HOUSE OF COMMONS

Defence Committee

Oral evidence: An acceptable risk? Use of Lariam for military personnel, HC 567

Tuesday 12 January 2016

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Written evidence from witnesses:

- Ministry of Defence

Watch the meeting – An acceptable risk? Use of Lariam for military personnel

Members present: Dr Julian Lewis (Chair); Douglas Chapman; Johnny Mercer; Mrs Madeleine Moon; Jim Shannon; Ruth Smeeth; Mr John Spellar; Phil Wilson

Questions 145–235

Witness[es]: **Mark Lancaster TD MP**, Minister for Defence Personnel, Welfare and Veterans, **Surgeon Vice Admiral Alasdair Walker OBE**, Surgeon General, **Brigadier Timothy Hodgetts CBE**, Medical Director, Defence Medical Services, and **Surgeon Captain John Sharpley**, Defence Consultant in Psychiatry, gave evidence.

Q145 Chair: Good morning everybody. Welcome to the final public session of our inquiry entitled "An acceptable risk? The use of Lariam for military personnel". First, may I ask our four witnesses briefly to introduce themselves for the record?

Brigadier Hodgetts: Good morning, Sir. My name is Brigadier Tim Hodgetts. I am the medical director for the Defence Medical Services.

Mark Lancaster: I am Mark Lancaster, Minister for Defence Personnel.

Surgeon Vice Admiral Walker: I am Surgeon Vice Admiral Alasdair Walker. I am the new Surgeon General.

Surgeon Captain Sharpley: I am Surgeon Captain John Sharpley, and I am the Surgeon General's defence consultant adviser on mental health and healthcare.

Q146 Chair: I understand that the Minister wants to make a brief statement to open. Before I ask him to do that, I would like to say that this inquiry was announced last September, so the Ministry has known about our interest in this subject for several months. Therefore, it was a little disconcerting to receive what is entitled an "ad hoc statistical bulletin" relating to the subject of this investigation only at four minutes to 10 this morning. That is not an acceptable timescale. If you are going to give us information that is, in your opinion, germane to our inquiry, it should be given to us with a reasonable amount of notice before the relevant

hearing. It is a mixed blessing to receive information so close to an inquiry hearing that we can't make proper use of it.

I hope that message will be taken back to whoever was responsible for this bad timing, especially as there is a sentence in the document that states: "This bulletin has been developed in support of the House of Commons Defence Committee… inquiry into Mefloquine use in the armed forces and to provide Official Statistics to meet the continued public interest in the number of UK armed forces who have been prescribed Mefloquine." As I say, had we received this even a week ago, it might have been helpful. It is not very helpful to get it on the very verge of conducting a public evidence session.

Having got us off on that particular, and not very pleasant, opening, I invite the Minister to say what he wishes to put forward.

Mark Lancaster: Thank you, Dr Lewis. I can only apologise, given your earlier comments. Defence Statistics like to have a degree of independence, and the timing was simply unfortunate, but I will certainly pass that message back. I will start by saying how grateful I am to have the opportunity to appear before the Committee. Like many people, I have had an interest in this subject for some time. I would therefore like to make a brief opening statement.

Since 2004–05, defence policy has been clear on the requirement for individual risk assessments through patient consultation. In 2013 the Defence Primary Healthcare Organisation was formed. It has been responsible for ensuring that this policy has been followed, which has been aided by a move away from paper to electronic patient records. With the aid of the new electronic records system, the Defence Primary Healthcare Organisation ensures that warnings are automatically generated to confirm that the prescriber is satisfied with the individual's ability to tolerate Mefloquine.

Templates also exist to improve consistency in prescribing anti-malarials, and the Defence Primary Healthcare Organisation has a malaria protocol to guide clinicians on how to use these templates effectively. Work is currently in hand to develop this guidance further, to ensure that all individuals are assessed consistently. Prior to 2013, the single services were responsible for the provision of primary care and the procedures for prescribing anti-malarials. Although it is suspected that the single services would have followed Defence policy, it is not possible to confirm this in every case, given the number of personnel who have been prescribed anti-malarials.

While I remain of the view that the policy to include Mefloquine in the portfolio of anti-malarials used by the MoD is the right one, I recognise that anecdotal evidence submitted to this Committee suggests that a limited number of service personnel believe that their individual risk assessments did not take place. Should that be the case, I would like to take this opportunity to apologise to any former or current service personnel affected. I and my Department take extremely seriously claims that any drug has been inappropriately prescribed to service personnel and that serious and long-lasting adverse drug effects have been experienced. There are established processes by which current and former members of the Armed Forces can have such concerns investigated in confidence by the MoD, and I encourage those to be used so that individual concerns can be addressed.

Q147 Chair: Thank you, Minister. I will just make the point that, although it is alleged that it is not possible to check whether every person who received this particular drug was given an individual assessment, I do not think the Committee was looking for such a high degree of proof that there were no individuals who missed out on having the assessment. What we wanted to know, and still want to know—and this will emerge in the questioning—is whether, as a matter of general policy, individuals were given their personal assessments before the drugs were prescribed. We would have thought that you would be able to give us an answer in general policy terms, rather than setting up what might be regarded as an Aunt Sally by saying simply that we cannot guarantee that every single soldier who was given this drug was individually assessed. I don't know whether you want to come back on this point now, or we can address it later in the questioning.

Mark Lancaster: I am confident that the policy is clear that individual service personnel should be given an individual risk assessment. That was clearly stated in the Surgeon General's policy letter way back in 2004. Since that time policy has evolved, but that fundamental principle remains.

Chair: Okay. We will explore that further in due course. Thank you.

Q148 Mrs Moon: Before we begin, Minister, you said in that rather fast statement—I may not have picked it up accurately, since you went through it so fast, but I will read it again slowly when we have the transcript—that there was an avenue for raising individual concerns.

Mark Lancaster: Absolutely. As a Department we would welcome any individual contacting us in confidence if they have concerns about the impact on them individually.

Q149 Mrs Moon: Where would that individual access be? Is there a particular number or a website that people should go to? Could you perhaps provide that information?

Mark Lancaster: I am happy to ask one of my colleagues to give the detail on that, if that would be helpful to the Committee, as a way of publicising the process.

Q150 Mrs Moon: That would be helpful.

Surgeon Vice Admiral Alasdair Walker: I think that there are two methods for following it up. First, a veteran can go to his general practitioner and ask to be referred back to the MoD for further assessment if he believes that his condition is relevant to the prescription of Mefloquine. Secondly, there is a method for reporting adverse effects through the Medicines and Healthcare Products Regulatory Agency. It has the yellow card scheme, which is a national system. It does not provide a means of identifying the individual who is reporting adverse effects. Being in the Armed Forces, we are not aware of that system being used. There are two methods for reporting adverse effects and any worries.

Q151 Mrs Moon: So it is not a direct link for the person into the Ministry of Defence; it is via their GP or via the Medicines and Healthcare Products Regulatory Agency.

Surgeon Vice Admiral Alasdair Walker: If they are a serving member or a Reservist, it would be through their medical officer and taken that way. If it is a veteran who has left the services, it would be through their GP.

Q152 Mrs Moon: I have to say that I cannot imagine that many GPs are aware of how they would contact the Ministry of Defence and refer someone that way. Again, if you could provide that information, it might be useful so that we can provide it to individuals who have contacted us. They can then take it to their GP if they wish to pursue it.

There are a number of anti-malarials on the market. Given the increased concerns about Lariam, why does the MoD continue to prescribe it to military personnel?

> ***Mark Lancaster:*** I think that Lariam is an important anti-malarial within the portfolio that the MoD uses. Unfortunately, as the Committee is aware, there is no single anti-malarial that is effective for all the various and different strains, and nor is there a single anti-malarial that is 100% effective or does not have any side effects. The MoD continues to follow the policy guidance of the Advisory Committee on Malaria Prevention, which is to maintain a portfolio of anti-malarials, of which Lariam is just one. It certainly is not the MoD's preferred anti-malarial. Indeed, the statistics published today demonstrate that, with some 84% of personnel deployed to Afghanistan between 2007 and today not being prescribed Lariam.

Q153 Mrs Moon: Surgeon General, would you like to add anything?

> ***Surgeon Vice Admiral Alasdair Walker:*** I agree with what the Minister has said. We need to maintain a portfolio of drugs that are effective against malaria, especially if people are allergic to some of the other drugs or there is resistance to them. The other drugs are not without their side effects. In fact, some of the alternative drugs have significant side effects—significant in terms of both the number and intensity. Lariam or Mefloquine is but one drug. It is not our prime anti-malarial drug. To take it away, however, would denude our ability to manage our forces. It is important to put it in context: we have not had a death in the Armed Forces in the UK since 1992 because of these policies, I believe.

