



Department of Justice

STATEMENT OF
VAHID MAJIDI
ASSISTANT DIRECTOR
WEAPONS OF MASS DESTRUCTION DIRECTORATE
FEDERAL BUREAU OF INVESTIGATION

BEFORE THE
COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

ENTITLED
“TEN YEARS AFTER 9/11 AND THE ANTHRAX ATTACKS: PROTECTING AGAINST
BIOLOGICAL THREATS”

PRESENTED
OCTOBER 18, 2011

**STATEMENT FOR THE RECORD OF
VAHID MAJIDI
ASSISTANT DIRECTOR
WEAPONS OF MASS DESTRUCTION DIRECTORATE
FEDERAL BUREAU OF INVESTIGATION**

**BEFORE THE
COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
UNITED STATES SENATE**

**AT A HEARING ENTITLED
“TEN YEARS AFTER 9/11 AND THE ANTHRAX ATTACKS: PROTECTING
AGAINST BIOLOGICAL THREATS”**

**PRESENTED
OCTOBER 18, 2011**

Introduction

The Federal Bureau of Investigation’s (FBI) number one priority is to protect the United States from terrorist attacks. Within that priority, the threat of Weapons of Mass Destruction (WMD) is the FBI’s most pressing concern. WMD terrorism and proliferation are evolving threats to United States national security. The Director of National Intelligence has assessed that dozens of identified domestic and international terrorists and terrorist groups have expressed their intent to obtain and use WMD in future acts of terrorism. Indicators of this increasing threat include repeated ambitions and actions of terrorists and criminals to acquire materials and knowledge related to WMD. The challenge presented by these threats is compounded by the large volume of hoax threats that distracts and diverts significant resources from law enforcement agencies.

FBI Weapons of Mass Destruction Directorate

The FBI is the lead law enforcement agency responsible for investigation of WMD threats. In particular, the FBI has authorities relating to the investigation, prevention, and response regarding individuals that attempt to obtain or use WMD materials, technology, and expertise. In the past, several FBI Headquarters (FBIHQ) divisions provided oversight and coordination on WMD matters. In 2004 the 9/11 Commission recommended that FBI create a new specialized and integrated national security branch to include agents, analysts, linguists, and surveillance specialists to cover the counterterrorism and counterintelligence missions. The WMD Commission Report, generated in response to the anthrax mailings, echoed this recommendation and the FBI responded by creating the National Security Branch (NSB). In 2005, the FBI Director assigned the newly-formed NSB to design an operational element to meet the WMD threat. The Weapons of Mass Destruction Directorate (WMD Directorate; WMDD) was

created in July 2006, consolidating WMD investigation and prevention efforts to create a unique combination of law enforcement authorities, intelligence analysis capabilities, and technical subject matter expertise focused on chemical, biological, radiological, nuclear and explosive matters. Over the last five years, WMDD has developed and refined capabilities in the areas of investigations, operations, countermeasures, intelligence analysis, training, and oversight of the WMD Coordinators (FBI Special Agents that manage WMD-related matters in each of the FBI's 56 Field Offices). Additionally, the WMDD maintains detailees at the International Criminal Police Organization (INTERPOL), the Republic of Georgia, and Singapore for international coordination.

WMDD's primary mission is the prevention of WMD terrorism and proliferation through proactive programs. Unlike many threats the FBI has historically encountered, WMD threats have the potential for major disruption at a national level, with catastrophic impacts. For this reason, WMDD leadership places emphasis on the prevention of incidents, and mitigation of threats. Specifically for biological WMD and bioterrorism, WMDD programs and initiatives are aimed at preventing, detecting, deterring, and disrupting the acquisition, production, and utilization of biological agents against the homeland.

Timely and relevant intelligence supports the FBI's proactive approach to countermeasures, investigations, and operations. The FBI contributes to and consumes intelligence products to establish a clear picture of emerging and imminent threats at strategic and operational levels. With a more thorough understanding of the threats, vulnerabilities, and risks in each area of responsibility, WMDD better prioritizes resource requirements and targets initiatives in the needed areas.

