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COUNTERING WEAPONS OF MASS DESTRUCTION

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**EINHORN:** Good morning. My name is Bob Einhorn. I'm a senior fellow at Brookings's Strobe Talbott Center for Security, Strategy, and Technology. And I'd like to welcome you to this public Brookings event, which will address the Department of Defense 2023 Strategy for Countering Weapons of Mass Destruction, which was released a couple of weeks ago. The last DOD strategy for countering WMD was issued in 2014. It focused on counterterrorism and counterinsurgency operations, and threats coming from hostile, fragile, or failed states and safe havens, non-state actors. Since then, the WMD threat has dramatically changed. Concerns about extremist non-state actors persist. But in addition, the United States and its allies face peer-level threats from Russia and China, both of which are expanding their WMD capabilities, especially their nuclear programs, as well as regional threats from North Korea and Iran, both of which have pursued WMD of various categories.

Moreover, today's challenge comes not just from legacy WMD programs, but from novel systems based on rapidly advancing and often dual-use technologies whose production may be difficult to impede and whose possession may be difficult to detect. And today's WMD actors appear to be integrating their WMD capabilities into their military strategies in a way that increasing-- increases the risk of WMD use, either intentionally or inadvertently. Secretary of Defense Lloyd Austin called the current WMD threat real and urgent. DOD-- the DOD report provides the outlines of a comprehensive strategy for addressing the WMD threat. We hope to have some hard copies of the report at the entrance. Sorry, because of D.C. traffic this morning, they haven't arrived yet. But on the way out, you should be able to pick up copies of the report. And for our online audience, you could find the report as well online.

And we're very fortunate this morning to have with us Assistant Secretary of Defense John Plumb, who will share with us highlights of the 2023 strategy. Assistant Secretary Plumb is the first assistant secretary of defense for space policy, but the title is misleading. John is responsible for nuclear weapons, cyber, missile defense, electromagnetic warfare, and countering weapons of mass destruction. For three decades, John Plumb supported U.S. national security both in and outside uniform. He was a naval officer on a Los Angeles class submarine, an instructor at the Navy's nuclear power school, and later served in civilian capacities on Capitol Hill, at the Pentagon, and the National Security Council staff. After the assistant secretary's opening remarks, I'll moderate a panel of experts who will do a deeper analytical dive into this strategy, and we hope to leave plenty of time for questions, both for our in-person audience as well as our online audience. And just a final reminder that we'll be on the record today and we'll be streaming live. Please send your questions via email to [events@brookings.edu](mailto:events@brookings.edu) or on X, formerly Twitter, using hashtag DOD strategy. And so with that, John, let me give you the podium.

**PLUMB:** All right. Thank you very much, Bob. Good morning, everyone. Thank you for that generous introduction. I'd like to start by just thanking everyone who put this together. Special thanks to Brookings for providing this platform to speak about our new 2023 Department of Defense Strategy for Countering Weapons of Mass Destruction, CWMD. I'm encouraged, you know, we've got such a large audience here and apparently a very large one online, which just goes to show how integral CWD has become to national security. Now, the last time the department released a CWMD strategy was back in 2014, almost a decade ago. At that time, I was working at the White House on the Security Council alongside a certain deputy assistant secretary of Defense now, named Richard Johnson, and alongside Lynne Ruston, and Beth was also there, so that's a pretty great event you've got planned here, and you're going to hear from all of them after me. I know that's what you're waiting for.

So the defining WMD threats we faced back then were drastically different than they are today, just ten years later. Our primary focus was on violent extremist organizations, VEOs, as well as states like North Korea and Iran, and the 2014 CWMD strategy reflected those threats accordingly. Flash forward to today, 2023, and the world looks quite a bit different. China is the department's pacing challenge. Russia is our acute threat. Now, in my role as the assistant secretary of defense for space policy — that's a congressional name, that's why we don't have a name like Integrated Deterrence — my portfolio spans the department's strategic capabilities across the department for integrated deterrence. That space, that's cyber, that's missile defense, that's nuclear weapons, that's countering weapons of mass destruction. And across that entire portfolio, the challenges posed by China and Russia are front and center. So this is a new security environment, and that demanded a new strategy.

To be clear, the department has not lost focus on the WMD threats posed by North Korea or Iran or VEOs, but now we must also contend with a world shaped by renewed competition with two near peers, and they are both armed with a suit of WMD capabilities. Our 2023 strategy accounts for these changes and addresses them head-on. So let's just take a couple of minutes to expand on this new security environment. Start with China. So China is aggressively pursuing a rapid expansion and modernization of its nuclear forces. The speed and scale has been nothing short of breathtaking. This effort includes the expansion of fissile material production, such as their fast breeder reactors like the CFR 600, and the development of more and more diverse nuclear weapons systems. At its current pace, it could field an arsenal of about 1,500 nuclear warheads by 2035. The United States is also concerned with China's compliance with the Biological Weapons Convention. China regularly conducts research and activities with potential dual-use applications for bio threats, such as its military's R&D for toxins.

And then there's Russia. Russia is expanding and modernizing its nuclear weapons program. It continues to build non-strategic nuclear weapons and develop new and novel delivery systems. Russia has also engaged in irresponsible and troubling nuclear saber-rattling throughout its unprovoked and indefensible invasion of Ukraine. Russia has also consistently violated both its biological and its chemical weapons convention obligations. Its use of the Novichok nerve agent in attempted assassinations against the Skripal's in 2018 and Navalny in 2020 erased any doubt that Russia retains an undeclared chemical weapons program, and we also know they maintain an offensive biological war program.

Now a renewed focus on Near-peer competitors does not mean that we can ignore the persistent threats of North Korea, Iran, or VEOs. In particular, North Korea and Iran continue to strengthen their WMD programs, and this is in complete disregard of international norms. North Korea now has options for nuclear weapons use at any stage of conflict, in addition to its long-standing chemical and biological weapons capabilities. Earlier this year, U.S. defense officials highlighted that Iran likely has the capacity to produce enough fissile material for a nuclear device in less than two weeks. State Department reports also raise concerns with Iran's engagement in dual-use activities that could create chemical weapons, including the development of toxins and bioregulators, and VEOs remain a very real and persistent threat. We must continue to constrain VEO attempts to develop or acquire a WMD through robust counterterrorism and crisis response activities.

Now, I wish I could say that our challenges stop there, but they don't. The rapid development of dual-use technologies is a double-edged sword. Emerging technologies can provide real benefits to humanity, but they simultaneously can pose new challenges and increasing risk. These developments in science and technology exacerbate the WMD threat landscape and add greater complexity to the threat because they lower the barrier to entry for new WMD actors. For instance, some of the same high-end technology that is used for fermenting large batches of beer at your favorite brewery could also be used for some chemical and biological weapons activities. Now, we do not want to inhibit the legitimate advances these new technologies enable. And frankly, we can't. But we must be prepared for the repercussions of their potential misuse. DOD is grappling with how to best harness these opportunities while simultaneously studying and preparing for how potential adversaries may use those technologies against us.

Our adversaries have also learned from and continue to adapt to traditional U.S. counter-proliferation tools on a variety of fronts. For example, our adversaries are rapidly developing indigenous supply chains and procurement mechanisms to circumvent our efforts. So to address all of these threats, the 2023 CWMD Strategy sets four key priorities for the department. We have no time to waste, so we've already begun implementing these efforts. But first, the department's priority objective is to defend the homeland. We are

concerned that adversaries may perceive WMD threats or attacks on the U.S. homeland as important methods to achieve their objectives. And that is why we are executing an integrated layered defense so the United States can engage, contain, and respond to threats globally. This includes improved protection of forward-deployed U.S. forces and the sustainment of specialized capabilities to support other lead federal agencies, such as-- as part of a whole of government WMD prevention and response effort. So defend the homeland is one.

