HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Veterans Affairs

ACVA • NUMBER 065 • 1st SESSION • 41st PARLIAMENT

EVIDENCE

Tuesday, March 26, 2013

Chair

Mr. Greg Kerr

Standing Committee on Veterans Affairs

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● (0850)

[*English*]

The Vice-Chair (Mr. Peter Stoffer (Sackville—Eastern Shore, NDP)): Ladies and gentlemen, *mesdames et messieurs*, we're ready to start.

Today the Standing Committee on Veterans Affairs for the Parliament of Canada is very pleased, through video conferencing, to meet and discuss with Melissa McDiarmid, medical director of the depleted uranium program for the Toxic Embedded Fragment Surveillance Center. That's quite a business card.

Ms. McDiarmid, it's an honour to talk with you today, and we look forward to your presentation. We want to thank you in advance on behalf of our chairperson, Greg Kerr, who can't be with us. From all members of our committee, we thank you very much for your time and your information. We know you're extremely busy down there in the great city of Baltimore, Maryland, so we thank you very much.

Please go right ahead.

Dr. Melissa McDiarmid (Medical Director, Depleted Uranium Program, Toxic Embedded Fragment Surveillance Center, U.S. Department of Veterans Affairs): Thank you very much for the invitation. I have short introduction so your members might know what my background is, and then I'd be happy to answer any questions you might have for me.

My name is Dr. Melissa McDiarmid. I'm a physician with training and specialization in internal medicine, occupational medicine, and clinical toxicology. Since 1997 I've been the medical director of the U.S. Department of Veterans Affairs' surveillance program for Gulf War veterans exposed to depleted uranium. As you mentioned, I've also inherited another responsibility, which is to direct a surveillance program for veterans who are victims of IED injuries and have toxic-embedded fragments in their bodies.

Our team here has completed nine biennial surveillance assessments of a group of 84 Gulf War I and OIF veterans who have been exposed to depleted uranium, and we've extensively published our findings. In February of last year, the Scientific Advisory Committee on Veterans' Health, convened by your Minister of Veterans Affairs, requested a briefing about our work here in Baltimore, which I provided at that time. I received a few follow-up e-mail requests for clarification of the original briefing.

About a month ago, I received a request to provide my comments about the scientific advisory committee's report entitled, “Depleted Uranium and Canadian Veterans: A Review of Potential Exposure and Health Effects”. Here's the punchline: overall, I agree with the findings of your committee. I believe their review of the evidence was complete and well described. As well, I agree with your final point, that there are many veterans suffering from persistent symptoms following deployment which, though unlikely to be linked to DU exposure, nevertheless can and should be effectively treated by your veterans health system.

I'd be happy to answer any specific questions your members have of me.

The Vice-Chair (Mr. Peter Stoffer): Yes, perhaps you have something further to add in your testimony, or we can go straight to questions, whichever you prefer.

Dr. Melissa McDiarmid: Let's go ahead to questions.

The Vice-Chair (Mr. Peter Stoffer): Okay, the format is five-minute rounds. You'll notice there may be some questions in French, and there will be a slight delay when you hear it in English. By the way, I should ask:

[*Translation*]

Do you speak French?

[*English*]

Dr. Melissa McDiarmid: Not since high school; we don't use French a lot here. We use Spanish, and I also study Italian, *io studio italiano*.

The Vice-Chair (Mr. Peter Stoffer): On a personal note, is that an Illinois accent?

Dr. Melissa McDiarmid: You have a very good ear, sir. I grew up in Clarendon Hills, Illinois, but I moved to Baltimore when I was nine.

Mr. Peter Stoffer: Very good. Thank you very much.

We'll now proceed to questions with Carol Hughes, please, for five minutes.

Welcome, Carol.

[*Translation*]

Mrs. Carol Hughes (Algoma—Manitoulin—Kapuskasing, NDP): Thank you, Mr. Chair.

Thank you, Dr. McDiarmid. I will get straight to my questions.

Can you please tell us about the depleted uranium follow-up program for those who were “on, in or near vehicles hit with friendly fire; entering or near burning vehicles; near fires involving DU munitions; or salvaging damaged vehicles”?

What is your approach when it comes to health care?

● (0855)

[*English*]

Dr. Melissa McDiarmid: Your description is pretty much what we call the exposure scenario for the group in our first mission program which was to perform surveillance on Gulf War I. Since the recent conflicts we've inherited another four patients from OIF who were exposed to depleted uranium because they were on or in a vehicle that was hit with depleted uranium rounds, or they were in a tank which had depleted uranium armour that sustained a through and through exposure with a penetrator.

Do you need me to slow down?

Mrs. Carol Hughes: No, you're doing fine.

Dr. Melissa McDiarmid: Since the early 1990s we have invited veterans, who come to Baltimore every other year, for a three day in-patient assessment. It is basically a complete medical history and physical exam, as well as quite detailed laboratory testing that focuses on what are the known target organs of uranium in the body. We have performed these surveillance exams nine times. In fact, we are preparing in two weeks to welcome our veteran patients back to Baltimore for the 10th surveillance round of assessments.

The details of this have been extensively published, and we can get some of our reprints to your— [*Technical difficulty*]

The Vice-Chair (Mr. Peter Stoffer): Dr. McDiarmid, can you hear me?

Unfortunately, Dr. McDiarmid, the gremlins are at work here so we'll have to pause for a second.

Dr. Melissa McDiarmid: How much did you miss? I'm all done.

The Vice-Chair (Mr. Peter Stoffer): Your last three or four sentences actually.

Dr. Melissa McDiarmid: I was letting your members know that we have extensively published on the depleted uranium surveillance program, including the details of what the assessments contain and we'd be happy to get those publications to your members if that would be helpful.

The Vice-Chair (Mr. Peter Stoffer): Thank you.

[*Translation*]

Mrs. Carol Hughes: Are all the veterans required to share their problems with you individually? Do you determine what their health problems are or what the causes of those problems are as they describe them to you?

[*English*]

Dr. Melissa McDiarmid: That's a very good question. It allows me to distinguish between the two different pathways for veterans to get tested for depleted uranium exposure.

I just told you about the first pathway, which is the one that's perhaps most visible to our veterans community. We had documentation from the 1991 war of several friendly fire events that pinpointed the first population of veterans and active duty service members who needed to be followed up on. We were able to match the names of the service members to the vehicles we knew were hit. We actually went and looked for these people. We did active surveillance, and DOD was a key partner in this.

However, we have a large number of concerned and worried veterans who come back from deployment and want to be assured they were not exposed. Although they were not in a friendly fire incident, they may have been what they consider to be too close to a burning tank that may or may not have had DU armament. They might have had another exposure to something due to inhalation. They want to rule out that they might have been exposed.

We have devised a method to measure depleted uranium in urine, which is the best way to measure it. We can do this by mail. Any veteran who has any concern at all, and they don't even have to have been deployed, we will test their urine uranium in a 24-hour urine collection. These kits are made available to all of our hospitals and community-based outpatient clinics. The veteran can go to their primary care provider and request this.

We have the details of the testing all worked out. As you might imagine, since we're measuring something kind of unusual, like uranium, we can differentiate by the isotopic count whether the uranium we measure in the patient's urine is from natural deposits. We all have natural uranium in our urine. We can tell the difference between depleted and natural uranium in the urine uranium sample.

We've also done studies to determine what type of container we can safely use in these mailing projects so that the container neither contributes to the uranium count nor binds the uranium that might be present in the sample. In other words, we've tried to eliminate all the possible explanations for an erroneous result.

The veteran sends the kit back to us in Baltimore—

● (0900)

The Vice-Chair (Mr. Peter Stoffer): I'm sorry, Dr. McDiarmid, but we're running against the clock and I'd like to get to further questions. Quite possibly someone will ask a question to further that.

Thank you very much, Dr. McDiarmid.

Dr. Melissa McDiarmid: Okay, great.

The Vice-Chair (Mr. Peter Stoffer): We now move on to Mr. Zimmer, please, for five minutes.

Mr. Bob Zimmer (Prince George—Peace River, CPC): Thank you, Dr. McDiarmid, for appearing before us today. Also, my thanks to the veterans in the room who have served our country, and also to veterans possibly in your room who have served your country. They're much appreciated. We all appreciate their service.