The preparedness component of the WMDD mission incorporates planning, training, and exercises to ensure the FBI and its US Government (USG) partners are ready to respond to WMD threats. This involves the development of comprehensive plans and policy at the strategic and operational levels that specify responsibilities and courses of action for all involved. Countermeasures bolster policy, and include outreach activities, identification of key indicators, and other measures to counter or eliminate the WMD threat. They supplement the intelligence information and enable WMDD to address the WMD threats before they happen.

If a WMD threat materializes, the FBI has the responsibility to investigate the threatened, attempted, or actual use of a WMD, as well as the attempted or actual transfer of materials, knowledge, and technology needed to create a WMD. The FBI maintains and manages a strong response capability to collect evidence in contaminated areas, disarm hazardous devices, and provide direct command and control support for critical incidents.

FBI Authorities

The FBI is the lead Federal Agency responsible for the investigation of bioterrorism and biological crimes, including the threatened, attempted, or actual use of a

WMD and the attempted or actual transfer of knowledge, materials, and technology to produce a WMD. The most relevant biological WMD statutes are 18 USC §2332a, 18 USC §175, 18 USC §175b, and 18 USC §1038. 18 USC §2332a states it is unlawful for any person without lawful authority who knowingly uses, threatens, or attempts or conspires to use a WMD. 18 USC §175 makes it illegal for any person without lawful authority to knowingly develop, produce, stockpile, transfer, acquire, retain or possess any biological agent, toxin, or delivery system; and 18 USC §175b adds it is illegal for a restricted person to ship, transport, possess, or receive a select biological agent or toxin in or affecting interstate or foreign commerce. The FBI also has the authority to investigate WMD-related intent to relay false or misleading information and hoaxes, as derived from 18 USC §1038.

The Threat

Over the past decade, the potential for biological terrorism has not diminished. The FBI assesses that some of those who plan to attack the homeland or US interests abroad are interested in using biological agents or toxins to achieve their goals. Documents discovered at Tarnak Farms confirmed Al-Qa'ida's active program to obtain biological seed stock. Terrorist groups such as Al-Qa'ida and its affiliates have expressed interest in biological weapons, and issued multiple fatwas and calls for scientists to join their ranks and support their cause.

The FBI remains concerned that certain insiders, especially persons with legitimate admittance to a facility or laboratory working with Select Agents – those organisms we have designated as highly dangerous - could use their access to biological materials and equipment for illicit activities. The FBI continues to assess that many US biological and medical laboratories remain vulnerable to insiders based on several recent incidents involving the illicit acquisition of bacterial and viral cultures. There have been numerous attempts to utilize biological toxins to threaten, injure, or kill individuals. The FBI remains concerned about the availability of these agents for potential criminal use. Additionally, the biological threat is further increased with advances in technologies in the biological sciences that have become more powerful, cheaper, and readily available to much wider audiences.

How the FBI Addresses the Threat

WMDD identifies points of vulnerability in the biological agent exploitation process, and develops countermeasures and prevention initiatives against those points. The process consists of three major activities: acquisition, development, and execution. While the FBI's approach to these activities will not be discussed in detail, this process provides a framework by which WMDD develops and implements its countermeasures, focusing on outreach and tripwire development to address national and regional threat priorities.

Events such as the 1984 Rajneeshee *Salmonella* bioterrorism incident, the Aum Shinrikyo anthrax efforts in the early 1990s, and the 2001 anthrax mailings demonstrate

vulnerability to acts of bioterrorism. Due to the unique challenges posed by a bioterrorism incident, such as a covert release which can go undetected for days (until victims seek medical treatment for symptoms), mounting an effective response to an attack requires a high level of cooperation between public health and law enforcement. The lack of mutual awareness and understanding, as well as the absence of established communication procedures, could limit the effectiveness of law enforcement and public health investigations. The effective use of all resources during a bioterrorism incident is critical to ensure an efficient and appropriate response. By working together, public health and law enforcement can achieve their respective objectives of identifying the biological agent, preventing the spread of disease, preventing public panic, and apprehending those responsible.

