

**Testimony of David R. Franz<sup>1</sup>**

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**Before**

**The House Subcommittee on Europe, Eurasia, and Emerging Threats**

**On**

**“Assessing Biological Weapons Threat: Russia and Beyond”**

**7 May 2014**

Chairman Rohrabacher, Ranking member Keating and distinguished Members, I am honored to have been asked to testify before you at this hearing.

Your questions relate to the Department of State (DoS), the Biological Weapons Convention (BWC), the former Soviet offensive biological weapons (BW) program and verification lessons learned in Central Asia.

**As an introduction I will state four personal biases:**

1-The BWC is an important international norm and law; as a nation, it is critical that we demonstrate globally and consistently our full support of the BWC and work with other signatories to enforce that norm and law.

2-The BWC is necessary, but not sufficient for our national biosecurity. Verifying that any individual nation state is in compliance with the BWC is not possible.

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<sup>1</sup> I am a former commander of the U.S. Army Medical Research Institute of Infectious Diseases, former Chief Inspector on three United Nations Special Commission (UNSCOM) missions to discover and eventually destroy the Iraqi biological warfare program, former technical expert for all Trilateral (US, UK, RU) negotiations and inspections in the FSU, follower of and occasional participant in BWC activities, active participant in the Nunn-Lugar Cooperative Threat Reduction program from inception both through the U.S. National Academies of Science committees and in direct support of OSD and DTRA, co-chair of the National Academies 2009 report, *Global Security Engagement: A New Model for Cooperative Threat Reduction (CTR 2.0)*, and currently chair of the ‘Biological Subgroup’ of the NAS’s *Committee for International Security and Arms Control*.

3-While the Department of State takes the lead on BWC issues, international engagement which results in reducing the threat of biological attack on the homeland or U.S. forces from outside CONUS requires an integrated effort by the whole-of-government, academe, industry and non-governmental organizations. Internationally, strong multi-national partnerships are needed.

4-Finally, the U.S. Government (USG) must understand the power of human relationships in this complex biological world. As a relevant 2009 National Academy of Sciences (NAS) report stated, we should “recognize that personal relationships and professional networks that are developed through (USG) Cooperative Threat Reduction (CTR) programs contribute directly to our national security...”<sup>2</sup> The *Global Health Security Agenda*, newly introduced by the White House appears to be compatible with that principle.

**I will briefly pose nine relevant propositions, drawn from my experience:**

**1. It’s a dangerous biological world even without biological warfare.**

Over fifteen million people die and many more are sickened by communicable and endemic disease annually, to include from respiratory infections, diarrheal disease, HIV/AIDS, TB, malaria, and others. We believe 100 million humans died during the 1918 flu pandemic, about four hundred times the number of Japanese killed by our nuclear weapons in WWII. Annually no one dies from intentional biological warfare or bioterrorism, and almost no one dies from biocrimes. However, I am convinced that we, the USG, did achieve “nuclear equivalence” in killing power with bioweapons by 1969 before we ended our own biological weapons program. That was almost 50 years ago, long before the current global biotech revolution.

**2. The threats have changed significantly since the Cold War.**

When I started working at USAMRIID in 1987, we were focused on developing vaccines, drugs and diagnostics and training our uniformed health care providers to deal with roughly a dozen biological agents that we

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<sup>2</sup> Taken from “Global Security Engagement: A New Model for Cooperative Threat Reduction” National Academies Press, 2009. [http://www.nap.edu/catalog.php?record\\_id=12583](http://www.nap.edu/catalog.php?record_id=12583)

believed were weaponized and in the Soviet arsenal. Our military force would have likely faced these weapons in the Fulda Gap during a European land war. We later learned that the Soviet Union was also preparing for ICBM and heavy bomber biological attacks on our homeland. Protecting our military force from a defined set of threat agents with vaccines was difficult, but feasible. Today, the biological threat to the force and our citizens may come from subnational groups, insiders, bio-criminals or possibly nation states that could utilize any number of pathogens. The phrase, “of types and in quantities” in Article I of the BWC no longer means ‘tons or hundreds of tons’; today it could mean ‘grams’ or less of a bacterial, or particularly a viral, agent.

### **3. In biology, we are beyond ‘non-proliferation’**

We know much less about state biological programs than about state nuclear programs. Sub-state actors might either obtain a biological weapon or produce one. Pathogens are ubiquitous; compare their availability to the few critical and rare isotopes needed for a nuclear weapon. Some of those pathogens could represent nuclear-equivalence, but many could cause chaos in a city or disrupt a military deployment. Today, technical knowledge and equipment are available essentially everywhere around the globe. In biology PROLIFERATION IS FUNCTIONALLY OVER; proliferation of knowledge, technologies and capabilities is now global.

### **4. “There is no technical solution...” (Lederberg, 1998)<sup>3</sup>**

In 1998, after we understood the enormity of the Soviet offensive program and the potential of the Iraqi one to disrupt, Nobel Laureate Joshua Lederberg said, “There is no technical solution to this problem of biological warfare. It needs an ethical, human and moral solution, if it’s going to happen at all...” Then he paused and said, “But would an ethical or moral solution appeal to a sociopath?” The early days of the biological Nunn-Lugar CTR program were similar to the nuclear and missile CTR programs. Cutting up an anthrax production fermenter the size of a Kansas farm silo is not a lot different than eliminating a Soviet silo constructed to launch an ICBM. But, as I noted with respect to proliferation, biothreats are fundamentally different from nuclear threats: One cannot control all of the source material or the means of production. When the anthrax fermenter is

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<sup>3</sup> <http://archives.newyorker.com/?i=1998-03-09#folio=052>

relegated to the scrap heap and its operator is retired or conducting legitimate research how do we increase the likelihood that the next generation of molecular biologists and virologists, with much better tools and knowledge, continues to work for “the good” of their people, their country and for the global community? This is an opportunity for partnership in the life sciences.

