

U.S. GOVERNMENT JUDGMENTS
ON THE THREAT OF BIOLOGICAL WEAPONS

OFFICIAL ASSESSMENTS, 2004-2009

*Compiled by the Center for Biosecurity of UPMC
January 2010*

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INTRODUCTION

In recent years, there have been many official, public U.S. government reports presenting assessments of the threat of bioterrorism and/or biological weapons. However, the collected findings of those assessments have not been organized in such a way as to make evident common, persistent, and/or important judgments or trends. For that purpose, the Center for Biosecurity (the Center) has compiled key judgments from a series of major U.S. government assessments conducted in the past 5 years to create this resource for those in the policy-making, analytic, and research communities seeking to understand the U.S. government's judgments on bioterrorism and biological weapons threat over time.

All reports excerpted here were published between 2004 and 2009 by the Director of National Intelligence (DNI), pages 2-7; the Central Intelligence Agency (CIA), page 8; the Defense Science Board (DSB), page 9; the National Intelligence Council (NIC), page 10; the Department of Defense (DoD), pages 11-12; Department of State, pages 13-14; and several other, miscellaneous U.S. government entities, pages 15-18. All assessments included in this report are available publicly, as unclassified documents (although some of the documents do have classified versions). None of the (many) classified U.S. government reports or assessments published during the same period are included in this report.

METHODOLOGY

To assemble this report, the Center first conducted a comprehensive search for and review of the major threat assessments published between 2004 and 2009 by U.S. federal agencies responsible for national security, homeland security, and intelligence. Congressionally-commissioned assessments and testimony from the same period of time were also reviewed. All documents were located online, where they were published as PDFs of the original documents or in HTML form.

Key findings from each threat assessment were then identified and excerpted. The excerpts compiled here highlight the threat of biological weapons and/or bioterrorism and also show the range of federal agencies tasked with assessing this threat.

STRUCTURE

Included for each assessment is the full title, author and/or source, stated purpose, URL, and excerpts that characterize the document's assessment of the bioweapons threat.

All excerpts are direct quotes copied verbatim from the source documents (all of which are in the public domain). For each quote, the page number is provided. When the source document is available only in HTML form, and therefore without page numbers, the number of the paragraph in which the quote can be found is provided.

This report is available in print and on the Center for Biosecurity of UPMC website:

www.upmc-biosecurity.org/USgov-BWrpts

DIRECTOR OF NATIONAL INTELLIGENCE (DNI)

MARCH 2009

- TITLE** *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee.* Director of National Intelligence Dennis C. Blair. March 10, 2009.
- PURPOSE** Director of National Intelligence's assessment of threats to U.S. national security, as outlined in an unclassified statement for the Senate Arms Services Committee.
- URL** http://www.dni.gov/testimonies/20090310_testimony.pdf
Accessed November 13, 2009
- KEY FINDINGS REGARDING BW THREAT** **REAL AND MAJOR THREAT:** "The ongoing efforts of nation-states to develop and/or acquire dangerous weapons and delivery systems in the Middle East and elsewhere constitute another major threat to the safety of our nation, our deployed troops, and our allies . . . The threat from the proliferation of materials and technologies that could contribute to both existing and prospective biological and chemical weapons programs also is real. Most of the international community shares these concerns." (p.19)
- ACQUISITION OF CBRN:** "We assess countries that are still pursuing WMD programs will continue to try to improve their capabilities and level of self-sufficiency over the next decade. Nuclear, chemical, and/or biological weapons or the production technologies and materials necessary to produce them may also be acquired by states that do not now have such programs; and/or by terrorist or insurgent organizations; and by criminal organizations, acting alone or through middlemen." (p.19)
- TERRORIST CBRN THREAT:** "Over the coming years, we will continue to face a substantial threat, including in the U.S. Homeland, from terrorists attempting to acquire biological, chemical, and possibly nuclear weapons and use them to conduct large-scale attacks . . . terrorists who are determined to develop CBRN capabilities will have increasing opportunities to do so, owing to the spread of relevant technological knowledge and the ability to work with CBRN materials and designs in safe havens. . . . Most terrorist groups that have shown some interest, intent, or capability to conduct CBRN attacks have pursued only limited, technically simple approaches that have not yet caused large numbers of casualties." (p.21)
- TERRORIST USE OF BW A GROWING THREAT:** "In particular, we assess the terrorist use of biological agents represents a growing threat as the barriers to obtaining many suitable starter cultures are eroding and open source technical literature and basic laboratory equipment can facilitate production." (p.21)

DECEMBER 2008

- TITLE** *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2008.* The Deputy Director of National Intelligence for Analysis.
- PURPOSE** Congressionally mandated annual report on foreign countries' acquisition of dual-use and other technologies useful for the development or production of WMD.
- URL** <http://www.dni.gov/reports/Unclassified%20Report%20to%20Congress%20WMD%20Covering%201January%20to%2031%20December%202008.pdf>
Accessed November 13, 2009

DIRECTOR OF NATIONAL INTELLIGENCE (DNI)

KEY FINDINGS REGARDING BW THREAT **IRAN:** "Iran probably has the capability to produce some biological warfare agents (BW) for offensive purposes, if it made the decision to do so. We assess that Iran has previously conducted offensive BW agent research and development. Iran continues to seek dual-use technologies that could be used for BW." (p.5)

