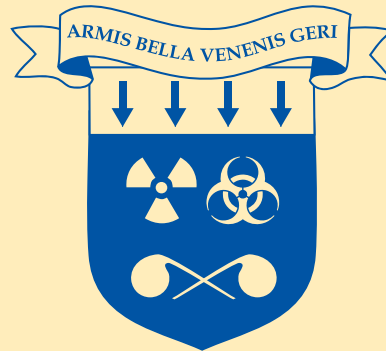


Future Warfare Series No. 62
**Envisioning a New Strategy to
Counter Great Power Use of
Weapons of Mass Destruction**

Albert J. Mauroni



United States Air Force
Center for Strategic Deterrence Studies
Maxwell Air Force Base, Alabama

62

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Preface

As a partial confession, I had intended for this article to be published in a peer-reviewed journal for broader consumption. I ran into a number of reviewers who decided that this wasn't the article that they would have written – in part because they wanted more of an op-ed piece on how weapons of mass destruction (WMD) are defined and why we need a counter-WMD strategy – and so it hasn't been published in a traditional academic forum. I didn't think another historical review on the development of counter-WMD policy was needed. However, I feel that this topic is important enough to be posted and circulated within our community, and so present it here.

As a matter of national security policy, the U.S. government has stated its concern about the proliferation and use of WMD for more than 30 years. After 9/11, the focus of this concern moved from nation-state programs to sub-state groups' efforts to obtain unconventional weapons. That said, after 2005, critical thinking on the topic declined over time even as rhetorical concerns over the threat of WMD continued. Within the last ten years, the counter-WMD discussion has been increasingly splintered among divergent paths, with arms control, CBRN defense, nuclear terrorism response, and natural disease prevention being more disconnected than connected under any overarching national strategy. The technical community that addresses WMD threats was already small enough. Today, the counter-WMD community has been balkanized into disparate special interests and lacks any senior leader direction. There are always other priorities.

One can say the same about the academic side as well. There have been very few books (other than my own) that have authoritatively taken on this topic and few academic research articles that have examined the adequacy of the U.S. counter-WMD strategy. The arms control and emergency response communities actively discuss how they intend to address future scenarios but at a strategic level, there has been a discouraging lack of open discussion on national or defense strategies on WMD policy. Think tanks and senior war colleges do not discuss WMD issues at all, unless it's couched as deterrence topics. The U.S. government in general does not develop WMD issues as national security topics today.

Maybe we need to abandon discussions about counter-WMD strategies and just let the issues be addressed by those communities who have a particular interest in this area. We argue about the particular wording of these strategies while senior leaders in government ignore them, having no interest in moving resources toward recognized capability gaps. If that's the case, then the U.S. government should make it clear that it is eliminating this strategy and instead directing the Departments of State, Defense, and Homeland Security to develop independent but complimentary functions for specific WMD challenges as they see fit. That would at least align with the differing views on WMD definitions.

It may be that the occupants of the White House continue to voice the need for a national strategy to counter the proliferation and possible use of WMD, requiring the NSC to coordinate actions and resources across the interagency. It then becomes inherent on the counter-WMD community to critically examine today's challenges – and in particular, great power competitors – and determine as to whether the ambiguous and resource-challenged national and defense counter-WMD strategies that have been in place for the past twenty years should be replaced. I suspect that this is the case, but the order hasn't been given yet.

As a final note, I wish to thank Mr. Dain Hancock for his invaluable input and assistance in drafting this paper. His analytical insights were fundamental to shape the scope of this argument. All errors of judgment in the article are mine.

Part I

Introduction

To maintain a vibrant and relevant national security community, one must continuously examine and critically assess the political objectives and capabilities of national strategy against current and future challenges. This is a key fundamental of U.S. administrations (past and present) in developing a National Security Strategy and National Defense Strategy to guide executive agencies in managing their resources. In particular, much has been written about the return of great power competition – how China and Russia have reasserted their influence both regionally and globally. In 2018, the Trump administration expressed its concern about global strategic competition as well as the continuing threat posed by the proliferation of weapons of mass destruction (WMD). The Obama administration had similar high-level guidance on the need to counter WMD proliferation. Despite these administrations’ emphasis on the need to leverage the whole-of-government to address varied WMD threats, there has been no unclassified national strategy since 2002 to provide direction as to ends, ways, and means to prevent adversarial use of WMD against U.S. national security interests. Now it falls to the Biden administration to decide what its strategy to counter WMD will be – a return to the past, focusing on proliferation concerns over smaller nations, or a new concept addressing great power use of WMD in contemporary security scenarios.

