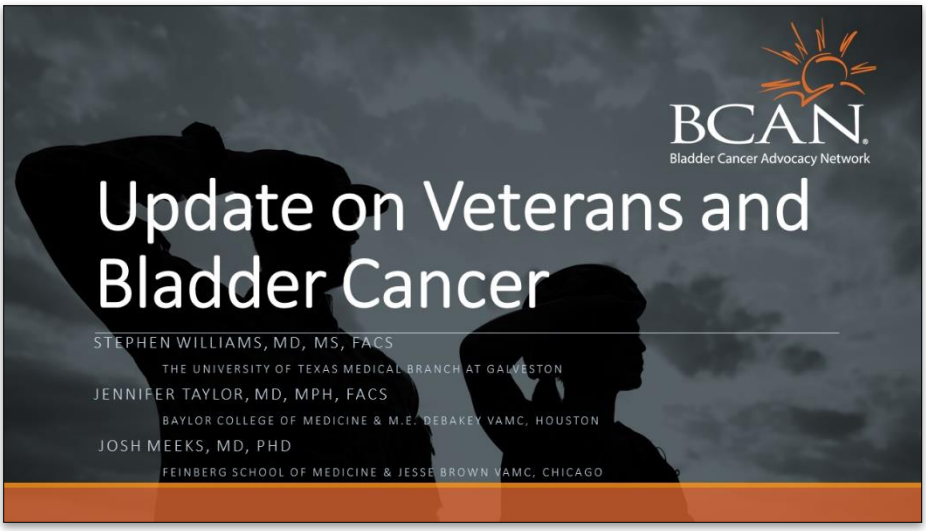

Dr. Meeks:

It's hard to top Dr. Williams and Dr. Taylor for what they've talked about. I think a lot of folks tuned in today to see what maybe we can offer them. I would just say, as a urologist here in Chicago, at Jesse Brown and then working with the VA nationally, that the VA is clearly invested not only in the healthcare, but also the future and bringing sort of every cutting edge opportunity to our veterans with bladder cancer. And it's a cancer that outside of the VA is almost, I would say, considered an orphan among other cancers, but within the VA, there's a pretty heavy investment in both the prevention, treatment and future care for our veterans with bladder cancer. So there's just so much coming down the road. I think you get a sense of that today.

I really think that honestly, that the best I can offer you to is to be able to answer any of the questions that folks may have, along with the rest of our panelists today and if there's anything we can do to answer your questions.

BCAN-Stephanie:

So, do you want to take a question right now? Because there was a question and perhaps one of you has an answer and that would be looking at whether or not there've been any epidemiological studies on chemical exposure exposures in U.S. Navy sailors in a shipyard environment? Because they're exposed to so many things, paint, naptha, zinc, dry-cleaning solvent, ethyl ketones, and paint strippers, etc…. So if you have any evidence or seen any studies that are relevant, that we could point to, that would be very helpful. Hello?

Dr. Williams:

I think this is a very important question and something that at least we are looking at are different service lines or divisions within the military itself through our large database. Granted, we did not look specifically at these particular chemicals, one may argue that that may be a possibility to elucidate further depending upon the service or conflict, but also two, those types of exposures.

Nothing at least that rings to my attention that has been done prior to specifically look in U.S. and the Navy and these particular chemicals. There have been studies, as we all know, with Agent Orange that have tried to determine the biological link with certain malignancies, which has been intriguing, but

nothing specific, at least that comes to my attention that has looked in the U.S. Navy and these particular chemicals.

Dr. Meeks:

I mean, the big exposure we all know about is arsenic, Agent Blue, Agent Orange, Camp Lejeune water exposure. But that doesn't mean that there isn't a lot of stuff that's very toxic that you may have been exposed to over the course of weeks, months, decades, years that caused this. We know about half of patients with bladder cancer are smokers and the other folks have just no exposure. Interestingly, their cancers look exactly the same. I know that doesn't help you on a daily basis as far as understanding this. I generally think though that there's nothing our patients did to give them bladder cancer. It's exposure of stuff that we just don't know. So it's a great question. Quite honestly, we're trying to figure that out right now.

BCAN-Stephanie:

There is a question in the chat box. When will the aftercare protocol be available and how do we get access to it if we're not in the VA system? Is that something that you know any answers to?