The FBI and the Centers for Disease Control and Prevention (CDC) developed the Joint Criminal and Epidemiological Investigations training program to improve public health and law enforcement efforts to identify and investigate intentional or naturally occurring threats. The two-day interactive course provides training for law enforcement, public health, and first responders at the local, State, Tribal and Federal level. The focus of this course is on improving local response plans and information sharing protocols, training participants on the joint investigation and interview models, and fostering discussion regarding the local or regional need to develop a Memorandum of Understanding between FBI, law enforcement, and public health on joint investigations.

In addition to being able to identify and investigate intentional or naturally occurring threats, a mission of the WMDD is to promote biosecurity, defined as safeguarding the sources of biological material, persons with experience and expertise, and the technology surrounding the manipulation of the material. Pure sources of biological agents reside in biological supply companies/culture collection entities, research institutions, public health/health care laboratories, and industry. Safeguarding these dangerous biological materials is one key aspect of biosecurity.

Biosecurity, however, is not limited to the security of biological material. It must include the people with the expertise to manipulate, handle, research, and transport biological pathogens and toxins who currently have access to sophisticated equipment and technology related to these materials. Additionally, new areas of research are leveraging other experts, for example computer scientists and mechanical engineers, who have not worked in the traditional framework of biosafety and are unaware of biosecurity matters. Therefore, additional aspects of biosecurity include preventing the persons with the expertise and direct access to the materials from being exploited by outside forces as well as promoting institutional awareness with regard to potential insider-threats.

To address the greater biosecurity issue, the WMDD developed the Biological Sciences and Academic Biosecurity Workshop initiatives to build partnerships between the FBI and the academic research communities, improve situational awareness, and develop a mechanism to report suspicious activities at research entities that could represent an emerging national security threat. These initiatives focus on the vulnerability of terrorist acquisition of biological agents or material housed in research

facilities (academic, industrial, private, and clinical), attempts at the exploitation of those with the expertise and/or access to such agents, and the ability of an insider to remove agents of concern for nefarious purposes. The role of the FBI transcends that of a law enforcement/security agency by taking on the responsibility to educate and provide training on security issues, elaborate on the “real world” threat, and act as a resource for mitigating risks. The FBI recognizes that additional stakeholders from Federal, State, and local government and non-government agencies have roles, responsibilities, and resources to ensure safe and secure research with biological pathogens and toxins. Inclusion of these stakeholders and coordinated efforts are also vital for biosecurity.

Entities working with Biological Select Agents and Toxins (BSAT) registered with the Select Agent Program (SAP) are important for national security in two aspects. First, they conduct vital research, from the basic understanding of a biological agent to the development of medical countermeasures against that same agent. This directly benefits the United States’ Biodefense architecture. Second, these same entities can be targets of adversaries because of their research. The adversaries may be attempting to illicitly acquire, manufacture, and disseminate biological agents of concern.

The SAP was designed to safeguard those entities that store and/or conduct research with BSAT from adversaries attempting to gain access to the facility, and also to prescribe safety measures preventing accidental release into the environment or exposure of personnel within the facility. This program is a governmental regulation, within 18 USC §175b, regarding the security of BSAT. The SAP, of which the FBI is a Federal partner, is operated by Department of Health and Human Services (HHS) and the United States Department of Agriculture (USDA).

Ensuring that individuals with access to such materials are properly vetted and do not pose a risk as a potential insider threat and/or have the potential for exploitation is of great importance. Each person within the entities is required to undergo a Security Risk Assessment (SRA) prior to gaining access to BSAT. The SRA is processed by the Bioterrorism Risk Assessment Group (BRAG) out of the Criminal Justice Information Services (CJIS) Division of the FBI. The SRA is a database check to determine if the applicant meets any one of ten prohibitors as defined by the USA PATRIOT Act and 18 USC 175b, including being an agent of a foreign power, under indictment for a crime punishable by imprisonment for a term exceeding one year, a fugitive from justice, or an unlawful user of any controlled substance. If a person meets a prohibitor, FBI reports such to the SAP Director and applicant information is referred to the appropriate FBI Field Division for possible investigation. Since the delegation of this responsibility by the Attorney General to the FBI in 2003, BRAG has processed over 35,000 SRA applications. Currently, there are over 13,000 people who are actively involved in the research and/or have access to BSAT.