The Defense Counterproliferation Initiative began in 1993 as the Clinton administration began its “Bottom-Up Review” to examine the national security threats of a post-Cold War global environment. The Department of Defense (DOD) counterproliferation strategy was developed to channel existing conventional military capabilities to protect U.S. forces from the potential adversary use of nuclear, biological, and chemical weapons other than by the former Soviet Union.¹ One of the concerns at the time was that non-nuclear nations such as Iraq or Iran (and then-North Korea) would not be deterred by the threat of U.S. nuclear weapons use as a retaliatory action against their chemical or biological weapons use on the battlefield. In addition, following the Aum Shinrikyo use of sarin nerve agent in Tokyo and the Oklahoma City bombing in 1995, terrorist use of WMD was added as a threat to be addressed by the DOD counterproliferation concept.

Two of the main tenets of this concept were:

1. Following the breakup of the Soviet Union, scientists and equipment related to its WMD program would be released to other nations seeking this capability as a deterrent against U.S. military action.
2. The growth of the global economy and availability of technical information would increase the capability of nation-states and violent extremist organizations to develop WMD.

At the time, DOD leadership saw that there was a need to support Department of State-led activities to prevent WMD proliferation, protect U.S. forces from WMD on the battlefield, and support the federal response to domestic terrorist incidents. Without much fanfare, the Chairman of the Joint Chiefs of Staff released a counterproliferation strategy in February 2001,² after years of fierce debate by both academia and governmental agencies as to its form and direction. It is unclear as to whether the four services' leaders, tasked to develop capabilities under this concept, fully accepted the task at hand.

Following the 9/11 attack in 2001, the Bush administration took the Chairman's counterproliferation concept and elevated it as a *National Strategy to Combat Weapons of Mass Destruction* in 2002.³ While retaining the three main parts of the DOD concept (nonproliferation, counterproliferation, and consequence management), the national strategy emphasized preventive military actions over diplomatic actions. The 2003 Proliferation Security Initiative built upon the strategy's direction to "prevent the movement of WMD materials, technology, and expertise" across the globe through military and law enforcement capabilities. Amidst the establishment of new national security stakeholders following the events of 9/11, such as the Department of Homeland Security and Office of the Director for National Intelligence, policy makers engaged in an increasingly heated discussion about how to frame national responses to domestic WMD threats. This discourse included foundational debates about the meaning of "WMD" and what roles and authorities various federal agencies should have in responding to actors, both nation-state and sub-state groups, with aspirations to develop WMD capabilities. When the DOD released the *National Military Strategy to Combat WMD* in 2006, it was criticized as being too focused on the battlefield and not reflective enough on domestic challenges. At the same time, there was a *Biodefense Strategy for the 21st Century* released in 2004 and a *DOD Strategy for Homeland Defense and Civil Support* released in 2005 that had identified several responsibilities related to a terrorist WMD threat.

The Obama administration certainly shared this concern about the proliferation of WMD program-related technology and knowledge, although its focus was primarily on securing special nuclear material and addressing pandemic disease outbreaks. The Obama administration returned to diplomacy as the primary approach to dealing with WMD issues. In particular, the administration focused on regional issues of concern such as ensuring the destruction of Libya's chemical weapons and addressing the Assad regime's use of chemical weapons in Syria's civil war. Other challenges continuing from the Bush administration included negotiating with a recalcitrant North Korean regime on its nuclear weapons program and with Iran on limiting its nuclear research program to peaceful purposes. The successful conclusion of the New START treaty illustrated the strong desire to address Russia's nuclear capabilities, even as other nations with nuclear weapons programs continued to grow their arsenals. However, the Obama administration failed to institutionalize its new views in a strategy to replace the Bush administration's national counter-WMD strategy.

It is unclear as to whether the Trump administration made any inroads to develop WMD policy during its four years other than to largely continue the Obama administration's strategies under new covers. In a very real sense, there has been no national-level review of countering WMD since 2006, after confirming that Iraq had no active chemical or biological weapons program, as well as no indication of a nuclear weapons program. The time for assessing this 20-year-old strategy is long overdue. There has been no global proliferation of nuclear, biological, and chemical weapons, thanks to the efforts of a robust arms control regime. Non-nuclear nation-states and violent extremist organizations have not shown interest in causing mass casualties through the use of unconventional weapons. DOD has abandoned its counterproliferation capabilities while the Departments of Justice, Energy, and State have appropriated the term for their own efforts addressing adversarial pursuit of unconventional weapons.

During the past three White House administrations, national security strategies and presidential executive orders have been vague as to what the government executive agencies should do about preventing the proliferation of WMD. This was deliberate. They addressed general threats – weapon systems, natural diseases, classes of weapons – instead of specific threat sources. At the same time, Russia and China remain engaged in identifying means and opportunities for using unconventional weapons for purposes other than causing mass casualty effects. In particular, this behavior has resulted in an erosion as to the norms and rules on the conduct of great powers using non-nuclear WMD in contemporary security scenarios. As a result, the U. S government requires a new strategic approach to countering WMD that adequately addresses CBRN-specific threats in the context of great power competition.