Dr. Taylor:

Oh, I see. He was specifying in the chat based on the survivorship care plan, like I discussed. So, that is based on a model that comes from ASCO and other national organizations. That survivorship is really a movement nationally, in private insurance and VA healthcare as well. So, we have developed one that is veteran-specific, and it would be my dream that we can certainly disseminate it more widely to other VA centers and hopefully, to veterans not in the VA system as well, so that it can address some things that may be more unique to veterans. But at this time, it's available for my veterans in Houston, but certainly it would be a wonderful goal to spread it. And again, that's part of the benefit of the VA system is, that we can potentially more easily bring things to other vets in other cities and other states more readily because of the connections that are throughout the system.

BCAN-Stephanie:

Right. The veteran system has one of the world's biggest electronic medical records, and they share an awful lot of data, which I think makes a really good robust population to be able to understand the disease a little bit better, and I think that that's very important. Let's see if there are any additional questions that have come in.

A female fighter pilot at 46 years old flew F-16 and A-10s, nonsmoker, was fit, diagnosed with bladder cancer, had a radical cystectomy with ileal conduit. Looking at the issue about jet exhaust, plus four years as a crew chief, and I think that was an issue. Is there any evidence that you've seen in that particular area? Just wondering if this could be the cause of the cancer. There was no other known exposure in this individual's 46 years.

Dr. Williams:

Yeah, that's obviously very concerning for one, being a female, but also two, being as young as you are. One interesting study that we are publishing right now and it's from the state of Texas, which is home to the largest number of oil refineries is, proximity to oil refineries and cancer risks. What we found were increased risk, not only among the four most common cancers in the U.S. but particularly bladder cancer. And also, two, also led to increased risk of more advanced disease when we were controlling for other risk factors, age, gender, air pollution. Now I know this is not specific to jet exhaust exposure, but

one could certainly determine that there may be an association given that you don't have any other risk factors, particularly smoking, which we also did control for as well, and also oil well density. So I don't know if that provides any reassurance, but gosh being that young-

Dr. Taylor:

I would also add, I know that one of my colleagues, Dr. Jeff Jones has studied a lot about astronaut exposure and fighter pilots have also been studied because of the increased exposure to radiation by being higher in the atmosphere. So depending on your number of flight hours, that also may have exposed you to a different dose, and kind of concentration of radiation because of the level you were at in the atmosphere potentially.

Dr. Meeks:

Then the last thing I would say is, that just looking at your germline that's really something to consider as germline testing. About a quarter of folks under the age of 45 with bladder cancer will have a germline alteration, which has implications for you, your family and everyone else. And I think actually, there was a publication about a year ago, so that was covered by most people's insurance now to get germline testing. And again, that would have implications for screening for other cancers and and other family members.

BCAN-Stephanie:

Yeah. So again, as all this research comes out and more and more is identified, especially for Dr. Williams' research, as it gets published, we will be sure that we let everybody know that that information is available. Let's see, there was something else there. There's also another question about maybe helicopter pilots are at high risk radiation from high powered air search radar. So that's also, I guess, something else to think about looking into in future studies.

So, as far as getting in, and being seen, I know we've got quite a few people on this call and not everybody is already in the VA system. So Jennifer, Dr. Taylor, how do people get into the VA system? I've got some information and I've got some resources that I can share, but I know that that was some of the questions that we saw right at the very beginning. How do people get in for care at the VA if they haven't already used the Veterans Administration for their healthcare?

Dr. Taylor:

Well, I know that within any region of the VA, there's a regional office, there's an Eligibility and Benefits Office, and that's really the place to start to get connected into the VA system and to get to see a doctor in the VA. And because we are specialists in urology, any veteran needs to first have a primary care assigned, and a referral has to come from primary care. A patient can't opt into the VA system and go directly to urology, unfortunately. They may not need to have a lot of their other care in the system. You can certainly have still an outside primary care, an outside cardiologist, or any other clinician, but to get into our specialty clinic, you first have to have that official referral from an assigned primary care provider. So I think that that's a very good question.

BCAN-Stephanie:

Yeah. I think one of the things that we've learned over time is that for a veteran to get in and to get coverage and especially to be considered for disability with anything relating to Agent Orange, or any of the other service-connected causalities that might lead to a disability, you need to work with a veteran service officer. I do have a link for helping to locate a veteran service officer so I am going to drop that

into the chat box so that if anybody is interested in looking at that later on, you are more than welcome to do that. But that is certainly something to consider because those veteran service officers are there to help you write and submit a benefits claim to the VA.

Their services are free to help you get information that helps support your claim. And when that claim is filed, they'll help you keep track of it as it goes through the system. So I think that it's really important to understand. It's not a simple process to get a disability and to get some of the treatment covered at the VA without having somebody to be sort of your advocate on there. So I think that that's also something very significant to just kind of keep in the back of your mind, because that question came out from the very beginning.