NORTH KOREA: "North Korea has a biotechnology infrastructure that could support the production of various BW agents. We judge that North Korea possesses a conventional munitions production infrastructure that could be used to weaponize BW agents." (p.6)

SYRIA: "Syria continued to seek dual-use technology from foreign sources during the reporting period . . . Syria's biotechnical infrastructure is capable of supporting limited BW agent development, but the Syrians are not believed to achieve a capability to put BW agents into effective weapons." (p.7)

CBRN WEAPONS SEEN AS HIGH-IMPACT OPTION: "Some terrorist groups see employing chemical, biological, radiological, and nuclear (CBRN) materials as a high-impact option for achieving their goals." (p.7)

FEBRUARY 2008

TITLE *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee.* Director of National Intelligence J. Michael McConnell. February 27, 2008.

PURPOSE Director of National Intelligence's assessment of threats to U.S. national security, as prepared in an unclassified statement for the Senate Armed Services Committee.

URL http://www.dni.gov/testimonies/20080227_testimony.pdf
Accessed November, 13, 2009

KEY FINDINGS REGARDING BW THREAT **TERRORIST ACQUISITION OF CBRN:** ". . . al-Qa'ida and other terrorist groups are attempting to acquire chemical, biological, radiological, and nuclear weapons and materials (CBRN). We assess al-Qa'ida will continue to try to acquire and employ these weapons and materials; some chemical and radiological materials and crude weapons designs are easily accessible, in our judgment." (p.5)

MAJOR THREATS: "In addition to terrorism, the ongoing efforts of nation-states and terrorists to develop and/or acquire dangerous weapons and delivery systems constitute major threats to the safety of our nation, our deployed troops, and our friends . . . We also are concerned about the threat from biological and chemical agents." (p.9)

NEW ACQUISITION: "We assess that some of the countries that are still pursuing WMD programs will continue to try to improve their capabilities and level of self-sufficiency over the next decade. We also are focused on the potential acquisition of nuclear, chemical, and/or biological weapons—or the production technologies and materials necessary to produce them—by states that do not now have such programs, by terrorist organizations such as al Qa'ida, insurgents in Iraq, and by criminal organizations, acting alone or via middlemen." (p.10)

IRAN: "We assess that Iran has previously conducted offensive BW agent research and development. Iran continues to seek dual-use technologies that could be used for biological warfare." (p.13)

DIRECTOR OF NATIONAL INTELLIGENCE (DNI)

DECEMBER 2007

- TITLE** *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, January - December 2007*. Deputy Director of National Intelligence for Analysis.
- PURPOSE** Congressionally mandated annual report on the acquisition by foreign countries of dual-use and other technology useful for the development or production of WMD.
- URL** <http://www.dni.gov/reports/Unclassified%20Report%20to%20Congress%20WMD%20Covering%201January%20to%2031%20December%202007.pdf>
Accessed November 13, 2009
- KEY FINDINGS REGARDING BW THREAT**
- IRAN:** "Iran probably has the capability to produce some biological warfare (BW) agents for offensive purposes, if it made the decision to do so. We assess that Iran has previously conducted offensive BW agent research and development. Iran continues to seek dual-use technologies that could be used for biological warfare." (p.4)
- NORTH KOREA:** "North Korea acceded to the Biological and Toxin Weapons Convention (BWC) in 1987 and claims to be in full compliance. North Korea has a rudimentary biotechnology infrastructure that could support the production of various biological warfare agents. We judge that North Korea possesses a conventional munitions production infrastructure that could be used to weaponize BW agents." (p.5)
- SYRIA:** "Syria's biotechnical infrastructure is capable of supporting limited biological agent development, but the Syrians are not believed to have achieved a capability to put biological agents into effective weapons." (p.6)
- TERRORIST INTEREST IN CBRN:** "Several terrorist groups, particularly al-Qa'ida, remain interested in chemical, biological, and radiological materials and weapons, and some groups have shown interest in nuclear weapons as well. Many of the 33 US Department of State designated foreign terrorist organizations worldwide have expressed interest in one or more of these capabilities. Some terrorist groups see employing chemical, biological, radiological, and nuclear (CBRN) materials as low-cost, high-impact options for achieving their goals." (p.6)

FEBRUARY 2007

- TITLE** *Annual Threat Assessment of the Director of National Intelligence for the Senate Armed Services Committee*. Director of National Security J. Michael McConnell. February 27, 2007.
- PURPOSE** Director of National Intelligence's assessment of threats to U.S. national security, as prepared in an unclassified statement for the Senate Armed Services Committee.
- URL** http://www.dni.gov/testimonies/20070227_testimony.pdf
Accessed November 13, 2009
- KEY FINDINGS REGARDING BW THREAT**
- AL-QA'IDA ATTEMPTING TO ACQUIRE CBRN:** ". . . we receive reports indicating that al-Qa'ida and other groups are attempting to acquire chemical, biological, radiological, and nuclear weapons or materials." (p.5)

DIRECTOR OF NATIONAL INTELLIGENCE (DNI)