For the purposes of this discussion, "WMD" are defined as nuclear, biological, and chemical (NBC) weapons capable of causing mass casualties (more than a thousand dead or injured) during a single event or incident. The United Nations and State Department often use the term unconventional weapons, which excludes high-yield explosives from the definition. Agencies within the DOD occasionally use the term "CBRN weapons" as a synonym, although in most cases,

radiological weapons will not cause mass casualties. CBRN hazards include the broad range of toxic substances that are released (deliberately or accidentally) in the presence of military forces or the general public, not necessarily in quantities that could cause mass casualties in a single incident. CBRN defense references the broad range of capabilities required to address both NBC weapons and CBRN hazards.

Defining the term “WMD” has taken up more ink in the open literature than probably is necessary, but clarification is needed if only to emphasize the importance of policymakers defining an arms control term intended to address nation-state military operations. One can make the argument for the need to coordinate counter-WMD activities across the interagency; however, given that specific charge, the focus must be focused solely on nuclear, biological, and chemical weapons developed by nation-states for the purposes of military operations. In particular, we suggest that:

1. New strategic guidance must offer a new construct on how the U.S. government prioritizes WMD threat sources and articulates ways and means for aligning whole-of-government resources, starting with a new *National Strategy for Countering WMD* that outlines how to address great power competition through deterrence, diplomacy, and defense operations.
2. New national strategic guidance must abandon the actor-agnostic view of the current national/DOD strategies so as to adequately address Chinese/Russian WMD challenges, as well as acknowledge the differences between peer/near-peer and lesser states, as well as violent extremist organizations.
3. A more engaged National Security Council staff must oversee strategies developed by executive agencies, in particular, DOD, Department of Homeland Security, Department of State, Department of Health and Human Services, and the intelligence community.

Part II

Reshaping Washington's Strategic Approach to Countering Weapons of Mass Destruction

Now firmly entrenched in an era of renewed great power competition, the Biden administration faces what the *Interim National Security Strategic Guidance* calls “an inflection point” in addressing global challenges to include an “increasingly assertive China and destabilizing Russia.” Noting that “both Beijing and Moscow have invested heavily in efforts meant to check U.S. strengths and prevent us [the United States] from defending our interests and allies around the world,” the *Interim Guidance* establishes a broad framework for countering Moscow and Beijing’s regional, transregional, and global challenges to U.S. political, economic, and military interests. The Biden administration is clear in its approach to countering military threats when the *Interim Guidance* states, “We will ensure our armed forces are equipped to deter our adversaries, defend our people, interests, and allies, and defeat threats that emerge.”⁴

Countering Russian and Chinese military threats, in particular, will require Biden’s national security team to consider updates to a range of strategies needed to align whole-of-government activities addressing the priorities outlined in the *Interim Guidance*. As part of, or perhaps in addition to, the forthcoming Global Posture Review referenced in the *Interim Guidance*, new national strategic guidance will be placed in the context of great power competition. The new strategic architecture must include updates to national strategy across a slate of security issues to include those acknowledged as top concerns in the *Interim Guidance* such as, “Pandemics and other biological risks, the escalating climate crisis, cyber and digital threats, international economic disruptions, protracted humanitarian crises, violent extremism and terrorism, and the proliferation of nuclear weapons and other weapons of mass destruction...”⁵

Among the list of topics warranting national strategic focus, perhaps none is in more dire need of a refresh than countering weapons of mass destruction (CWMD). The last public WMD-related strategy was the George W. Bush administration’s *National Strategy to Combat WMD*, released in 2002. Published in aftermath of the 9/11 terrorist attacks, the Bush administration’s strategy established the three pillars of counterproliferation, non-proliferation, and consequence management, which together remain a valid notional construct for binning whole of government functional approaches to countering WMD threats. However, with its post-9/11 focus on terrorist threats, that strategy is woefully

anachronistic and increasingly divorced from today's great power-centric strategic environment. Others have identified the need for a new national counter-WMD strategy, noting that "the current era of great power competition, advances in technology and globalization necessitate a reboot that incorporates those lessons into an implementable whole-of-government approach."⁶ As the Biden administration develops and implements a post-Trump U.S. national strategic architecture, the time is right for a new national counter-WMD strategy that integrates the functional framework of post-9/11 strategy with the targeted tools needed to successfully compete today against America's great power rivals.

What should an updated national strategy addressing today's priority WMD threats look like? While the 2002 *National Strategy to Combat WMD* focused on preventing terrorist acquisition and use of WMD, as well as the mitigation of WMD effects, today's great power WMD threats present a more complex array of political and military challenges. China and Russia's WMD capabilities, for instance, are just one component of their large, advanced, and increasingly integrated military capabilities. A new national strategy to address today's great power WMD threats must account for these threats in conjunction with China's and Russia's improving conventional forces; growing sophistication of offensive cyber capabilities, expanding pervasiveness of misinformation and disinformation campaigns, and their potential for technological advantage, particularly with regard to China, in areas such as hypersonic missiles, artificial intelligence, and biotechnology, among many other areas of innovation. Moreover, a new counter-WMD national strategy must take into account how Moscow and Beijing might plausibly leverage WMD along with these and other military and non-military capabilities as tools of deterrence and coercion in steady state operations, as well as on modern battlefields amidst regional and trans-regional conflicts.