What is the VA doing with regard to non-traditional clinical studies, supplements, frankincense and myrrh, where traditional studies are driven by pharma profits that are not being addressed? Are they doing anything that's looking at sort of complimentary alternative care that you might have seen or heard about? Maybe Dr. Meeks, you have any insight on that?

Dr. Meeks:

The VA definitely has clinical trials that are run just within the VA, but I've not seen any of those proposed so far. So maybe talk to your urology team wherever you're out of. Because again, I think there would be an interest in many trials looking at different aspects of that. And the VA's been very good about trying to address sort of both more allopathic as well as again, non-traditional approaches.

Realistically, to be fair to pharma, again, they've tried to reinvest in the VA as well.

BCAN-Stephanie:

Yeah. I think that that's a really important thing because no new drugs happen without clinical trials. So anybody who is in the VA system who wants to engage in a clinical trial through the VA, certainly they could do that. For those who are not in the VA system, they could also look at their own institutions that they're being treated and get into clinical trials that way as well. Correct?

Dr. Meeks:

Yes. So there's a couple of ways to go. So there's trials that the VA sponsors, and some of those are multi-institutional maybe two or three up to five or six VAs. Then there's what's called a cooperative studies program, which could be 40 to 50 VAs and those are major trials. So for example, we have a bladder cancer screening trial, which hopefully is going to be reviewed and hopefully be starting ideally within the next year if approved. But again, those are huge national screening trials, or not so screening, but just big national trials.

Then there's also studies that are done outside of the VA that the VA brings in to them. And only certain sites have that relationship with either pharma or with the National Cancer Institute, for example. So, again, the VA realizes this is part of its mission, again, to bring that same cutting edge care to our veterans that you would get outside of the VA.

Patients that are more rural, how do they get access to that? And again, there's efforts to try to do that, to bring expertise, for example Dr. Taylor, Dr. Williams to be able to help provide care for someone in rural Montana if they need their help. So I think that that's something that again different groups are working with to try and help veterans with that.

Dr. Meeks:

Anyone want to talk about BCG, access to BCG in the VA or in general?

Dr. Taylor:

So, it has been dependent on your previous ordering of BCG, whether or not you had supply continued coming in. And I will say at the Houston VA, we never ran completely out. We got down to a point where we had four, or six vials at one point, and we have been very selective about who is getting BCG. The SUO, Beacon, and AUA had a guidance that was released what, definitely two years ago now? But that helped everyone navigate this BCG shortage.

I did learn just recently that Merck has announced building a new factory in the United States, which is of course going to take some time to get online, but that is going to bring a more steady and reliable inflow of BCG. But I don't know when that's expected to be occurring. At RVA, we have never run out, but I do know that in some of the smaller VA clinics in Louisiana and other areas that refer to us, they have not had BCG for over a year, year and a half. So it's still a high variability in access.

BCAN-Stephanie:

Right. And I think it's important to note that while Merck did come out with a statement that they are building a second plant, they anticipate a minimum of up to five years before that's actually operational. So this BCG shortage is obviously going to continue. So Dr. Taylor, Dr. Meeks, do you all have access to other intravesical therapies that you're using? Are you replacing BCG with any of the other intravesical therapies? And could you talk about that real briefly?

Dr. Meeks:

We're similar with Dr. Taylor because we have BCG, and we're judicious with its use. I think that's probably the biggest thing we've had is, that we've cut down the maintenance as far as doing it just for 12 months. We reduced it to a third and one and a half dose. I think the hard part gets to the BCG unresponsive population, because well, we have gem, and we have mito, we don't have a lot... I usually use a dual combination regimen of gemcitabine docetaxel. So we'll often try to get those patients over to see me at Northwestern if that's what they elect to do. We've worked out where they don't need to see me physically, I know them, they get their therapy and then they have their cystoscopies back at the VA with the folks they know. So we try to work out that relationship. And then obviously our medical oncologist have no problem giving pembrolizumab if that's what the veteran chooses to do.

What are you doing, Dr. Taylor?

Dr. Taylor:

Yeah, likewise our oncology pharmacy can provide us with gemcitabine and docetaxel. So I use that as my salvage regimen in my clinic. And anytime I use gemcitabine now in intermediate-risk patients as well as my standard, according to the SUO guidance. But we are looking forward to working with the companies that might be bringing some other new trials and drugs. And so they are very invested like Dr. Meeks said, in working in the veteran population as a very unique population with bladder cancer particularly because of the comorbidities make some of the other options for BCG-unresponsive disease harder to offer. Cystectomy is not as easy to offer in our population. So having those companies invested in doing the studies with us and then helping get that medication on the formulary for the national pharmacy and then into each of the local VA pharmacies is a very cumbersome process, but vital process, just like we're trying to work on that for MitoGel now.