SECOND MAJOR THREAT: "After terrorism, the ongoing efforts of nation-states and terrorists to develop and/or acquire dangerous weapons and delivery systems constitute the second major threat to the safety of our nation, our deployed troops, and our friends." (p.7)

DIFFICULT TO TRACK ACQUISITION: "The time when only a few states had access to the most dangerous technologies has been over for many years. Dual-use technologies circulate easily in our globalized economy, as do the scientific personnel who design and use them. As a consequence, it is more difficult for us to track efforts to acquire, for nefarious purposes, these widely available components and technologies."(p. 8)

DECEMBER 2006

- TITLE** *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, January - December 2006.* Deputy Director of National Intelligence for Analysis.
- PURPOSE** Congressionally mandated annual report on the acquisition by foreign countries of dual-use and other technology useful for the development or production of weapons of WMD.
- URL** http://www.dni.gov/reports/Acquisition_Technology_Report_030308.pdf
Accessed November 13, 2009
- KEY FINDINGS REGARDING BW THREAT**
- IRAN:** "Our assessment of Iran's biotechnology infrastructure indicates that Iran probably has the capability to produce large-quantities of some Biological Warfare (BW) agents for offensive purposes, if it made the decision to do so. Iran continues to seek dual-use biotechnology materials, equipment, and expertise consistent with its growing legitimate biotechnology industry but these components could also advance Tehran's BW capability." (p.4)
- NORTH KOREA:** "North Korea acceded to the BWC in 1987 and claims to be in full compliance. North Korea has a rudimentary biotechnology infrastructure that could support the production of various biological warfare agents: We judge that North Korea possesses a conventional munitions production infrastructure that could be used to weaponize BW agents." (p.6)
- SYRIA:** "Syria's biotechnical infrastructure is capable of supporting limited biological agent development. We do not assess the Syrians have achieved a capability to put biological agents into effective weapons, however." (p.6)
- TERRORIST INTEREST IN CBRN:** "Many of the 33 U.S. Department of State-designated foreign terrorist organizations worldwide have expressed interest in chemical, biological, radiological, or nuclear (CBRN) capabilities. Several terrorist groups, particularly al-Qa'ida, remain interested in chemical, biological, and radiological materials and weapons . . . Some terrorist groups see employing CBRN materials as low-cost, high-impact options for achieving their goals. Al-Qa'ida and other terrorist groups show continuing interest in developing chemical and biological capabilities for use in attacks against Western targets, especially in Iraq and Afghanistan." (p.7)

DIRECTOR OF NATIONAL INTELLIGENCE (DNI)

FEBRUARY 2006

- TITLE** *Annual Threat Assessment of the Director of National Intelligence for the Senate Armed Services Committee.* Director of National Intelligence John D. Negroponte. February 28, 2006.
- PURPOSE** Director of National Intelligence's assessment of threats to U.S. national security, as prepared in an unclassified statement for the Senate Armed Services Committee.
- URL** http://www.dni.gov/20060228_testimony.htm
Accessed October 30, 2009
- KEY FINDINGS REGARDING BW THREAT** **TERRORIST INTEREST IN CBRN:** "Although an attack using conventional explosives continues to be the most probable scenario, al-Qa'ida remains interested in acquiring chemical, biological, radiological, and nuclear materials or weapons to attack the United States, U.S. troops, and U.S. interests worldwide." (paragraph 13)

"Indeed, today, we are more likely to see an attack from terrorists using weapons or agents of mass destruction than states, although terrorists' capabilities would be much more limited. In fact, intelligence reporting indicates that nearly 40 terrorist organizations, insurgencies, or cults have used, possessed, or expressed an interest in chemical, biological, radiological, or nuclear agents or weapons. Many are capable of conducting simple, small-scale attacks, such as poisonings, or using improvised chemical devices." (paragraph 14)

SECOND MAJOR THREAT: "The ongoing development of dangerous weapons and delivery systems constitutes the second major threat to the safety of our nation, our deployed troops, and our allies. We are most concerned about the threat and destabilizing effect of nuclear proliferation. We are also concerned about the threat from biological agents--or even chemical agents, which would have psychological and possibly political effects far greater than their actual magnitude. Use by nation-states can still be constrained by the logic of deterrence and international control regimes, but these constraints may be of little utility in preventing the use of mass effect weapons by rogue regimes or terrorist groups . . ." (paragraph 39)

GRAVE DANGERS OF PROLIFERATION: "The potential dangers of proliferation are so grave that we must do everything possible to discover and disrupt attempts by those who seek to acquire materials and weapons. We assess that some of the countries that are still pursuing WMD programs will continue to try to improve their capabilities and level of self-sufficiency over the next decade. We also are focused on the potential acquisition of such nuclear, chemical, and/or biological weapons--or the production technologies and materials necessary to produce them--by states that do not now have such programs, terrorist organizations like al-Qa'ida and by criminal organizations, alone or via middlemen."(paragraphs 40 and 41)

DEFINITION OF BIO-THREAT: "We are working with other elements of the U.S. Government regarding the safety and security of nuclear weapons and fissile material, pathogens, and chemical weapons in select countries." (paragraph 42)