I want to refer to your research titled, "The Gulf War Depleted Uranium Cohort at 20 years: Bioassay Results and Novel Approaches to Fragment Surveillance". Your conclusion states:

> No urine U measure with a 'depleted' isotopic signature has been detected in U.S. veterans without a history of retained DU embedded fragments from previous injury. These findings suggest that future DU-related health harm is unlikely in veterans without DU fragments.

Could you elaborate on these findings? You've been doing that already, but perhaps you could speak to that specifically.

Dr. Melissa McDiarmid: As I mentioned earlier, we can tell the difference between natural uranium and depleted uranium by what's called the isotopic signature, which is a fancy way of saying we can tell the difference through physical and chemical means. That's important to veterans, because they want to know, yes or no, were they exposed to depleted uranium.

However, the health implications of uranium exposure do not depend on the isotopic signature. What determines that, your health outcome, is the burden of total uranium in the body. We have determined that most of the risk is through the uranium's chemical effects as a heavy metal, as opposed to its radioactive effects.

I'll stop there for fear of saying too much and burning up your time. If there's something specific you want me to clarify, I will.

Mr. Bob Zimmer: Yes, I appreciate that.

You said that there are really two groups. There are those who have been exposed to DU through the lungs, through an air exposure, and there are the other veterans who have been exposed to DU who have embedded fragments in their bodies.

I guess what you've concluded is that even though veterans have had fragments of DU in their bodies—and correct me if I'm wrong—even with those fragments in their bodies, they have had no ill health effects attributed to DU. Is that correct?

● (0905)

Dr. Melissa McDiarmid: That's a little more straightforward than we would put it, because one of the things I make the point about in our papers is that it's not normal to pee out uranium, so that is an abnormal finding.

We have turned over pretty much every rock looking for big outcomes that might have been expected from a uranium exposure and we don't see them. Most of our patients' sequelae from exposure have to do with traumatic injury from being hit in these tanks and other vehicles.

We have done some other very, I'd guess you'd say, sophisticated testing that kind of goes to the next level of organ function. For example, in the kidney, we didn't see any abnormalities in the typical kidney measures that your doctor would get on you at an annual physical. We don't see any signals of abnormality there, but we're looking at the next level of detail to make sure we don't miss anything.

Mr. Bob Zimmer: We really want to get to the bottom of it, too. The reason we did this study is we want to see if veterans are really experiencing ill health effects from DU. That's the bottom line for us. What we've seen, and I guess what you could conclude, is that DU effects on veterans' health just aren't there.

I guess what you referred to earlier was that we still see veterans who have health problems. I just want to ask you, would it not be accurate to move DU off the page essentially and deal with what's affecting veterans' health, as opposed to DU, because it hasn't been found to cause any negative health effects?

Dr. Melissa McDiarmid: I guess what I would say as a clinician who has to face patients who have these questions is, we believe here that we have been following the patients with the highest uranium exposures. We can document it. We can still document it 20 years later. Just as a quick sidebar for members who might be wondering why the heck we haven't taken all the uranium out of our patients, it's because the surgeons think it's too dangerous to do so.

We have had to monitor these veterans of ours who were exposed, prospectively here now for 20 years, and watch them carefully. I think most people would agree that veterans in this group certainly are candidates for most likely being the most highly exposed people we can follow. We are happy that we have not seen any what we would call uranium-related health effects, with the exception of the excretion of abnormally high uraniums in their urine with the isotopic signature, the proof that it's depleted.

The Vice-Chair (Mr. Peter Stoffer): Thank you very much.

Dr. Melissa McDiarmid: Let me say one thing. If not off the page, I think it should be lower on the list of what we look for, because what we worry about is, if we focus only on depleted uranium, we might miss what's truly causing the veteran's problem.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. McDiarmid. We greatly appreciate that.

We move on to Mr. Casey, please, for five minutes.

Mr. Sean Casey (Charlottetown, Lib.): Thank you, Mr. Chairman.

Doctor, we've heard evidence before this committee that you have something in the United States called the concept of presumptive disease, which either lowers or eliminates the evidentiary onus on a veteran to establish a connection between their military service and certain diseases. Given that it doesn't exist here and you have it there, I wonder if you could tell us a little bit more about presumptive causation.

Dr. Melissa McDiarmid: Happily, sir, I am not an expert on that. I served on a couple of committees about it. I don't want to represent what I know about it; I'm not the expert. There's a whole separate group of benefits experts in our VA who run that. We're very separate from it; we're on the medical side.

Mr. Sean Casey: I'd like to ask you, then, about a French study that was published in 2010 by Guseva Canu. The title is "Uranium carcinogenicity in humans might depend on the physical and chemical nature of uranium and its isotopic composition: results from pilot epidemiological study of French nuclear workers", published in *Cancer Causes & Control*.

Are you familiar with that study, Doctor?

● (0910)

Dr. Melissa McDiarmid: I've heard of it.

Mr. Sean Casey: If you've heard of it, I take it that you don't have an in-depth familiarity sufficient to answer questions on it. Would that be fair to say?

Dr. Melissa McDiarmid: Yes, sir. I thought this was going to be all of you asking me what I thought of the report you prepared, so I didn't review all of the literature on uranium, although I have in the past.

Mr. Sean Casey: Thank you, Doctor. I have no further questions.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Mr. Casey.

We now move on to Mr. O'Toole, for five minutes.

Mr. Erin O'Toole (Durham, CPC): Thank you, Mr. Chair.

Thank you, Dr. McDiarmid, for taking the time and for your continued work with U.S. veterans.

I have a couple of questions. First, you described the Canadian report as complete and well described. In your opinion, having worked in the area, do you believe the committee canvassed fully the leading relevant research from around the world?

Dr. Melissa McDiarmid: Yes, I think that would be fair to say.

Mr. Erin O'Toole: The odd time there's a reference to a report here, or an Italian court case, or isolated references from within the area of depleted uranium. but from their list of references, they seem to have canvassed what is generally accepted as the leading work on DU, and some just on uranium itself.

Dr. Melissa McDiarmid: Yes. It's typical for reviews like this to have certain criteria for the quality of a study that would or would not be included in a review. This would be the standard approach for any systematic review of the evidence; for example, it is what would be done at the International Agency for Research on Cancer, if they were reviewing a cancer endpoint. They have to look at the quality of the studies, and sometimes studies are included or excluded based on some kind of flaw in them.

Mr. Erin O'Toole: Yes, and there is some reference to that in this review.

Speaking for a second about your Baltimore cohort, are they all considered level one, people who have had direct contact or contact with fragments with DU? Is that correct, that it's level one exposure?

Dr. Melissa McDiarmid: That's correct.

Mr. Erin O'Toole: In your work with the cohort, has there been any statistically significant incidence of impact on fertility?

Dr. Melissa McDiarmid: No.

We don't specifically measure fertility; we measure pregnancy outcomes and take a history by the veterans' partners. This is not squeaky clean reproductive epidemiology; it can't be done, because a number of these folks have had several partners. But whenever we see the patients biennially, we have their partner complete a form to characterize what the reproductive history has been.

What we go by is that we've had, I think, 60 births of children from our cohort post-deployment.

Mr. Erin O'Toole: That's very helpful. That examination of reproduction, in the way you track it through pregnancy outcomes and dealing with partners, has raised no red flags. Is that fair to say?

Dr. Melissa McDiarmid: Yes, it is.

Mr. Erin O'Toole: One of the peer reviewers of the Canadian study, Dr. Nicholas Priest, in reply to questions about the final conclusion of the report, stated that, and I'm referring now to chronic multi-symptom disease, "Why we have this problem I don't know, but I'm convinced it's not related to depleted uranium." That's in relation to chronic multi-symptom disease. Would you care to comment on his statement?

● (0915)

Dr. Melissa McDiarmid: It's a little out of context for me to comment because I didn't hear everything that he said at the time. Just let me reflect with all of you that our country, too, has gone through this wicket of folks returning from deployments with multi-symptom problems for 20 years at least. I know from our first Gulf War group returning 20 years ago there were something like 700,000 people, but please don't hold me to the numbers. Maybe your assistants can find the original papers.

When people were offered an assessment exam, a high number of people with unexplained or multi-system illnesses had an explanation. Very few had anything to do with depleted uranium. This question has been asked and answered, maybe not to the satisfaction of all veterans, but we've also had to face this and look at it.

