across all the range of risks we look at. How much capability is built is a question for risk owners and Ministers in the Government Departments.

Q203 **Chris Green:** That is downstream.

Paul McCloghrie: Yes.

Q204 **Chris Green:** Were you surprised that the Home Office submission to this inquiry made no explicit mention of the CCS?

Chair: Sorry?

Chris Green: The civil contingency secretariat.

Chair: Thank you.

Paul McCloghrie: No, I would not say I was surprised.

Q205 **Chris Green:** You were not surprised.

Paul McCloghrie: We have a very good relationship and we work very closely together, so I would not expect to be in a different position from anything the Home Office submitted.

Q206 **Chris Green:** Our predecessor Committee was told in 2011 that a national risk assessment scientific review group was being set up. Does that sit every two years?

Paul McCloghrie: Yes. There are a number of scientific review groups that look at the national risk assessment. There is a review of the methodology and process, which we do with the Government chief scientist and the Government Office for Science, and there are reviews of the risks themselves and the impacts that we collectively think they generate. Those reviews bring in both people from within Government and from certain areas where we think there is significant expertise outside Government. We tap into that. I mention the behavioural science expert group as an example; we bring in people who have a specific behavioural science background and expertise to advise us, and there is an expert group on CBRN that supports us in that.

Q207 **Chris Green:** Who sits on the CBRN group?

Paul McCloghrie: The make-up includes Government Departments. The Home Office sits on the group along with the Department for Environment, Food and Rural Affairs.

Q208 **Chris Green:** Is it named individuals?

Paul McCloghrie: It is named individuals, yes, but it stretches across the Government agencies—Public Health England, the Defence Science and Technology Laboratory and the Atomic Weapons Establishment—and it brings in academics. Somebody from Newcastle University who has specialist expertise in this area sits on the group as well.

Q209 **Chris Green:** We are told that the Cabinet Office works "very closely" with the Government Office for Science to ensure that the evidence underpinning the national risk assessment is robust. Can you give a few

examples of how that interaction works in practice?

Paul McCloghrie: The Government Office for Science also sits on the expert groups I mentioned. I think it sits on all the expert groups actually, and it works with us to help us access the right expertise from outside Government as well. It can recommend people to join those groups. The Government Office for Science and the Government chief scientist are part of the review and clearance process for the risk assessments, so they add their comments and thought to that as well.

Q210 **Chris Green:** Is there any kind of example of how it has worked, any examples in recent memory, just to give us an idea?

Paul McCloghrie: Yes. We are working with them at the moment. When we assess risks, there are a number of different types of impacts. There are economic impacts, numbers of people affected and disruption to transport services and so on. To understand the significance of some of those impacts and how we weigh them up, we have a project working with them at the moment to do exactly that.

Q211 **Chris Green:** Do you and Sir Mark Walport go through the risk assessment line by line so that you both have scrutiny of the details?

Paul McCloghrie: We discuss the risk assessment with Sir Mark Walport while it is in draft. On the current risk assessment, I think we sat down with Sir Mark Walport three times over the course of the last six months to talk through the assessment and the details. Part of that is about the methodology approach and making sure that the information we present is accessible to the audience, as well as the detail itself. We submit the finished assessment to Sir Mark Walport for his comments on all the detail. I do not sit down with him during that process, but he has a period of time to read and submit his comments.

Carol Monaghan: You talked a bit about risk assessment. We have at the moment two definitions. We have our CBRN—are you okay with that, Chair?

Chair: I think we've got it.

Carol Monaghan: That is defined as a malicious attack, or certainly has those connotations, as opposed to hazmat, hazardous material, which would be more akin to an accidental spillage or something along those lines. Evidence from previous responders, including Staffordshire's civil contingencies unit, or CCU, said that the different definitions can sometimes cause problems for local responders, and that local responders are not always able to access the scientific support that they would wish to access, because of the definition of the particular emergency. Do you recognise that as an issue?

Paul McCloghrie: We have certainly spoken to local resilience forums about our guidance and the information we provide, to try to understand where there is any confusion.

Q212 **Chair:** What forums?