In the 21st century, our Intelligence Community has expanded the definition of bio-threats to the U.S. beyond weapons to naturally occurring pandemics. The most pressing infectious disease challenge facing the U.S. is the potential emergence of a new and deadly avian influenza strain, which could cause a worldwide outbreak, or pandemic. International health experts worry that avian influenza could become transmissible among humans, threatening the health and lives of millions of people around the globe. There are many unknowns about avian flu, but even the specter of an outbreak could have significant effects on the international economy, whole societies, military operations, critical infrastructure, and diplomatic relations." (paragraph 102)

DIRECTOR OF NATIONAL INTELLIGENCE (DNI)

DECEMBER 2005

- TITLE** *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, January - December 2005*. Director of National Intelligence.
- PURPOSE** Congressionally mandated annual report: "Country summaries of acquisition activities (solicitations, negotiations, contracts, and deliveries) related to weapons of mass destruction (WMD) and advanced conventional weapons (ACW) that occurred from 1 January through 31 December 2005. This report focuses on key countries of concern that we assess are seeking WMD capabilities."
- URL** <http://www.dni.gov/reports/CDA%2011-14-2006.pdf>
Accessed November 13, 2009
- KEY FINDINGS REGARDING BW THREAT**
- IRAN:** "Iran also is a Party to the Biological Weapons Convention (BWC). As of 2005, the status of its biotechnology infrastructure indicated that at a minimum, Iran probably had the capability to produce at least small quantities of biological warfare (BW) agents for offensive purposes. Iran continued to seek dual-use biotechnology materials, equipment, and expertise that are consistent with its growing legitimate biotechnology industry but could benefit Tehran's assessed probable BW program." (p.2)
- NORTH KOREA:** "North Korea is a Party to the BWC. Pyongyang's resources presently include a rudimentary biotechnology infrastructure. North Korea has the scientists and facilities for producing biological products and microorganisms, and has the ability to produce traditional infectious BW agents or toxins. North Korea produces conventional munitions that could be used to deliver BW agents. In 2005, North Korea requested, but was subsequently denied, a preventive vaccine manufacturing facility from South Korea." (p.3)
- SYRIA:** "Syria continued to seek dual-use technology from foreign sources during the reporting period. Damascus already held a stockpile of the nerve agent sarin, but apparently has tried to develop a more toxic and persistent nerve agent. We assess that Syria remains dependent on foreign sources for key elements of its CW program, including precursor chemicals. During 2005, Syria probably also continued to develop a BW capability. Syria has signed but not ratified the BWC and has not acceded to the CWC." (p.4)
- TERRORIST INTEREST IN CBW:** "A wide array of reporting in 2005 indicated continued interest by al-Qa'ida and other terrorist groups in developing chemical and biological capabilities for use in attacks against Western targets, especially in Iraq and Afghanistan. . . . The Intelligence Community received no reliable reporting that suggests al-Qa'ida maintained an active biological weapons effort in 2005. The IC judges, however, that based on the group's longstanding interest in acquiring WMD for mass casualty attacks against the West and previous biological production efforts, it is unlikely that the current leadership will permanently abandon this option. Reports of various credibility indicated that other terrorist groups had a continued interest through 2005 in the use of "poisons"—predominantly plant toxins such as ricin." (p.4)
- RUSSIAN CBW EXPERTISE:** "In 2005, countries of concern continued to contact Russian entities for dual-use chemical precursors and equipment. Such entities also remained a source of dual-use biotechnology equipment and related expertise. Russia's well-known biological and chemical expertise may make it an attractive target for countries seeking assistance that could be applied to chemical or biological warfare programs." (p.7)

CENTRAL INTELLIGENCE AGENCY (CIA)

MARCH 2005

TITLE *Testimony of DCI Goss before Senate Armed Services Committee (as prepared for delivery)*. Director of Central Intelligence Porter J. Goss. Central Intelligence Agency. March 17, 2005.

PURPOSE "... briefly share with you my thoughts relative to the threats facing the United States in the coming years ... I also want to discuss the broader issues of the capabilities the Intelligence Community requires to face these threats." (paragraph 1)

URL https://www.cia.gov/news-information/speeches-testimony/2005/Goss_testimony_03172005.html
Accessed November 13, 2009

KEY FINDING REGARDING BW THREAT **CBRN THREAT CANNOT BE IGNORED:** "Our reporting that al-Qa'ida or another group wants to use chemical, biological, radiological, and/or nuclear weapons cannot be ignored." (paragraph 9)

DEFENSE SCIENCE BOARD (DSB)

MAY 2007

- TITLE** *2005 Summer Study: Reducing Vulnerabilities to Weapons of Mass Destruction*. Defense Science Board. May 2007.
- PURPOSE** Issued in 2007, this report details the primary findings of the Board's 2005 task force, "Summer Study on Reducing Vulnerabilities to Weapons of Mass Destruction." Fact-finding for the study ended in August 2005.
- URL** <http://www.acq.osd.mil/dsb/reports/ADA471566.pdf>
Accessed November 9, 2009
- KEY FINDINGS REGARDING BW THREAT**
- PREVENTION SHOULD BE HIGH PRIORITY:** "Reducing U.S. vulnerabilities to weapons of mass destruction is a topic of great importance to the nation's security. The technology of weapons of mass destruction (WMD) has proliferated in the past decade as information and capabilities have become more accessible. Thus, actions to prevent such an attack should have high priority for the U.S. government and the Department of Defense." (p. vii)
- REDUCE ACCESSIBILITY:** "The worst forms of WMD—nuclear and, in some cases, biological—would likely be acquired by terrorists from nation-state proliferators. So there is much to gain by reducing the stockpiles of these weapons worldwide and securing weapons materials." (p.x)
- "Furthermore, many forms of WMD—chemical, biological, and radiological—are available in the United States. It appears that the easiest approach for terrorists would be to steal, purchase, produce, or exploit weapons materials inside the United States, as the United States has excellent infrastructure for scientific and technological development and makes this infrastructure readily accessible." (p.x)