The second priority is deterring all forms of strategic attack. Any nuclear attack, no matter the size or scale, is a strategic attack. We are also concerned about high-consequence attacks that would have a strategic effect using non-nuclear means. This could include attacks with chemical or biological weapons. Our CWMD capabilities work in concert with our powerful conventional forces, our non-nuclear strategic capabilities, and our nuclear forces in order to deter these high-consequences attacks. This is integrated deterrence. And that is why the department, in close coordination with allies and partners, will pursue credible integrated options to deter and defeat actors developing WMD capabilities and programs. A key element of that is to demonstrate the undesirable costs and act it would face should they use WMD against us. For example, part of our deterrence efforts includes the development and fielding of modern military platforms like the F-35 or the B-21, dual-capable aircraft that fortify our ability to deter aggression. We also exercise key CWMD elements with allies and partners to strengthen our joint capabilities to defeat WMD armed actors. And we we exercise this-- actually, we did it just last year in Hawaii, an exercise fortune guard.

Our third priority is to enable U.S. forces to prevail in a CBRN environment, that's chemical, biological, radiological, or nuclear. It's essential that, along with our allies and partners, DOD can fight, win, and reconstitute in the face of WMD threats or attacks because a resilient force that can operate through an adversary's use of WMD strengthens deterrence. Building and maintaining such a force requires investment and resources, and I'm pleased to note that the department is prioritizing this. The President's fiscal year 2024 budget would add about 812 million to department-wide efforts to enhance biodefense. Funding for R&D training and exercises are all being increased. In the face of WMD threats, these activities serve to enhance the capabilities, capacity, and preparedness of both the U.S. and our allies and partners, and we are maintaining an ironclad commitment to our nuclear modernization program as our ultimate backstop the deterrence.

And our fourth and final priority is to prevent new WMD threats. For DOD, this requires preventing WMD proliferation and the emergence of potential new actors. The CWMD enterprise must work with our allies and partners to disrupt and degrade competitors' efforts to improve their indigenous WMD programs. The DOD addresses this challenge through prevention, through threat reduction, and through building

partnership capacity. For example, our CTR program, Cooperative Threat Reduction, has been reoriented to focus on state actors and spends over 300 million annually to build partner capacity to reduce WMD threats. These activities have been used to train ally and partner forces on what to look forward to stop proliferation before it becomes a large-scale challenge. We also work with 106 other nations through the Proliferation Security Initiative to support global norms, share best practices and critical capabilities, and strengthen domestic laws to prevent or stop proliferation of WMD.

Now, the last point I want to make is that throughout these remarks, I've been highlighting the term allies and partners frequently, and that's not an accident. We cannot effectively counter WMD alone. This is a team effort because like in so many other things, we are all in this together. All integrated deterrence efforts are made stronger by planning with allies and partners and by integrating their capabilities with our own. The United States network of allies and partners is an asymmetric advantage and a force multiplier that China, Russia, North Korea, Iran, they could never hope to match. So we will continue to work closely with our allies and partners as we implement this strategy.

So just to wrap up, the world looks quite a bit different than it did a decade ago. The security environment does too. WMD threats have evolved significantly since the last time the department rolled out a plan to counter them, and that evolution requires us to adapt. I'm proud of the work DOD is doing to tackle this challenge head on. The end result is a strategy that makes it clear that countering the WMD threat is essential to integrated deterrence. And it's not just the responsibility of a niche community, but of the entire national security enterprise. Now, writing a good strategy is hard, but implementation is hard too. That's where the rubber really hits the road. It's critical we get this right, but I am confident in our way ahead. So thanks again to Brookings for this opportunity to speak. Thanks to everyone listening here and online for all the hard work you were doing on CWMD yourselves. And I understand that now you get to hear from a panel of experts and friends and colleagues, and I am absolutely certain that will be a great discussion. So thank you very much, and thanks, Bob.

**EINHORN:** So-- is this on? Yeah, it is on. So thank you all for, for coming again, both in person and online. We have really a stellar panel today to help us address these issues in greater detail. We have the DOD official who is responsible for coordinating the strategy, and we have two outside experts, both of whom have held important positions in government and have vast expertise on the issues we're going to be discussing. So first, there's Richard Johnson, deputy assistant secretary of defense for nuclear and countering weapons of mass destruction. Before joining the administration in 2021, he was senior director for Fuel Cycle and Verification at the Nuclear Threat Initiative, the State Department's assistant coordinator for implementing the 2015 Iran Nuclear deal, and director for nonproliferation at the National Security Council

staff. Next to him is Lynn Rusten, who will be focusing today mainly on nuclear WMD, is vice president for the Global Nuclear Program at the Nuclear Threat Initiative. Before joining NTI in 2017, she served as senior director for arms control and nonproliferation at the National Security Council staff and in senior positions in the State Department's Nonproliferation and Arms Control Bureaus. Next to Lynn is Beth Cameron, who will focus today mainly on the biological and chemical threat, is professor of practice and senior adviser to the Pandemic Center at the Brown University School of Public-Health. She's also a senior advisor for global health security at the U.S. Agency for International Development. Previously, Beth had two tours at the NSC staff, held senior positions at the State and Defense Departments, and, like other panelists here today, served at the Nuclear Threat Initiative, where she developed its bio program. This is really an NTI reunion, not intended as such, but but that's how it's become.

So I'd like to begin with some of the questions here, and maybe a couple of questions as kind of background. One question has to do with the name of the strategy. It's the Department of Defense 2023 Strategy for Countering WMD. Why, why DOD? When I look at-- I heard Assistant Secretary Plumb talk about some of the elements of the strategy, you know, there was, you know, prevention, preventing proliferation, you know, export controls, preventing disinformation about WMD threats, intelligence — the main component. Why, why DOD? And in the process of putting together this strategy, was there interagency coordination of the strategy? And I think, Richard, this is, this is addressed to you.

**JOHNSON:** Great. Well, Bob, thank you so much for inviting us here to Brookings, for having this great event, and to help to bring together a mini reunion, as you said. but I'm happy to talk about why this is a DOD strategy, but also how we in DOD fit into the broader interagency process. As Assistant Secretary Plumb noted, this is actually an update to a document that was first released in 2014, which was also a DOD strategy. And in in layperson's terms, the short answer is there's actually a lot of people and a lot of organizations within the Department of Defense that focus on countering WMD. And if I've learned nothing else working at DOD, is that if something is not in a strategy document, it doesn't exist. And so we need to make sure that our forces, our combatant commands, our services, and all the parts of the Department of Defense know what their role is in the countering WMD enterprise.

That does not mean that we don't work with our, with our interagency partners on all of these efforts, and we have a quite a few other documents. I'll give a lot of credit, for example, to Dr. Cameron on something like the National Biodefense Strategy, which is incredibly important from a bio perspective, and that we-- it's an interagency document involving all of the players. And, of course, the national security strategy that was issued by the Biden-Harris administration. So we have a number of these sorts of documents that are inter-agency, but it is important for the department to understand what its role is in the

enterprise, which is why we have things like a CWMD Strategy and our most recently released and first ever Biodefense Posture Review that is complementary to the interagency.

**EINHORN:** Thanks. Another, another kind of general question that I've been, you know, wondering about for 30-40 years is we we call these weapons of mass destruction, and, you know, we, we lumped together nuclear, biological, chemical, radiological. Should we lumped them together? Don't they have very different effects? Why, why do we treat them with these, you know, three initial acronyms? Anyone want to mention? Anyone want to address this?

**JOHNSON:** I'll give a quick hit. But we'd love to hear from my colleagues. We actually discussed this in the development of the strategy is the term CWMD. the right term? We often, as was noticed, use the term CBRN — chem, bio, rad, nuke — is that more appropriate? And the short answer is this is a term of art that this community knows and understands, and it's integrated into all of our policies and procedures. I also think it's important to note that in our Nuclear Posture Review in this document, we also talk about attacks that have a strategic effect, which could be chemical, could be biological, any nuclear attack, and frankly, could be other types of attacks. So we recognize that there's different effects from different kinds of weapons. But for the purposes of planning and frankly, a lot of the tools that are relevant for chemical and biological are relevant in these other cases as well, whether it's personal protective equipment, training exercises, and sort of doctrinal elements. And that's why we've decided to keep these together while recognizing that there are unique elements to each one.