Q154 Mrs Moon: Do the other anti-malarials that you are utilising have significant psychiatric side effects, as Lariam does?

> ***Surgeon Vice Admiral Walker:*** Some have a degree of psychiatric side effect, although perhaps not as marked as is reported for Lariam.

Q155 Mrs Moon: Our witnesses in December said that there were no geographical areas where Lariam was the most appropriate drug. Do you agree with that?

> ***Surgeon Vice Admiral Walker:*** I think the assessment of which drug to prescribe is based on a variety of things, such as the person's ability to take the drug and their geographical location. It is important that we ensure that the right people get the right drug in the right place.

Q156 Mrs Moon: So in which geographical areas do you feel it is essential that Lariam is used?

> ***Surgeon Vice Admiral Walker:*** The opportunity to have Lariam in the west of Africa is important. I am not saying that it is the prime drug, but having that in the armamentarium is important, for those who cannot take other drugs.

Q157 Mrs Moon: But there is no geographical area where it is essential that Lariam is used.

Surgeon Vice Admiral Alasdair Walker: There is no geographical area where it is absolutely essential. It is only if people cannot take other drugs, for whatever reason.

Q158 Mrs Moon: According to the Secretary of State, Lariam makes up only 1% of the MoD's anti-malarial stocks. What other anti-malarials are you using?

Surgeon Vice Admiral Alasdair Walker: The antibiotic Doxycycline is one of our main anti-malarials, and Malarone, a combination drug, is another. Proguanil is another anti-malarial that we use—Chloroquine and Proguanil are used as a combination.

Q159 Mrs Moon: After this hearing, will you provide us with evidence of the percentages in which those drugs are allocated and let us know which ones have the psychiatric side effects that you are concerned about?

Surgeon Vice Admiral Walker: I am sure we can.

Q160 Jim Shannon: Thank you for your comments so far. I have a question about the anti-malarial stocks that follows on from what Madeleine was asking about. Of the total, 1% is Lariam, and the other 99% is something different. Why are people who have served telling us about so many difficulties with Lariam, when at the same time we have 99% that is not as bad? Why is there so much emphasis on Lariam, rather than on usage of the other ones?

Surgeon Vice Admiral Walker: It is not unique to Lariam, but, because of the type of side effects, it has become more prominent in the public psyche. It has become very prominent because of the other discussions among other people. However, studies show that Doxycycline has a greater side-effect profile in terms of the number of people affected. Some of them can be quite significant—for example, gastrointestinal side effects and skin side effects.

Q161 Jim Shannon: Lariam wouldn't be used because it's the cheapest, would it? Is that why it has been used?

Surgeon Vice Admiral Walker: No, we have been quite clear that Lariam is by no means the cheapest. Eight weeks' supply of Lariam in an eight-tablet pack is £14.53. Paludrine/Avloclor is £9.95 for seven weeks. Malarone is £25.21 for 12 days' supply, and Doxycycline is £8.40 for an eight-week supply. Money does not enter the decision on prescribing in any way.

Q162 Jim Shannon: The MoD policy on Lariam is based solely on advice given by the Advisory Committee on Malaria Prevention. I am keen to ensure that the MoD follows the same set of guidelines that, for instance, NICE has when it sets down what happens for civilians. Do you have direct contact with NICE and the NHS to ensure that the guidelines for prescribing these drugs are as stringent for those in the Army as those used for civilians?

Brigadier Hodgetts: First, I should point out that Lariam or Mefloquine remains one of the World Health Organisation's essential drugs. There is no international licensing authority that has withdrawn Mefloquine based on toxicity. Yes, we do take national guidance from the Advisory Committee on Malaria Prevention, because that is the nationally constituted body, under Public Health England, that gives advice to all UK prescribers for UK travellers, so it covers both civilian requirements and our requirements.

Q163 Chair: You say that nobody has withdrawn this drug, but presumably the reason for that is that there are very clear conditions for its use, which are set out by Roche, the manufacturer. It specifically says that Lariam must not be used in patients with specific pre-existing conditions or contraindications. The only way it can be established whether or not a person has any of those conditions and vulnerabilities is for an individual assessment to be made. Surely the nub of our inquiry is not, "Should Lariam never be used when the appropriate safeguards are met?", but, "Is it practicable to meet the appropriate safeguards when you are dealing with a large number of people, such as a battalion that is going to be deployed, and when the Armed Forces themselves seem to recognise that in certain branches, such as flying and diving, it would be inappropriate?". That is what we are trying to get at. Can you focus a bit more, not on whether Lariam should be banned worldwide—because no one is suggesting that—but on the question of whether this is a drug that can be used with the safeguards that its own manufacturers say must be followed if serious adverse consequences are not to follow?

Brigadier Hodgetts: Yes, we do have extensive, progressive and now quite sophisticated safeguards to ensure safe prescription of Lariam. We now have electronic decision support, which we first implemented in February 2012 to ensure that GPs were prescribing safely. At that time it was a read-only file, but by August it had become a file that you could populate electronically for that individual and go through the checklist when prescribing.

That predated the additional risk management material circulated by Roche by about 18 months. We were ahead of the pack in ensuring safe prescription not only of Mefloquine, but of all anti-malarials. Every year since 2012 we have updated that electronic guidance in line with manufacturer's recommendations, again not only for Mefloquine, but for other anti-malarials, and specifically for Malarone. The latest version was completed in November 2015 and is now being trialled by one of the medical centres in Tidworth to see how that additional information supports the individual practitioner. That is one of our safeguards.

Our other safeguards are that we have medical employment standards within the defence medical services and within Defence. That means that if you have an active medical problem, for example a common mental health disorder, you will be recognised by the system, downgraded and protected within the system. You should never be presenting within the system to be deployed and to be exposed to Mefloquine.

Q164 Jim Shannon: The difference, as the Chair says, is between the Lariam being dispensed and prescribed; when dispensed it goes to a group of soldiers, and when prescribed it goes to individuals. The evidence that the Committee has received so far has clearly said that the prescription has not been done. What you have said, Brigadier, in relation to the soldiers, is that if you identify a problem then you address it. I am not saying that you have not identified problems, but there are many people who are slipping through the system. With great respect, when it comes to identifying them, that does not seem to be the case.

Brigadier Hodgetts: Let me just add some further clarity, please. There are two methods of actually prescribing Mefloquine. One is by individual face-to-face consultation, and that is what we deem to be a prescription. We also have authorised a patient-specific directive, where the individual clinician still has to conduct the risk assessment. That risk assessment will be done from the patient's notes, recognising other safeguards such as the medical

employment standards and the fact that we know our people within our individual units. We are not assessing our people within a medical vacuum. The specific list of patients to receive that drug, being given by an authorised additional healthcare worker, is signed off by the prescriber who has done the risk assessment on the patient's records.

Q165 Jim Shannon: I appreciate that. I am not entirely sure or convinced that that has happened in every case. When it comes to the prescription of Lariam, there needs to be a one-to-one; there needs to be an understanding of the mental capacity and emotional stress on that person. By their very nature, soldiers are in a high state of readiness and at very short notice they go off to a war zone or somewhere else in the world. We have had evidence so far in this Committee that would indicate that those things are not happening with the focus there should be. The evidence is clear. While you in your position, Brigadier, wish to see that happening, the fact is that we do not have much evidence of that at this moment.

Could I ask a wee question lastly about the Advisory Committee on Malaria Prevention? You acknowledge that the ACMP does not give specific advice to the Armed Forces; you have said that. Is it your belief that there is no difference in the risks attached to Lariam use by civilians and by the military? I ask that question because I have a guy who served in the forces—actually, let me give two examples: one who served and one who did not. The guy who served said that he very quickly suffered a mental and physical adverse reaction after taking Lariam. He had nightmares of monstrous, hideous faces waking him in the night. That is a guy who got Lariam through the Armed Forces. Quite clearly, he is one example of many who missed out on the prescription process and the one-to-one that there should have been. There are also civilians in the same situation. An MP who is well known to everyone on the Committee, Jeremy Lefroy, spent some time in Tanzania. He also took Lariam. He said—and the Minister may have been in the column today—that he had had an adverse effect from Lariam as well. It is very important for us in this Committee to understand this. Is it your belief that there is no difference whatsoever in the risks attached to Lariam use by civilians and by the military?