## **5. Health engagement IS national security.**

Professor Lederberg was right; counting and measuring things, as we do for nuclear weapons programs, and physical security means aren't the solution to this challenge. But how to apply the “ethical and behavioral” fixes he proposed? I have long concluded that focusing together as partners on hard, common human- and animal-health challenges offers several advantages over “leading with security.” Leading with Public Health can make a real difference that is relevant to human health and human security. It brings like-minded people and their technical capabilities together in a non-threatening environment, working toward an unambiguously positive or humanitarian outcome. Most importantly, it almost guarantees improved understanding and even trust among the collaborating partners. Trust between individuals, particularly highly technically qualified individuals, often leads to communication and even trust between governments. And finally, the personal relationships and the open communication that result from real health or science engagement are sustainable at very little cost<sup>4</sup> to the taxpayer even when the official engagement ends. On a personal note, my strong and open relationships, established during the Trilateral and Nunn-Lugar programs, with Russian scientist colleagues have not changed during the course of the current situation in Ukraine and Crimea.

## **6. It's about people and relationships:**

Government funding agencies or congress often mandate metrics of engagement. If the measure of success is to “build a containment laboratory and a security system around it,” our contractors go in with a “project” mindset. Just get it done! Such international projects can actually do harm, if the human relationships are not positive...and we have no way of knowing

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<sup>4</sup> Airline tickets for credible American scientists willing to listen and build positive collaborative partnerships are one of the most cost-effective expenditures in this business. After the relationships are established, skype and email are powerful low-cost tools to stay in touch.

how the upgraded biological facilities will be used after we depart. However, if real scientists and clinicians engage for mutually relevant reasons, the outcome is typically far different, it is beneficial to our partners and enhancing our own health- and national security. While our understanding of intentional threats and natural disease risks globally will never be even close to perfect, it could be better. We must be alert to the ever-changing biological world around us. Friends can and do help us...when and where we have them.<sup>5</sup>

## **7. The right metrics can lower the cost of engagements and increase national security.**

The human tendency is to measure “outputs” rather than “outcomes”. I have long advocated for the following metrics for our engagement programs.

- a- Are we using taxpayer dollars efficiently?
- b- Are our engagement activities really enhancing our partners’ health and human security?
- c- Are we teaming effectively with the best people; have they ‘bought in’ to the partnership?
- d- Will our work result in sustainable capabilities and positive long-term relationships?
- e- Is there evidence of open communication and even **trust, the most relevant and powerful measure of success?**

## **8. We must be in it for the long haul.**

A recent example: Last November, the NAS collaborated with the Russian Academy of Sciences to conduct a meeting on laboratory safety, security and responsible life sciences research with senior scientists from four Central Asian countries. The result was increased communication among those countries and with the U.S., new contacts and collaborators and an enhancement of safety and security awareness in Central Asian labs responsible for infectious disease diagnostics and surveillance. The senior Central Asian scientists strongly supported the idea of conducting a similar

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<sup>5</sup> I have described this concept in greater detail in an OpEd published on the FAS website in November 2012. *With the Changing Biological threat...smart international engagement policy would lower cost and increase national security.*  
<http://www.virtualbiosecuritycenter.org/blog/op-ed-with-the-changing-biological-threat-smart-international-engagement-to-lower-cost-and-increase-national-security>

program for young scientists from Central Asia this year. While in the planning stages, it was abruptly canceled last month and we were asked to think about how to engage Ukraine instead. Such reversals are counterproductive. As an implementer, I often have to explain to my colleagues around the world the short attention span of my government. Human relationships, not only arms control conventions or international regulations, are the key to global security in biology. We have a long history, across many of our departments and agencies, of establishing relationships, or worse, making promises and then moving on to something WE think is more important at the moment or forgetting about friends and promises made. Trusted relationships established with capable scientist colleagues are the best metric of success in this work; not money spent, fences built or training certificates pinned to the walls of laboratories around the globe. It's taking us too long to understand and implement this critical concept.

We can establish these trusted and collaborative partnerships with credible people, when technical knowledge is the currency and honesty, integrity and even a sense of humor are the vehicle. We must therefore, send credible, knowledgeable experts to meet with their equals.

#### **9. Keeping channels of communication open; an historical example from the nuclear world:**

For years, during the Cold War, our nuclear scientists and their Soviet counterparts maintained open lines of communication through science academies or associations like Pugwash. The outcome was clearly stabilizing even through some very rocky times during the cold war. An open line of communication between equals, senior scientists who knew the weapons systems, the risks and the threats better than their political leaders, was extremely powerful. Our National Academy of Sciences committee called CISAC was central to those historic nuclear Track II relationships. We've been doing the same thing in biology in a number of countries including Russia and those in Central Asia. Now with the Russian incursion into the Ukraine, not only have all Russian formal activities been stopped but those with our friends in Central Asia have also been suspended. The United States has stopped working with friends who, in some cases, desperately need help with important public health issues. Furthermore, they are now threatened with movement of all kinds of people, animals and microbes into their countries as we pull out of Afghanistan. It is extremely

disappointing for me to watch us simply turn our backs on friends...and for us it threatens to draw another veil across some of the few windows we have into a high-risk and dangerous biological world only a 12-14 hour Boeing 777-300 ride from Dulles International Airport.