**EINHORN:** Beth, go ahead.

**CAMERON:** Yeah, happy to happy to jump in, and thanks, Bob and Brookings for having us today, and thanks, Richard and John for the great strategy. On this issue I, first of all, I agree that keeping Countering WMD makes sense as a term of art in this community. I think it's important as you look through the strategy — and I commend the way that it's organized, it is easy to read, that is hard to do, having written a number or worked with people writing a number of strategies in the past — but I think for [inaudible] it's important as we get to not just the ways of combating WMD, but the means by which we do it for biology and chemistry, where these technologies evolved as largely open systems, where we have much broader access to technology and tools, it's really hard to put the genie back in the box. And that just means that as the department is investing in countering these technologies, and I think John really put this on the table as both the promise and the peril of these technologies, and that the challenge the department has to harness the good and protect against the misuse, we really need to build in-- into that thinking how we how we actually build in safety and security, which is something I hope that we talk a little bit about more on this panel.



**EINHORN:** Okay, you know, Sec-- I mentioned that Secretary Austin has said that the WMD threat is becoming more acute. The prospect of the use of a WMD is becoming greater. So I ask you, the panelists, has the prospective use increased? Has it increased in one of these categories more than the other? Is the norm against the use of WMD eroding? I mean, we have Putin's nuclear saber-rattling. We have Kim Jong Un talking about the preemptive use of nuclear weapons. We have Syria's Bashar having used chemical weapons on a large scale against the people of Syria. We have Russia's assassinate assassination attempts using CW. Is the norm eroding? Is this something really to worry about here? Anyone want to address that?

**RUSTEN:** Sure, and I'll add my thanks to you and my colleagues for the opportunity to be here today. Yeah, I think the risks are growing. I mean, first of all, we've-- we're in an environment of more adversarial relations with Russia and potentially China, and we have seen President Putin using nuclear coercion in a way that's unprecedented in recent time. And so there is concern about the, you know, the norm against use being eroded, even concern — well, I won't go down the nuclear testing rabbit hole, but anyway — the norms are being eroded. We've got the examples you just cited in terms of, you know, discreet uses of kind of exotic CBW agents. North Korea is a continuing threat. And so-- and then, of course, I would just add the advent of emerging technologies, and I really applaud the strategies focus on that. So to not even-- not only raising the risk of intentional use, but the risks of miscalculation, especially in the nuclear realm, where you've got the intersection of cyber and nuclear, AI and nuclear, and even nuclear and conventional entanglement. So all of this is, you know, complicating-- exacerbating risks and complicating the capacity, I think, of policymakers to manage and respond to them.

**EINHORN:** Beth, you want to build on that?

**CAMERON:** I'll just build and say for for biological risks and chemical risks, the converging technologies are also making it harder, and also, I think, making it incumbent to build new norms into the system as we're developing these technologies. And I think the Pentagon as a, as a large funder of these technologies, it's incumbent on the Pentagon, the U.S. government, to also be a leader in developing those norms and standards, and I think that's an important component of the U.S. Government Strategy for Countering WMD and also a really important component of the Biodefense Posture Review that Richard mentioned earlier, which is a really comprehensive document on the biological threat specifically. But I think just a concise answer to your question is, yes, the norms are eroding, and I think the norms are broader than countering WMD. When we look at our own democracy, we're seeing challenges. When we look at the polarization here, that's going to complicate issues like uptake of countermeasures if WMD is used. So the complicated norms environment is important. Also, when I look back at the treaty, like the Biological Weapons Convention, which was negotiated the year I was born, it's hard for me to imagine negotiating that

treaty in the environment that we're in today. And it's really disheartening when I look at the false information being propagated by Russia in particular about U.S. intentions with respect to biology and our own programs at the Department of Defense. I think it makes it really important for us to be out there countering that narrative with our allies and partners as the strategy foot stamps, but also to really be strengthening the norm within the Biological and Chemical Weapons Convention.

**EINHORN:** Just on this point, Beth, maybe you could explain to the audience the, the-- how closely related biodefense activities are to potential offensive biological activities.

**CAMERON:** Yeah, I'm glad you raised this point. So this is another, another issue. So dual-use technology — and John mentioned this — activity is to develop biological weapons and activities to develop peaceful uses of biotechnology, have a lot of overlaps, and sometimes it can be very hard to tell the intent of someone using those technologies. There's been a lot of misinformation about U.S. government intents and other allied partners' intents with biodefense, and even sometimes that term is misunderstood or misused intentionally. I think it's really important for the United States to be very vocal and transparent about its efforts to counter the biological threat — what we're doing, what we're not doing — and to show that with building in norms in safety and security actually is an integrated part of our technology development so that we can showcase what we're doing and why, and also what we're not doing because there is misinformation, a lot of it, and a lot of disinformation out there about what-- in other words, people who believe that the U.S. government is developing biological weapons rather than countering biological weapons threats from others, and we need to be really strategic and intentional in how we talk about that.

**EINHORN:** Let's stay for a moment on the question of these scientific and technological advances, both developments that exacerbate the threat and potential developments that could help, you know, ameliorate the threat. And the DOD strategy, and Richard, you may want to speak to this, talks about new investments in rea-- research and development to address this problem. So in what particular areas would research and development be especially important?

**JOHNSON:** I can start and then would love to hear from my colleagues, you know, more than I do. I mean, I think just jumping off of the point that Beth just made, a lot of interesting technologies in the bio space, and those same technologies, or many of those technologies, that can be really helpful for human health can also potentially be used for very nefarious purposes. You know, issues like the areas of synthetic biology, which again, could be very, very useful, but could also have very, very deleterious effects. You know, DOD, for example, was one of the earliest supporters of RNA vaccines that many of us have just recently had an update to — I just got my COVID vaccine. Go get your COVID vaccine and your flu shot — but, but our RNA vaccines could be reconfigured in ways that could be very unhelpful and very, very

dangerous. We are spending a lot of time in DOD-- my colleagues in the Chem Biodefense program, in the Defense Health Agency, in DARPA, and other places, in looking at things like medical countermeasures, how can we more rapidly respond if there's a biological threat? And I should make a quick note here that when we say biothreats, and a lot of credit again to the National Biodefense Strategy.

And in our own Bio Posture Review, we don't just mean biological weapons, we mean any bio threat from naturally occurring, to accidental, to deliberate use, and so we want to be able to respond more quickly. We also want to be able to detect more quickly. And here's another area where technology can be really helpful. We have a big focus on early warning and bio surveillance within the BPR and looking at things like wastewater testing, wearables, your iWatches and those sorts of things could actually be very useful in that regard. And I'll just say one last thing, which is that I think the topic of the moment is AI, advanced — excuse me — artificial intelligence and machine learning, which is a really good example of a place where it potentially could be extremely helpful. And I just heard a great NPR piece the other day about how it could help in the development of various medical technologies, but also potentially could be used, you know, for, you know, on the biological weapons side, and in other areas as well, including on the nuclear side. So we are trying to invest funds, a big amount of money from the BPR, the Bio Posture Review that's in that investment in research and development, but we also are looking at how do we protect against those, those other uses.

**EINHORN:** Lynn?

**RUSTEN:** Sure, I'll just add on to that. It's so important to think about the benefits of new technology as well as their risks. And I mentioned some of the risks earlier in the nuclear space, but there are also benefits in terms of detection and monitoring-- I mean detection and monitoring and verification. And one example is NTI, a few years ago, did a study that was based on big data and open-source mining of open shipping records to detect entities of proliferation concern in other countries. And that study was really interesting. and we worked for it with a company called C4ADS that does this kind of work, and, you know, it did actually identify entities in various countries that, based on the, on the records of shipping and materials could have been involved in nuclear-related activity. So it's just one example.