NATIONAL INTELLIGENCE COUNCIL (NIC)

NOVEMBER 2008

- TITLE** *Global Trends 2025: A Transformed World*. National Intelligence Council. November 2008.
- PURPOSE** Unclassified long-term view of how key global trends might develop and influence world events over the next 15 years.
- URL** http://www.dni.gov/nic/PDF_2025/2025_Global_Trends_Final_Report.pdf
Accessed November 5, 2009
- KEY FINDINGS REGARDING BW THREAT** **OPPORTUNITIES FOR CBN ATTACKS WILL INCREASE:** "Opportunities for mass-casualty terrorist attacks using chemical, biological, or less likely, nuclear weapons will increase as technology diffuses and nuclear power (and possibly weapons) programs expand." (p.iv)
- TERRORIST BW CONCERN:** "For those terrorist groups that are active in 2025, the diffusion of technologies and scientific knowledge will place some of the world's most dangerous capabilities within their reach. One of our greatest concerns continues to be that terrorist or other malevolent groups might acquire and employ biological agents, or less likely, a nuclear device, to create mass casualties." (p.ix)
- BW ACCESSIBILITY:** "The globalization of biotechnology industries is spreading expertise and capabilities and increasing the accessibility of biological pathogens suitable for disruptive attacks." (p.70)

JULY 2007

- TITLE** *National Intelligence Estimate: The Terrorist Threat to the U.S. Homeland*. National Intelligence Council. July 2007.
- PURPOSE** Intelligence Community's (IC) judgments about the likely course of future events and implications for U.S. policy.
- URL** http://www.dni.gov/press_releases/20070717_release.pdf
Accessed November 5, 2009
- KEY FINDING REGARDING BW THREAT** **AL-QA'IDA CBRN ACQUISITION AND USE:** " We assess that al-Qa'ida will continue to try to acquire and employ chemical, biological, radiological, or nuclear material in attacks and would not hesitate to use them if it develops what it deems is sufficient capability." (p.6)

DEPARTMENT OF DEFENSE (DoD)

FEBRUARY 2007

- TITLE** *Transcript: High Value Detainees Combatant Status Review Tribunals (CSRT) Information.* Department of Defense. March 10, 2007.
- PURPOSE** Unclassified Verbatim Transcript of Combatant Status Review Tribunal Hearing for Khalid Shaykh Muhammad.
- URL** http://www.defenselink.mil/news/transcript_ISN10024.pdf
Accessed November 6, 2009.
- KEY FINDING REGARDING BW THREAT** **ADMISSION OF AL-QAIDA BW PROGRAM:** "I was directly in charge, after the death of Sheikh Abu Hafsa Al-Masri Subhi Abu Sittah, of managing and following up on the Cell for the Production of Biological Weapons, such as anthrax and others, and following up on Dirty Bomb Operations on American soil." (p. 17)

JANUARY 2005

- TITLE** *Potential Military Chemical/Biological Agents and Compounds.* Department of Defense. January 2005.
- PURPOSE** Produced by U.S. Army Chemical School with joint participation of all the service commands to provide technical information about potential CBW threats to commanders tasked with planning, preparing, and conducting military operations.
- URL** <http://www.fas.org/irp/doddir/army/fm3-11-9.pdf>
Accessed November 6, 2009
- KEY FINDINGS REGARDING BW THREAT** **BW THREAT:** "Biological agents can produce lethal or incapacitating effects over an extensive area and can reproduce. The delayed onset of symptoms and detection, identification, and verification difficulties for biological agents can also confer important advantages to adversaries who decide to use biological agents." (p.I-1)
- PROLIFERATION OF CBW TECHNOLOGY:** "Proliferation of CBW technology also raises several important issues. Various nations could export a wide array of chemical products, including Australian group-controlled items to numerous countries of proliferation concern. The controlled items include specific chemical agent precursors, pathogens with biological warfare (BW) applications, and dual-use equipment that can be used in both CBW programs." (p.I-2)
- ADVANCES IN BW RESEARCH:** "Advances in biotechnology and genetic engineering may facilitate the development of potentially new and more deadly BW agents. The ability to modify microbial agents at a molecular level has existed since the 1960s, when new genetic engineering techniques were introduced, but the enterprise tended to be slow and unpredictable. With today's techniques, infectious organisms can be modified to bring about disease in different ways. The current level of sophistication for many biological agents is low, but there is enormous potential—based on advances in modern molecular biology, fermentation, and drug delivery technology—for making more sophisticated weapons. The BW agents may emerge in two likely categories: man-made manipulations of classic BW agents and newly discovered or emerging infectious diseases. An example of a recent new pathogen (though not necessarily ideal BW agents) includes streptococcus pneumonia S23F, a naturally occurring strain of pneumonia resistant to at least six of the more commonly used antibiotics." (p.I-3)