Brigadier Hodgetts: There is no body of evidence to suggest that a non-immune UK civilian traveller is any different to a non-immune UK military traveller in terms of how they will react to individual drugs. There is an issue in relation to the overall risk that soldiers are potentially put at in terms of malaria. We know that malaria is a really important disease—in terms of the number of cases and deaths that happen—internationally and from our historical military precedent. We know that the risk of malaria is directly related to the risk of being bitten by a mosquito carrying that infection. The highest risk exists in areas such as West Africa; there is about a tenth of that risk in East Africa, and in turn a tenth of that risk in areas of Asia. So the highest risk exists in West Africa.

That risk is linear. It is related not only to the fact that someone either goes on holiday or is deployed, but to how long they spend in the malaria zone. If you spend three months there, your risk has gone up sixfold from if you only spend two weeks in-theatre. We also know that over time the compliance with therapy, particularly with daily therapy, reduces. That is why certain drugs such as Doxycycline have demonstrated outbreaks of malaria within military populations because of poor compliance over time.

Although, when it comes to which drugs are available, the choices are really no different for the civilian and the military populations, we would take into account factors such as

for how long you are deploying—that is something which may influence the choice of therapy you receive—as well as, within the risk assessment, your specific situation: have you been to a malarious area before? Many service personnel deploy frequently, therefore they have been exposed to anti-malarials on many occasions and they developed intolerances, so the choices start to reduce anyway in terms of what you can offer these individuals.

Clinically, there are tactical, operational and strategic reasons why we make choices of an anti-malarial for a specific individual. The tactical reasons are about the choices: what have you taken before, are you tolerant or intolerant to it, do you have a medical history that prevents us from giving you a specific anti-malarial? At the operational level, it is about assurance for the commander that their people will take that drug, and will take it reliably and get the protection. The commander needs his or her troops to be protected. If you take a daily therapy for a prolonged period, then your compliance reduces and your vulnerability to catching malaria increases. The final issue, which is the strategic issue, is about our part in the global setting. We need choices for anti-malarials because the fewer drugs that are available, the higher the likelihood of resistance developing to that smaller number of drugs.

Chair: I am being quite indulgent in the early stages, but that was a very long reply. I appreciate that this is a complex matter, but I ask witnesses and questioners, including myself, to exercise a little bit more self-discipline in pithiness. An exemplar of that will be given just before I come to Johnny by Madeleine, who wants to come back on one specific point.

Q166 Mrs Moon: I wonder if the Surgeon General could provide additional information to the Committee. We were told Lariam is now 1% of stocks. Could we have a historical perspective on the percentage of stocks going back over time? I appreciate there will be a limited period that you can go back, but if we can get some sort of picture whether it has increased, decreased, or stayed the same, it would be extremely helpful.

Surgeon Vice Admiral Walker: I will try with our pharmacists to get as much data as possible. I can’t guarantee you, as you said, just how far I can go back.

Mrs Moon: Well, they are pulling together information now, so perhaps they can.

Q167 Johnny Mercer: Initially I would like to refer to the Minister’s statement, for which I am grateful. I know a lot of people will be grateful for an acknowledgement and apology for prescribing this without the relevant risk assessment, as deemed by Roche. I know that means a lot to a number of people.

Brigadier, you said a couple of things I want to pick up on. You said there is no evidence to suggest that there is a difference between the military and civilian in terms of empirical data. I respect that opinion, but the truth is that that simply is not true. There have been studies, and I refer you to one that was presented to the MoD only last year. The Royal Naval Medical Service published a report entitled *The adverse effects of mefloquine in deployed military personnel*. It found that 54% of the 111 troops given Lariam suffered an adverse reaction—54%, up against the 10% that Roche would say is normal.

It is very difficult—I say this to the whole panel—it creates a false impression for everybody affected by this that we do not really bother to get into the detail. That clearly compounds how these families feel. You say that we are ahead of the game, but Roche, when it first brought this product out, said, “This must not be prescribed outside these very clear guidelines” yet we have done so and that has made some people’s lives extremely difficult. It is worth making sure that everything we talk about here is 100% on the ball, because there are people are watching who this means an awful lot to.

In a letter to the Minister, your Department wrote: “Since 2004–05 defence policy has endorsed mefloquine to be prescribed with an implied accompanying risk assessment”. Roche, which manufactured the drug, very clearly states “This comes with a risk assessment”. First, what is an implied risk assessment?

> ***Mark Lancaster:*** I think there is some misunderstanding here in the wording of that statement. We are simply saying that provided the policy has been followed, the implication is that there has been a risk assessment. Does that make sense? The implication of the policy being followed is that a risk assessment will have been taken out. It is not perhaps as it is being portrayed as in the question.

Q168 Johnny Mercer: The statement says, “Since 2004–05, defence policy has endorsed mefloquine to be prescribed with an implied accompanying risk assessment”. You are saying that by prescribing that, they are in effect—

> ***Mark Lancaster:*** By following the policy, the implication is that a risk assessment will have been carried out.

Q169 Johnny Mercer: Is it your view that an individual risk assessment has been carried out on individuals since 2004?

> ***Mark Lancaster:*** Providing the policy has been followed, a risk assessment will have been carried out, yes. That is what the policy states.

Q170 Chair: Just to check one point: when you talk about a risk assessment, are we talking about, as Mr Mercer is, a risk assessment for the individual, or are we talking about an implied risk assessment of a generic nature along the lines of, “Well, by prescribing this the MoD has taken an overall view that the risks of certain individuals suffering from it are less than the risk of people otherwise being infected with malaria. What sort of risk assessment are you saying is implied?

> ***Mark Lancaster:*** Okay, let’s try to be clear, bearing in mind that I am not the medical expert here. It refers back to the way in which we will administer the drug, as the brigadier explained earlier. It will be either, as we would all understand, a face-to-face consultation with a doctor and a prescription, or a patient-specific direction. My understanding of a patient-specific direction is that a doctor will effectively have a list of patients, whom he probably has knowledge of, that cannot be added to. There will be a subordinate but suitably qualified member of the medical personnel who will have the one-to-one consultation with each individual, but ultimately it is the initial doctor who maintains the liability over the prescription. All they are doing is delegating the one-to-one conversation to the dedicated list of personnel. One of the two processes will have been followed, but each process includes a face-to-face consultation.

Q171 Chair: So there is no question of medically unqualified personnel issuing this routinely with tropical kit or anything of that sort?

Mark Lancaster: The policy is absolutely clear that that is not to be the case.

Q172 Chair: And how long has that been absolutely clear?

Mark Lancaster: Since the Surgeon General's policy letter dated 2004.

Q173 Johnny Mercer: The vast array of evidence that we have seen suggests that that is simply not the case. Do you, as a Ministry, have any evidence at all that that has been happening?

Mark Lancaster: This goes back to my opening statement. In order to be able to demonstrate that that has been the case in every case, we would have to go through the medical records, which would be a disproportionate task, not least because we would have to contact each individual—there are literally tens of thousands of them—to get their permission. I am confident that since 2013, when the Defence Primary Healthcare Organisation was formed and the electronic system, which was explained earlier by the brigadier, was updated, that that happens in the main, but I simply cannot give an assurance that in every single case that was followed. There has been anecdotal evidence to the Committee to suggest that that is not the case. I am simply not in a position to be able to prove the contrary, for reasons that I have tried to explain.

Q174 Johnny Mercer: But nobody who has come before us has said that that is the case. Only the Ministry of Defence has said that that is the case, yet you have no evidence to present to the inquiry to suggest that this was a collective policy of, "We are going to individually risk assess you people, in line with the manufacturers' guidelines."

Mark Lancaster: Okay, well if you would like an individual to sit here and give you some evidence—I know that you have been through the process, Mr Mercer. So have I—in 1999, 2001 and 2006. I distinctly remember that in 2006, when I was deploying to Afghanistan, I went through a very comprehensive process, which included a self-declaration of various conditions and ultimately a face-to-face conversation with, in my case, a doctor at Chilwell. That happened on three occasions. But it is often the way, isn't it, that those who are likely to wish to present evidence to the Committee are those who have concerns? I am sure the Ministry of Defence can probably get considerable numbers of personnel to come and present evidence.

Q175 Johnny Mercer: Absolutely. It's about weighing up that balance, isn't it?

Mark Lancaster: Yes, absolutely.

Johnny Mercer: Of course you could bring someone along, but we have seen so many come forward and say, "This isn't the case," and that is obviously why we are here. The balance, to us, seems very much out. What we are looking for is evidence to say, "Actually, this happened to bring it back into balance. We have done this properly," but that is not there.

Mark Lancaster: I think there are a number of factors here. The information given to you today, for example, shows that the overwhelming majority of service personnel have not been issued Lariam. I fully recognise—hopefully, my opening statement at least began to

deal with the issue—that there are individuals whose anecdotal evidence suggests that this wasn't the case, but I am absolutely clear that the policy was correct. I regret only that I am not in a position, in those individual cases, to be able to demonstrate that it was followed.