Both CDC and USDA have compliance and regulatory oversight of all the SAP entities, such as the requirement for periodic inspections of facilities and their inventories. Any accidental release or discrepancy uncovered during inspection is reported to the FBI for further evaluation. The FBI WMDD follows standard protocol of conducting an assessment of the situation to determine if an investigation is required.

Operations

The FBI WMD Coordinator (WMDC) is the local point of contact regarding WMD threats and events in each of the FBI's 56 Field Offices. This WMD representative conducts outreach with local biological companies, state and local laboratories, and academia. They also participate in multiple field training and table top exercises that ensure local, State, Tribal and Federal partners are coordinated and prepared for a cohesive response.

The WMDD has a formalized process to assess a potential threat in the field, called the Threat Credibility Evaluation (TCE) process. This allows for discussion and analysis of the situation and involves the WMD Operations Units at FBIHQ, the local WMDC, subject matter experts from the FBI Laboratory Division and relevant local, State, and Federal partners who are directly involved. The TCE process has helped to develop a consistent response protocol and more effectively manage a threat.

Key to addressing the WMD threat is the proper adjudication and analysis of suspected WMD material for traditional forensic evidence. The FBI Laboratory Division is central to the FBI response to WMD crime scenes, secure collection of potentially hazardous materials and the safe examination of evidence. The Laboratory Division provides training to WMDCs, FBI Hazardous Materials Response Teams in the field, local first responders, and Civil Support Teams in regards to the safe, secure and proper handling, collection, and transport of WMD evidence with respect to the inherent hazard and evidentiary value.

The FBI laboratory has developed an extensive protocol and a strong national partnership to deal with all evidence that is contaminated with WMD agents. To identify the presence of biological agents that could be used as weapons, the FBI, CDC, and the Association of Public Health Laboratories established the Laboratory Response Network (LRN). The LRN system provides a local adjudication regarding biological threats associated with items of evidence, before being cleared for entry into the FBI Laboratory where traditional forensic examinations are conducted.

In the event confirming the presence of a biological agent, the investigation process would require prompt traditional forensic examination such as latent prints, DNA analysis, and trace evidence. The FBI Laboratory has taken the lead by developing and implementing the Hazardous Evidence Analysis Team, or HEAT program. The HEAT program provides additional training for qualified forensic examiners and technicians, that allows them to operate in a high-containment laboratory environment such as a biosafety level three or four suite. Qualified forensic examiners conduct analyses of the evidence at one of the FBI's partner laboratories: National Bioforensic Analysis Center (NBFAC), which handles human disease pathogens, and Plum Island Animal Disease Center (PIADC), which handles animal disease pathogens. The FBI recognizes that inherent forensic value can reside within the agents themselves utilized in an attack, and since the 2001 anthrax attacks, the FBI has worked with Federal partners in improving forensic biological attribution capabilities. The Department of Homeland Security (DHS) established the NBFAC and maintains the PIADC, both of which directly support the FBI

bioforensic capabilities.

Case Successes

Since the establishment of WMDD, the FBI has successfully managed hundreds of cases involving biological substances and suspicious powders. The following are examples of successes regarding bioterrorism.

In 2006, an adult male collapsed in rural Pennsylvania and was subsequently admitted to a local hospital. Upon completion of blood cultures and secondary confirmatory testing, the patient was determined to have contracted inhalational anthrax. The Pennsylvania Department of Health epidemiologist assigned to the case and the FBI Philadelphia WMDC had both recently attended the FBI-CDC sponsored Criminal and Epidemiological Investigations training. Following the protocol presented at the training, the law enforcement and public health investigators shared their knowledge of the case and collaborated on investigative procedures, including the interviews. The patient was a New York City resident and the artistic director of a West African performance company, who also made and repaired African drums. Following jointly conducted interviews, the patient consented to searches of his home, vehicle, and workspace. Joint environmental sampling was performed by the FBI and CDC, resulting in positive samples in all three locations, with the heaviest contamination in the workspace where the drums were made. The investigation concluded the infection was naturally occurring anthrax related to occupational exposure to contaminated animal skins. Due to the cooperation between law enforcement and public health, this matter and similar incidents have been efficiently addressed through joint efforts.