DEPARTMENT OF DEFENSE (DoD)

BW USES AND INTRODUCTION OF DISEASE AGENTS: "Biological agents can be disseminated and used against personnel, animals, plants, or material. Food and industrial products can be rendered unsafe or unfit for use by contamination or by the effects resulting from contamination with biological agents. The US military forces are deployed throughout the world. Associated with the movement of troops are risks of introduction of exotic agricultural pests and animal disease agents through soil contamination and transportation of regulated items such as fruits, vegetables, meat, and dairy products, other food items, and animal products (e.g., trophies)." (p.I-7-I-8).

BIOLOGICAL AGENT SUITABILITY: "The key factors that make a biological agent suitable for an attack include availability or ease of production in sufficient quantity; the ability to cause either lethal or incapacitating effects in humans at doses that are achievable and deliverable; appropriate particle size in aerosol; ease of dissemination; stability (while maintaining virulence) after production in storage, weapons, and the environment; and susceptibility of intended victims with nonsusceptibility of friendly forces. Many replicating agents (bacteria and viruses) can be produced in large quantities with modern fermentation and viral production technologies. Some toxins, like ricin, are widely available because their source in nature is ubiquitous and the process necessary to harvest the toxin is technically straightforward." (p.I-10)

DEPARTMENT OF STATE

AUGUST 2005

TITLE	<i>Adherence to and Compliance with Arms Control Agreements and Nonproliferation Agreements and Commitments.</i> Department of State. August 2005.
PURPOSE	Congressionally-mandated assessment of U.S. and other nations' adherence to obligations undertaken in arms control, nonproliferation, and disarmament agreements or commitments (focus is primarily on the period 01/01/02 through 01/01/04).
URL	http://www.state.gov/documents/organization/52113.pdf Accessed November 6, 2009
KEY FINDINGS REGARDING BW THREAT	<p>COUNTERING THE BW THREAT: "Setting aside previous failed attempts to use traditional arms control measures to enhance the transparency of biotechnical activities, the States Parties agreed to discuss, and promote common understanding and effective action on, a specified set of topics that – if implemented nationally or through relevant international organizations – could have practical utility in helping counter the BW threat. This approach is particularly important in an era in which the capability to create and employ biological weapons is spreading beyond state actors to terrorist groups and even individuals." (p.15)</p> <p>CHINA: "The United States believes that in the years after its accession to the BWC, China was not in compliance with its BWC obligations. China continues to maintain some elements of an offensive biological warfare program it is believed to have started in the 1950s." (p.17)</p> <p>CUBA: "The United States believes that Cuba has at least a limited, developmental offensive biological warfare research and development effort. Such efforts are prohibited by the BWC." (p.19)</p> <p>IRAN: "Despite being a long-standing State Party to the Biological Weapons Convention and submitting confidence-building measures under the provisions of the BWC, Iran's capabilities and activities continue to raise concerns about the nature of its BW-related activities . . . The United States judges, based on available evidence, that Iran has an offensive biological weapons program in violation of the BWC. Iran is technically capable of producing at least rudimentary biological warheads for a variety of delivery systems, including missiles." (p.20)</p> <p>IRAQ: "The United States declared its suspicions that "Iraq may not be in compliance with the BWC" as early as CY1996 Report; however, we could not formally assess Iraq's compliance until we completed our review of Iraq's 'Full, Final, and Complete Declaration.' In that Report, however, we noted that 'though the recent Iraqi disclosures have been substantial, we believe that Iraq has not yet presented all details of its offensive BW program.'" (p.22)</p> <p>"The United States judges that Iraq has biological weapons and a significant offensive biological weapons program in violation of its obligations under the BWC. After signing the BWC in 1972, Iraq developed, produced, and stockpiled biological warfare agents and weapons and continued this activity after ratifying the BWC in 1991. Since inspections ended in 1998, Iraq has invested more heavily in biological weapons. Iraq has rebuilt its biological infrastructure under the cover of civilian production. Iraq has established large-scale, redundant, and concealed BW agent production capabilities based on mobile facilities. The Iraqi Government's determination to hold onto a sizable remnant of its WMD arsenal, agents, equipment, and expertise has led to years of dissembling and obstruction of UNSCOM inspectors." (p.22)</p> <p>LIBYA: "The United States assessed Libyan compliance with the BWC as early as June 1992. In that initial assessment, we concluded that Libya had the technical manpower and knowledge to produce small quantities of warfare agents and an interest in obtaining dual-use biological equipment, but</p>

DEPARTMENT OF STATE

that there was insufficient evidence to determine whether Libya had 'developed, produced, weaponized or stockpiled BW agents for hostile purposes.'" (p.24-25)

NORTH KOREA: "We continue to have serious concerns about the nature of North Korea's BW-related activities . . . The United States believes North Korea has a dedicated, national-level effort to achieve a BW capability and that it has developed and produced, and may have weaponized for use, BW agents in violation of the Convention. North Korea likely has the capability to produce sufficient quantities of biological agents for military purposes within weeks of a decision to do so." (p.26)