There have been a large number of other candidate explanations for the suffering that our veterans were experiencing when they came home. This goes back to my comment before about always being careful not to focus on one explanation for fear we miss the other ones sitting right in our midst.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. McDiarmid.

We will now move on to Madame Papillon, for five minutes please.

[*Translation*]

Ms. Annick Papillon (Québec, NDP): Thank you very much.

I would like to thank you for being here today.

I particularly enjoyed hearing that, in your country, as soon as veterans think they have been affected by something, for example, if they think they have been exposed to depleted uranium, whether they have been or not, they can be tested. You mentioned a urine test.

I imagine that you are someone who believes that when veterans think they have been affected by a physical or psychological health problem, regardless of whether the potential cause is known, they must obtain the appropriate care. Is that right?

[*English*]

Dr. Melissa McDiarmid: I think that's the disposition of our Department of Veterans Affairs here.

[*Translation*]

Ms. Annick Papillon: Excellent.

You also recognize that a problem like Gulf War syndrome leads to pensions, disability benefits and health care. Is that correct?

[*English*]

Dr. Melissa McDiarmid: This is where I'm not the expert with what kinds of benefits are given to veterans with specifically what you call Gulf War syndrome. I think we use different language for that, but I know we're talking about the multi-system illnesses that people have experienced. There is a pathway for veterans like that to apply for benefits. That is true. Whether they're all granted, those decisions are made on a case-by-case basis.

[*Translation*]

Ms. Annick Papillon: The first American veterans who suffered from Gulf War syndrome had problems with their credibility initially. That was the case for a number of people who have testified over the course of this study.

Do these veterans need to prove why they need health care?

[*English*]

Dr. Melissa McDiarmid: Do you mean before they were deployed?

[*Translation*]

Ms. Annick Papillon: Do they have to prove that their health problems are related to the fact that they served in the military?

[*English*]

Dr. Melissa McDiarmid: Again, we're getting into the system of disability. I can tell you that there was a post-deployment exam offered to any Gulf War veteran—we call it Gulf War I, the 1991 conflict—and there was an assessment made of them. From the little I know of disability benefit determinations, certainly their pre-deployment condition, risk factors, and a number of typical factors, such as family history, would probably be assessed by, again, a completely separate group of disability physician experts in the VA. It's a separate silo that does that.

● (0920)

[*Translation*]

Ms. Annick Papillon: Okay.

Do they have to prove the cause of their health problems? How does it work when they want to get health care?

[*English*]

Dr. Melissa McDiarmid: I'm not an expert on this.

[*Translation*]

Ms. Annick Papillon: Okay.

Would you recommend that the committee do research on Gulf War syndrome, in particular? What medical research done in the United States could the committee use as inspiration?

[*English*]

Dr. Melissa McDiarmid: I guess I would suggest that your assistants and content experts review the extensive medical literature that's been produced as a result of the U.S. experience, so that you don't have to reinvent the wheel. As I said before, it's more likely than not that an explanation and a medical cause can be identified for the types of symptoms and health concerns that a veteran presents with. If they have a comprehensive health assessment accessible to them, it can be determined.

I think in a country your size, with the population number you would have in your cohorts, it would be hard to see a signal of a problem from an epidemiologic perspective that wasn't seen in the U. S., which had larger populations at risk.

Ms. Annick Papillon: Can you talk briefly about the—

The Vice-Chair (Mr. Peter Stoffer): No, Ms. Papillon, sorry. We're way over our time.

We move on to Mr. Hayes, please, for five minutes.

Mr. Bryan Hayes (Sault Ste. Marie, CPC): Thank you, Mr. Chair.

Dr. McDiarmid, did anything in the study surprise you? Were the results what you would have expected?

Dr. Melissa McDiarmid: I think so, yes.

Mr. Bryan Hayes: Do you agree that the results of the study, they're not new, but they agree with the conclusions of other expert bodies in Europe and the United States, including research on the U. S. friendly fire cohort? Is that a fair statement?

Dr. Melissa McDiarmid: I think for the most part, yes.

Mr. Bryan Hayes: Thank you.

Do you agree that the study appropriately assesses all Canadian and international research in reaching its conclusions?

Dr. Melissa McDiarmid: I think they did a very fair review. We spoke a little earlier in the hearing about the quality of the evidence they reviewed that might have then set up a system where they held certain papers in higher regard than others because those studies were performed with more academic rigour.

Mr. Bryan Hayes: Is there anything in the study that you felt missed the mark? Is there anything you thought should have been included that wasn't?

Dr. Melissa McDiarmid: There was nothing I thought that should have been included that wasn't, nothing missing the mark.

I do think that in their extensive review of some of the Gulf War I deployment epidemiology, they didn't make it clear that those studies were not proxies or depleted uranium exposure; rather, they were studies of the effect of deployment itself and all of the unmeasured exposures that occur with deployment. I think that point could have been made more clearly.

However, what that does is it really dilutes the reason the committee had asked them to review this. In other words, if there were findings in these generic Gulf War deployment studies, which there were not, it still wouldn't have helped the committee know whether it was DU related or not. That was one thing I would have made more clear to the reader.

Nonetheless, I think it was important for your committee to see that a lot of these questions have been asked and answered academically already.

● (0925)

Mr. Bryan Hayes: That being said, do you feel that the body of international and Canadian research reaches a conclusive determination, or are there conflicting results?

Dr. Melissa McDiarmid: "Conclusive" sounds like something a lawyer would say, and I'm a clinician and I take care of patients. Does that mean we shut the door on a veteran who still feels there's a problem that is related to DU? These kinds of reviews will never satisfy some people. I think what it can do is do the best we can to say we have really turned over every rock and found there is not evidence that for the majority, the large populations exposed, depleted uranium is the candidate explanation for their symptoms. I think that's a fair thing to say.

For a veteran who would still feel frustrated by this outcome, I would say to them, "Let's make sure we haven't missed something else."

Mr. Bryan Hayes: Thank you.

Thank you, Mr. Chair.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Mr. Hayes, very much.

We move on to Mr. Lobb, please.

Mr. Ben Lobb (Huron—Bruce, CPC): Thank you very much, Mr. Chair.

I thank our guests here today.

Dr. McDiarmid, this is just to build off what Mr. Hayes asked you in his last question. When we're talking about what the study indicates and what, it appears, are the majority of the experts' conclusions, is it fair to say, without a shadow of a doubt, that the majority of the experts feel that depleted uranium is really not the explanation or the causation of their ailments?

Dr. Melissa McDiarmid: I think that would be fair to say.

Mr. Ben Lobb: Okay.

There's another point I wanted to run by you. We've had service people appear before our committee and indicate to us that there's this equivalent majority of experts who feel that depleted uranium is the causal explanation.

Is this something that you've come across in your years of experience, that there's almost a 50% cohort who believe this is the cause?

Dr. Melissa McDiarmid: No. There are some people who don't agree with what the primary findings are, but I've never heard 50% to be attached to that opinion. I think it's a minority opinion.

Mr. Ben Lobb: Okay, thanks.

I appreciate that, because certainly among the group of peers that you would associate yourself with, through, I'm sure, international conferences and really trying to become experts on the topic, you would have come across this so-called 50% opposing viewpoint. So I do appreciate the fact that you're indicating that this isn't the case and it's quite likely a very small minority.

Do you have any idea, other than maybe the obvious reasons, why some veterans I'm sure in the U.S. and Canada are so focused on depleted uranium as being the cause?

Dr. Melissa McDiarmid: Well, I would say in our country depleted uranium is not exactly at the top of the list anymore. When people are sick, not even just after a deployment, people start racking their brains to come up with an explanation for why they don't feel right. As a clinician who's done this for 35 years, what I see in the human condition is people start making a list of stuff that could possibly have been the reason, and they go through a process of eliminating the candidates on that list. I'm just talking in general; I'm not even talking about veterans right now. But something that people have less experience with, let alone something that might be radioactive, are all the kinds of issues that people who are experts in health risk communication have identified as things that would be worrisome to anybody. Also, in a climate of suspicion, it makes it hard for people to believe that something that sounds as exotic as depleted uranium is not why they're suffering.

● (0930)

Mr. Ben Lobb: Okay.