Paul McCloghrie: Local resilience forums—the multi-agency forums that sit in police force areas for all the front-line responders. We speak to those forums quite regularly. We have spoken to them about this particular issue, and asked if it is causing problems. We have had mixed responses. We are taking steps to update our guidance to make sure we are not creating any uncertainty. We are using the right terminology in the right place, which hopefully will help address that.

Q213 **Carol Monaghan:** Would you be confident that in a hazmat event local emergency staff and personnel would be able to access the full range of agencies that were available?

Paul McCloghrie: I would expect so.

Ben Wallace: The fundamental difference between a CBRNE attack, a terrorist attack, and a hazmat is—

Carol Monaghan: What is the "E"? That's a new one.

Ben Wallace: Chemical, biological, radioactive and nuclear explosion—event.

Chair: Thank you. Explosion.

Ben Wallace: We used to call it NBC in the army. We were completely the other way around. The fundamental, main, issue is that in a CBRN attack we do not know what we are dealing with at first. It could be, if it is biological, that the first indication we get is that people present themselves at their GP with a notifiable or very rare condition. It could be that the first thing you see is actually when someone is casevaced after an explosion and they are weeping or you discover that there are, unfortunately, a lot of casualties. With a CBRNE, no one actually knows—the first responder—what they are going to arrive at and we have to piece that together. At the same time, we have a very different level of investigative requirement. We need to know, because there could be more; we need to preserve the scene of crime, in the sense of trying to piece it together—to find a mobile phone that might have been used to trigger it—and to pursue somebody else who could be behind that attack; and we need to make sure that there is no further danger. Very often you get secondary devices, so if someone has set off a device, or indeed might have released a chemical, the first responders turn up and there is a bomb waiting for them. You go into a very different unknown environment.

With hazmat, in order to be a hazmat site—to hold those chemicals—there are layers of licences, pre-arrangements with the fire service and publicly acknowledged markings. In 90-odd per cent of times, the first responders/fire services are turning up to something they know about, and that gives tremendous advantage in one sense, especially from the point of view of protecting the first responders. If they are turning up to an acid spill, they know what to do, because it says so on the side of the lorry. The real challenge in this environment, in a terrorist attack, is the very nature of it; it starts by being unknown, and then we have to work

backwards. That is fundamentally why we have to some extent different approaches on some issues, because there are other needs at the same time.

Q214 **Carol Monaghan:** Staffordshire CCU also raised the need for something akin to a one-stop-shop where local responders could contact just one person or have one number to call rather than fumbling about looking for the correct agency. Do you see that as a useful tool for local responders?

Ben Wallace: Yes, and there is one. If I were to talk you through, if I may, the—

Q215 **Chair:** Is there one in Staffordshire?

Ben Wallace: There is one all over the country. Shall I talk you through it, if it is helpful?

Q216 **Chair:** What is helpful is trying to understand why we got evidence from Staffordshire saying that there was not.

Ben Wallace: I would have to refer you back to Staffordshire. We have ECOSA. Perhaps I could talk through how it works. There may be issues that we need to look at within Staffordshire's police or fire service about the initial response, but I was up in Merseyside looking at it the other day—

Q217 **Chair:** It is really trying to work out if there is a problem and whether you are aware of it, and whether there is communication on the ground.

Ben Wallace: Shall I explain how the structure works as it is and you can decide as a Committee whether it is a one-stop-shop or whether Staffordshire's fears are misplaced?

Chair: Okay.

Ben Wallace: When an incident happens and a first responder arrives at the scene and there is any clue of something wrong—it might be a terrorist incident or an explosion, and people are displaying unusual symptoms—that is reported to the force incident manager in every police force. That is how it enters. If you go to the force incident manager's room, usually a chief inspector or an inspector, depending on the force, there are shelves of files. "Pull off the files"—you know—"What do I do next?"

Q218 **Chair:** So he or she is the one stop, effectively.

Ben Wallace: He or she is the start of the incident, because the incident is rung in. When you dial 999 it will go to the call centre or the handling centre. In each centre is a force incident manager. That is how everybody's 999 calls are handled.