Q176 Johnny Mercer: Finally, this directive came out in 2004, and clearly this drug and the cases we are dealing with go back a significant time before that. Why, when the manufacturer clearly states how the product should be used, did the MoD choose not to use it in that manner?

Mark Lancaster: I think the policy is clear, and we have followed the advice of the ACMP over a period of time. We don't feel, as has been explained, that members of the Armed Forces are significantly different from normal travellers. The policy has been updated over a period of time, as has been explained, and since 2013 we have had the Defence Primary Healthcare Organisation and the electronic version of the records, so I am confident that we are following those guidelines.

Q177 Johnny Mercer: Sorry, Minister, but in 2004 this direction came forward. We are looking at a good 20 years before that that this drug was used. Why was that guidance brought in only in 2004, given that when this drug was manufactured, it was stipulated that it was not to be used without an individual risk assessment?

Mark Lancaster: Well, with the greatest respect, I am simply not in a position to tell you what Defence Ministers were thinking in 1984, when I was 14.

Q178 Johnny Mercer: Absolutely, and that's the gripe of people who have suffered as a result of this, because they were prescribed the drug without an individual risk assessment when the company had said, "Don't prescribe without an individual risk assessment."

Mark Lancaster: It is difficult, but you will appreciate that I—

Johnny Mercer: I understand your position.

Mark Lancaster: I can only really—I mean, I have been the Minister since May. Under my tenure, I am confident that policy is being followed.

Johnny Mercer: Absolutely. And no one disputes that at all.

Mark Lancaster: This policy has evolved over many years. There have been many updates. And I am very sorry, but I have to apologise to the Committee: I simply don't know what advice was given to Ministers in 1984, or indeed under the last Government, or the Government before that.

The Surgeon General seems keen to come in.

Surgeon Vice Admiral Walker: I have tried to go back through my predecessors' policy letters over nearly the last 20 years. The first letter that I can actually document is from 1997 and it talks about Mefloquine specifically, along with other anti-malarial measures, bite avoidance measures and all the other measures to be taken. It talks about Mefloquine, which is to be a prescription-only medicine and which should only be recommended after careful consideration. That is the topic of that letter. There is evidence going further back that—

Q179 Johnny Mercer: So thought was given to that process.

Surgeon Vice Admiral Walker: Thought was given. It also mentions the side effects and puts it in the context of the evidence at that time—1997—for Mefloquine use. At that time, the evidence was that "probably"—it says "probably"—between 0.1% and 1% of people suffered very unpleasant and temporary disabling effects: neuropsychiatric reactions, but also dizziness, bad dreams, et cetera.

It also said that Mefloquine—this was in 1997—should not be given to patients who have ever had fits or psychiatric disturbance or give a history of epilepsy, or during the first trimester of a pregnancy. So there was clear evidence going back and it has been updated, but 2004 was a major update as well.

Johnny Mercer: Thank you very much.

Q180 Chair: Thank you very much indeed, Johnny. I would just like to ask for copies of relevant documents of that sort.

Surgeon Vice Admiral Walker: Of course.

Q181 Chair: Just for the purposes of clarification, if I understand you correctly what you are saying is that since the Defence Primary Healthcare Organisation came into being, you have a much better idea of what the true situation is. But I think that for the record we should point out that the MoD has stated that even then they cannot confirm whether individual assessments have been carried out in every case since that organisation came into being.

I don't think anyone would ever want you to confirm that something had happened in every case, because that is setting an impossibly high bar, but what we want to hear from you is whether you believe—at least in the time frame for which you have reasonable responsibility—that the guidelines that concern the very serious potential side effects of this drug for some people have been carried out in at least the majority of cases. Are you able to do that or not?

Surgeon Vice Admiral Walker: Yes. To put things in context, 2013 was when the Surgeon General took over responsibility for defence primary healthcare from the single services, so it is difficult for the Surgeon General to confirm what the single services were doing before 2013, although it was dictating policy.

Subsequently—since 2013—the structures and the electronic records that we put in place are much more authoritative. Therefore, they allow us to say that the vast majority of people have been followed in the correct method, along with policy.

I cannot say, and you said, that hand on heart every single person—I couldn't say that in the civilian service—

Chair: No one is asking you to do that, so let's not waste time on that.

Surgeon Vice Admiral Walker: But the vast majority have had anti-malarials prescribed along the policy guidelines.

Q182 Chair: With individual assessments?

Surgeon Vice Admiral Walker: Yes.

Chair: Before I come to Phil Wilson, I am going to ask Mr Spellar, who unfortunately can only be with us fleetingly, to put in one question at this point.

Q183 Mr Spellar: This relates to groups that are prescribed Lariam. As we understand it, aircrew and deep sea divers are excluded from those taking Lariam, because of concern about the side effects. Basically, why is the policy different for them, but not for those operating weapons?

Surgeon Vice Admiral Walker: If I may, I will take divers first. The Public Health England advisory committee on malaria prevention advises that Mefloquine does lower the seizure threshold, potentially, and therefore its side effects could be confused with decompression sickness or narcosis events in divers. This is not applicable to those on land and those handling weapons.

As regards aircrew, again, the Civil Aviation Authority dictates that Mefloquine should not be advised for pilots. This is not unique. If you are a pilot, you are not allowed to take any drug, even Lemsip, without having proper medical advice. There is no evidence that I can find any place that Mefloquine impairs function, but the Civil Aviation Authority is, naturally, exceptionally cautious, because of the nature of pilots and what they are doing, so for many drugs and not just Mefloquine, they have a ban on use.

Q184 Phil Wilson: This is to the Surgeon General. Does the final responsibility for individual risk assessments rest with you?

Surgeon Vice Admiral Walker: At the end of the day, I am the person who signs off the policy and therefore I have the final responsibility.

Q185 Phil Wilson: So what procedures have you put in place to ensure that those assessments are carried out in every case?

Surgeon Vice Admiral Walker: My colleague the brigadier alluded to the electronic patient record, which generates individual warnings to confirm that the prescriber is satisfied that the individual is fit to have that drug prescribed. It is then raised on the electronic record. It has warnings that flag up contra-indications, so that the prescriber can be warned that he may be steering into wrong territory. It is very clear. It is being developed further as we speak, so that we do not rest on our laurels but move forwards and make sure that, as far as possible, everybody has clear guidance about prescribing and that the correct procedures are therefore followed.

Q186 Phil Wilson: Finally, anecdotal evidence to this Committee has suggested that the MoD has dispensed Lariam, sometimes as part of deployment kit, rather than it being prescribed. Was this the case before 2004–05?

Surgeon Vice Admiral Walker: I cannot give you an absolute guarantee, because there is anecdotal evidence. I would say that, in the majority of cases, things have been followed correctly, but without going through the records of each individual patient, I cannot give you that 100%—

Q187 Phil Wilson: Can you state with any certainty that this has not happened since 2013?

Surgeon Vice Admiral Walker: I am convinced that the procedures that we have had in place since 2013 should prevent that, but as I said to the Chairman, I cannot give you a 100% guarantee about every single person, in the same way that I could not guarantee that, for every single person who went to the GP, the GP followed the guidance to the letter.

Q188 Douglas Chapman: Previous witnesses have highlighted the fact that there are numerous challenges to military physicians being compliant with the prescription of Lariam. Typically, how long do the individual risk assessments take to carry out, and how does this impact on the ability to deploy significant numbers of troops at very short notice?

Brigadier Hodgetts: What I can say is that a consultation with a military GP is routinely longer than a consultation with a civilian GP. The length of a civilian GP consultation, as you will know, having attended a GP, is about six to 10 minutes. The routine for a military GP is 15 minutes. That may be extended to 20 to 30 minutes for a pre-deployment medical. So there is the opportunity for an extended discussion with the clinician, and of course the clinician is asking focused questions in terms of the risk assessment: where are you going, what are you doing there, what drugs have you taken before and do you have any sensitivities to them?

Q189 Douglas Chapman: The Minister alluded to the policy, but part of the issue is about what happens in practice. What we are seeing is a gap between what the policy is and what perhaps you are saying, which is, “That doesn’t happen in every single case.” The individual risk assessment in a lot of cases is not carried out. Is that the case?

Brigadier Hodgetts: In practice, the preferred way of prescribing anti-malarials today is to have an individual face-to-face consultation, which would be a longer consultation than you have in the civilian setting because we have longer to do it.

Q190 Douglas Chapman: That is still the preferred way; it is not the actual way it is carried out in—

Brigadier Hodgetts: There is still the opportunity to do a patient-specific directive if at very short notice a large number of people needed to be deployed, but that is still mandating that a risk assessment is done on the patient’s notes.