**CAMERON:** I'll only add really quickly just to say, just to foot stomp Richard's note about detection, especially in the biological space, being able to detect, especially a novel emerging or a pathogen that has been modified in some way, this is critical, and investing in better technologies to detect early is how we're going to save lives in a crisis. Also, investing in the be-- you know, completely important for every potentially pandemic pathogen, being able to invest in the so-called 100-day mission to be able to take every potentially

pandemic pathogen off the table by having candidate drugs and vaccines ready to go. This is something that the department is part of and in close cooperation with the DOE and HHS.

**EINHORN:** I'd like to focus on a few of the the key goals of the 2023 strategy. One of the key goals is to deter WMD threats against the United States and its allies. Can you talk a little bit about deterrence? And I think you'll need to disaggregate here in terms of categories of WMD, you know, deterrence by threat of retaliation, deterrence by trying to deny the aggressor any benefits of of its aggression, and so forth. But talk a little bit, how do you deter WMD use?

**JOHNSON:** Yeah. So our document talks quite a bit about this, and, you know, the the National Defense Strategy from 2022 talks about the concept of integrated deterrence. And there's been a lot of discussions and questions about, you know, what does that mean? And really what we're doing there is looking at how do we align our department's policies, our investments, our activities to sustain deterrence across the board. And deterrence is not just a DOD activity, it's about utilizing our partnerships with allies and partners, it's looking at-- across various domains, across the spectrum of conflict. And there's a temporal component to this as well. There's deterring now and there's deterring in the future. We always say that this is backstopped by our safe, secure, and effective nuclear deterrent—I have that phrase tattooed on my brain, and I will probably say that until the day that I die—but it is an important reason that we say that because it is the backstop and we do recognize that nuclear weapons are unique in their in their form. But a lot of the same concepts are relevant across the CWMD space.

You mentioned deterrence by cost imposition and deterrence by denial. I want to focus on both of those. The nuclear piece is a part of cost imposition, but there are other ways to impose cost as well, through economic sanctions, through information sharing. I think just recently, we saw the administration put out really great pictures of—I mean, not great in the sense of what they were doing—but of Russian vessels going between the DPRK and Russia to ship missile arms and other equipment to Russia for use in the Ukraine war. We try to bring some transparency. That's part of deterrence as well. And certainly the issue of not wanting our potential adversaries to get the benefit of any use of WMD, and so taking it out of their concepts of operation. And this is where things like, frankly, even events like this, getting out there the word that we have these strategies. But more importantly, things like training and exercises.

I think that across the board, including within the DOD, there was a mindset that these issues were sort of yesteryear, right? You know, these were 20 or 30-year-old issues. And you think about things like chemical weapons, I think people think of mustard gas in World War I, even though we've had youth very recently, as you've pointed out, Bob. But what we're trying to do is, even within the department, remind that these are not issues of yesteryear, they are of today. And so that means that our training, our exercises, our

equipment, our resources need to be tailored such that these issues are not just an annex to an appendix, to a document, but that they're integrated into what we do in our plans. And I'm pleased to say that I think that's something that we're seeing more and more of, you see it in the budgets, but we need to continue to focus on this. And it goes back to your original question of why is this a DOD document. Because DOD needs to do its own work as well to sustain and enhance these abilities.

**RUSTEN:** I guess I'd just like to, you know, pull out one of your points, which is that, of course, this is a DOD document about its role in these activities. And so it's really important to remember that that's ideally fitting into a broader whole of government strategy, which includes, you know, there's economic tools, there's, of course, diplomatic tools — arms control and other — even, even the kind of mobilization we did in the context of Russia's threats to encourage other countries to discourage Russia from using nuclear weapons. So, I mean, there's lots of tools that the government uses with00 and along working with allies and partners and others. And of course, DOD has a very big role in the kind of, you know, defense aspect of deterrence, but there's more to it than that.

**CAMERON:** Yeah, and I'd only add just really quickly on the biological perspective. You mentioned, Richard, how important it is that we're not talking only about how the department is countering biological weapons use, but also the vast capabilities of the department, many of which are the same capabilities, for countering emerging, potentially pandemic threats. We probably won't know. We might not know at the beginning. We-- we're still obviously all debating the origin of COVID-19. And given that we won't know, we need the Department of Defense to be fully integrated with the Department of Health and Human Services, with FEMA, and DHS, with DOE and its capabilities with high computing, to be able to detect early and respond effectively. That also means the rest of our societal approach to large-scale biological catastrophes needs to be rock solid as part of our deterrent. And that includes how we're going to get countermeasures to people in the United States, how are we going to protect others, including allies, partners, and globally, so that we can effectively protect our own, and also how we're going to focus on uptake. We have a large challenge with mis and disinformation around countermeasures use in this country, and that's going to be really critical as part of our deterrent that we would be able to get vaccines and treatments out to the population and that they would use them.

**EINHORN:** You've already begun to to address this, but a second goal of this strategy is to defend the U.S. homeland from WMD attacks, WMD threats. How good are we at defending? I mean, if you look at the nuclear at-- defending the homeland, not just against ballistic missile attacks, but also a, you know, preventing a cargo ship from entering a a U.S. port with weapons of mass destruction. So how are we good-- how good are we now at defending the homeland in these various threat categories?

**JOHNSON:** Yeah, I think we do a good job in that category, and that's a lot of credit to many, many years of investment, including in the immediate period post-9/11. But frankly, we can always do better, and we can always do more, and it goes back again to this issue that the threats are changing, and the technologies are changing. And this is a great point about the whole of government approach here, where we've mentioned a number of agencies here — here on some of this you can also throw in places like the Department of Commerce and their Bureau of Industry and Security, the work that's done through things like mega ports and other initiatives, DOE has a big piece here as well. From a U.S. DOD perspective, we do this through a number of ways. We, we maintain a capability called the CBRN Response Enterprise, or CRE — because everything at DOD has to be a pronounceable acronym —but we can operate internationally or domestically to identify WMD-related accidents or incidents to assess the consequences. And within the homeland, we can advise — obviously within the homeland, other lead federal agencies will be at the forefront, you know, whether that's, you know, DOJ, FBI, or DHS — but we can advise using DOD capabilities on things like decontamination, medical support, and other activities.

So we, again, this goes back to the — I hate to be repetitive — but to your question about why, why a DOD strategy? Part of this is to understand ourselves and know where we fit in the broader set of agencies, but I do think that this is an area where we can do better. And on this CRE that I mentioned, we're actually undertaking an effort right now and my team is leading to modernize that, see how we can do a re-- a rebalancing of that, and also how to make sure that our forces that are based here in the homeland through NORTHCOM, can be effective in facing these new challenges.

**RUSTEN:** May I jump in here? I mean, this is where a disaggregation of the threats and actors in the strategy are so important because, you know, the fact is we cannot protect the American homeland against a nuclear attack from, you know, a massive nuclear attack from Russia or probably China. And even now, we're getting to a point where North Korea's, you know, program is-- missile program and numbers, you know, may, you know, at some point, you know, be sophisticated enough that even that's a challenge. So, you know, there's different levels of threats, and I don't even know what our capacity is to prevent, you know, a radiological devi-- mean, we have lots of tools where we try to ensure that nonstate actors don't get radiological nuclear devices and that, that if they were to it wouldn't come into the country. But, you know, there isn't actually a foolproof defense against that.

**CAMERON:** Yeah, and I would just add-- building on what I said before, I think it does-- this is exactly where disaggregation between small-scale use or use of an agent that we've been practicing for, for a decade, and we are more well prepared for, for example, for several decades, like anthrax, where we have done quite a lot of work since 9/11 and since the terrorist attacks in 2001, disaggregating that from a large-

scale use of a biological weapon that has the potential for respiratory spread between people and, and/or a counter, you know, a countermeasure resistant strain. I think we saw what happened globally with a moderate pandemic. I don't think we are prepared for an extreme pandemic. And I think that it speaks very much to the additional funding and resources that are going into the strategy, and overall, the need to focus as a whole of government on our ability to really, really up our game in the United States and around the world.