Before the Biden administration can reframe national strategic approaches to countering WMD, it must, as Dr. Brad Roberts suggests, establish a "Blue theory of victory" for confronting China and Russia – one that accounts for their potential use of WMD to deter and/or fight a war. Roberts defines a theory of victory as "... a set of propositions about how and why the behavior of one belligerent in war or conflict short of war will or might affect the behavior of another belligerent in a desired manner. It is a 'continuous thread' running through strategy with an 'internal logic' and 'causal links' among ends, ways, and means."⁷ To do this effectively, he asserts, Washington must "go to school" on China's and Russia's strategies and their underlying theories of victory that "... should focus on stripping away the confidence of leaders in Russia and China in their escalation calculus."⁸ Therefore, construction of a meaningful and relevant national strategy for countering WMD must first begin with a consideration of China and Russia's national and military strategies and their associated force structures and postures with a focus on how Russia and China might seek to employ WMD against the United States, as tools of deterrence, coercion, or warfighting.

Assessing the Role of WMD in China's Strategy

China's President, Xi Jinping, has articulated a clear strategy for China's ascendance to both regional and global power. For Xi and the Chinese Communist Party, the purpose of China's national strategy is to "realize the Chinese Dream of national rejuvenation" through the accomplishment of three objectives:

1. Achieve a moderately prosperous society by 2021.
2. Grow stronger economically, become a leader in technological innovation, and have completed military modernization by 2035.
3. Field a world class military and have "resolved the Taiwan question" by 2049.⁹

For China's leaders, realizing the Chinese Dream is contingent upon China's continued economic prosperity, which in turn will deliver the resources for comprehensive military modernization. This modernization project, already well underway, is a necessary component to achieving China's national strategic objectives, and will increasingly enable China to challenge U.S. military dominance of the Indo-Pacific region and perhaps beyond.

Since sustained investment in the People's Liberation Army (PLA) is critical to Xi's articulated national strategy objectives, Beijing's intent to challenge the U.S.-led Indo-Pacific security architecture appears probable, if not certain. China's increasingly assertive military posture is already a pressing concern for the Biden administration, having manifested in repeated, aggressive military operations challenging Taiwan's sovereign air and sea zones in the first months of the new president's term in office. With the Biden team taking initial steps to politically confront Chinese regional aggression, as senior U.S. officials did at a high-level meeting between the two powers in March 2021, the administration must consider the full range of military threats that an assertive China poses, to include those involving the use of WMD.¹⁰ As the Biden administration takes stock of the PLA's increasingly capable conventional systems, senior administration officials and their military counterparts must not lose sight of the PLA's ability to wield WMD to achieve its political and military objectives as well.

Understanding how China might plausibly seek to use WMD to achieve objectives in strategic competition with the United States first requires a look at the PLA military strategy. Current PLA strategic guidelines, which collectively constitute China's military strategy, focus on "winning informationized local wars."¹¹ Experts on the PLA have interpreted this to mean "information dominance, precision strikes on strategic points, joint operations to gain victory" as well as an emphasis on improved maritime military capabilities enabling both "'near seas defense' and 'far seas protection'."¹² The adoption of these guidelines coincided with a major Xi-directed restructuring of the PLA, which largely occurred between 2015 and 2018.¹³ Xi's mandated military reforms have led to the PLA's fielding of

an increasingly modernized force capable of meeting the PLA's strategic military guidelines through enhanced power projection capabilities and increasing levels of joint integration.

The PLA's new force structure and posture is designed to enable the accomplishment of three military functions:

1. Winning modern wars with a focus on short duration, high intensity regional conflicts.
2. Deterring large and small competitors.
3. Protecting Chinese interests in the Indo-Pacific and beyond.¹⁴

An assessment of China's WMD threat requires a look at how the PLA might plausibly use chemical, biological, radiological, and nuclear capabilities in conjunction with an increasingly modernized and jointly integrated conventional force in the accomplishment of these three military functions. Lest we assume that the PLA does not consider battlefield use of WMD in military planning, the Chinese media reported in August 2020 that "The People's Liberation Army Rocket Force has stepped up drills for chemical, biological, radiological and nuclear (CBRN) warfare."¹⁵ PLA Rocket Forces (PLARF), in particular, are noted to have focused what the Chinese media calls "anti-CBRN exercises" in preparation for regional conflicts involving the United States.¹⁶ Although Chinese media reported these as being defensive military exercises, their focus on CBRN threats points to the PLA's general acknowledgement that WMD may be present on modern battlefields.