Probably there's just one last question, for time. Could you tell us if there's an international association that you work with, to the point that you mentioned, almost a way to brainstorm or work on best practices, to triage some of these perceived ailments? Is there a world body that basically works to eliminate some of the causes of these veterans' ailments?

Dr. Melissa McDiarmid: Do you mean from an information point of view, or do you mean how to assist them medically?

Mr. Ben Lobb: I would think both, the best practices of knowledge and the best practices of treatment.

Dr. Melissa McDiarmid: I don't think there's an international organization. I can tell you that the people who take care of their veterans in our allied countries know each other, maybe not personally. For example, the British will be in touch with us on occasion, and the Italians, when they first had some concerns. Then when they redid their literature, they found out there were some problems in their original reviews, The Italians have had a couple of meetings. We've been invited to collaborate or have briefings with your medical experts in the past. It's sort of informal like that.

Mr. Ben Lobb: Thank you.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Mr. Lobb.

We'll now move on to Ms. Mathyssen, for four minutes, please.

Ms. Irene Mathyssen (London—Fanshawe, NDP): Thank you very much, Mr. Chair.

Thank you, Dr. McDiarmid. We appreciate very much your expertise. We are hoping that you can shed some light because we have heard some contradictory things from witnesses, particularly from the veterans who have been so impacted with regard to negative health outcomes.

One of the things I wanted to ask you about was non-Hodgkin's lymphoma. We had a veteran last week who is dying from this form of cancer, and he talked about a Royal Society report he said cited that the greatest exposure to radiation resulting from DU was inhaled depleted uranium particles.

You have talked about embedded uranium with regard to shrapnel. Have you looked at all at the possibility that there was exposure through inhalation that would have perhaps caused this cancer for a number of victims?

Dr. Melissa McDiarmid: That's a very good question, and I'm glad you asked it so I can clarify. All of our cohort had inhalation exposure at what we call time zero, at the time of impact. That just makes sense.

With the advance of science in the 20 years since the exposure took place, we have imaging techniques that have allowed us to look at pulmonary lymph nodes, which is where some of the particulate that was inhaled might have been deposited or be hanging out. Although the vast majority of a burden of inhalation would be eliminated over time, it has been something that I have wanted to rule out, that there wasn't something sequestered in pulmonary lymph nodes. That's a good question.

When we did that we didn't see any hot spots in the pulmonary lymph nodes. Again, I hope that you folks and others who have read our papers would agree that if you are the subject of an impact and an inhalation of an explosion with DU, you are the most highly exposed population. We don't have any non-Hodgkin's lymphomas in our cohort.

Again, on the radiation issue, non-Hodgkin's lymphoma has been linked to radiation exposure generally, but remember in the beginning of the hearing I mentioned that we really believe the primary toxicity of our veterans from exposure to depleted uranium is its chemical nature, not radiological.

Having said that, the inhalation of a radioactive particle would be the thing we'd want to watch for as a radiation risk, and maybe this goes to segue about the other elements of your committee's report and review. It's not just a review of the health outcomes that was done by your expert panel. It was the review of the exposure likelihood, the exposure opportunities. I hope your committee now looks at that as carefully as the review of the health outcomes, because if you don't have exposure, then even if there were health outcomes, they can't be attributed to depleted uranium.

● (0935)

The Vice-Chair (Mr. Peter Stoffer): Very quickly, Ms. Mathyssen.

Ms. Irene Mathyssen: We talked about the Gulf War syndrome, the multi-symptom disease that many veterans return with. I wonder if U.S. troops were vaccinated. Were they exposed to toxins like a number of chemicals connected with pesticides? Is it your understanding that there was also that element in their deployment exposure?

Dr. Melissa McDiarmid: Yes. We had hearings on this side of the border on that. Yes, Madam.

Ms. Irene Mathyssen: Is it possible—

The Vice-Chair (Mr. Peter Stoffer): I'm sorry, Ms. Mathyssen, I apologize but the time is up.

We'll now move on to Ms. Adams, for four minutes, please.

Ms. Eve Adams (Mississauga—Brampton South, CPC): Thank you, Dr. McDiarmid, for joining us today.

As you're very well aware, we had struck an independent review body of different scientific experts here in Canada to review the existing literature surrounding depleted uranium. That report was peer reviewed, and we've been very fortunate to have some of those scientists join us here during our committee hearings. We've also had scientists who were independent of this process come to share their viewpoints with us, as well as veterans, but we're particularly fortunate to have you as someone who has studied veterans who have DU fragments, so thank you very much for joining us today.

I have a quick question about the conclusions of your research and then I'd like to turn to the conclusions of the report.

In your research you studied just under 1,800 urine samples, and of those, only three showed any evidence of depleted uranium.

Dr. Melissa McDiarmid: Right. This is a good chance for me to fill the committee in, because they're probably saying 84 and 1,300. We have two different big missions for DU. The first is the detailed surveillance of the 84 who were on or in a vehicle when it was hit; the other is that mail-in urine surveillance program that I talked about. We now have more than 3,000 of those urine uraniums measured, with a history questionnaire that goes with it that asks about circumstances of possible depleted uranium exposure. So, yes, you're right.

We found out the three people who were identified in the mail-in surveillance were on or in a vehicle when it was hit. They were people that DOD wasn't able to find when they were first looking for the original cohort of the 84. So because of this large—

Ms. Eve Adams: Air incidents?

Dr. Melissa McDiarmid: —experience of 3,000...sorry.

Ms. Eve Adams: No, pardon me, Dr. McDiarmid.

These were friendly fire incidents, correct?

Dr. Melissa McDiarmid: Correct. We have four new members of the cohort from OIF; they were also all friendly fire.

Ms. Eve Adams: Thank you.

Are you aware of what benefits U.S. veterans would receive for having been exposed to DU?

Dr. Melissa McDiarmid: I'm not a benefits expert, but I know there is not a presumptive disability for depleted uranium.

Ms. Eve Adams: There is not.

Dr. Melissa McDiarmid: Not presumptive, it goes through on a case-by-case basis.

Ms. Eve Adams: Thank you.

Dr. Melissa McDiarmid: It's a separate group from us.

Ms. Eve Adams: The study commissioned here in Canada arrived at seven conclusions. If I were to read those seven conclusions to you, could you tell me if you agree or disagree with them?

Number one:

> Depleted uranium (DU) is potentially harmful to human health by virtue of its chemical and radiological effects.

Dr. Melissa McDiarmid: Yes.

Ms. Eve Adams: Number two:

> Within a military setting, the highest risk of exposure to depleted uranium is in those who were: in, on or near vehicles hit with friendly fire; entering or near these burning vehicles; near fires involving DU munitions; salvaging damaged vehicles; or involved in clean up operations of contaminated sites.

Dr. Melissa McDiarmid: I think that's true, but within that large laundry list there's a hierarchy.

Ms. Eve Adams: Number three:

> It is unlikely that Canadian soldiers have been exposed to levels of depleted uranium which could be harmful to their health.

Dr. Melissa McDiarmid: I think that's a Canadian decision because you all know where people were and were not at the time of potential exposure. From what I've read and from what I've heard from your expert panel, I think that sounds accurate.

Ms. Eve Adams: Number four:

> There is no consistent evidence from military cohort studies of adverse health effects that could be attributed to depleted uranium.

Dr. Melissa McDiarmid: True.

Ms. Eve Adams: Number five:

> There is no strong evidence of adverse health effects reported in larger civilian studies with longer follow-up periods of populations with increased exposure to uranium....

● (0940)

Dr. Melissa McDiarmid: I think that's true, but here we get into the mixed exposures that I mentioned earlier. It wasn't just uranium, it wasn't just even depleted uranium.

Ms. Eve Adams: Number six:

> Our finding that exposure to uranium is not associated with a large or frequent health effect is in agreement with the conclusions of other expert bodies.

Dr. Melissa McDiarmid: I think that's true.

Ms. Eve Adams: Finally, number seven:

> There are many Veterans suffering from persistent symptoms following deployment or military conflict which, although not linked to specific exposures such as DU, can cause considerable suffering and can be effectively treated.

Dr. Melissa McDiarmid: Yes.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Ms. Adams. We greatly appreciate that.

Dr. McDiarmid, on behalf of the committee and our chairperson, Mr. Kerr, thank you very much for your testimony.