Dr. Meeks:

And I would say that the number of radical cystectomies performed are relatively few. It's not because there aren't surgeons that can do them, it's more of patient choice, interest in bladder preservation and some folks what could be performance status as well. and again, there are certain companies that appreciate that and are looking for non... either they're working with sort of bladder preservation approaches or sort of non traditional approaches to target some veteran populations, understand that not everybody's going to get a radical cystectomy. So I think more's coming down the road for that.

Dr. Williams:

And I think something else is, from the outside, I guess is SWOG 1602 (a clinical trial) so we could diversify our BCG portfolio and utilize different strains, which we're testing with Rob Svatek in San Antonio being the Primary Investigator of that study. So that will hopefully bring about another strain or it's the Tokyo strain for BCG. And then I imagine the VA would be more than willing to also have that at their disposal to treat veterans.

BCAN-Stephanie:

So, and another treatment related question, I know a lot of patients are interested in having blue light with Cysview, and blue light cystoscopy to really make sure that the doctors are seeing everything and able to remove all of their cancer. Is that even an option in most of the VA systems or is it very selective or is it kind of generally available? What's the situation with that?

Dr. Taylor:

It's still very selective. The Houston VA was the only VA in the national trial that got flexible cystoscopy with Cysview FDA-approved. And we have been involve and are one of the first VAs that had blue light available for the operating room. There are now to my knowledge, six or seven VA centers, but because it is a big capital investment, it requires a medical center that has a high volume of bladder cancer care, and that can agree to invest in that service. The more that veterans can say they want it to have equal access, the more it can only help create that access, but because so much of the VA system is spoken will, so centralized VA and lots of regional smaller clinics, there still may be a process where to get that type of technology or that type of access, you have to go a longer distance to get to the clinic that is at that level.

Dr. Meeks:

Yeah, I would say that it was in our capital request for 2019. I think it was in for 2020. The folks from Karl Storz have been very reasonable. Right now, we have Olympus equipment and we have NBI (Narrow Band Imaging). So we have NBI with our flexible scopes in the office. So we do have that and we do have it for the OR too. So I think one option for PDD (photo dynamic detection) is there, but probably you're right, that it's probably going to be spreading across the U.S.

BCAN-Stephanie:

And what about the issue you talked about bladder preservation, is that readily available? Are there the teams, the multidisciplinary teams that are required? Is it easy to seek bladder preservation?

Dr. Meeks:

I mean, I'm sure that's geographic. And so Dr. Taylor may be able to give her thoughts. I'd say that one of the benefit of having a system where we're all here for our patients, but just taking care of our veterans, we all work on the same team, right? We're all part of one healthcare system. So for us, our radiation's at a different site, it's 12 miles away at the Hines VA. And so, if our folks are in Indiana, for example, and don't want to go all the way across Chicago, we can either get care closer to home for them, if that's what they'd like to do, or we send them to Hines. And we have colleagues there that again are part of the trimodal team, but I think, again, that's one of the benefit is, that we're all sort of working towards the same collective.

Dr. Taylor:

No, I agree. I think we do. Yeah, we do have that access and we're part of the cooperative group study to look at bladder preservation through SWOG so that's coming to our veterans soon. And I will also say that there's pros and cons of the veteran's choice for the expansion of care in the community, but one of the things that it will bring is, veterans who might need that radiation closer to home because of the burden of transportation and travel, will be able to get that more easily. So there are cancer cases and patients with cancer that I think care in the community is really important for, to get that care closer to home.

Dr. Meeks:

Because again, we don't want folks choosing a cystectomy or a prostatectomy or some other cancer surgery because they don't want to travel or can't go Monday through Friday for six weeks. So I think we're all sort of evolved to that model.

BCAN-Stephanie:

So, I know that everybody is looking forward to the publications of your research, Dr. Williams, and we thank you so much for sharing that. Dr. Taylor, this has been phenomenal hearing what's going on in the VA, and Dr. Meeks also, there's just so many opportunities to learn more about bladder cancer in general, but bladder cancer in the veteran population. And I want to thank you all and thank our sponsors for the patient insight webinar series, BMS, Bristol-Myers Squibb, EMD Serono, and Pfizer Partnership, FerGene, Genentech, Merck, and UroGen.