Chair: I want to be clear that Carol's question is answered.

Ben Wallace: On the scientific advice, he or she will then, if there are any characteristics of a CBRN incident, dial ECOSA, which is the fully—

Chair: That is fine. We get that.

Ben Wallace: That is a single telephone number. It comes in and the job of ECOSA is then to shepherd or co-ordinate the right person to give advice to the force incident manager. The question for Staffordshire is: who are they currently ringing in an incident like that, because it is a—

Q219 **Carol Monaghan:** I wonder, though, if it is a wider issue than simply in Staffordshire. We have heard from Staffordshire, but there could be other areas around the country where similar confusion lies at the moment.

Ben Wallace: Anything is possible. I am a Lancashire MP and I went to see Merseyside and asked the force incident managers. It is quite a straightforward regime. It is: pull off, ring ECOSA. ECOSA is manned 24/7 and they shepherd, effectively, the areas of advice to make sure. Then if it is clearly more deliberate, or starts to look like something or we know more and more about it, you could get Cobra triggered and all those other things. ECOSA sits above what the national CBRN centre, which is where the force incident management will ring through. It is quite an established route.

Q220 **Chair:** It might be, just looking at the Staffordshire submission, that there was concern about whether it is the chemical, biological, radiological or nuclear, criminal kind of thing, or hazardous material, and being worried about getting different information. That was a concern. Would you say that would still be up to the force incident manager?

Ben Wallace: The force incident manager, alongside the fire service, who in some parts of the country—

Q221 **Chair:** That is where we go away from that one clear—

Ben Wallace: No, because the force incident manager will always have access and be working alongside the fire service for any incident that involves something toxic or chemical. The fire service are the owners of the incident response units. They are the ones that deploy the specialist response further down the line and deal with the issues, but it is really about who handles the 999 call when it comes in. Let us say you are on the motorway and a tanker has tipped over, and you dial 999. That will probably be handled by the police, but even if the 999 call is handled by the fire brigade, the fire services have very established methods of dealing with hazmat as well. Are you asking me whether there would be rare occasions when somebody has illegally stored hazmat material? It would probably have to be illegal, because if it was legally licensed the fire service would know. They map all the centres in the community; they inspect them and everything else.

Q222 **Chair:** I think the question is on the science of it—that the scientific advice should be clearer and easier regardless of whether it is a hazardous or unexplained explosion.

Ben Wallace: The Health and Safety Executive play a very key role in the hazmat. I can write to the Committee, because health and safety is not under my wing, but that is who helps the fire service with their advice

in routine post or during hazmat incident—when it is declared a hazmat incident. But who they get their scientific advice from is informed—

Q223 **Chair:** That might be helpful afterwards. It is about what advice those first responders get, whether it is the force incident person or whether it is hazardous material, criminal or non-criminal: do they get all the advice they need?

Ben Wallace: Would it be helpful if I gave the Committee the two routes, starting with the single phone call, and you can compare the two?

Q224 **Chair:** Yes. As soon as we go away from the one route, people are worried.

Ben Wallace: It is one route. The point is that it diverges when you talk about a terrorist incident or a hazmat incident.

Chair: That would be useful, because this is where we have had submissions that people are worried about advice not being as good for one branch as the other, which does not seem to make sense. That would be useful.

Q225 **Carol Monaghan:** I have a final quick question. Minister, we have struggled through acronyms all afternoon, and I wonder how confident you are that you know what all the acronyms are and what the different agencies are. I am not going to ask you to rhyme them off, but do you ever play a role or have a role in a dry run of an incident where you see the different agencies working?

Ben Wallace: Yes. There was a Cobra exercise yesterday, not around a CBRN incident but around another incident. That is regularly tested.

Q226 **Chair:** You are part of that.

Ben Wallace: Yes, we are part of that.

Q227 **Chair:** You personally, as the Minister in charge.

Ben Wallace: Yes, I personally would be part of that. If it turned out to be a large hazmat, like the big refinery fire in Essex a few years ago, the security Minister would not turn up for that but DCLG would. In those days, the fire service was in DCLG.

Chair: Thank you.