These CBRN exercises are curious for two reasons. First, the United States and its regional allies do not possess and have long renounced the use of chemical and biological weapons, in full compliance with their commitments to legally-binding Chemical and Biological Weapons Convention treaty obligations. Therefore, PLARF training to counter non-existent U.S. biological and chemical warfare threats seems unnecessary in terms of preparing for defensive warfighting.

Second, U.S. nuclear declaratory policy, which espouses a negative security assurance, precludes the possibility of nuclear use against China's mainland in all but the most extreme, and thus extremely low probability, military conflicts. Assuming that Beijing adheres to its long-stated no first use nuclear declaratory policy, there seems only a miniscule chance that the U.S. might engage in nuclear strikes against target inside China's borders. Why then might the PLA undertake large-scale CBRN exercises "involving thousands of soldiers and hundreds of vehicles" and then make these activities known to the public?¹⁷ While Beijing may view PLA exercises such as these as contributing to a regional and strategic deterrence posture – deterrence by denial in this case – these types of military activities may also indicate that Chinese political and military leaders see operational utility for these weapons on modern battlefields. Such a view could drive a military requirement to prepare PLA forces for operations in CBRN threat environments, perhaps of its own making.

China has long been suspected of possessing chemical and biological capabilities in spite of Beijing's ratification of both the CWC and BWC. Regarding China's biological warfare capabilities, "Reports from the United States in 2010, 2012, and 2014 all state essentially the same thing – that China likely possesses a biological weapons program, but the extent of that program remains unknown to the public.¹⁸ Past U.S. Department of State reports on China's "Adherence to and Compliance with Arms Control, Nonproliferation and Disarmament Agreements and Commitments" have indicated that "China maintains some elements of an offensive [biological weapon] capability in violation of its Biological and Toxin Weapons Convention (BTWC) of 1972 obligations."¹⁹ More recently, a U.S. official at the U.S. Army Medical Research Institute of Chemical Defense noted in 2019 that "China is the leader in toxin-based threats" and that "China knows more about marine toxins in particular than any other country in the world."²⁰ Although little public information is known about China's purported biological warfare programs, available information suggests that Beijing may retain a biological warfare capability or at least has interest maintaining the capability to produce biological weapons.

China's position as one of the leaders of the global bioeconomy increases its potential for realized or latent advanced biological warfare capabilities. Beijing appears committed to becoming a leader in biotechnology, which holds the promise of myriad public health applications. Yet, many biotechnology applications are dual-use, capable of delivering both public health benefits as well as advances in biological warfare capabilities. As one top U.S. expert noted, China "is pursuing a very aggressive strategy to become the world leader in biotechnology, ..."²¹

Sustained public and private investment in synthetic biology technologies needed for DNA sequencing and synthesis as well as gene editing has enabled China to develop a wide array of dual-use biotechnologies in the field of synthetic biology. Many experts anticipate that synthetic biology advances will enable the development of "new and novel biomaterials" to include advanced bioweapons.²² As a 2020 Brookings study noted, "The determination of China's one-party state to become a leading player in biotechnology is reflected by the rapid growth in investment in the sector. Some estimates claim that collectively, China's central, local, and provincial governments have invested over \$100 billion in life sciences research and development."²³ China's sustained and sizeable government investment in domestic biotechnology has created an industrial base capable of developing and manufacturing a range of extant and novel biological warfare agents.

Turning to potential chemical threats, the Nuclear Threat Initiative notes that "Past United States government assessments have accused China of not declaring the full extent of its chemical weapons program, past and present though the most recent CWC compliance report released by the State Department in March 2012 does not list China as a country with any compliance issues." Whether or not the PLA maintains a covert chemical warfare program, China's advanced industrial economy certainly possesses the latent capacity for production of a range of chemical weapons and hazardous agents that could be leveraged against competitors and adversaries in times of crisis and conflict.

One 2019 report stated that China's "chemical industry has been the largest in the world by revenue since 2011, and its growth rate continues to outpace by far other major chemical-producing regions" adding that "China's chemical-R&D [Research and Development] spending is now among the world's leaders."²⁴ As China's dual-use chemical technologies advance, so too does the potential production base for chemical warfare agents to include toxic industrial chemicals (e.g., chlorine) and traditional chemical weapons (e.g., nerve agents). Moreover, China's immense pharmaceutical industry of approximately 5,000 domestic manufacturers has both the expertise and capacity to produce a range of chemical threats, to include pharmaceutical-based agents (PBA).²⁵

China's role in the production and proliferation of fentanyl, in particular, has come under scrutiny in recent years. Experts have noted that "China is currently the main global source of illicit fentanyl and fentanyl analogues."²⁶ Many opioids offer potential benefit in civilian law enforcement and medical treatment applications. As a result, PBAs are not classified as chemical warfare agents in the Organization for the Prohibition of Chemical Weapons schedule of chemical weapons. Due to the legitimate uses of fentanyl, the arms control community has had a hard time deciding how to address this particular class of chemicals, some suggesting the term "central nervous system" or CNS agents as opposed to using the broad term "pharmaceutical-based agent." While some alarmists have called for the branding of fentanyl as a "WMD,"²⁷ the illicit use of fentanyl in drug crimes is by far the more alarming policy challenge, causing more than 36,000 deaths from overdoses in 2019.²⁸