I'll take the chair's prerogative and ask two quick questions myself.

As you say, and we've heard from experts up here. most of the testing is done through urine testing. To rule out the concerns of DU, has there ever been a large autopsy study done on Gulf War veterans in the United States, Canada, or Europe regarding organ samples: the kidney, the liver, the lungs, the heart, etc.?

We've had expert after expert indicate that, in their opinion, DU is mostly likely not the cause of the problems facing our veterans. I'm not an expert, but it's rather disconcerting that after 23 years, with all these experts, we still don't know the cause of their symptoms.

Is that a normal concern in this regard, or am I just whistling Dixie?

Dr. Melissa McDiarmid: Whistling Dixie. I didn't know you all knew about Dixie.

I think it's complicated. The suffering of an individual patient is case by case. All I can tell you is that we've seen it here too.

As I said, depleted uranium is, I think, lower on the list of our current veterans' concerns than it was 20 years ago. Has it been completely eliminated? I don't know; not necessarily. There are many, many issues in play here.

I don't want to burn up your time, sir, so to go back to your first question, there has not been an autopsy study, per se, of veterans. There have been autopsy studies in the old DOE, Department of Energy workers who were involved in the Manhattan project, for example, from 50 or 60 years ago.

In fact, a lot of those data did inform our very early work here. It really helped the researchers and the clinicians to put certain concerns at bay.

To tell you the truth, our energy workers were exposed to more highly dangerous concentrations of uranium and other radiation-related products than it appears, happily, our veterans were.

The Vice-Chair (Mr. Peter Stoffer): Thank you very much, Dr. McDiarmid.

On behalf of the committee, thank you very much. We hope you enjoy the rest of your day. We greatly appreciate your testimony today. Thank you so much.

Dr. Melissa McDiarmid: Thank you, all.

The Vice-Chair (Mr. Peter Stoffer): Committee, we'll just suspend for a couple of minutes while we wait for our next witness.

● (0940)

(Pause)

● (0945)

The Vice-Chair (Mr. Peter Stoffer): Hi, folks.

Before we start with Pierre Morisset, the chairman of the scientific advisory committee, I wish to introduce Mr. Joel Watson of Heenan Blaikie, if he would like to stand.

Last night Mr. Watson and a group held a tremendous reception in room 216-N, with the private sector, assisting our veterans transitioning into the private sector. I must say that for all of who were there it was very positive. To Mr. O'Toole and the couple of other MPs who helped organize that, thank you. It was a great reception.

It's a turning point, I believe, in the cooperation between the government, and also with the private sector, and groups such as yours, sir, getting involved to ensure that our veterans can transition comfortably into a new line of work when they leave.

Thank you very much, sir. We greatly appreciate what you did last night. We wish you continued success.

Some hon. members: Hear, hear!

The Vice-Chair (Mr. Peter Stoffer): Dr. Morisset, please go ahead.

Welcome back to the committee, sir.

[*Translation*]

Dr. Pierre Morisset (Chairman of the Committee, Scientific Advisory Committee on Veterans' Health): Good morning, ladies and gentlemen.

[*English*]

I was informed by Madame Corbin that I could make some introductory remarks. I will read them to keep within the time limits.

Although not part of my introductory remarks, I have four recommendations that I would like to make to your committee. These are not recommendations that we arrived at during our committee work, but are recommendations that have been arrived at on the basis of testimony that I have heard.

I also have a simple request of a more personal nature. I am prepared to introduce these elements any time during the proceedings, at your discretion.

My first comment relates to the charge, which was essentially to conduct a thorough review of the scientific literature on DU, depleted uranium, with a view to assessing the likelihood of Canadian soldiers being at risk of developing adverse health effects that could be attributed to DU. Somehow there seems to have been an expectation from certain veterans that we should have looked at their individual medical records. I may be wrong here, but that view appears to be shared by at least one member of your committee, who said, "Yet we have a report that wouldn't look at their records, that came up with a conclusion based on a paper review."

If the intention had been to conduct a clinical review of individual cases, its mandate as well as its composition would have had to be structured very differently. Our overall objective was to produce a report that was accurate, complete, clear, and coherent. We feel that we have achieved these objectives, as do our reviewers and other scientists who have read the report.

We also wish it to be useful. After all, this is the only comprehensive scientific review on depleted uranium that addresses the Canadian military context.

● (0950)

[*Translation*]

Our findings are the result of our best interpretation of existing scientific data. We do not claim in any way that they are absolute. Science is constantly evolving, and new studies will no doubt shed new light on the subject.

[*English*]

That dissenting views exist should not come as a surprise. It is observed in scientific, legal, and yes, even political milieux. It is all the more understandable with respect to the role that radiation plays in causing cancer since these mechanisms are not fully understood at the moment, but at the end of the day, regardless of the context, the majority opinion prevails.

[*Translation*]

The testimony of some veterans indicates that we did not take into account certain important studies, including the United Nations reports on Bosnia and recent studies conducted in France. On the contrary, we did take them into account and they are in the report. However, it would seem that we did not highlight them sufficiently and, in that respect, we would like to.

[*English*]

It has been suggested that our committee had made up its mind from the outset and had then proceeded to cherry-pick its way through the literature in search of studies supporting our conclusions. Let me, as chairman of our committee, assure you that this is in no way the case.

It has also been suggested that the reviewing process itself was flawed on account of the reviewers not having been presented the final version of the report. On this, let me assure you that we have followed the standard approach in the reviewing process.

Finally, and I will now speak from a personal perspective, I am also a veteran, having served 33 years first as a pilot, and then as a physician. I have also been seriously injured in a military aircraft accident. Believe me that I do understand the effects of ill health and I empathize with those unwell veterans you have heard from, as well as with those who have not testified. I also understand their frustrations. Accordingly, I do not think these veterans should perceive me as their adversary in this process.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. Morisset.

I'm sorry, but is it "Dr. Morisset" or "Mr. Morisset"?

Dr. Pierre Morisset: It's anything. It's whatever you say. If I have a tie on, it's "Mister", and if I have a white coat, it's "Doctor".

Voices: Oh, oh!

The Vice-Chair (Mr. Peter Stoffer): Okay, sir.

● (0955)

Dr. Pierre Morisset: If I'm in an aircraft, it's "General".

The Vice-Chair (Mr. Peter Stoffer): I just wanted to give you the title that you've worked so hard for, Dr. Morisset. Thank you very much.

We'll now move on to Madame Hughes, please, for five minutes.

[*Translation*]

Mrs. Carol Hughes: Thank you very much for your comments, Dr. Morisset.

The veterans who have appeared before our committee all spoke about studies that tended to confirm the effect of depleted uranium on their health. Why not put them in the study? Even if you did not agree with the findings of those studies, it would have been interesting to know why they had been rejected. After all, the report is supposed to inform veterans, but they are not getting any information about these studies.

Dr. Pierre Morisset: Could you please tell me which studies you are referring to, in general?

Mrs. Carol Hughes: Many case studies have been done. Mr. Chicoine's staff did some research and found a number of studies done by Canada on depleted uranium that were not included in the report. There was a study done by Atomic Energy of Canada in 2011. National Defence's Research and Development also did studies in 2000, 2002 and 2004, as did the Royal Military College in 2000 and 2001. There are also the 1999 and 2006 reports on decontaminating Valcartier.

Why were these reports not mentioned?

Dr. Pierre Morisset: That is very broad. You are talking about several things. You are talking about case studies. The report for all of Dr. McDiarmid's studies did not include case studies. It is the same for the Institute of Medicine studies.

Furthermore, the case studies are interesting when it comes to raising rare problems that have come up from the beginning. For example, these kinds of situations can arise in the case of new drugs, even though studies were done before patents were obtained. Even though studies have been conducted, some side effects can appear later, once the drugs have been used by a larger population over several years.

These case studies, for example someone who has rare side effects, will be published. Let me be clear that these case studies will be published, because that may give rise to a certain dialogue. We find out about one case study, which sparks another in another country, and so on. However, these studies are not included in epidemiological studies on large populations.

As for the Valcartier studies, I know nothing about them. I am not aware of that. We would have heard about it if there were studies at Valcartier having to do with depleted uranium, which I highly doubt. The only study by the Royal Military College had to do with urine tests.

Mrs. Carol Hughes: Thank you.