Q191 Douglas Chapman: This is a supplementary question to the Minister. You said that you wanted to apologise to people, serving officers and personnel past and present, if they have been disadvantaged by the issue of Lariam. Did that include an absolute commitment that in future the individual risk assessments will be carried out in every case?

Mark Lancaster: Hopefully, as has been demonstrated, this is always an evolving process, but I am confident, as the Surgeon General has stated, that since 2013 when the Defence Primary Health Care organisation was formed, we have had much stricter guidelines and the electronic system automatically flags up the process. So I am confident that we are in a much better place post-2013 than perhaps we were under the single service regimes. Certainly I am determined to continue to make sure that this process evolves and improves—this is an ongoing process. I will never be in a position to guarantee absolutely that policies are always followed, as we cannot do that in the civilian service, but hopefully, as has been demonstrated today, there is a determination to move forward on this issue in a positive way.

Q192 Douglas Chapman: So there is still no guarantee of anyone's duty of care to their own—

Mark Lancaster: I am guaranteeing that the policy will be the right one and that we will do everything in our power to ensure that that policy is followed.

Q193 Douglas Chapman: I have another question. Some of the evidence that we received from Dr Nevin and others suggested that, even when the individual risk assessments are undertaken, military personnel tend to hide previous episodes of reactions in the fear that they might be undermined or disadvantaged in some way. I just wondered if you could give some information around that, especially in terms of mental health, such as post-traumatic stress syndrome and so on.

Surgeon Captain Sharpley: We know quite a lot about stigma in the Armed Forces now, with various studies emerging from King's College. It is a completely appropriate concern that people will react to psychiatric side effects in a slightly different way from physical side effects, but what we know about stigma relates to how people operate in the normal environment—with their friends, family, commanders and so on—and we do not know very much about the specifics of stigma when someone is in a GP consultation. In fact, one would expect that when a doctor is asking questions that the patient has a level of trust in the doctor. We know from our continuous attitude survey that doctors in defence are one of the higher trusted types of people, and that is the same in the civilian world, where the medical world is well trusted.

You cannot stop someone from hiding something if they feel that the risk of revealing this outweighs the risk of hiding it, but that is an individual responsibility. If they hide a mental health symptom or history that we do not know about, that is a risk that has to be tolerated really. As long as the GPs who are doing the risk assessment ask in an appropriate way for the history—of course they will be looking at the record as well, if the history exists there—we will have done the best we can to make sure that that prescription is safe.

Q194 Douglas Chapman: Very quickly on one point in the evidence of Dr Nevin and others during that session about the link between Lariam and use of alcohol. I think some of their evidence suggested that the use of alcohol perhaps exacerbates some of the symptoms. What advice is given to serving soldiers when they are on operations, and indeed when they return and they may be still taking Lariam, about the use of alcohol? Again, is there a difference between what the policy might be and what happens in practice?

Surgeon Captain Sharpley: I might be able to partially answer that, if the Brigadier can help me. As you will probably be aware, the vast majority of people who have deployed in the last decade have gone to Middle Eastern areas, and alcohol on operations has not been an issue, because people did not have access to alcohol. On return, of course, people go through decompression and then go on leave and will be exposed to alcohol. I am not aware of any specific guidance that is given to personnel about the use of alcohol and Mefloquine, but I am aware that people are educated about stress and management of post-deployment reactions and so on, and that that involves advice about being moderate with regard to alcohol use. I am also aware that there is some evidence looking at the use of Mefloquine and alcohol at the same time, and the evidence is fairly equivocal as to

whether Mefloquine has any deleterious effect on the alcohol effects, or vice versa, if you see what I mean.

Brigadier Hodgetts: I will follow up, Sir. Certainly I would concur with my colleague that the evidence is very poor—very weak—in terms of definitely attributing any additional effect or impact of alcohol on top of Mefloquine. Indeed, the only controlled study that is available, done by Vuurman and colleagues, looked at the impact of Mefloquine versus placebo on driving, and then adding alcohol in at day 30 of that particular study. At no stage did it show any impairment of performance with Mefloquine or with Mefloquine and alcohol.

Indeed, I think you have received evidence that relates to a hypothesis about whether alcohol impacts adversely with Mefloquine, and that hypothesis was published in 2002 by Dr Croft online in the *Biomedical Journal,* but that is not proof that alcohol and Mefloquine interact adversely; it is a hypothesis.

Q195 Ruth Smeeth: Good afternoon. One of the more concerning pieces of evidence we heard is that in spite of the policies and the checks and balances—I am still not quite sure that we understand what those would be—there was anecdotal evidence that serving personnel were throwing away their Lariam rather than taking it. What have you got in place in terms of checks and balances to ensure that serving personnel who have been prescribed it are confident enough to take this medication?

Mark Lancaster: Ultimately, it would be nigh on impossible to force serving personnel to take their Lariam. I think it is probably the case that historically, some people may well have thrown away their drugs and not taken them, but the only real answer to this is, at the point of issuing, clear education about the need to take them, otherwise they risk contracting malaria. Ultimately, unless you have 24-hour surveillance or force them to take it on parade first thing in the morning, it would be nigh on impossible to force people to take it. Education is the key, and to absolutely underline to serving personnel how important it is to take anti-malarials or they risk the probability of catching the disease.

Q196 Ruth Smeeth: Is that education process in place?

Surgeon Vice Admiral Walker: Yes, it is indeed. In fact, some medical centres have particular posters and signs to remind people about the problems of bite. It is not just taking anti-malarials, but making sure that your uniforms are properly impregnated with the anti-malarial chemicals. It is also important that you prevent bites at the right times of the day by making sure that you have not got your sleeves rolled up and you are not exposing yourself. It is not just anti-malarials; there is a lot of health education and it goes on every day in medical centres around the country.

Q197 Ruth Smeeth: What about outside? Obviously, this is while people are on deployment. Talk me through it: I have been deployed and I have been prescribed Lariam; what education processes are you going through with me to ensure that you are meeting your duty of care over this medication?

Surgeon Vice Admiral Walker: Perhaps I can talk you thorough what was happening in west Africa most recently, during the Ebola crisis, when the risk from Ebola was seen as very high but we were very clear to Ministers that the risk from malaria was even higher.

When people were deployed we made sure that they were given the right drugs, but during the deployment, the commander med and his staff reminded people that malaria is a severe illness and that taking drugs was important. You cannot force people to take their drug every day, but you can remind them frequently of the consequences of not taking, and that goes on all the time.

Q198 Ruth Smeeth: Moving on to the use of Lariam by the military, Dr Nevin, from whom we took evidence and whom many of us have cited, argues that Lariam can "adversely alter patterns of dreaming and significantly reduce overall sleep duration … despite broad military acknowledgement of the importance of sleep hygiene". Do you agree that such side effects are incompatible with deployed servicemen?

Surgeon Captain Sharpley: There is no doubt that Mefloquine has this effect on some people, that the side effects are there and sleep disturbance is one of them, but it is common. I think we have probably all experienced sleep disturbance. I certainly had it last night.

Ruth Smeeth: Sorry.

Surgeon Captain Sharpley: That is all right: it is part of the job, it is what we are paid for. Sleep disturbance is a serious risk factor for operational effectiveness—fatigue has to be managed on operations, there is no doubt about that—but the commonality of this effect and the difficulty of sorting out whether someone's sleep disturbance was due to the noisy generators next door, the helicopters that were coming in, the Lariam he might have been taking, the fact that his commanding officer bawled him out yesterday, et cetera, would be very difficult.

We have to accept that people going on operations are going to be under a certain amount of stress, and we have prepared them for that, in terms of pre-operational training and what have you. We also have to educate people that if they are suffering from particularly disabling symptoms, or sleep disturbance that puts their operational effectiveness at risk, they put their hand up and say to the doctor, or whoever, that they have this issue. If they believe it is to do with Lariam side effects, that will be addressed by the MO, who will say, "Okay, we might have to consider putting you on a different anti-malarial", or whatever.

Chair: May I interject at that point? Were a soldier to say that he or she did not wish to take Lariam for fear of serious side effects, but could not actually point—or did not want to point—to individual episodes in his or her medical history indicating why it should not be prescribed, would he or she be offered an alternative anti-malarial drug on request? If that is not the policy, would it not go a long way towards solving the problem if it could be made the policy?

Brigadier Hodgetts: I think the answer to that is yes. If an individual said in the consultation that they did not want to take a particular drug and that they are tolerant of the other available effective drugs, of course an alternative can be offered.