RUSSIA: "The United States is concerned that Russia maintains a mature offensive BW program." (p.27)

SYRIA: "We continue to have concerns regarding the nature of Syria's BW-related activities . . . Syria's biotechnical infrastructure is capable of supporting agent development. However, Syria lacks the technical infrastructure for a robust or sophisticated BW program and depends on foreign assistance to upgrade its biotechnology infrastructure." (p.31)

OTHER U.S. GOVERNMENT ENTITIES

SEPTEMBER 2009

- TITLE** *The Clock is Ticking. A Progress Report on America's Preparedness to Prevent Weapons of Mass Destruction Proliferation and Terrorism.* Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism. October 21, 2009.
- PURPOSE** An interim report on what the American government can and is doing to prevent WMD proliferation and terrorism, highlighting successes, needed improvements, and concerns in 4 realms: (1) Biological Weapons Proliferation and Terrorism; (2) Nuclear Weapons Proliferation and Terrorism; (3) Government Organization and Culture; and (4) The Role of the Citizen.
- URL** <http://www.preventwmd.gov/static/docs/report/WMDRpt10-20Final.pdf>
Accessed December 9, 2009
- KEY FINDINGS REGARDING BW THREAT** **BW THREAT:** "The threat of bioterrorism is real. In December 2008, the Commission concluded that terrorists are more likely to be able to obtain and use a biological weapon than a nuclear weapon. This finding is not singular: In recent years, the United States has received strategic warnings of biological weapons use from dozens of government reports and expert panels." (p.3)
- "Yet the nation's level of preparedness for dealing with the threat of bioterrorism remains far lower than that of the nuclear threat. Central to U.S. biosecurity strategy should be the recognition that biological weapons are distinct from nuclear weapons and require a unique approach." (p.3)
- "The current trends, if left unchecked, will increase the odds that al Qaeda will successfully develop and use a biological weapon or a nuclear device against the United States or its allies." (p.4)
- PREPAREDNESS, PREVENTION, AND DETERRENCE:** "As technology advances, the ability to prevent biological attacks diminishes. Therefore, as noted in the Commission's report, in order to deter attacks, the United States needs to demonstrate through preparedness and public exercises that the nation is capable of blunting the impact and thwarting the terrorist's objectives. The United States must strengthen resilience by developing the capability to produce vaccines and therapeutics rapidly and inexpensively." (p.3)
- "The realities of the biological weapons threat require a primary focus on rapid recognition, response, and recovery following an attack." (p.4)
- "There is an opportunity to decrease the impact of a biological weapons attack by improving the nation's capabilities for rapid recognition, response, and recovery. These capabilities, unfortunately, have not been adequately embraced in a national bioweapons prevention strategy." (p.6)
- "A major part of the U.S. long-term biodefense strategy should be based on reaching a level of preparedness that will prevent mass casualties, and in turn, effectively remove bioweapons from the category of WMD." (p.6-7)

OTHER U.S. GOVERNMENT ENTITIES

DECEMBER 2008

TITLE *World at Risk: The Report of the Commission on the Prevention of WMD Proliferation and Terrorism*. Graham B, Talent J, Allison G, Cleveland R, Rademaker S, Roemer T, Sherman W, Sokolski H, Verma R. Commission on the Prevention of WMD Proliferation and Terrorism. December 2008.

PURPOSE Congressionally mandated assessment of threat the U.S. faces from WMD and recommendations for reducing that threat.

URL <http://documents.scribd.com/docs/15bq1nrl9aerfuoyu9qd.pdf>
Accessed November 6, 2009

KEY FINDINGS REGARDING BW THREAT **THREAT OF BIOTERRORISM:** "The Commission further believes that terrorists are more likely to be able to obtain and use a biological weapon than a nuclear weapon. The Commission believes that the U.S. government needs to move more aggressively to limit the proliferation of biological weapons and reduce the prospect of a bioterror attack." (p. xv)

"Meanwhile, biotechnology has spread globally. At the same time that it has benefited humanity by enabling advances in medicine and in agriculture, it has also increased the availability of pathogens and technologies that can be used for sinister purposes. Many biological pathogens and nuclear materials around the globe are poorly secured—and thus vulnerable to theft by those who would put these materials to harmful use, or would sell them on the black market to potential terrorists." (p.xvi)

PREVENTION AND BIOSECURITY: "Since terrorists attacked the United States on September 11, 2001, the U.S. government has addressed the risk of biological proliferation and terrorism with policies rooted in a far different mind-set than the one that guides its policies toward nuclear weapons . . . the government's approach to bioterrorism has placed too little emphasis on prevention. The Commission believes that the United States must place a greater emphasis on the prevention side of the equation." (p.xvii)

"To date, the U.S. government has invested the largest portion of its nonproliferation efforts and diplomatic capital in preventing nuclear terrorism. Only by elevating the priority of preventing bioterrorism will it be possible to substantially improve U.S. and global biosecurity." (p.xvii)