In contrast to China's less publicized potential for presenting biological and chemical challenges, the PLA's nuclear weapons capabilities continue to grow and progress in more overt ways. To begin with, the aforementioned PLA restructuring has led to the establishment of the PLA Rocket Forces (PLARF), which now commands and controls China's nuclear forces in place of the defunct PLA Second Artillery Corps. The PLARF's nuclear force posture presents the United States and its regional allies and partners with a new set of nuclear deterrence and potential warfighting challenges. Particularly troubling is the co-mingling of conventional and nuclear forces in PLARF deployed military units. As U.S. experts have explained, the PLARF is "responsible for the country's ground-based missile fleet, assigns brigades of conventional and dual-capable delivery systems to shared bases, appears to deploy and/or exercise these brigades in overlapping areas, and is increasingly training its personnel in how to use both."²⁹

Beijing's restructuring of PLA nuclear forces has created what some expert observers describe as the entanglement of conventional and nuclear capabilities. Dr. James Acton has noted entanglement brings with it inherent risks of heightened nuclear escalation in times of crisis and conflict due largely to targeting issues associated so-called dual-use command and control systems.³⁰ While the PRC may see deterrent value in combining conventional and nuclear capabilities at the unit level, the fact that "China's command-and-control systems and processes for conventional and nuclear-capable missiles also appear to be either shared or substantively overlap" implies that the PLA may see some operational utility beyond strategic deterrence for their ground based nuclear systems.³¹ While Beijing

has long held to a no first use policy for nuclear weapons, the co-mingling, indeed integration, of its ground-based conventional and nuclear delivery systems suggests that Beijing has perhaps considered their potential value in regional conflict scenarios.

Along with these problematic nuclear command and control reforms implemented over the past five years, the U.S. Department of Defense (DOD) has sounded the alarm on the increasing size of China's nuclear arsenal. Its 2020 *Annual Report to Congress on Military and Security Developments Involving the People's Republic of China*³² assessed that "Over the next decade, China's nuclear warhead stockpile – currently estimated to be in the low 200s – is projected to at least double in size as China expands and modernizes its nuclear forces." China's growing nuclear force size coincides with a diversification of force structure, with the DOD reporting that China is investing in a nuclear triad capability. The diversification of China's nuclear force structure also entails the fielding of dual-capable nuclear delivery systems designed for striking regional targets. For instance, the DOD report highlights that "The PRC is expanding its inventory of the multi-role DF-26, a mobile, ground-launched intermediate-range ballistic missile system capable of rapidly swapping conventional and nuclear warheads."³³

The U.S. government's approach to countering WMD has traditionally been put in the context of open conflict with nation-states or violent extremist groups. However, China's unique employment of "gray zone" actions to gain competitive advantages over its neighbors and the United States requires us to change our approach. Given that China uses both military intimidation and non-military capabilities such as law enforcement and militia forces to threaten its neighbors, one can expect that it will use WMD capabilities in situations below the threshold of war.³⁴ This can include China's lack of support to the Proliferation Security Initiative as well as refusing to engage North Korea on its WMD ambitions, in addition to its growing biotechnology initiatives to enhance its military forces. Given China's growing nuclear power, its leaders could engage in threatening its neighbors with WMD without concern that the U.S. government would attempt to retaliate with military forces, as it has with Syria's continued use of chemical weapons.

Assessing the Role of WMD in Russia's Strategy

Russia does, of course, have unique challenges with regards to the “great power competition” dialogue and needs to be evaluated distinctly from China’s WMD capabilities. It is a mistake to label Russia as a “declining power” even as the fashionable thing to do today is to focus on China as a “pacing threat” to the United States. While Russia may lack the former assets of the Soviet Union and may not today equal the power of China or the United States, it remains an enduring great power and has the ability to use its tools of government to deter, complicate, and frustrate the United States’ and Europe’s strategic goals.³⁵ Similar to China, Russia has a significantly advanced industrial capability that can easily develop chemical and biological agents, even as it claims fidelity to arms control treaties that outlaw such actions. Moreover, of course, Russia has a nuclear weapons capability equal to that of the United States, which allows it to undertake actions below the threshold of conflict with relative impunity.

The Russian grand strategy has the following goals:

1. To reclaim and secure Russia’s influence over its former Soviet republics.
2. Regain international recognition as a great power.
3. Increase its diplomatic, economic, and military influence on the world stage by acting as a reliable partner, a regional powerhouse, and a political mediator.