To follow through on the previous question about abnormal dreams and insomnia, Lariam is not alone among anti-malarials in causing such side effects. I have here the listed side effects of Malarone. Listed as common—between one in 10 and one in 100 of people

taking the drug—are abnormal dreams, insomnia and dizziness. So were we to drive for zero tolerance of neuropsychiatric side effects, not only would we be unable to use Mefloquine, but we would be unable to use Malarone or Chloroquine, because they all have a pattern of neuropsychiatric side effects. Granted, we have recognised that that pattern seems to be more predominant with Mefloquine, but it is not exclusive to Mefloquine. So there has to be a balance of risk, rather than zero tolerance of risk.

Q199 Johnny Mercer: I do not think that anyone is suggesting that there is zero risk associated with this, but what the Committee has seen is a clear, large body of evidence for one particular drug. That is why we are particularly engaged on that one. If the Ministry of Defence concedes that you cannot rule out contraindications and things like that, if someone goes to their doctor and says, "I've got these problems," you cannot rule out Lariam. And if you know the neuro-toxic effects of Lariam and how devastating they can be, how can you then claim to safely prescribe it?

Mark Lancaster: Is that, to some extent, not the same as with any of the anti-malarials, all of which potentially have side effects? While you have focused on this particular side effect, the other anti-malarials also have side effects, and the whole purpose of having a portfolio of drugs is that if an individual is particularly intolerant of a particular side effect, you have the option of using the other drugs. Whether they will be as effective as that particular drug is a different matter, but this is the constant process of trying to balance the risk and side effects.

Brigadier Hodgetts: If I may follow up, Mr Mercer, you were concerned earlier about the high prevalence of side effects in the *Journal of the Royal Naval Medical Service* article, which stated that 54% of personnel had side effects on Mefloquine. That was an uncontrolled study, so there were no other drugs being taken that you could compare it against. However, if we look at two studies, in one published in 2015 by Terrell and colleagues we found that Doxycycline and Mefloquine each had at least one adverse drug reaction in about 50% of cases. Looking back on the study of Australian soldiers published in 2005 by Kitchener and colleagues, we found that Doxycycline had at least one adverse drug reaction in 56% and Mefloquine in 57%. So all of these drugs have a comparable number of side effects. They may have a different profile of side effects, but simply looking at the numbers alone is not going to help us.

Q200 Johnny Mercer: Sorry, but mental health side effects are more difficult to assess and identify and there is a difference between ending up in a mental health facility, confined against your will, and getting a rash. Does that not affect your decision-making process into which—

Brigadier Hodgetts: I would not wish to trivialise some of the other side effects of some of the other drugs. Chloroquine, for example, can give significant—

Q201 Johnny Mercer: Absolutely. I understand that it is a balance and that there are different side effects. Every drug has side effects. Our concern is that this is related to mental health. Traditionally, it was stigmatised—it is getting much better—and ultimately you can never say that there is a single reason that has caused that poor mental health. Our concern is that, because it is mental health, we forget about it. You can see the other side effects, so you might say, "We're not going to use those drugs," but mental health cannot really be tied to that.

Brigadier Hodgetts: I can assure you that we do not forget about mental health. We are very focused on mental health within Defence. We spend a lot of time thinking about that—

Q202 Johnny Mercer: I don't dispute that you are now; I don't dispute that for a minute.

Brigadier Hodgetts: What I would say is that our safety net is that risk assessment and now that really sophisticated structure—

Q203 Johnny Mercer: That safety net has not been there, as we see today.

Brigadier Hodgetts: Not with the same sophistication that we have now, but we are absolutely adamant that we screen out those who have the potential to develop neuropsychiatric side effects.

Q204 Johnny Mercer: Absolutely, and no one disputes that you do that now, but we are talking about the body of people who have come to us, and not only in this country, but elsewhere in the world. Those elsewhere are not our responsibility, but in this country some people with pre-existing mental health conditions have come to us and said that they have been prescribed this drug, so the safety net that you refer to simply is not there.

I understand and accept that that is the policy, but has nothing triggered to say, "Actually, we've got lots of people coming forward saying, 'we've been handed this stuff with our mozzy nets and the rest of it'"? Has nothing triggered to say, "This could go seriously wrong. We need to be much clearer that individuals get a risk assessment and that we use this drug, which can have catastrophic effects, more carefully"? Why has it taken us to get where we are for that process to happen? I accept that you cannot answer for previous Ministers and so on, but if you are one of the veterans who has seriously suffered—lost his family or his wife—because of this, it is not good enough to say, "Well, I don't know what they were doing back then." Why have we not done this properly?

Brigadier Hodgetts: I think we can identify, in fact, all the way back to 1986, in terms of understanding that we have had a policy about—

Q205 Johnny Mercer: Are you saying it has been done properly?

Brigadier Hodgetts: I am saying that we have progressively developed—

Q206 Johnny Mercer: We have progressed, but have we done it properly from the start?

Brigadier Hodgetts: I think from 2004—

Q207 Johnny Mercer: From the start, have we done it properly?

Brigadier Hodgetts: Could you define the start?

Q208 Johnny Mercer: The start of using this drug in service personnel. Have we used that drug correctly on our service personnel within the guidelines stipulated by the manufacturer?

Brigadier Hodgetts: I cannot give you that absolute assurance.

Q209 Johnny Mercer: But it would be fair to say that the massive body of evidence would suggest that we have not.

Surgeon Vice Admiral Walker: If I may interject, you are looking at one cohort of people and we do not have the other cohort of people who have taken this drug without any problems. I have taken Lariam and never had any problems from it. I am quite happy to take it. In fact, I recognise that in terms of the anti-malarial prophylaxis it is very good. Several of my staff do that.

I also accept that there are people who do get side effects. I would encourage them to come forward. I am clear that my direction to the medical staff is to treat those people seriously and with respect, and to understand that some of them will have effects that are perhaps caused by Mefloquine, and therefore, if appropriate, they should change their anti-malarial prophylaxis there.

Over the years we have been quite clear in our policy, but in implementing the policy we have got clearer and clearer. As we have got better records, and as it has been the Surgeon General's responsibility rather than a single service's responsibility, it has got better. I don't think we have a problem in the same way that you imply we did in the past.

Q210 Chair: If one accepts that you are continually trying to improve your procedures and safeguards, do you accept that it would be sensible, given the history of controversy about Lariam, if in future it was handed out to serving personnel with some sort of label or warning stating, "This drug can cause serious side effects for some people. If you do not wish to take it, ask for an alternative."?

It seems to me that your answer to my earlier question was that someone does not simply have to say, "I have had a psychotic episode in the past or some other contraindication that I should not take it." According to what I understood you to be telling the Committee, one can actually say, "I don't like the controversy around this drug and I wish to be given an alternative anti-malarial." If that is genuinely an option, should it not be drawn clearly to the attention of the people to whom it is proposed that this drug be given in future?

Surgeon Vice Admiral Walker: I am not for prescribing things that people do not want to take. I cannot do that; it is against medical ethics. It is the same for any drugs. If a patient says, "I do not wish to take this," I have to respect that.

Q211 Chair: With respect, that was not the question. That requires the proactive patient to take the initiative. What I am suggesting is that, given the history and controversy, the drug should be labelled actively to alert the person who is potentially going to take it so that they have the option of asking for an alternative, because it can have harmful side effects.

Surgeon Vice Admiral Walker: Within the packaging it comes in directly from Roche there is that information for people.

Q212 Chair: I am sure that there is, if they have the time and assiduity to read the small print. What I am suggesting is that a clear label, analogous to those we see on cigarette packets, could be affixed to this controversial drug's packaging, simply saying, "This can cause serious side effects in some people. If you would rather be prescribed an alternative, please ask for it." Is that a policy that you are prepared to consider implementing?

Surgeon Vice Admiral Walker: I am happy to use that as part of the risk assessment with the patients, yes.

Q213 Chair: It might be part of the risk assessment. I am simply asking whether or not you are prepared to consider instituting a policy of clearly labelling the packaging in that way.

> ***Surgeon Vice Admiral Walker:*** I think we would have to talk about the terminology we would put on it. The discussion between the physician and the patient should take place as part of that risk assessment, so that they are aware of the benefits and the risks of taking Lariam. If somebody says that they do not want Lariam, I am quite happy for them to have an alternative prescription.

Q214 Chair: Yes, but we know the ways of the Army. I don't know how many times I have to put the same point to you. It is very simple. Maybe the Minister will reply to it.

> ***Mark Lancaster:*** May I reply? I hear exactly what you are saying. If I may, I will go away and give a considered response to the Committee in due course. Equally, of course, there are side effects for all anti-malarials. On whether it would be appropriate simply to do this for Lariam alone, given that other anti-malarials also have side effects that some may consider equally serious, I think it should be a policy that we apply comprehensively, not simply to one drug on its own.