**EINHORN:** Lynn mentioned radiological weapons. We don't, we don't discuss that much in WMD, but it's included among the the four horsemen of the apocalypse. And, you know, to me, one of the big surprises is that there's been no radiological attack. Why not? These radiological sources are all over the place, some of them very inadequately secured, accounted for, and so forth. You know, can anyone-- anyone want to speculate why there hasn't been a a large-scale radiological attack?

**JOHNSON:** I'll more than speculate. I will say it's because we did a lot of good work and a lot of homework — and I say "we" as the U.S. government, not just "we" DOD — in working to lock down, or repatriate, or down blend, or get rid of radiological sources around the world. And things like the Cooperative Threat Reduction Program or Nunn-Lugar Program have been incredibly important there, and other work that's been done primarily by the Department of Energy — that's not really represented up here today — but I'll give them credit, but also DOD, State Department, and of course, at the NSC. I think that's had a major impact. Obviously, we've not gotten everything. There's still work ongoing, and I think that's important. I also just think that the work that was done in highlighting what the threat could be, the nuclear security summits under the Obama administration, which is then led into work at the IAEA, it's a still a primary line of effort. We talk about it somewhat in in this document. And so we haven't given up on that. And I will just also note that there's efforts even today, I know at the United Nations for this committee, they're having discussions now. The United States is leading a discussion on, you know, we have a a chemical weapons convention, we have a BWC, we have an empty, but we don't have a treaty on radiological weapons. And maybe and that's something that was discussed, you know, in the seventies and the eighties. Maybe that's something that you point out. Thankfully, we haven't had that problem, but we want to keep it that way. And so I don't think it's a dormant topic. I think it's actually a very live one.

**RUSTEN:** And can I jump in quickly to just say that NTI does a nuclear index that measures the, you know, capacity of states globally to-- and the actions they're taking to safeguard the security of, you know, fissile materials and expertise, that kind of thing. And basically the index that came out this year has shown some significant slippage, and so we are at risk as an international community of taking our eye off this ball. And I think even in the U.S. government, with so much focus on, you know, competition with, you know,

major peer competitors, that we may not be spending as much focus on this as we should be, both among, you know, by ourselves, but with international partners.

**EINHORN:** A third major goal of the strategy is to prevent adversaries from acquiring WMD or improving their existing WMD capabilities. Now, preventing WMD is something we've been doing for, for decades. What-- you know, how can we make improvements? What are the elements of a strategy for prevention —and this, of course, is not just DOD, you know, whether it's multilateral export controls, work in the Australia Group, and so forth — but what what should be the real areas of effort here on prevention?

**JOHNSON:** I'll be quick because I think we've covered some of them, but I do think that issues like the work that's done by the Proliferation Security Initiative continue to be very important in that regard. And a lot of that, by the way, is not just the actions-- I think people think of that and they think of a ship getting towed into port and some container taken off and, you know, equipment being seized. Yes, that happens. But a lot of it is about education. I went to an event recently and I actually — because I've been in this field for too long —I found it kind of elementary, and I went, "Is this really helpful?" But in fact, in systems-- and we all know that government and militaries, we rotate people all the time.

We're constantly training people on the legal basis to be able to do things, the, the treaty frameworks, and the concepts behind how to prevent and counterproliferation. That is a really important goal of the PSI, and we're doing it every day all around the world. I would also note that programs like the CPR program have a whole subset that look at proliferation prevention. This is an area where we actually probably want to do a little bit more. And again, it trains folks — trains border guards, trains customs officials — and all those things are really important, especially in certain areas of the world.

The last thing I'll say —because I've said a lot of the other things already — is that this is also an area where extended deterrence is really important because extended deterrence allows our allies and partners to feel assured that the United States will be there if they are attacked or if they're threatened. We've seen a lot of discussion in recent months and years about what other countries seek to require, particularly nuclear weapons. I think one of the reasons you haven't seen that move forward is because of the strength of the U.S. extended deterrent, whether that's within NATO, whether that's in the Indo-Pacific with our South Korean, Japanese and Australian allies, one need only look at something like the Washington Declaration from the recent Biden U.N. summit to indicate how strongly we feel about making sure we have strong extended deterrence commitments in that particular case with the ROK, but I think that expands to others as well. That also prevents proliferation.

**CAMERON:** I'll jump in on this one. Two elements of prevention that I'd like to highlight that I think are critical. One relates to the need to just work really closely on biotechnology development with the private



sector across the U.S. government but including in the Department of Defense. So as we're looking at tools like benchtop DNA synthesis, and we're looking at capabilities for screening DNA orders, we need to be thinking as those technologies are being developed, designed, disseminated, how we can build in screening for customers and screening for orders, which is something that is not mandatory for U.S. companies in the United States. It is something that's being discussed in policy circles pretty avidly right now. But as we think about-- those tools are not even new tools. Those are tools that we were talking about even ten years ago as they were being developed. As we're looking at the convergence of artificial intelligence with those tools and other tools, we need to be really intentional about how we're thinking about not only detection screening but also attribution as we're looking at them.

The second component prevention I'd highlight is just-- you mentioned CTR. It's still vital to be developing partnerships with other countries on preventing access to biological and chemical materials. It is still absolutely vital. The proliferation of laboratories, especially as we've seen in the COVID pandemic, is a real thing. And biosafety and biosecurity scores, and the other NTI and Brown University Global Health Security index —the other index that, that is the sister to the index that Lynn developed — they're the lowest scores. Biosafety and biosecurity are among the lowest scores that countries have for capacity to be prepared for pandemics, and it's been long, long under sort of underinvested. DOD is still, I think, still the largest funder in the world of biosafety and biosecurity capacity building with other partners. That's something we need to encourage other partners to up their game on.

**RUSTEN:** And can I add that this-- the importance of cooperation can and should be extended to even countries that we have competitive and even potentially adversarial relationships. And I think that's one thing that's under stay at it in this strategy is, you know, we still have opportunities to cooperate with China and even with Russia, I would argue-- or will in the future, as we have in the past, on addressing proliferation threats around the world. So that should be part of our strategy.

**EINHORN:** The, the strategy indicates that that DOD and the U.S. government will continue to pursue new arms control and risk reduction measures where possible. In the current international environment, new formal arms control and risk reduction arrangements are looking less and less likely. But where might it be possible? I mean, to what extent can existing arrangements be strengthened? What about the IAEA and its monitoring arrangements? The Organization for the Prohibition of Chemical Weapons — what about its investigation and attribution responsibilities? What about the BWC? Can anything be done in terms of transparency there, you know, detection, attribution, accountability, enforcement, all of these things? What are the prospects in the period ahead?

**JOHNSON:** You listed a great, a great lay down there, and I'll just say a couple of things. You're right. I think arms control is in a tough spot right now, but that's also the moment when we need to do the most homework and the most work and thinking about when — I think Lynn alluded to — a moment may arise, and we may not know when that moment is. So we should be prepared to take advantage of that moment whenever that might occur. Just to lay down on the record, you know, we have said-- most recently our national security adviser, Jake Sullivan, in a speech noted that we remain open to and interested in dialog with the PRC as well as with Russia without preconditions, but also with accountability. And I think we do need to take about-- think about what that balance looks like. We're also still engaging very heavily, including-- obviously led by our State Department, but with DOD participation — some of my colleagues in the back of the room get to go to these fun meetings — things like the P5 process where we're still very active. The P5 has met even in these very difficult times at an expert level to talk about things. And the United States has said we would like to talk about things like missile notifications, crisis communication, sort of the guardrails, and baseline elements of risk reduction that could lead to greater arms control.

And on the multilateral institutions, I think you're absolutely right. There's a lot of work being done there that kind of flies below the radar screen. For example, at the OPCW, they recently opened this new ChemTech Center, which is an amazing laboratory establishment in The Hague, which — by the way, the CTR program helped to support and fund, and is providing additional support — which does help on those sorts of investigation and attribution issues when it comes to chem. We're thinking more about what we can do in the bio space as well. Obviously, the BWC doesn't have a verification mechanism. And we have, for many years, said, as the United States, that we're not sure that it is a verifiable treaty. But we have said-- and the United States led this effort, and frankly, we got a consensus document at the BWC RevCon, which is unusual, for those of you who follow these things know, in recent years, that included developing a working group to set up to look at innovative ways to think about perhaps not as a, you know, you know, overarching IAEA style approach but for specific cases, are there ways that we could use innovations in technology to think about investigations and verifying certain incidents or certain areas? So I do think that those are the areas, some of which may be-- many of which may be non-legally binding, maybe politically binding or, you know, coalitions of many countries to do this together, but it does help in the norm-setting that we've been talking about.