These goals directly challenge the United States and its partners for leadership of the liberal international order as it stands, in part through the execution of “gray zone” activities that similarly advance Russia’s strategic goals under the threshold of open conflict. At the same time, Russia sees itself at a state of war with the United States and Western powers, using both military and civilian elements to practice a hybrid form of conflict in its near regions.³⁶ Russia’s WMD capabilities are part and parcel in its global strategy.

Russia’s ability to develop and produce chemical weapons is second to none, with a former declared chemical weapons stockpile measuring about 40,000 tons. Other experts suggest that the stockpile was larger, but more importantly, after signing the Chemical Weapons Convention treaty in 1993, Russia is suspected of continuing its development of Novichok nerve agents even as it was destroying its existing stockpile of nerve and blister agents.³⁷ The Russian government declared that it had finished destroying its legacy stockpile in late 2017, although its alleged use of Novichok to attempt the assassination of Sergei Skripal in 2018 and Alexei Navalny in 2020 suggest that it has retained an active chemical weapons program. The U.S. government has sanctioned the Russian government twice under the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991. There has been no evidence of chemical warfare in Russia’s invasion of Ukraine,

leaving open the suggestion of whether Russia has retained the ability to use chemical weapons as part of an open military conflict.

Russia has also had a significant role in Syria's chemical weapons program, in as much as it brokered an arrangement between the United States and Syria to encourage that nation to destroy its declared chemical weapons after the 2013 Ghouta attack in which more than 1,400 civilians may have been killed by Syrian chemical weapons attacks. Prior to the threat of U.S. attacks against Syria, the Russian leadership was uninterested in pushing Bashir al-Assad toward stopping his use of chemical weapons during Syria's civil war, and even after negotiating a framework toward destroying its stockpile, was similarly uninterested in working with the United States to fully identify and designate Syria's chemical weapons production and storage sites.³⁸

The State Department has concluded that "Russia is in non-compliance with the [Chemical Weapons Convention] for its use of a military-grade nerve agent in an assassination attempt on U.K. soil." In addition to U.S. concerns about Russian assistance to Syria regarding its use of chlorine-filled barrel bombs, there is suspicion that the Russian development of PBAs (specifically fentanyl derivatives) is for purposes other than legitimate peacetime use.³⁹ Russia's use of a fentanyl derivative during a hostage situation in 2002 was in context of an internal security operation and not a military conflict, and there have been no cases of any nation using fentanyl or "PBAs" in a similar context in recent years. But again, it remains unclear where the arms control regime will fall on the use of a commercially-available chemical during security operations.

Similarly, the State Department has concerns about Russia's compliance with the Biological and Toxin Weapons Convention, assessing that "the Russian Federation (Russia) maintains an offensive BW program and is in violation of its obligations." This is due to incomplete confidence-building measure submissions as well as an incomplete acknowledgement of the former Soviet Union BW program. The State Department has gone so far as to designate specific Russian government facilities as "acting contrary to the national security or foreign policy interests of the United States" through their association as military defense facilities associated with a BW research program.⁴⁰ These are not recent concerns. Analysts will point out that in 2012, then-Prime Minister Vladimir Putin talked about the potential for "weapon systems that use different physical principles will be created (beam, geophysical, wave, genetic, psychophysical and other types of weapons)."⁴¹

However, it is unclear that this attributed quote referred to a return to developing biological weapons for the purposes of military conflict. In 2019, Putin directed a budget of 220 billion rubles (or \$3.3 billion) toward the development of genetic technologies that could support a wide range of applications (biomedical, agricultural, or biodefense).⁴² At the same time, the Russian government has claimed that the United States is building offensive BW laboratories in countries surrounding Russia through the Biological Threat Reduction Program. For instance, the "Lugar Center for Public Health Research" in Tbilisi, Georgia, was funded by U.S. defense funds, but its intent is to promote health security against natural infectious disease outbreaks.⁴³ In response to U.S. government accusations as to China's role in the COVID-19 outbreak, Chinese government officials have

recently echoed the same claims that the U.S. government has created biological weapons near their borders.⁴⁴ This type of disinformation campaign falls squarely in the “gray zone” set of tools.

There has traditionally been a significant focus on Russia’s nuclear weapons program, as an existential threat to the United States and as the only other nation that currently has the same scope and capabilities as the United States. Russia has been modernizing its nuclear weapons arsenal over the past 20 years, and has recently boasted as to several new capabilities. These include a new heavy intercontinental ballistic missile with 10 independent warheads (the RS-28 Sarmat), an autonomous underwater nuclear drone, the Avangard hypersonic glide vehicle, and a nuclear-powered cruise missile (SS-C-X-9 Skyfall) that could fly for thousands of miles before penetrating U.S. airspace.⁴⁵ This is, of course, in addition to Russia’s own nuclear triad of land-based strategic missiles, submarine-launched ballistic missiles, heavy bombers with air-launched cruise missiles, and non-strategic nuclear weapons. One can speculate as to whether Russia intends to pursue formal development of these new strategic systems or if they are intended to goad the United States into further arms control discussions.