[*English*]

The Vice-Chair (Mr. Peter Stoffer): Very quickly, please, Madame Hughes.

[*Translation*]

Mrs. Carol Hughes: You made recommendation seven for veterans. Would you go further and say that they should be given the benefit of the doubt? Should we continue the study more broadly, to include Gulf War syndrome? What would your recommendation to the committee be?

Dr. Pierre Morisset: I will talk about recommendations later, which will answer your question in part.

As for the benefit of the doubt, I will respond as Dr. McDiarmid did. It is not up to me to tell you how decisions like that should be made when it comes to veterans.

[*English*]

The Vice-Chair (Mr. Peter Stoffer): Thank you, Madame Hughes.

As a point of clarification, our analyst is going to mention the Valcartier one, Dr. Morisset, for your information as well.

Mr. Jean-Rodrigue Paré (Committee Researcher): I'm sorry, but I am without a voice today.

It's just that in Valcartier, about 15 years ago, some DU was stored there and they decided to have a decontamination procedure preventively to remove what was stored.

Dr. Pierre Morisset: I'll do the talking. Being the doctor, I'll ask the questions.

If I understand correctly, was there no accident? Was there no fire?

Mr. Jean-Rodrigue Paré: No.

Dr. Pierre Morisset: Were the munitions stored?

Mr. Jean-Rodrigue Paré: Yes.

● (1000)

The Vice-Chair (Mr. Peter Stoffer): I'm sorry, they didn't know what DU could or could not do, so they did a decontamination exercise.

Dr. Pierre Morisset: It was a preventive exercise.

The Vice-Chair (Mr. Peter Stoffer): Yes, sir, that's the right word.

Dr. Pierre Morisset: Thank you very much. I was not aware of that.

The Vice-Chair (Mr. Peter Stoffer): That's just for clarification.

Thank you.

We'll move to Mr. Zimmer. We're shortening it down to four minutes to get in as many people as possible.

Mr. Bob Zimmer: Thank you, Doctor, for being here as well.

My son is in air cadets right now, trying to do what you have already done. Your service is appreciated. Sometimes I wish I were you. To actually get to fly those planes is an amazing thing.

I have a question for you basically about the difference between studies on animals and studies on humans. The report made little mention of that. Could you explain the differences, other than the obvious, between an animal study and a human study?

Dr. Pierre Morisset: I'm not sure what you consider to be obvious when it comes to animals in scientific research. It's not that we did not look at them. There's a vast literature on animal research.

I'll just go back to explain. There's animal research. There is also pure in vitro research; in vitro means in the laboratory, on living cells or insects. Those are the first studies. Then they move on with their findings and apply that to more complicated living organisms like animals, laboratory rats, monkeys, baboons, dogs, and so on. They try to further elucidate their hypotheses. Then finally it comes to humans where it's applied. That's what you usually see with new drugs.

We looked at those animal studies, the ones that were related mostly to the likely candidates for diseases. For example, Dr. McDiarmid did not mention that she was concerned, and her group was concerned with the possible development of cancer in the muscle tissue near the depleted uranium fragments. Studies were made to clear that up. They injected pellets, lots of them, big pellets, a much larger load to the animals, the rats, than would be experienced with the soldiers who had these buried fragments. These animals were looked at. Also, with that higher load, what did it mean? What happened to the animals? Did they develop cancer? We looked at them. There were also a number of studies way back in the 1940s when uranium was used. I'm switching from depleted uranium now to uranium. Yes, they developed lung cancer, fibrosis. I had mentioned earlier in previous testimony that with massive loads of uranium, yes, they had toxicological effects on the kidneys, for sure.

The reason you can't take animal studies and extrapolate them or transpose them to the human situation is the interspecies difficulties. You just can't. They don't behave in the same way. They're close, but not close enough. Even in the animal species, there are differences between how baboons would react, or the mice, so they developed certain strains of mice and so on. It's very sophisticated.

I hope I've answered your question.

Mr. Bob Zimmer: Sure.

I have one last question, since my time is short. You referred to these already. Do you have any other recommendations or scientific suggestions at this point?

Dr. Pierre Morisset: I've grouped them under four recommendations.

I'll leave it to you, Mr. Stoffer, to give me the go-ahead for the recommendations.

The Vice-Chair (Mr. Peter Stoffer): We'll get that in the conclusion. How's that, because the time is up. That way it'll be a good wrap-up to our meeting.

Dr. Pierre Morisset: They're more in the sense of looking forward, the way ahead kinds of recommendations.

The Vice-Chair (Mr. Peter Stoffer): I look forward to that near the end of our session.

Mr. Casey, please.

Mr. Sean Casey: Thank you, Mr. Chairman.

Dr. Morisset, welcome back. I'm frankly surprised to see you here.

Dr. Pierre Morisset: I am, too.

Mr. Sean Casey: That was going to be my first question. You should know that we've now had more time with you before the committee than we've spent studying the budget cuts to Veterans Affairs.

When you say that you're surprised to be here, please tell me how it came about. I take it, by your comment, that it wasn't your idea.

Dr. Pierre Morisset: I'm sorry, do you mean to be here for a third time?

Mr. Sean Casey: Yes.

● (1005)

Dr. Pierre Morisset: I have to be careful. I thought that you heard the evidence and I wasn't sure about coming back a third time. My mind wasn't framed in that way, that's all. It's not that I was disappointed but I thought that the process would be one meeting in camera, and another one to testify. I hadn't thought that I would be recalled a third time, but that's fine. I'm not apprehensive about that.

Mr. Sean Casey: So your appearance here is not at your own instance, but at the invitation of someone who set the witness list. It wasn't your idea?

Dr. Pierre Morisset: No, no. I responded to documentation from Madame Corbin, your clerk, to appear. I didn't ask. I didn't beg to come here, if that's your question.

Mr. Sean Casey: Given that, Mr. Chair, I'm going to hereby provide notice to the committee that I'd like the committee to accept the request of Louise Richard to be invited back as well. I understand she has made that request.

Doctor, in the course of your study.... I know that you take exception to some questions that I asked with respect to—

Dr. Pierre Morisset: I didn't identify you, but you're self-identifying. I'm sorry. What I said was I wasn't sure if I understood you properly. That's what I said and I just wanted to clarify why we did not do that.

Mr. Sean Casey: All right. You made it very clear that your mandate did not include looking at the clinical records of veterans.

Dr. Pierre Morisset: Individual clinical records, that's right.

Mr. Sean Casey: Now my question for you is, at the time you did your study, there had been a court case in Italy where a court found a link, and it found the link on a legal basis, between Hodgkin's lymphoma and exposure to depleted uranium and actually awarded damages.

My question for you, Doctor, is, one, was the committee aware of the court case, and two, did the committee dig into the medical evidence that was sufficient to satisfy the court of that link?

Dr. Pierre Morisset: You're asking me if we knew about two things.

Did we know about the court case? No. You won't find that in the scientific literature. I was aware, however, of something in Italy where a group of judges or maybe one judge had condemned some scientists for not having been able to predict earthquakes. That's the only thing I knew. But depleted uranium and its relationship to Hodgkin's.... I think it was Hodgkin's, wasn't it?

Mr. Sean Casey: Yes, I think so too. It's Hodgkin's lymphoma.

Dr. Pierre Morisset: No, we didn't look at that. The other question was did we look at the evidence that the judge had. No. Of course, we didn't know about the case, but what we did look at was the only scientific literature available and that was the Italian studies, and we looked at that very carefully.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. Morisset and Mr. Casey.

We'll now move on, please, to Monsieur O'Toole.

Mr. Erin O'Toole: Thank you, Mr. Chair. Thank you again, Dr. Morisset.

Regardless of whether you were invited by the clerk or appeared on your own behalf, I think it has been important for you to remind the committee that your team approached this in a scientific and unbiased manner, and that you yourself are a veteran. I think it's important to set the record straight, particularly when sometimes things have been quoted in various testimonies that don't rely on science and call into question your report. So I'm glad you're here.

It was interesting to note in Dr. McDiarmid's testimony this morning that the Baltimore cohort is perhaps the best ongoing study of veterans impacted by DU and they're all level one veterans, so embedded fragments of DU, and they don't seem to have some of the symptoms that some of the veterans we have heard from are suffering from.