**CAMERON:** Yeah, it was-- what you said about the BWC, I'll just foot stomp it, it was incredible to get to get something out of it. And I think often I'm in conversations where people are really down on what is possible within the BWC and the CWC in this environment, I think it's critical for the United States to be, and the Department of Defense in particular, to be active in these forums to show what our intentions are, to

show what we are doing, and to lead in the way that, that Richard just outlined. That's first. The second thing I'll say is just going back to the first thing you said, Richard, which is we never know when we may get a, you know, a good opportunity to make progress on, on arms control. And a great example, I think, for many of us was in 2013 and 2014, we had the opportunity to destroy chemical weapons in Syria through a negotiated agreement between Syria, the United States, and Russia. That was not something-- that's certainly not something that looks possible right now, and it didn't seem possible then either. But using the CTR program, the U.S. government was able to destroy chemical weapons that came out of Syria. And while we still have a lot of longstanding concerns about compliance around the world with the Chemical and the Biological Weapons Convention outlined in the document, that's an example of what is possible if we stay open, active, and continually pushing in these venues, which-- for the people that spend their time day in and day out, it can seem like a slog. It can seem like we're making tiny little increments of progress, but it's absolutely critical for us to stay in them.

**RUSTEN:** And I'll agree on that. On the nuclear front, too, it's so important to continue thinking about how arms control, very broadly defined, can help mitigate some of the threats that we're talking about now, and what may be possible with countries, even Russia at some point, the-- you know, the hot fighting is going to stop in Ukraine. There may be opportunities that seem unimaginable now. I think, I think Russia will have an interest, actually, in keeping us constrained in terms of our strategic and offensive arms — you know, before New START expires or maybe it'll lapse. But at some point, I think mutual interest will compel us back to some kind of mutual restraint. And we should be not only open to that but leading the way toward it. And similarly, there'll be opportunities with China down the road.

**EINHORN:** Getting near the end of my time to ask questions, but I have a couple directed really to you, Richard. One is-- the 2023 strategy calls for ensuring that the Joint Force can operate and prevail in a CBRN-contested environment. What are the current deficiencies in our ability to operate and prevail, and what needs to be improved? That's one question. Second, the strategy also emphasizes making countering WMD a fully integrated aspect of DOD planning, training, procurement, and warfighting. So how significant a change is this in Pentagon thinking? Is this something new? What organizational changes will be required? How much will it cost in budgetary terms?

**JOHNSON:** Yeah, thanks. I think these two questions really are related, and I think that the short answer to your question is yes. I think this is an important change. If you looked at the National Defense Strategy in previous iterations across multiple administrations, you did not see really any language on these topics, or if it was there, it was very focused on countering violent extremism, counterterrorism. And so the fact that we are putting into our core documents — and again, I made this joke earlier — but, you know, the

National Defense Strategy is sort of like a biblical type of document at the Department of Defense. So if it's in there, it means something. And that is then sort of trickle down into these other strategies, whether that's the Nuclear Posture Review, the Biodefense Posture Review, and now the CWMD strategy. And the goal there is it continues to trickle down into operational planning, into functional plans and regional plans, but also how we think about, as you said, the budget process and funding. I think that our forces-- I know that our forces are able to do a lot of this now. They have the equipment, they have technology, and there is training and exercises.

But frankly, we need to do a lot more of that because the threats are changing and growing. And we need to, again, make this a mindset change, which is what this is beginning to be a part of. This is not just something that is only for specialized forces, it's something for general forces across the globe and in particular in the European theater and in the Indo-Pacific theater. How are you going to get there? I always call this sort of so the circle of death. It's sort of like you want to train more, but I can't train because I haven't exercised against it. I haven't exercised because I don't know what my capabilities are. I don't have capabilities because it hasn't been funded. I don't have the funding because it's not in the budget, and the budget is driven by doctrine. So we're trying to figure out how to insert ourselves into that circle, and that-- this is a big part of that. I'm pleased to say we've already seen some of those changes on the budgetary side.

With the Biodefense Posture Review, we developed that in parallel with last year's budget process, which yielded 812 million dollars over the next five years for specific initiatives under that Biodefense Posture Review. Whether that's increased early warning understanding, advances in research and development, greater intel collection, tracking better around the world where our medical and non-medical personal protective equipment is, and funding for training and exercises. We've also been able to get additional funding for the European Command to do more work and to help them stand up more there, and we're trying to see what we can do in the Indo-Pacific as well. So, yes, it does require resources. I think in the great scheme of the Department of Defense budget, it's a relatively small investment for a relatively big impact. But again, budgets require not only internal agreement but that of the president and then that of the Congress. So we will see how how that goes.

**EINHORN:** Okay. I think we'll now turn to the audience, both our online audience and our in-person audience. I'm going to as-- I'm going to first go to the online audience base because we've gotten a few questions there, then we'll go in-person. And please wait, you know, raise your hand, wait for a microphone, identify yourself, and ask a succinct question. But one question online relates to something that Assistant

Secretary Plumb mentioned, he said "Writing a strategy is one thing, implementing it is another." So one, one questioner asked, "What will be the biggest difficulties in executing this strategy?"

**JOHNSON:** Sure, and I look to my colleagues who have worked in government before to also add their experience. So the good news is, is that we thought ahead — something that we don't always do in government — and we not only adopted this strategy, we also, in parallel, adopted an implementation plan. And that implementation plan, which is not a public document but it's an internal DOD document, will then be driven by something that I co-chair, which is--it has a rather wonky term, but it's the CWMD Unity of Effort Council. But think of this as a, as a council, a grouping that represents all of the of Office of the Secretary of Defense, but also combatant commands and services across the board. And so we are already working to implement this and to have specific tasks that come out of this. Some of them are, of course, related to budget, but a lot of them are related to understanding. For example, how are we working with allies and partners? Where are there gaps? Where can we do more? How are we doing on training and exercises? Where are those gaps? What are the needs? What are the requirements — as we say at the department — that different components need?

And part of the Bio Posture Review, by the way, was a recognition that we had two different sets of streams that generated requirements that didn't talk to each other. And so we reallocated that into one single stream so that we didn't have overlap or gaps. But I'm not going to lie. I mean, implementation is the hardest part, and it's going to require a sustained effort, which is why we have a structure and why we have a plan to do so. But it's going to go far beyond when I'm in this job, and it's going to go into into many years, which is why we have great staff that are-- there tracking it. But it's also why we are raising awareness, not only publicly, but within the department, that this is something that is now part of the task to carry out.

**CAMERON:** I'll just say implementation is everything, having both goals and actually assigning tasks. Without it being public, I can't comment on here in my non-U.S. government hat today, but I think that's critical and hopefully budgeted as well in the POM.

**EINHORN:** Another online questioner suggests that sharing-- that various countries sharing critical information about their stockpiles of materials, about their dual-use production, capabilities, and so forth, would facilitate development of countermeasures to address the threat. What's the, the likelihood of being able to get that level of transparency?

**JOHNSON:** I can start. So the short answer is we do a lot of that already. We have confidence building measures within things like the BWC and the CWC. And I was at an event yesterday where I noted that we are the most transparent nation in the world when it comes to those issues, including on nuclear issues. And I know that there are those that would like us to be even more transparent, and I welcome that

criticism, and we will always take that on board on how we can do better. But when you compare our level of transparency to some of our other, you know, nations, particularly on the Russian side and the Chinese side, we don't see that level at all. And so there-- we, of course, want to be transparent, but it's not even if we are overly transparent and there's a lack of transparency on the other side.