In 2008, an adult male contacted the Las Vegas Metro Police Department with complaints of difficulty breathing, and was subsequently admitted to the hospital and put under heavy sedation. During a search of the patient's hotel room, police discovered a copy of the *Anarchist Cookbook*, which had been earmarked to a page titled "How to Prepare Ricin," as well as weapons and hand-made silencers. Approximately two weeks later, the patient's cousin traveled to Las Vegas to gather the patient's belongings. The cousin discovered a bag full of what was later determined to be ricin and turned it over to hotel personnel. Hotel personnel notified the police, who contacted the FBI. The patient pled guilty to one count of the Biological Weapons Anti-Terrorism Act (18 USC §175(b)) and was sentenced to 42 months in prison, a \$7,500 fine, and three years of supervised release.

In 2008, 65 letters postmarked from Amarillo, Texas and containing an unknown white powder were sent to financial institutions across the US. Some of the letters contained a message stating "Steal tens of thousands of people's money and not expect repercussions [sic]. It's payback time. What you just breathed in will kill you within 10 days. Thank Mr. Dimon and the FDIC for your demise." In 2009 a subject was charged with one count of false information and hoaxes, and was arrested. During an interview, the subject confessed to the mailings, stating he was motivated by stock losses. He was eventually indicted on 65 total counts and pled guilty to two violations, Threats and False

Information, and Threats and Hoaxes (18 USC §1038(a)). He was sentenced to 46 months confinement, a \$5,000 fine and \$87,734.40 in restitution.

Addressing the Future

Synthetic biology is an emerging field of research which combines elements of different sciences that rely on chemically synthesized DNA to create new biochemical systems or organisms with novel or enhanced characteristics. Advancements in technologies have led to significant progress such as the production of synthetic bacterial genomes and novel methods of pharmaceutical production. The capabilities of these technologies have increased by orders of magnitude over the past few years, and the costs associated with them have decreased by similar orders of magnitude. While these technologies offer amazing promise, they also remain inherently dual-use and just as applicable for nefarious use as reputable use. To that end, the FBI has established the Synthetic Biology/Emergent Biotechnology initiative, which is a proactive approach to mitigate current and over-the-horizon risks posed by the exploitation of advancements in research and development of scientific fields such as synthetic biology and nanobiotechnology. The Synthetic Biology initiative has FBI partnered with synthetic genome providers to render resources and federal reach back capabilities to evaluate uncertainties in customer and/or sequence orders. WMDD is working to develop countermeasures, in partnership with scientific industry and academia to prevent adversaries from acquiring and exploiting material and technology that may pose a national security concern.

Over the past decade, the FBI has witnessed the rapid growth of amateur biology communities. These groups believe advances in science and biotechnology, just like the computer revolution, can be pursued in a home garage or community meeting place and outside of traditional academic and industrial settings. WMDD operates an initiative to develop partnerships with the amateur biology community in order to garner their assistance in preventing, detecting, and responding to incidents of misuse, particularly for nefarious purposes. WMDD efforts focus primarily on outreach and awareness that includes attendance at amateur biology conferences and regional meetings, FBI-sponsored national workshops, assistance in the development of a safety and security framework, and dissemination of education materials. WMDD continues to foster the development of a culture of responsibility and opening lines of communication between members of the amateur biology community and their respective local FBI WMDC to facilitate the reporting of suspicious activity.

Policy

The FBI has taken steps in policy and countermeasure development to address elements of biosecurity, including the security of the biological agents and potential exploitation of persons and technologies, and the bioterrorism threat. The following are highlights of our policy efforts.

The FBI is a member of the Federal Experts Security Advisory Panel (FESAP),

created by Executive Order 13546, “Optimizing the Security of Biological Select Agents and Toxins in the United States,” which developed recommendations concerning the SAP. As a result, the FESAP was asked to provide consensus recommendations to the Secretaries of HHS and USDA and the Attorney General related to security of the BSAT. Highlighted recommendations include the designation of Tier 1 BSAT (a subset of select agents and toxins deemed to pose the greatest risk), the establishment of appropriate practices to ensure reliability of personnel with access to Tier 1 BSAT at registered facilities, and the establishment of appropriate practices regarding physical and cyber security for facilities that possess Tier 1 BSAT. The Attorney General and Secretaries of HHS and USDA signed a letter with these recommendations to the Deputy National Security Advisor for Homeland Security and Counterterrorism and Assistant to the President.