Would you care to comment on that? Your report seemed to indicate that there may be some level three exposure, that it's highly unlikely there was any level two exposure for any Canadian Forces personnel, and certainly no level one. Would you care to comment on those levels and the fact that those in the level one Baltimore cohort aren't showing some of the symptoms that other veterans have suffered?

● (1010)

Dr. Pierre Morisset: Levels one, two, and three basically relate to the degree of exposure. Level one exposures are the ones which are most highly exposed, which have been very carefully monitored and examined over 20 years by a group of experts. If they haven't shown any significant changes at any level.... She mentioned that they were looking at another level of testing for very, very refined kidney damage tests. Even at that level, there is nothing conclusive.

To get back to my point, if at levels of very, very high exposure you don't see anything, then it's pretty hard to imagine that at very, very low levels you would expect to find something.

Mr. Erin O'Toole: Finally, one area of agreement that we've had from our medical and scientific experts is the final conclusion of your report, that there are veterans out there suffering from chronic, multi-symptom disease, and that it's highly likely it's not attributable to DU but can still be treated.

We talked about this the first time you appeared. Does it impact the proper treatment of a veteran if in a large number of veterans experiencing chronic fatigue and other symptoms they don't have the same root cause of the illness? They can still all be treated individually for those symptoms even though there's not one overarching singular cause. Would you care to comment on that?

Dr. Pierre Morisset: It's a syndrome. I had mentioned in previous testimony that it presents itself in various different ways, and it varies based on the individuals. In some it may be chronic fatigue syndrome; in some it may be generalized pain; in some it may be poor concentration, and any combination thereof. There's a longer list.

In a word, the treatment is individualized.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. Morisset.

We now move on to Madame Papillon.

[*Translation*]

Ms. Annick Papillon: Thank you, Mr. Chair.

Dr. Morisset, several witnesses who have appeared before the committee have told us about medical files or vaccination records that are missing information or contain very little information when they are discharged from the armed forces. We have been witnesses to the fact that the Canadian Forces have removed key documents from the files of veterans. In addition, information in the files have been blacked out.

How can veterans prove that they are suffering from such a syndrome and link it directly to their military service when the necessary documents have disappeared? That will harm the case of the veteran who wants to obtain services and benefits from Veterans Affairs Canada. In addition, if their vaccinations have not been documented, how can anyone know which vaccine a veteran had a negative reaction to? How can we know if it was simply a reaction to vaccines or experimental drugs that were given to Canadian soldiers?

Dr. Pierre Morisset: Is your question just about the documentation on vaccines and nothing else? I want to properly understand your question.

Ms. Annick Papillon: When witnesses put forward similar arguments, I wonder how we can be sure that there has been an independent evaluation of their medical file.

Dr. Pierre Morisset: You are asking me a question about the reliability of the medical documentation of a veteran who appear before the Department of Veterans Affairs, is that right?

● (1015)

Ms. Annick Papillon: Yes.

Dr. Pierre Morisset: You are talking about missing files, files that have been tampered with and so on. I have heard this kind of testimony, and I am very surprised by it.

First, if any military personnel ever did something like that, disciplinary action would follow. It is absolutely prohibited. We do not change medical files.

Ms. Annick Papillon: How can we ensure that such a process remains independent? How can we make sure of that?

Dr. Pierre Morisset: What do you mean? Who do you want this process to be independent from?

Ms. Annick Papillon: How can we guarantee, for both military members and Canadians, that when someone joins the armed forces and until that person is discharged, his or her medical file will be treated independently? That way, if the member becomes ill, from a vaccine or depleted uranium, regardless—

Dr. Pierre Morisset: It is no different than the civilian context. The doctor takes care of a patient's medical file. The file is confidential and cannot be changed afterwards.

Ms. Annick Papillon: It is an army doctor who—

Dr. Pierre Morisset: Whether it is a military or civilian doctor, the person is a doctor. We are all doctors. The code of ethics is the same.

Ms. Annick Papillon: Could you please comment on something Mr. Lacoste said? He said that his TD-60 indicated the highest level of radiation when the measurement was taken. He still has it. However, you said that the TD-60 was used to detect another type of radiation.

As a doctor, how do you explain that Mr. Lacoste's TD-60 indicated that his body contained a level of uranium 61 times higher than average?

Dr. Pierre Morisset: I would really like to see the results. Health Canada specialists are the ones who do those checks, not doctors. The specialists interpret TD-60 readings.

Ms. Annick Papillon: If he had his TD-60 when he was deployed and the device indicated a certain measurement, how can the person have proof that can be used later to determine exactly what happened? I wonder about that a lot. I don't want information to be lost.

Dr. Pierre Morisset: We cannot do TD-60 readings in combat zones. We do not have the equipment required to do so, whether it is on a daily or weekly basis or some other frequency. We can't take blood or do other tests, either. You understand that. It is for practical reasons.

TD-60 readings are done at certain intervals. As I said earlier, National Defence entrusts this job to Health Canada. In other words, it is not done in the field by an individual, but in Health Canada laboratories.

Ms. Annick Papillon: Thank you.

[*English*]

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. Morisset, and thank you, Madame Papillon.

We'll now move on to Mr. Hayes, for four minutes.

Mr. Bryan Hayes: Thank you, Mr. Chair.

Dr. Morisset, some of the testimony we've heard appears to have inadvertently missed the distinction between the health effects of depleted uranium versus uranium. Could you take a moment to clarify the health effects associated with uranium, or differentiate those compared to depleted uranium?

Dr. Pierre Morisset: It's a bit confusing, isn't it. Even Dr. McDiarmid, who I admire enormously and is a leading world expert, sort of had slips of the tongue in that respect today. She was saying depleted uranium and uranium. You have to be very careful. I get confused.

The reason we talk so much about uranium studies when we speak of investigating depleted uranium effects is that they are similar. The effects are similar, identical from a toxicological point of view, which Dr. McDiarmid highlighted. It is that effect that concerns their group more. The radiological effect is less of a concern to them.

The studies that were made on humans with uranium date back many years and are on very large groups of uranium workers, people in the industry. This is why we talk so often about epidemiological studies with uranium, because they are the studies that are available in large numbers. Studies specifically on depleted uranium are not used extensively and have not been used for as long a period. That's why the studies are limited, but if you find the effects of uranium, you can extrapolate that to depleted uranium.

● (1020)

Mr. Bryan Hayes: What would those health effects be? Would they be identical for uranium exposure versus depleted uranium exposure?

Dr. Pierre Morisset: Toxicologically, they would be exactly the same. Radiologically, the exposure, the degree of radiation if you wish, that comes from depleted uranium is less by a large margin, 40% less.

Mr. Bryan Hayes: Last week, Dr. Lalonde said that of the 230 Canadian Forces members who have come forward for the uranium and depleted uranium testing, none tested positive for depleted uranium. I read the report at the beginning of the study. I haven't reread the report, so forgive me if I missed it, but are these results included in the study?

Dr. Pierre Morisset: The Canadian urinalysis studies?

Mr. Bryan Hayes: Yes.

Dr. Pierre Morisset: Yes, they are. Under a broad statement, urinalysis studies that have been conducted in the U.S. large, Canada, Sweden, Britain, and France came to the same conclusion, taken collectively.

Mr. Bryan Hayes: This is my final question. Veterans have said that they're very grateful to former Minister Blackburn and current Minister Blaney for bringing this study forward because it needed to be discussed. Do you agree that this body of work was an important topic of study and that it will provide a benefit to Canadian veterans?

Dr. Pierre Morisset: That's our expectation. There had never been a study on depleted uranium. It's still a mystery. At the beginning you didn't know as a citizen what depleted uranium was, did you? A lot of veterans don't either, but they may be concerned because it's uranium. If it had another name, there wouldn't be that concern or that suspicion.

At least we examined the scientific literature right up to the end of 2012. So we updated the literature review and we applied it to the Canadian context on the side of exposure, which is very particular to Canada and not the U.S. We hope that it's useful to inform and to reassure.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. Morisset.

We now move on to Mr. Lobb, please, for four minutes.

Mr. Ben Lobb: Thank you, Mr. Chair.

Thanks again, Dr. Morisset, for coming here to the committee.