And so I would encourage folks to take a look at, you know, what we've done and what we've already said. But I also would point to the note that Beth made, which is that we need to continuously sort of be a leader in this space. And things like dual-use features of concern, whether it relates to labs, the processes that we look at when we look at-- I mean, look, the CTR program, for example, helps to build or sustain labs all around the world, you know, and those biosafety labs are those that we want to make sure are of the highest levels of biosafety and biosecurity. And so we think about if a high containment lab is going somewhere, there's a process that we go through within the U.S. government to determine is that one that we can support. Is the sustainment there? And if not, then, you know, we would not support, you know, that kind of construction, and we go through that process regularly.

**CAMERON:** Yeah, I'll just add to that and say that this is another way in which it's critical for the Department of Defense to be part of the broader — and it is part of, but visibly part of — the larger global health security pandemic preparedness efforts in the United States because DOD is part of that effort because the goal of that effort is to develop safe, secure capabilities everywhere to prevent, detect, and respond to infectious disease threats. Whether naturally occurring, deliberate, or accidental, DOD plays a critical role in countering and detection capability, and it's really important for people to know that that is part of what we do and to be public about it. Because otherwise, if you find out about it later, it looks like, "Wait a second, what was DOD doing with these laboratories?" and that enables false information, disinformation to get out there, creating some of the narratives that are there-- that are there, not that we in any way had a role in creating the false narratives that Russia has been perpetrating. Simply, we do have a role in being transparent in combating those narratives. And the more that we're out there talking about what we're doing, the more that we're talking about our policies to prevent misuse of dual-use research, and leading in developing the norms as we are leading and advancing the technology, the more that we show what we are about, which is high standards, high norms, preventing WMD use, not violating our norms and standards.

**EINHORN:** Okay, let's take some questions from the audience here at at Brookings. Here's a familiar face, right up here in the front.

**AUDIENCE MEMBER:** Lynn [inaudible].

**EINHORN:** Tell the people--- I know who you are but--.

**AUDIENCE MEMBER:** Alex Liebowitz I used to work with [inaudible]. Lynn, you mentioned you didn't want to go down the rabbit hole of nuclear testing. I'm wondering, as somebody who once followed that, if you could bring us up to date on where that stands and what the problems are?

**RUSTEN:** Sure. Well, it's-- I mean, it's not a rabbit hole. It's another important norm against nuclear testing. We have a comprehensive test ban treaty that's been signed by many countries, but not ratified by all and hasn't been brought into force. And as you know, we're just seeing just this week, unfortunately, it looks like the Russian Parliament, at President Putin's request, will be basically withdrawing their instrument of ratification for the treaty. Now, they say that they're not going to resume testing at this time, but that's obviously a huge concern that this is a first step toward testing. And certainly, it's kind of another example of nuclear coercion in terms of even, you know, threat threatening that by this action. Now, it's true that the United States and China have not yet ratified, but we all adhere to unilateral moratoria and keeping-- holding that moratoria and resolving any concerns about activities at each other's test sites is really a high priority. And I just can't say how damaging it would be to the Nuclear Nonproliferation Treaty regime or any state to resume testing. And I do want to mention the NPT. When you asked your question earlier about the multilateral norms and regimes that are available to help, you know, combat WMD, that is at the top of the list of-- as a really important instrument that we need to keep strong.

**EINHORN:** I mean, Alex, my own take is that this move by Russia was an irresponsible, provocative act, but I doubt it's going to have much strategic consequence. I think it mostly had political motivations — another example of nuclear saber-rattling to try to make the West more, more cautious. It maybe had some domestic motivation. You know, Putin's concerned, I think, by strong, you know, efforts from Russian [inaudible] even to promote nuclear use and so forth. I think he was appeasing them. It was interesting that Deputy Foreign Minister Ryabkov recently said that Russia does not intend to resume testing unless the United States does first. You know, that's pretty credible to me. You know, obviously, if Russia resumed nuclear testing, that would be, you know, very bad for the global nonproliferation regime. I think North Korea would be the first one to follow Russia conduct its seventh nuclear test, which it hasn't been conducted for some reason. We don't very well understand. But now I think the prospects of a Russian test are actually pretty small, actually. That's my view. Alex, you had a question.

**AUDIENCE MEMBER:** Alex Lennon, I run the Washington Quarterly over at GW. I want to thank you all for doing this. And I want to draw the panel out a little bit on some of the comments you made, Richard, on allied proliferation risks and assurances as part of a pathway toward nuclear use. Because on the nuclear side — I apologize, Beth for not dragging this-- you into this directly — but for Lynn and Bob, how high do you rank the risk of nuclear use through a pathway of allied proliferation or aligned proliferation — the South

Koreas, the Saudi Arabias, the Japans — as a pathway toward what might be nuclear use compared to risks like nuclear terrorism near-peer nuclear competitors? And for Richard, how different was the process this time then maybe ten years ago in integrating assurances as part of the strategy and the concerns about allied risks? Are there differences in how closely they were assessed in the risks and how closely they were coordinated into the process itself and briefed into it?

**EINHORN:** Thanks.

**RUSTEN:** So first of all, I do, I do wish the strategy had-- I mean, it does, but it focused even more on the on the persistent terrorist threat, because there probably still is, you know, one of the most unlikely risks, and I think if we take our eye off that ball, that's dangerous. In terms of-- you know, you've gone one step from, you know, horizontal proliferation to use. I'm not prepared, you know, I'm not sure I'm prepared to like go to both steps. But I think, you know, the proliferation is concern. And, you know, one of the biggest concerns is how reliable is the United States. And this has nothing to do with our nuclear deterrent, our conventional deterrent. It first, it's first-- first and foremost, you know, how committed and reliable are we to our allies in Europe and Asia? And unfortunately, that got gravely called into question in the last administration. And I think the Biden administration is to be commended for putting a lot of diplomatic energy into that kind of reassurance in terms of our commitment and our, you know, reliability in terms of our alliances. But I was just in Helsinki a couple of weeks ago, and I can tell you, people are very nervous about, you know, who will be the next president of the United States and will the United States even, you know, remain in NATO? So the first thing we can do to to stem horizontal proliferation, especially amongst allies, is to be a reliable partner. And that has, you know, something to do with what your military capacity is, but even more to do with what your, you know, domestic political will and messaging is.

**EINHORN:** I'll just say a word about, you know, prospects for nuclear use. I would think prospects are growing on the Korean Peninsula. You have Kim Jong Un with a preemptive nuclear doctrine, you know, increasing capabilities, tactical systems, battlefield systems, and so forth. You have South Korea, Japan, and the United States, all of-- all of which have counterstrike, you know, capabilities and and even doctrines. And you could imagine, you know, a situation where armed conflict could erupt, you know, inadvertently through miscalculation, you know, misperception, accident, and so forth. That's why I believe, you know, we should seek to engage with North Korea and-- but we should set aside, just for the time being, this denuclearization agenda, which North Korea isn't really interested in, and instead shift to a focus on risk reduction, whether bilaterally, trilaterally, six-party, whatever, but to look at various kinds of confidence-building communications transparency arrangements could reduce the risks of inadvertent armed conflict that could lead to the



nuclear level. That would be, you know, high in my list of of of efforts to reduce the prospect of nuclear war. Who's next? Yes, this gentleman.

**AUDIENCE MEMBER:** Thank you. Hi, I'm Alan Jeong. I'm a student at Georgetown. So my question is, there's a growing sentiment among key U.S. allies, most notably Iraq, to acquire more weapons of mass destruction to secure their own survival. So my question is, would that be of concern to the United States? Will the, will the extended deterrence continue to work out well in East Asia? Thank you.