Q215 Chair: I appreciate that assurance. Will the Minister bear in mind that, while what he says about alternatives is undoubtedly true, there has to be a reason why this particular drug has exercised so much more controversy than any alternative anti-malarial?

Johnny Mercer: Following the Chairman's last point, this enquiry has been quite public, and no-one—not a single person—has complained to the Committee about any of the side effects associated with the alternatives to Lariam. It is definitely worth bearing that in mind.

On question 19, Dr Croft said that when he raised his concerns with the Ministry of Defence its response was a "mixture of incomprehension, indifference and sometimes hostility." I accept that everyone has different engagements and opinions on this. My personal engagement on this issue with the MoD has been very mixed. Initially we were told, "Yes, from 2013 everyone's got it". Then that changed and it was 2014. I was then told that it is never a first-line defence for anywhere, and then that it actually is a first-line defence. Clearly, we have to defend ourselves against malaria, which we all accept is a killer disease, but would you accept this sort of messaging and this engagement? This is a major problem for the families. They feel that essentially we don't care. I know that we are now making this effort; I totally accept that. But would you agree that it could be seen as a fairly shambolic response to what, for some people, has been a devastating life effect?

> ***Mark Lancaster:*** Let me be absolutely clear. You are quite right to highlight the risks of malaria. In 2013 the World Health Organisation estimated that there were 198 million cases of malaria, of which 584,000 people died. There has not been a single death from malaria in Armed Forces personnel since 1992. As a broad base line, do I think that policy is working, on the basis that no service personnel have died of malaria? Yes. And it is a very real risk.

Q216 Johnny Mercer: No one is disputing that. What people are disputing is that the level of engagement and the attention, effort and attitude of the Ministry of Defence on this issue has left an awful lot to be desired.

Mark Lancaster: Then I hope that my opening statement begins to address that to some extent. I reassure the Committee that I am determined that we should be engaging in a positive way, as I hope we are today, and I will continue to do that. As the Veterans Minister, I am determined that we should have a good working relationship with our service personnel, and indeed with our veterans. I intend to move forward on this issue. If there is any suggestion that that is not the case, I am sorry, because as the Veterans Minister I am determined to try to support our veterans.

Q217 Johnny Mercer: Absolutely. I reiterate that nobody in this Committee or elsewhere argues that we are now okay. What we are faced with is this body of evidence from families, service personnel and veterans who have come to us. They have experienced this incomprehension, indifference and hostility. That has been evidenced even in the last six months. Although we now may be tightening up our game on this, that is their view and it is our duty to represent that view to the Ministry. What plans does the Ministry of Defence have to rectify this poor level of engagement with those who have concerns about the risks posed by Lariam?

Mark Lancaster: I would invite any individual who has concerns about their own relationship with the drug historically to get in touch, because I will happily engage with them on that subject.

Q218 Johnny Mercer: And will there be a deliberate effort to say, "Look, if you have been affected by this and you were not subject to a risk assessment and you feel that there is a case to answer, get in touch. This is how you do it and we will address your concerns and ensure that you are properly looked after."? Can you give us an assurance today that that is going to take place?

Mark Lancaster: I can give you an assurance that I will ensure that the MoD engages constructively with those who find themselves in that position. I think this whole inquiry has probably been quite helpful in that process.

Q219 Chair: Thank you. Our last set of questions will be about comparisons with the use of Lariam by other states. I just have one final question before I call Ruth to start this section off. Your own written evidence refers to, and indeed quotes, the research done by Dr Ashley Croft in support of the MoD's policy on Lariam, but Dr Croft himself has told us that both of his studies led him to the conclusion that Lariam was especially inappropriate for the military. Given that there seems to be some recognition in the MoD that Dr Croft is a man of some eminence and professional credibility on this matter, do you have any evidence to dispute Dr Croft's comments on his own research?

Brigadier Hodgetts: I will comment first on the study that Dr Croft did on Mefloquine versus chloroquine and Proguanil. He looked at troops in Kenya, with about 300 taking Mefloquine and 300 taking chloroquine and Proguanil. His conclusion was actually that Mefloquine was no more toxic than chloroquine and Proguanil in that particular study. I have also identified the slightly spurious evidence around alcohol. It has been stated by Dr Croft that there is a strong linkage with alcohol and Mefloquine in terms of compounding the effects of Mefloquine, but the rest of the published literature does not appear to support that.

I would also note that in his recent online publication in the *Pharmaceutical Journal* in November 2015, Dr Croft states emphatically that we should move away from Doxycycline Hyclate to Doxycycline Monohydrate. In other words, we should use a different salt of Doxycycline, because the salt that he was suggesting has a substantially lower risk of side effects. In fact, there is no body of evidence to support that. Indeed, a paper published by the US Centers for Disease Control and Prevention in 2011 looked at the various studies involving Doxycycline and says that, in most cases, it is not even stated which salt is used or which formulation is used, so you cannot make that conclusion.

I would say, however, that that could be an area that we look at proactively. Doxycycline is an important alternative to Mefloquine. It does, as I mentioned to Mr Mercer, have a similar number of side effects, although understandably a different profile. If there is any way of reducing that number and finding a formulation that works with a lesser side effect profile, that has to be a positive thing for us to do. Currently, within the UK, we only have one formulation of the monohydrate, whereas Europe uses multiple formulations, so we would probably need to get some dispensation from AGoMM—the Advisory Group on Military Medicine—to use a drug off label to do that particular study.

Q220 Chair: I do not want to prolong this unduly, so I would just like to ask, given that you seem to have an open-minded approach to these concerns, whether, if Dr Croft wished to engage directly with you and the MoD over his concerns, you would be willing to have that dialogue.

Brigadier Hodgetts: Absolutely. As you identified in the previous Committee, we engaged with Roche immediately after the Committee.

Chair: Lovely. I am aiming to finish no later than 1.15 pm and hopefully a little earlier.

Ruth Smeeth: Are you suggesting that I need to be short and sweet?

Chair: Not at all. I am just setting a parameter in case anyone has to leave earlier. You go ahead.

Q221 Ruth Smeeth: Your written evidence—I am sorry for reading this out—states that "mefloquine is considered by US CDC to be equally suitable" to other anti-malarials. However, you quote from the civilian use of the drug. According to Dr Nevin, the CDC states that Lariam is less desirable for military personnel. Do you accept the fact that the CDC does not consider Lariam equally suitable for military personnel?

Brigadier Hodgetts: Thank you for that question and for opening up the differences between what our licensing might be in the UK and what it might be in other countries. There is a little bit of comparing apples to oranges here in terms of what is available to prescribe for malarial prophylaxis. In the UK, for example, we are allowed to prescribe chloroquine and Proguanil, but Proguanil is not licensed in the US so it is not a choice that the US has. They therefore immediately look at other choices. Doxycycline given as prophylaxis does not provide adequate protection, as it does not adequately clear the sleeping liver phase of two of the malaria parasites. That means that people are very prone to getting malaria late, after they have returned. That is why we give malaria warning cards in the UK.

The Americans and the Australians give an extra drug, called Primaquine, before someone comes back or as they come back from the malarious zone. That drug is not licensed in the UK for that particular use. Again, that is pushing the US down a different pathway to the UK. I accept that the US special forces have been adamant that they do not wish to use Mefloquine, not for clinical reasons but because that they cannot ensure that an individual risk assessment has been done to their satisfaction. They therefore wish to avoid the risk and they do not use the drug, although the civilian guidelines appear to be more accepting of the drug within the armamentarium.

Q222 Ruth Smeeth: So you are saying that they do not use it solely because they cannot guarantee the risk assessment, and therefore that the policies and checks and balances are in place?

Brigadier Hodgetts: That is one issue, but there is another confounding factor within the US. All US service personnel are issued with a drug called moxifloxacin, which is an antibiotic. We know that moxifloxacin directly interacts with Mefloquine, and can cause abnormal heart rhythms. We do not use that antibiotic, and we certainly do not give it to individual soldiers to take if they have sustained a wound on the battlefield.

Q223 Ruth Smeeth: So this is about medical protocols for deployed services?

Brigadier Hodgetts: It is about the US having a confounding factor for prescribing Mefloquine because of a different drug that they issue to every soldier to take if they are wounded.

Q224 Ruth Smeeth: Okay. That is really interesting, because my next question is about the use of Lariam in France. In your evidence, you gave a table of NATO countries and the use of Lariam. You said that it is offered in France. However, we have been told that France has never used the drug.