Q228 **Victoria Borwick:** In one of our earlier submissions, Dame Sue Ion, a member of the UK SAGE—

Chair: The Scientific Advisory Group for Emergencies.

Victoria Borwick: Quite right. The scientific advisory group for the Fukushima incident. She made the comment that the only reason the UK was able to mount its response to Fukushima was that there had been long-term investment in expertise in that area. However, her concerns were that many of those experts have now retired. Are we continuing to make that investment for continued resilience in this area and who are

the pipeline of people coming through?

Ben Wallace: We are. I talked about £6 million a year at least, and, first of all, finding out where we have inadequacies and then doing something about it. The most recent one is this year. Dstl did a review.

Chair: Your laboratory.

Ben Wallace: It is in our submission—a review of Home Office scenarios to ensure that scientific evidence and modelling reflects current knowledge. Funnily enough, I looked at the number of reviews over the last 10 years—seven, I think there are—and there are quite a lot of constant reviews about response and making sure we have things up to date. In the three main organisations—Public Health England, the Atomic Weapons Establishment at Aldermaston and obviously the Defence Science and Technology Laboratory predominantly, in and around the country—we have labs where we have people who are also able to work on other things. It is like anything else; you have to keep yourself current and you have to keep yourself up to date. They are not all in those centres, but part of those establishments. We are recruiting them for more than just one reason, and that helps attract the talent and skill base.

Q229 **Victoria Borwick:** Slightly following on from my colleague Carol's comment about engineering, we were concerned that we got a report from the Emergency Planning Society that engineers are almost entirely absent from our emergency advice. Could you talk to us about how you make sure that engineers are included in preparing for and responding to these incidents?

Ben Wallace: The best way is for me to write to you about that in detail, because we start from the other way round: "Are our procedures correct? Do those procedures make a difference?" There were two main studies. I will tell you this, because it does not help in this environment that, while we have lots of acronyms, we also have studies with funny names that confuse everyone. The two main studies there were ORCHARDS and EDICTAS.

Q230 **Chair:** What do they stand for?

Ben Wallace: I will definitely write to the Committee on those two. I do not even know if they stand for something or whether those are their names.

Chair: Is the "R" response or research?

Carol Monaghan: Optimisation through research and clinical incident decontamination systems.

Chair: Are you sure that is not ORCHIDS rather than ORCHARDS?

Carol Monaghan: No.

Chair: That is why I do not like acronyms, but anyway, thank you.

Ben Wallace: EDICTAS has to be emergency decontamination, that sort of thing.

Chair: Thank you.

Ben Wallace: Those studies indicate whether we are achieving what we want. The solutions are often found in equipment procurement, and that is where engineers will be involved. We put out a tender or a requirement. For example, in decontamination, when we wash people down, we cannot just let the water run everywhere, so the requirement will include a holding for 5,000 litres or a shower unit, and that is where the engineers will be involved more. In another part of the Home Office, we have protective security advice when we design and build institutions, airports and everything else, to look at minimising all sorts of risks from explosions and all those other things. Engineers are probably more in the capability solutions, I would probably say, than they are in assessing the scientific advice.

Q231 **Victoria Borwick:** Finally, the other query was really to record our concerns about engineering expertise and checking that there were members with engineering expertise on your SAGE group—the Scientific Advisory Group for Emergencies.

Ben Wallace: We will find out if there are. Just so you know how SAGE works, predominantly it is up to the chief scientific officers, let us say, to match the most appropriate advice to the incident. That is important.

Q232 **Victoria Borwick:** The point is that these people have already written in with their concerns, and in a way our flagging them up is just to jog your mind that this should be built into future resilience plans.

Ben Wallace: Yes.

Q233 **Chair:** We were talking about the knowledge base and experts. I know that some of the other allied organisations, like the National Physical Laboratory, have very successful apprenticeship programmes. Do you encourage that as well in this field? Is it possible?

Ben Wallace: I would have to confirm whether Dstl has an apprenticeship programme.

Chair: That would be interesting to know.