**JOHNSON:** I'll start, but also would love to hear from my colleagues. I'll stipulate that I don't think extended deterrence can be any stronger than it is right now with our close allies in the ROK. I think, again, I really encourage people to read the Washington Declaration and to see the work that we are doing to implement that. Everybody is talking about implementation. We've already had one meeting of the Nuclear Consultative Group, which is a more senior, more detailed area where we can discuss a whole range of issues related to nuclear deterrence between the U.S. and the ROK. We have-- there's real substance there, by the way. We spent a lot of time developing — there's a term in NATO that I've been stealing, raising the nuclear IQ — we are raising the nuclear IQ all over the world. We're actually developing in the Washington Declaration a new course for ROK military and civilian officers to understand better how extended deterrence works and how that connects to us. We are working with the ROK on understanding some of these new technologies, their own development of the 3K system, their conventional assets, and how those connect to-- you know, what would have to happen if, God forbid, we had to do something in a nuclear environment? How would those conventional forces interact with U.S. nuclear forces?

And I think you're seeing in the strategic deployments category greater awareness of this, and, and frankly, I think that sometimes there's a lack of understanding, even in the Korean public or in general public, about what all that means. And people look for things that are visible. We have those great images of a B-52 flying with, say, Korean fighter jets. Those are awesome. I love those pictures. But there are other things that we do. Submarines are, by definition, not visible. And now we made them a little bit more visible when we had the USS Kentucky visit Pusan for the first time in 41 years, but that's not how it normally is. There are-- there is a consistent deterrent out there, using submarines that is among large part one of those things that it does is think about the Korean Peninsula as long as well as, of course, the ICBM like. And so, but I think this goes to the point that Lynn made earlier of a lot of this is about maintaining strong relations and understanding at all levels from the very top, all the way down to my level and below. And we have consistent and regular interaction, almost on a weekly basis at this point I would say.

There's like a weekly phone call that my colleagues are on with the ROK. And this is not just the ROK. We do this with Japan, we do this with-- within NATO. I travel regularly to Brussels to meet as the chair

— excuse me — as the head of delegation for the NATO high-level group, and that really is very important. So I actually feel very confident and where we are right now with the ROK. I think we've never been in a better place. President Yoon, as you know, attended the first meeting of the Nuclear Consultative Group and had nothing but strong things to say about where we were going. So I'm very happy with where we are.

**EINHORN:** Who's next? In the back?

**AUDIENCE MEMBER:** Thank you. My name is Jackson du Pont and I'm with the Council on Strategic Risks. I would like to commend [inaudible] Johnson and the department for enshrining advances to consider disinformation as a specific throughline through which adversaries could use and weaponize our WMD threats. And Dr. Cameron already touched on this, but could you more specifically outline how the department identifies disinformation as a specific acute threat and some of the steps that you're taking to address this?

**EINHORN:** We're approaching the witching hour, so we'll take another question. In the back.

**AUDIENCE MEMBER:** Good morning. I am currently a residing visiting fellow at CNRS, Middlebury Institute, and thank you very much for the opportunity given to us to attend this wonderful panel. The top priority of this strategy is the defense of U.S. homeland, and the defense of U.S. homeland requires a global engagement. So in face of the chaotic geopolitical landscape that prevails nowadays, so I will be interested in knowing if the many vulnerabilities in the Sahel region could create opportunities for nonstate actors to get access to develop or transport WMD in the region. If yes, what can AFRICOM bring to the table to reinforce the U.N. Resolution 1540 or the PSI initiative? And also compared to the broader region, like Yemen and Syria, we don't have any history of use of chemistry in Africa, so I want to know if there is a rationale behind this.

**EINHORN:** Thank you. Thank you. Would you like to handle one or the other, or both?

**JOHNSON:** I'll do quick hits on both and then turn it to my colleagues. On disinformation, just to say — and I should have noted this at the beginning — we've-- in addition to all the other strategies we've put out, we have kind of done a strategic refresh of the CTR program. And amongst those things, we've done a real focus on countering disinformation. And this is gonna be incorporated in more and more of our programming so that not just we counter that disinformation, but that we get ahead of it, and that our partners can think about how they can get ahead of it as well. I know that DETRA, the Defense Threat Reduction Agency, under the leadership of Rebecca Hersman, is doing a lot of work in information resiliency as well. That's really important. I should also note to Beth's earlier point that one of the throughlines that we're highlighting in the updated CTR program is pandemic preparedness. And in fact, we are leading-- we're currently co-chairing the Global Health Security Initiatives Action Package Prevent number three on

biosafety and biosecurity that's in my office that we're leading, so DOD is leading on that front. On the issues related to nonstate actors, in particular on the African continent, again, not to orally promote CTR, but that's one of the main reasons that we have such a huge presence for CTR on the African continent. I was just in Africa about a month ago. I was in South Africa, I was in Kenya, Ethiopia. Colleagues of mine also went to other places like Cameroon, Senegal, and Liberia. And this is why we are working on biosafety, biosecurity, and bio surveillance so that African nations can do the work that they need to do to prevent-- to help on animal health and on human health, but also prevent, you know, potentially terrorists from stealing, you know, very highly dangerous pathogens or things like that. We also do work there on proliferation prevention, and we're doing more on chemical security as well. So just a quick answer.

**EINHORN:** I'm going to-- because we really are running out of time. I'm going to give the panelists an opportunity just to wrap up very briefly. Maybe Lynn and Beth could just-- you know, their bottom line, what do they think of this 2023 DOD strategy? Where is it strong? Where is it weak? All of that in twenty seconds. And then, Richard, you get an opportunity to respond.

**RUSTEN:** I think it's important that Richard-- that they did the strategy and renewed it, so I think that's good. I think it could have been strengthened by a little bit more disaggregation and differentiation of the threats, at least at a top level. But that's what'll-- why the implementation document that you have done is so important. But if any of that can see the light of day, that would be important. Again, I think the focusing on the role of the intersection of emerging technology and WMD threats is really important. And I might have liked to see a little bit more about kind of where cooperative efforts can fit into the strategy.

**CAMERON:** Yeah, and I'll just say, I think the strategy does send a clear message to our allies and our adversaries that we're committed to countering WMD. It's critical and it does build on the excellent Biodefense Posture Review. I think it rightly highlights emerging technology. But I think this is both a contribution that it's making, but also an opportunity to maybe do a little more. I'd like to have seen a little more about how we're actually going to build risk mitigation into that technology development strategy, hopefully, that's in the implementation plan behind the scenes. And I think that it's great to have the emphasis on working with partners and allies, but we need to really show up for them. And just-- I say that not to criticize, but foot stomp the need to continue to do that, including with strong partners and allies in Asia, to counter-- to show that we're committed to countering biological and chemical threats as well as, as well as nuclear threats. And then finally, I'd just say I agree 100% with Lynn that while this strategy does head-on VEOs, it didn't hit enough on them for me. In 2000-- late 2000s when we launched the Chemical Security Engagement program at the State Department, nobody-- a lot of people were very critical that we

would not see terrorists use chemical weapons. We've seen it. It happens. I think we got to keep our eye on that ball, especially with biology and chemistry. Thanks very much.

**EINHORN:** Richard, you have the last word.

**JOHNSON:** I'll be very quick. I think the main change here, which is probably why it seems like there's not as much on VEOs, is this focus on state actors. But I do think that we are continuing to be very focused on the concerns from nonstate actors. It's a big part of the development of our programming in CTR and in other areas, and I think that that will continue, but I appreciate the feedback so we can think about that in implementation. And also appreciate the feedback on where can we potentially cooperate with those that are not allies and partners. And we've talked some about arms control and risk reduction and our interest in doing that. And I do think that we remain open to, you know, to quote somebody else who said this to me, I won't name who, but it was an esteemed person, "You cooperate with who you can now, but you leave open the door to who you can cooperate with in the future as well." And that's certainly what we want to do. I'll just close by saying, number one, thanks for having us. And number two, to say that we-- one big takeaway we want from all of this is that this community is not a niche community. It is central to what we do from deterrence, from arms control, to risk reduction. and our defense policy, that's what we're trying to communicate in the strategy. So thank you again for having us.

**EINHORN:** So it remains for me only to thank our our audiences, both our in-person audience here at Brookings and our online audience for joining us today. And I would ask you to join me in thanking our excellent panelists for their participation.