Surgeon Vice Admiral Walker: That is not what my French opposite number said at a recent meeting of COMEDS, the Committee of the Chiefs of Military Medical Services in NATO, at the beginning of December. The French do not use it routinely, but they still have it within their armamentarium to use. Looking at the French Armed Forces and their recent deployments in west Africa, where they did not use Mefloquine to the same effect, what is important is that they had a greater incidence of malaria and malaria-related problems. That suggests that something in the prescribing habits or the way that they do things is different to the way that we do things, because we have not had that problem.

Q225 Ruth Smeeth: Is that difference as a percentage, rather than absolute numbers?

Surgeon Vice Admiral Walker: The difference as a percentage, yes.

Brigadier Hodgetts: I think that there are substantial differences in numbers. In an outbreak of malaria between November 2013 and May 2014 the French identified 140 cases, five of which were listed as “severe”. This was in the Central African Republic. Those were patients on Doxycycline and, as I said earlier, over time the compliance with daily therapy falls off. They had 23% compliance with Doxycycline at the time of that particular outbreak. We can also see from similar studies of Australian soldiers that there were 385 cases of malaria among 7,500 deployed troops. Now, that is a substantial erosion of combat effectiveness, again on Doxycycline where compliance issues come into play.

Q226 Ruth Smeeth: I would like to expand on that, because we have also been told that the Defence Ministries in Germany, the Netherlands, Denmark and Canada have either banned the use of Lariam or use it as a last resort, which I assume is what is happening in France.

> ***Surgeon Vice Admiral Walker:*** That is not the case. I have had that discussion, especially with my Canadian colleagues, because they were surprised to see that this data was being bandied around. They were quite adamant, and my Irish colleague was equally adamant. As I said, in many of these countries it is not the drug of initial choice, but they keep that drug within their armamentarium so that they have the option to use it should they need to.

Q227 Chair: Sorry to intervene. For the sake of our clarity, the phrase was used earlier that this drug is in the French armoury. Can anyone confirm whether France has actually used Mefloquine with its deployed forces, not that it is just in the armamentarium and that they could use it?

> ***Surgeon Vice Admiral Walker:*** I cannot give you those data without asking my French colleagues.

Chair: Would you be able to come back to us?

> ***Surgeon Vice Admiral Walker:*** I can certainly do that, if they can get it for you.

Chair: Indeed; thank you. Sorry to interrupt you, Ruth.

Ruth Smeeth: I think all my questions had been answered.

Chair: Nothing further? Very good. I turn to Douglas to continue.

Q228 Douglas Chapman: I was about to ask an interesting question, but I think you may have just answered it. It has repercussions. The question that we were going to ask was whether you think that the risks attached to Lariam are acceptable; and, if they are, why did the US army special operations command, which according to Dr Nevin has the most experience of using Lariam in the field, ban it altogether? I think the reply from the Brigadier was that they could not guarantee that the appropriate risk assessments would be carried out, but we have heard from the Minister this morning that you cannot guarantee that the appropriate risk assessments will be carried out, so doesn't the same rule apply? Shouldn't we be thinking about how we ban Lariam from the group of drugs available to serving personnel?

As members of the Committee have pointed out, we are receiving evidence from across the board that this drug is causing excessive problems. Why can't we just lift our heads out of the sack and take a different view that is in line with other international experiences, and with what the American services have been telling us, and ban the drug entirely?

> ***Brigadier Hodgetts:*** I reiterate what I said before. I agree, Mr Chapman, with your assessment that the reason why the Americans are not using it is principally an organisational issue, not a clinical issue. In parallel, the reason why the Australians have pushed it down the batting order is not a clinical issue but because they are concerned about the wider external media concern, so they have said that they will only use Mefloquine in people who have previously demonstrated a tolerance to the drug. It is not

the body of clinical evidence driving the decisions; it is the external concern based on the theoretical side-effect profile.

Q229 Douglas Chapman: But does that not bring us back to the very key point that the MoD has a duty of care to its employees and to serving personnel? It seems, certainly to members of this Committee—we have had discussions about various pieces of research and evidence that have been brought before us—that that duty of care is not being adhered to. That is a major concern.

If this was happening in any other industry—in the oil industry or in heavy industry—and there was a serious concern about the duty of care of the employer to the employee, surely that would be taken seriously, and it might be a matter of changing legislation to ensure that that duty of care was enforced. It would seem that the MoD is quite happy to ride roughshod over employees and say, in your case, "It doesn't count because you are in a special situation where you are serving Queen and country on foreign lands." It does not hold up.

Mark Lancaster: If I can raise it slightly away from Lariam to any drug that requires a prescription, part of the reason why the prescription is required is that a risk assessment should be taken before it is prescribed—Lariam to one side. That is precisely why we have policies in place to ensure that the risk assessment is carried out. If we were to say that, because we cannot absolutely guarantee that a risk assessment is carried out all the time—as, indeed, a civilian practice, the NHS or anybody else could not—the only logical conclusion is that we cannot offer any drug that requires a prescription, we would be in a very bad place.

Really, it is balance here. We are doing everything that we can, because of our duty of care, to ensure that appropriate policies are in place for drugs that require prescriptions, of which Lariam is just one. So, no, I do not agree that we should move to a position of simply not prescribing any drug that requires a risk assessment because I cannot guarantee you 100% of the time that it is being carried out. All I can assure you is that policies are being evolved and developed to try to minimise that risk.

Q230 Johnny Mercer: We are not in a position—certainly I am not—to dispute the clinical evidence. That is your responsibility, and we respect you for that. Nobody is questioning that. The Americans have made this decision because of "unequivocal evidence that it could not prescribe the drug safely in accordance with the product documentation". That comes down to an organisational issue and what you are talking about with the Australians is an organisational issue.

Does not the balance of evidence suggest—rightly, Minister, you say this is about a balance—that we have not got right the way we have organisationally prescribed this to our servicemen and women? We should be looking at taking these steps because of the body of evidence of side effects, and of the effect on people's lives. They do not come and talk to us about anything else. They come and talk to us about Lariam. Does that not mean that we should be asking these questions? Should we not get to a point where we think, "Okay, all these problems have come in. Perhaps we do need to look at getting rid of this and using something else"?

Brigadier Hodgetts: We have serially enhanced and continued to enhance the assurance that we have for the prescription of this drug.

Q231 Johnny Mercer: But we are not at that stage yet. With what we have seen presented to this Committee are you saying, "We are not at that stage yet"?

Brigadier Hodgetts: No, I think we are, absolutely. The quality of the electronic decision-support tools that are given to our primary care practitioners are of an exceedingly high quality and are absolutely guiding our prescribers to make the right decisions, to screen out those who might—

Q232 Johnny Mercer: Okay; so organisationally we can cope with this now.

Brigadier Hodgetts: I believe yes, we can.

Q233 Johnny Mercer: I had two major questions from this. One is that we can do that, and that we are not harming other people. The other is that clearly we have this body of personnel, and I am interested in how we look after them. Could you, Minister, give a commitment to improve the effort and engagement? There is this perception—and it is clearly nothing to do with you personally—that the MoD is just not interested in engaging in this. Could you give the commitment that that is going to change and that actually people can come forward, and we can look after these people, as is our duty, for their service?

Mark Lancaster: As I hope I have demonstrated, I am very interested in this issue, not least because I am here today but also because I think it is an issue that we do need to address. If there have been historic incidents in which people felt that the MoD did not engage fully and properly then yes, I am absolutely committed to changing that attitude as we move forward.

Brigadier Hodgetts: There is one support mechanism that we have not identified yet, which would have fitted with Mrs Moon's questions earlier, and that is that we have had the veterans and reserves mental health programme in action since October 2012. That allows regular veterans deployed since 1982 and reservists deployed since 2003 access to military mental health specialists who would then, if further action needed to be taken from a clinical perspective, refer back through the individual's GP. That is another safety net, another opportunity, for those who feel they might have residual mental health issues, to re-access the system.

Q234 Chair: Can I just ask, finally, then, about the case of those people who were given Lariam before improvements were made in the procedures and who maintain that they were never given, or advised to take, an opportunity to disclose past episodes or conditions that would have normally led doctors not to prescribe them the drug? For those people who maintain that they have suffered as a result, what help and, indeed, compensation, might we be willing to offer to such people?

Mark Lancaster: I cannot speak in general terms, Dr Lewis, without really seeing those individual cases. The first step in that process would be to encourage them to get in touch, and we can go from there. Beyond that, I am not in a position to comment.

Q235 Chair: But they won't just be sent away with a flea in their ear?

Mark Lancaster: Absolutely not. Hopefully I have made it clear to the Committee that I am more than happy to engage.

Chair: Yes, you have indeed, and I thank you and all the other witnesses. With that, we bring the last of our public investigations into the use of Lariam by the military to a conclusion.