Ben Wallace: I suspect it does. I used to work with a sister company in my previous life, QinetiQ, where apprenticeships are a big programme, or graduate entries. I am guessing that AWE, at Aldermaston, does as well. I can tell you if there are exact numbers.

Q234 **Chair:** The Atomic Weapons Establishment. Great. That would be very interesting, and whether over time they are increasing or decreasing. Might I ask, Minister, does your personal background in the armed forces help you in this particular role at all?

Ben Wallace: My dislike of acronyms does. To answer your question, I think it does. I was trained in what we called nuclear, biological and

chemical warfare—not the use of it, but operating in an environment that is dangerous. It was different, obviously. It helps me try to make sure that our response is the right way round, if you know what I mean. In other words, I look at it from the bottom up. How does it start when a human being turns up at an incident? Do we have the right balance between a specialist response and first responders, and the ability? The sooner we know what we are dealing with, the better everything else can be.

Q235 **Chair:** That is informed by your experience.

Ben Wallace: It is informed by my experience, because the Army would assume you have to carry on as best you can, so you are taught about the different types of chemical agents. I could bore the Committee to death about blistering agents, blood agents, choking agents, nerve agents and all those other things, but the reality is that it makes you a little bit more robust.

Chair: That is great. Thank you.

Q236 **Matt Warman:** Obviously, around these incidents there is huge pressure on communications and getting it right, but also getting it quickly and all of that, and there has been a recommendation to us from the Science Media Centre that SAGE—the Scientific Advisory Group for Emergencies—should include an independent scientific press officer. What do you think of that?

Ben Wallace: It is certainly a good idea. I am happy to take that back. In an incident, the ownership of the initial communication to the police in any major or terrorist incident is with the police. They are the initial owners of the, "Go home, be safe and don't do this" message very early on. In 24-hour media, we are very concerned in a range of areas, not just in this sector, that the 24-hour news cycle does not inadvertently mislead the public, and they do not accidentally ask people who happen to be in the foyer to come and appear as an expert on whatever news channel, and that we get the right advice out to the media. One of the things I have been working on is trying to do that. I know that the police in the regions make sure—I have asked again to make sure it is delivered—that there are recognised professionals that they can at least point the media to, and say, "If you are having to go on and talk about this, this guy knows what he is talking about. He won't be fully informed because he is not part of the incident, but he is not going to speculate and cause panic." That is really important. But, yes, having someone independent is an interesting idea. I am not sure what the independence would add. All the scientists I come across in Government are scientists first and civil servants second. It is often the politicians interpreting the science who are the problem rather than the scientists themselves. Maybe I could ask for the civil contingencies view.

Paul McCloghrie: There are two things I would add. First, when the Scientific Advisory Group for Emergencies meets, the chair often tells the members who have been pulled together that, while they should not talk

about the discussions that happen in the meeting, that should not stop them talking to the media about their areas of expertise and how they relate to a certain incident. It is not a blanket, "You do not talk to the media." The minutes of those meetings are made public.

Secondly, the chief scientist, Sir Mark Walport, takes his position as an authoritative spokesperson for the Government on scientific issues quite seriously. When he comes from that group and provides advice and input to Cobra, he works with the press and media people who are supporting Cobra, working out what that message should be.

Q237 **Matt Warman:** Has any particular Scientific Advisory Group for Emergencies taken up the Government's own recommendation that there should be a specific communications expert involved, or is it part of the process on a sort of ongoing basis?

Paul McCloghrie: I would say it is part of the process on an ongoing basis rather than there being a member who is the communications member.

Ben Wallace: If you think of SAGE as predominantly set up at that level to advise Cobra, Cobra in itself will always have communications as a significant part of its agenda. The thing people forget is that Cobra is a tasking Committee. It is not an operations room. It does not run the operation. It comes together to agree tasks and then effectively to make sure those tasks are carried out. In that sense, SAGE, those scientists, will inform the communications plan in a Cobra and will be very important in doing that. One of the jobs of whoever is chairing Cobra is to make sure there are no confusing communication lines and, as you can guess, in this day and age, with Twitter and everything, it is incredibly difficult to get an authoritative voice to cut through. All of Government take that really seriously when it comes to an incident, but I think scientific advice is very important, and we must make sure we get approved people to say things, without controlling what they say—people who are accredited or have the respect of the community.