"As a result, security awareness has grown slowly, lagging behind the emergence of biological risks and threats. It is essential that the members of the life sciences community—in universities, medical and veterinary schools, nongovernmental research institutes, trade associations, and biotechnology and pharmaceutical companies—foster a bottom-up effort to sensitize researchers to biosecurity issues and concerns." (p.xvii–xviii)

RECOMMENDATION 1: The United States should undertake a series of mutually reinforcing domestic measures to prevent bioterrorism: (1) conduct a comprehensive review of the domestic program to secure dangerous pathogens, (2) develop a national strategy for advancing bioforensic capabilities, (3) tighten government oversight of high-containment laboratories, (4) promote a culture of security awareness in the life sciences community, and (5) enhance the nation's capabilities for rapid response to prevent biological attacks from inflicting mass casualties." (p.xviii)

OTHER U.S. GOVERNMENT ENTITIES

BW PROLIFERATION: "The security of pathogen collections in Russia has been improved, but the large cadre of former bioweapons scientists remains a global proliferation concern." (p.xix)

RECOMMENDATION 2: The United States should undertake a series of mutually reinforcing measures at the international level to prevent biological weapons proliferation and terrorism: (1) press for an international conference of countries with major biotechnology industries to promote biosecurity, (2) conduct a global assessment of biosecurity risks, (3) strengthen global disease surveillance networks, and (4) propose a new action plan for achieving universal adherence to and effective national implementation of the Biological Weapons Convention, for adoption at the next review conference in 2011. (p. xix)

RUSSIA: "Of all America's interests involving Russia, none is more vital than reducing the risk of the accidental or intentional use of nuclear and biological weapons against our nation and its allies from a source in Russia." (p.xxiv)

DETERRENCE: "In order to deter biological attacks, we need to demonstrate—through effective preparedness measures and public exercises—that we are capable of blunting the impact of an attack and thus thwarting the terrorists' objectives." (p.24)

JUNE 2005

TITLE *The Lugar Survey on Proliferation Threats and Responses.* Lugar R. June 2005.

PURPOSE A report by the Chairman of the Senate Foreign Relations Committee on ways to "strengthen non-proliferation efforts, improve safeguards around existing weapons and materials, bolster intelligence gathering and interdiction capabilities, and expand international cooperation in dealing with a threat that should deeply concern all governments and peoples." (p. 1)

URL <http://lugar.senate.gov/reports/NPSurvey.pdf>
Accessed November 6, 2009

KEY FINDINGS REGARDING BW THREAT **LIKELIHOOD OF BW ATTACK:** "The group judged a major biological attack to be slightly more likely than a nuclear attack. More than half of respondents (43 of 83) saw the risk of a biological attack in the next five years as between 10% and 30%. Three respondents thought the risk was zero, while three others saw the risk as above 75%." (p.18)

"Expectations of a major biological attack over the next ten years were widely dispersed. Overall, 62% of respondents (49 of 79) saw the risk of such an attack as at least 20%. More than 40% of experts (32 of 79) estimated the risk as 40% or greater. Only three respondents believed the risk was less than 4%, while four judged it to be 97% or greater." (p.19)

NONPROLIFERATION STRATEGY: "Dismantling, securing and destroying nuclear, biological and chemical weapons and materials in the former Soviet Union and elsewhere should be the world's top nonproliferation priority, based on the number of responses in the survey. ... securing former Soviet weapons, employing former weapons scientists, or gaining access to Russia's biological weapons labs." (p.30)

"The possible terrorist use of chemical or biological weapons is the proliferation risk most in need of more attention, according to a tally of survey respondents." (p.32)

OTHER U.S. GOVERNMENT ENTITIES

MARCH 2005

TITLE *The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction. Report to the President of the United States.* Silberman L, Robb C. March 31, 2005.

PURPOSE Assess whether U.S. Intelligence Community (IC) is sufficiently authorized, organized, equipped, trained, and resourced to address the threat posed by the proliferation of weapons of mass destruction (WMD) by both State and Non-State actors.

URL http://www.gpoaccess.gov/wmd/pdf/full_wmd_report.pdf
Accessed November 6, 2009

KEY FINDINGS REGARDING BW THREAT **LIMITS OF INTELLIGENCE ON THE GROWING BW THREAT:** “Biological weapons are cheaper and easier to acquire than nuclear weapons—and they could be more deadly. The threat is deeply troubling today; it will be more so tomorrow, when genetic modification techniques will allow the creation of even worse biological weapons. Most of the traditional Intelligence Community collection tools are of little or no use in tackling biological weapons.” (p.34)

BW PREVENTION STRATEGY: “The Intelligence Community, and the government as a whole, needs to approach the problem with a new urgency and new strategies:

- Work with the biological sciences community.
- Make targeted collection of biological weapons intelligence a priority within the Intelligence Community.
- Leverage regulation for biological weapons intelligence. (p.34–p.35)”

LIMITATIONS OF INTELLIGENCE: “The Intelligence Community has struggled to understand the biological weapons threat. According to a senior official in CIA’s Counterproliferation Division, “We don’t know more about the biological weapons threat than we did five years ago, and five years from now we will know even less.” (p.506)

Center for Biosecurity of UPMC

621 East Pratt Street, Suite 210
Baltimore, MD 21202

443-573-3304

<http://www.upmc-biosecurity.org>