The FBI developed a Countering Biological Threats Implementation Plan supporting the Office of the President’s *National Strategy for Countering Biological Threats*. This plan outlines the FBI’s current initiatives in support of the *National Strategy* and the approach for future implementation as applicable within the FBI’s roles, responsibilities, and authorities defined in statute or other directives.

WMDD has a detailee within the Executive Office of the President National Security Staff. With a focus on bioterrorism prevention, response, attribution, biosurveillance, and improving global health security, the FBI detailee directly assists the President’s principal forum for considering national security and foreign policy matters with senior national security advisors and cabinet officials.

The FBI is a participating member in all biological related policy decisions and is represented at Interagency Policy Committee (IPC) meetings. These IPCs include the Biological Weapons Convention (BWC), BSAT, Synthetic Biology, International Engagement, Biosurveillance and Global Health Security.

As a result of FBI efforts along with the USG and private industry, a DNA screening guidance document was developed, and implemented. This document, the “Screening Framework Guidance for Providers of Synthetic Double-Stranded DNA”, was published by HHS in late 2010. This publication represents a milestone, that is, for the first time there is a codified notification process whereby DNA sequence providers are directed to contact their local FBI WMDC upon encountering suspicious customers and/or sequence orders, preventing illicit acquisition of DNA sequences of concern. This is an example of proactive outreach to an emergent field to prevent illicit acquisition of synthetically generated genomic sequences of concern. The FBI will continue to seek partnerships in order to monitor and develop new tripwires and countermeasures as research and development continues at a compounding rate. These partnerships will also help to drive the development of new and effective policy and guidance.

The FBI holds a Federal government *ex officio* position on the National Science Advisory Board for Biosecurity (NSABB), a federal advisory committee within the National Institutes of Health. NSABB was chartered to provide advice, guidance, and leadership regarding biosecurity oversight of dual-use research, defined as biological

research with legitimate scientific purpose that may be misused to pose a biological threat to public health and/or national security. The FBI assisted the NSABB in the development of recommendations regarding criteria for identifying dual-use research, principles and tools for the responsible communication of dual-use research, and outreach/education to the scientific community regarding security matters.

The FBI WMDD is a member of the Synthetic Biology Engineering Research Center (SynBERC) Scientific Advisory Board. SynBERC is a multi-institution research effort to lay the foundation for the emerging field of synthetic biology and to catalyze biology as an engineering principle allowing researchers to design, build, and standardize biological systems. As a member of the Scientific Advisory Board, the FBI is in a position to assist SynBERC's activities in addressing ethics and human practices by ensuring biosecurity is incorporated.

Conclusion

Significant progress and partnerships have been made with all levels of government, industry, and the scientific community since the creation of the WMDD; all of which improve the FBI's capabilities in its mission and also support the USG in preventing acts of terrorism on the homeland and US interests abroad. The prevention of bioterrorism requires proactive engagement with the biological sciences community to ensure security is addressed without negatively impacting research progress.

It should be noted the US delegation to the United Nations Biological Weapons Convention (BWC) will be highlighting a range of U.S. activities, including FBI biosecurity initiatives, at the 7th Review Conference in December 2011. By way of background, the BWC was opened for signature in 1972 and entered into force in 1975. It was the first multilateral disarmament treaty banning an entire category of weapons. It effectively prohibits the development, production, acquisition, transfer, retention, stockpiling and use of biological and toxin weapons and is a key element in the international community's efforts to address the proliferation of WMD. One of the key provisions of the Convention is to take any national measures necessary to implement the provisions of the BWC domestically (Article IV). The FBI's mission and activities as described above are in alignment with the Convention, and demonstrate a law enforcement practice and capability not seen anywhere else in the federal government or internationally.