Q238 **Matt Warman:** There is an issue around people having permission to speak to the media during incidents; on the one hand, as you say, those people are the authoritative figures who would provide the cut-through that you are talking about, but on the other hand, culturally they do not have permission to speak to the media and they do not do it very often. How do you think we might best resolve that tension?

Ben Wallace: I cannot resile from the fact that we have to have a controlled message during the middle or the initial phases of an incident. Certainly the aim of a terrorist attack is to spread panic, terror and confusion. We have to make sure that we do our best, that the advice given and the police type of advice is consistent and sticks to what we think is the best way forward, not we as in Government Ministers—I am not confusing us with Cobra, which is full of experts—but the people who do the day job: the fire service, the police officers and all those people who put themselves at risk. I think that is important, but it is important

to allow commentary on an event that happens. I cannot give permission to that—no Government should be doing that—but that commentary should at least be informed; it is important do that.

Q239 **Matt Warman:** Do you think we need to do more on that? Do you think the science is—

Ben Wallace: Across Government we could always do more to inform. We work with editors and news outlets and we do our very best, but in any story—you are all politicians around this table—you will know that a journalist might be on duty and, despite all the work you have put in with journalist X, it is the night editor who says, "Just go and get me a story." We can do our best, and that is why trust is important. I would not want a scientist to advise me who was not a scientist first and a civil servant second. I have to trust the advice, and I would not want them to feel that they cannot advise me. We know we have a problem with trust in Government in general and have done for too many years, but we have to try to build that trust in an incident.

Q240 **Chair:** On that, I guess the problem is that we romanticise the communication that we see in "The West Wing" kind of style, but when you do role-play exercises, do you also test dissemination of information and how it is received in a dry run?

Ben Wallace: I would have to find out, because I have only done this since July, so I have not done too many of those exercises, but we certainly test comms plans.

Q241 **Chair:** It is more about how the message is perceived and getting feedback.

Ben Wallace: What I do not know is whether within that test we have effectively the mystery shopper-type response.

Chair: Exactly.

Ben Wallace: The "I did not know what was going on." I will certainly feed that in and find out if we do, and if we do not we should. I totally agree that there is no point talking to ourselves about it. We have to get a feeling that at the other end of a Twitter feed or a website, someone says, "I understand what they are saying."

Q242 **Chair:** We know we have fire drills that are common. Do you see a place for a similar kind of drill for these kinds of incidents at all?

Ben Wallace: I am going to wander slightly into hazmat. Chemical sites and nuclear sites have regular drills linked to the specialist problems that they could face.

Q243 **Chair:** Do you mean within their communities?

Ben Wallace: Within their communities, where material is stored and everything. That is part of the conditions of the licence, I guess. We regularly test—as I said, there were about 20 over the last two or three

years—the fire service, the police, Ministers, civil servants and scientists in these processes.

Q244 **Chair:** But do you see a place for fire drills like the public have?

Ben Wallace: Above the concept of normal fire drills, I do not think so. We have to be really careful about where this sits within risk, but also about potential damage. At the moment there is very low risk of a chemical, biological, radioactive or nuclear attack. There is a very low risk of that. There are a lot of other risks, but this is a very low one. The potential of its happening and then what we do is obviously high.

Chair: That answers it.

Ben Wallace: It is difficult to balance.

Q245 **Victoria Borwick:** May I follow on with a quick question on lessons learned? When there are incidents, for example, going back to when the tubes and buses were blown up—let us not beat about the bush—several years ago, how are the lessons learned from that put into effect? If the research and the reports at the time indicated that 50 things had to be done, or whatever it was, how do you then go back to rehearse that that has actually happened and that those were the right lessons learned?

Ben Wallace: I am going to point to civil contingencies because I suspect they do the generic lessons learned and then they feed it back to us, and we have to implement it.

Paul McCloghrie: We carry out lessons-learned exercises both after real events and after Government-run exercise programmes. Those lessons are captured and they inform the exercise programme itself, to retest, make improvements and retest particular parts of the response, and they also feed into our processes: "How can we change our process to make whatever went wrong, whatever we learned, not happen again?"