I want to ask you a very frank question, if I may. There have been certain members on this committee, and at least one veteran who has appeared before this committee who basically accused you of more or less cherry-picking the information you looked at and included in your report. I don't believe that's the case, but I would like you to tell the committee if you feel that's accurate or inaccurate.

Dr. Pierre Morisset: Well, I have one comment. I hate to use names, but Mr. Dornan was the person who used the expression "cherry-picking". Madame Richard accused me of being part of a sordid plot to administer experimental drugs and vaccines. I don't like hearing things like this, but at the same time I can understand their frustrations, so I don't take it personally. That's just as an opening remark.

With respect to the cherry-picking.... Incidentally, Mr. Dornan, when he appeared before our committee, gave us a stack of documents and articles that he had prepared. He and his wife are very good at this. I really admire their tenacity and how they look at this. I personally looked at every single page of that stack. We did not include all of them because some of them were minor studies, minor not in the sense of mining, but they were not major studies.

The one study, and I have to comment on this one because it merits a second look. He mentioned that the milestone studies were the French studies. I remember that in his testimony. He said, "They overlooked the French studies." He said, "This is what they showed." I thought, "God, you know, I looked at that study, but I didn't get that conclusion." I went back to the original article yesterday. I thought, "Darn it, I'm going to read that. What did we miss, collectively?" In fact, we had read the article. We're not wrong in any way. It appears the findings are right there in the report—on page 19 or 20; I can't remember, but they're there. The references are there, and they were in fact considered.

The one report that he said was revolutionary dealt not with depleted uranium but with reprocessed uranium. That is enriched uranium, not depleted uranium, that was being reprocessed. It has plutonium, americium, all kinds of other things, so I don't think it's very germane to the study. Plus it was a pilot study. They reported that as a pilot study, an initial pilot study, and they said that yes, they have some indication that perhaps there may be some increased cancers of a hematopoietic effect, which are multiple lymphomas. Fine. We think there may be. It is suggestive—that's their word—but we have to look at it more carefully.

The other thing I want to mention is that one of the co-authors of that study is one of our reviewers. He agreed with our conclusions, and he agreed it was complete, and so on and so forth. You're asking me to set the record straight on that. We did not cherry-pick, no.

● (1025)

The Vice-Chair (Mr. Peter Stoffer): Thank you, Mr. Lobb.

Mr. Ben Lobb: I appreciate that. I think it needed to be clarified as we near the end of this.

The Vice-Chair (Mr. Peter Stoffer): Thank you.

Now on to Ms. Mathyssen, please.

Ms. Irene Mathyssen: Thank you, Mr. Chair.

Thank you, Dr. Morisset, for coming back and providing clarification. I'm seeking clarification, too.

I have two questions. How could doctors provide a diagnosis of DU poisoning without the scientific evidence to back it up? That's number one.

Number two, there are too many unanswered questions. You made reference to your mandate. I understand your mandate did not include any clinical studies, and understandably so. Where are we, though, regarding looking at individual clinical records and conducting studies? Have there been too few?

When I look at Louise Richard, Pascal Lacoste, Steve Dornan, these are veterans who are suffering. Does there need to be more clinical work done?

Dr. Pierre Morisset: The short answer is yes, and that reaches into one of my recommendations.

Sorry, what was the first part of your question?

Ms. Irene Mathyssen: How could doctors provide a diagnosis of DU poisoning without scientific evidence?

Dr. Pierre Morisset: Yes, exactly. That's a darned good question.

I would have liked to be able to discuss with a physician who is purported to have made that diagnosis of depleted uranium intoxication to find out what they were basing their decision on. That's a very, very big question mark in my mind, very big.

The Vice-Chair (Mr. Peter Stoffer): Your question is on the clinical studies.

Ms. Irene Mathyssen: Yes, I assume that—

Dr. Pierre Morisset: On the clinical studies, I'm sorry; I went quickly over that one. If there is research being done, I am suggesting a way of pursuing that.

The Vice-Chair (Mr. Peter Stoffer): Thank you, Dr. Morisset.

We're going to move to the next one, because we have to allow him his conclusion. I'll move on to Mr. Lizon.

Dr. Pierre Morisset: Please make it no more than four minutes.

The Vice-Chair (Mr. Peter Stoffer): Yes, sir, and we'll move on to Mr. Lizon.

You have one question, Mr. Lizon.

Mr. Wladyslaw Lizon (Mississauga East—Cooksville, CPC): Thank you very much.

Is it one question?

The Vice-Chair (Mr. Peter Stoffer): Yes, because we're moving into his time. We have to go on to committee business as well.

Mr. Wladyslaw Lizon: Thank you, Dr. Morisset, for coming here. You said you were surprised you were coming back. Actually I was going to propose, without asking anybody, that you come back. It is very important for you to clarify some of the testimony and some of the opinions we have heard from different witnesses. It is very important. Therefore, if I have only one question, I'll ask you this one, which is very direct. Don't take it personally.

Would you say that you purposely neglected to include documents or any particular research because of the findings?

● (1030)

Dr. Pierre Morisset: Remember when you were in high school and did experiments? If you cooked reports, in high school or maybe at university, and you had been caught doing that, what would have happened?

No, we didn't, absolutely not, and I resent any such implication. We applied ourselves. I certainly did, and we have some individuals who are extremely rigorous. I'm telling you they were rigorous, university professors in epidemiology and other subjects, and they would never, ever have allowed us to even think about that. So the answer is no.

The Vice-Chair (Mr. Peter Stoffer): The answer is very clear. It is no.

We'll allow you a couple of minutes to lay out your four points. Are they documented for the committee, or are you just going to say them?

Dr. Pierre Morisset: I'm going to read them because I just wrote them yesterday.

The Vice-Chair (Mr. Peter Stoffer): Go ahead, sir, very quickly.

Dr. Pierre Morisset: If you wish, we can discuss that after.

Recommendation number one is that the committee members read the Institute of Medicine report on chronic multi-system illness published in January 2013, or at least a summary. It will be very instructive for you to read that.

Number two is that DND and Veterans Affairs Canada explore the possibility of creating a network of primary care physicians across the country who would be willing to accept veterans as patients. This cadre of physicians would include ex-military physicians.

Number three is that the findings of our report be communicated to the veterans in the most appropriate manner.

Number four is that you familiarize yourselves with the newly created DND and Veterans Affairs committee on research, known as CIMVHR, the Canadian Institute for Military and Veteran Health Research, and support it in any way that you can. New research should be given appropriate funding.

I also mentioned that I had a favour to ask. In fact, I have two. I just thought of another one. People have been referring to this report as the Morisset report, or Dr. Morisset's report. I don't think that's right. We were a team of five. I was just one of them. Sure, the chairman gets more visibility, but I have to recognize that there were other members who did a lot of work, not that I'm trying to distance myself from the report or its notoriety, not at all. We're very proud of what we've done.

If you can hold back on the publicity—

The Vice-Chair (Mr. Peter Stoffer): To give you a reference on that, sir, when the Kirby report on health issues came out, he was the chair of that Senate committee and even though many people participated in it, it's still referred to it as the Kirby report.

Dr. Pierre Morisset: Okay, fine. I get it. It's politically expedient.

The Vice-Chair (Mr. Peter Stoffer): Yes, sir.

Dr. Pierre Morisset: My other one is, there are some errors in my second testimony. Some are minor, but some are factually incorrect and they need to be corrected.

The Vice-Chair (Mr. Peter Stoffer): Go ahead.

Dr. Pierre Morisset: I won't read them but I have sent them to you, Ms. Corbin.

● (1035)

The Clerk of the Committee (Ms. Cynara Corbin): I want to let the committee know that I did receive Dr. Morisset's changes to his testimony. I passed them on to the publications team. I'm not the one who decides whether there were any inaccuracies or factual errors. They listened to the audio recording again and did their verifying and research. They would be the ones to make the final decision.

Dr. Pierre Morisset: It's under control or it's being looked after, is it?

The Clerk: Yes.

Dr. Pierre Morisset: Thank you.

The reason I bring it up is I read it again, and it had not been changed.

Thank you very much for that.

The Clerk: I'll follow up again.

The Vice-Chair (Mr. Peter Stoffer): Dr. Morisset, thank you very much on behalf of the committee and our chairperson who can't be here, Mr. Kerr.

Folks, we'll recess for one minute and then go in camera very quickly.

Thank you.

[*Proceedings continue in camera*]