Q246 **Victoria Borwick:** After 7/7, there were things learned about making the tubes safer, and as a tube user every day I am not sure that I have seen all of those implemented, with regard to emergency equipment and access, but maybe decisions were made for other reasons.

Paul McCloghrie: I would think in that case it depends on the lessons being learned and who is best placed to do something about that. If it comes to Transport for London, I would need to check with them what they have done.

Q247 **Victoria Borwick:** Quite, but the point is that you are the people who have presumably disseminated it to all the different providers that we used acronyms for today.

Ben Wallace: Certainly. Obviously in 7/7, I was not sitting in this chair, but the thing you will notice on the tube is better comms. One challenge is obviously communications underground. If you remember, one of the findings after 7/7 was the crowded emergency communication network, and there were traffic problems. In an exercise I did recently, front and

centre was transport, because people want to go home in those incidents. I wanted to go home when it happened. I did not want to loiter around shopping in Oxford Street. I wanted to find my wife. People do that. Some of the things you will not see, because they were lessons for responders; they were lessons about whether we have the right equipment on a fire engine.

Q248 **Victoria Borwick:** There is also accessibility, because the first person to get to the first-aid kit on the tube or the station might not necessarily be an official. It might be a member of the public. I happened to have been following that report at the time and, therefore, I am conscious that in my personal view I am not sure that it is obvious to the public who might be the first responder.

Ben Wallace: Any sign that they had not learned lessons will come up in the exercises, and we exercise at quite a dress-rehearsal level—that is the layman's term, but in Home Office-speak it is tier 2. Last year we had an operation and the media were allowed in to see part of it. There were three incidents, one after the other. That is where we find out, and the civil contingencies—

Q249 **Victoria Borwick:** As long as you are not just making the presumption that the only first responders will be the professional services because, sadly, when these things happen—

Ben Wallace: I do not think we are. I wish everyone was a first aider. I wish we could get everyone to engage in the whole range of what to do. The nature of terrorists and why they pick public places is that they know there are people of all different ages, backgrounds and nations going about their business, and they design their attacks to cause panic. I do not know about you, but in my constituency there is generally a better level of things such as first aid and the defibrillation campaign that many of us as MPs have been involved in. Those types of personal security/personal immediate help—we used to call it first aid—are some of the most important things.

Q250 **Chair:** Yes, on that note, I am running a defibrillator CPR campaign in my constituency.

Ben Wallace: CPR? Did you abbreviate there, madam Chair?

Chair: Bravo, gold star, well picked up. You are absolutely right. We really appreciate your time. I am very glad, as you say, that these incidents are rare. I am also very glad you do the dry runs. I am sorry that we have given you quite a lot of homework, but we look forward to getting those submissions from you. I appreciate your time today.

Ben Wallace: Thank you very much. If I may say so, the difficulty with the attack scenario is that if we did not get any intelligence in advance, if we did not know it was going to happen, we would have to start off very quickly trying to identify sometimes very rare things—"Is it ricin? Is it sarin?"—that we cannot equip every ambulance or fire engine for. We would have to do it rapidly and save other lives. That is very difficult. I

have looked at some models in other parts of the world, and I think we are going in the right direction and as long as we keep exercising and investing—

Q251 **Chair:** Right. Our panel 1 told us that they felt that in the UK small is beautiful and we are doing it okay.

Ben Wallace: But it takes a political decision about risk. We have to be honest with the public that we cannot cover every eventuality in every square centimetre of this United Kingdom. We are informed by intelligence and we are informed by risk, not just in the kind of chemical or biological scenario but in all other terror scenarios. It is my responsibility, the Home Secretary's and the Prime Minister's, to have to say, "Here but not here," or, "This service here but not there." That is what we have to do. One of my determinations as security Minister is to manage expectations of what we can do.

Q252 **Chair:** The expectation of this Committee is that we have the best science and the best available science at a rapid response.

Ben Wallace: We do our best.

Chair: Thank you very much, Minister.