Putin has been very deliberate about expressing Russian policy on nuclear weapons as an aspect of national security, being directly involved in war games that exercise nuclear weapons use and publicizing these exercises to make sure that the deterrent message is understood. Russian military doctrine in 2014 stated that “The Russian Federation reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and/or its allies, as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is threatened.”⁴⁶ In 2015, Putin talked about being prepared to bring nuclear weapons into play over Ukraine’s conflict in the Crimea, and has deployed nuclear-capable bombers and mobile missile units to the Russian border there.⁴⁷ In 2019, the Grom exercise included thousands of ground forces, more than 200 missile launchers, and a mix of strategic bombers, naval warships, and nuclear submarines practicing the authorization and launch of nuclear weapons.⁴⁸

Without delving too deeply into the Russian nuclear forces and doctrine, it should be self-evident that it represents a significant strategic capability. It remains the main rationale as to why the United States continues its nuclear modernization efforts as well as aggressively promoting continued arms control talks.⁴⁹ What also should be evident, without much debate, is that the 2002 U.S. *National Strategy to Combat WMD* and the 2014 *DOD Strategy for Countering WMD* was never intended to address Russia’s (or China’s) nuclear capabilities, despite the “WMD” representing nuclear, biological, and chemical weapons. In a very large sense, these nations’ nuclear weapons are not just intended to deter the United States from using its nuclear weapons. In fact, Russia and China use their nuclear weapons every day to support their gray zone operations and to underscore their day-to-day diplomatic functions.

Three Army officers recently penned an article on the *Modern War Institute* website suggesting that the Army develops its capabilities and doctrine against “great powers” with the assumption that it can control escalation to remain conventional. The Air Force suggests that U.S. conventional and nuclear forces will become integrated in the future battlespace, even as China and Russia continue to develop a nuclear-based defense to offset their conventional weaknesses. Meanwhile, both states will continue to be able to use nuclear weapons to provide sanctuary for transregional, non-kinetic attacks, supporting their regional conquests through *fait accompli* land and ocean grabs.⁵⁰ Getting past the deep deterrence debates that are already undergoing as to strategic stability and nuclear deterrence operations, it should be clear that the strategies for countering WMD do not address the nuclear arsenals of Russia and China.

To be very clear, Russia and China have not gone back to building Cold War stockpiles of chemical and biological agents, and their nuclear forces have matured to become operational aspects of their grand strategies. They are not thinking about “mutually assured destruction” (nor are we) with their nuclear forces, but at the same time, their nuclear weapons are used every day (as are ours) as deterrent capabilities. U.S. national security strategies over the past 20 years have consistently stressed that WMD proliferation is a top-level concern and that military forces should be protected from WMD attacks. However, our strategy is woefully outdated and oriented toward smaller and largely non-nuclear nation-states. As a result, our forces are unprepared to address the WMD challenges offered by China and Russia.

Part III

Foundations of CWMD Strategy

Given an understanding of how Russia and China might use WMD, to include scenarios other than direct conflict with the United States, how should the United States develop and shape its theory of victory to counter WMD amidst great power competition? The current approach by U.S. national security policy makers has been to address the object of the strategy – WMD – and not the particular adversaries that employ these tools of power. This general approach favored U.S. military action against small non-nuclear powers with chemical and biological weapons. These past counter-WMD strategies have been developed and implemented in isolation from conventional defense strategies, which compounded the problem. We should acknowledge that, at the least, the current strategies to counter WMD do not adequately cover great power competition. After addressing the obvious challenge, the second question should be, how does the United States address the potential use of WMD by violent extremist organizations? Should it be addressed in the same breath as China's and Russia's use of WMD? Or should a national strategy for combating terrorism address this challenge as a separate, but linked, policy issue?

As a model for this discussion, we recognize that China and Russia will use WMD differently depending on the context of the particular security challenge. This discussion is not, under any situation, to say that China and Russia intend to use WMD against the United States and its allies in a uniform fashion. However, we can identify common variables that allow for a flexible national strategy to address both nuclear-weapon states. One possible framework is to examine great power use of WMD in terms of three specific contexts: total war scenarios with the United States, in regional conflicts with U.S. allies and partners, and below the threshold of war. In all of these contexts, the threat of strategic and tactical nuclear weapon use is a paramount factor.

In a total war scenario, nuclear weapons use against the homeland will be a top concern, but strategic employment of biological and chemical weapons must also be considered. In a regional conflict, nuclear deterrence and compellence by China and Russia will challenge the United States and its partners to abstain from action, even as great powers use chemical and biological weapons to attain their political objectives. In conflict scenarios below the threshold of war, the nuclear shadow will remain in the background to allow great powers the use of chemical or biological weapons, and in particular in small-scale, single incidents and internal security operations (see Figure 1).

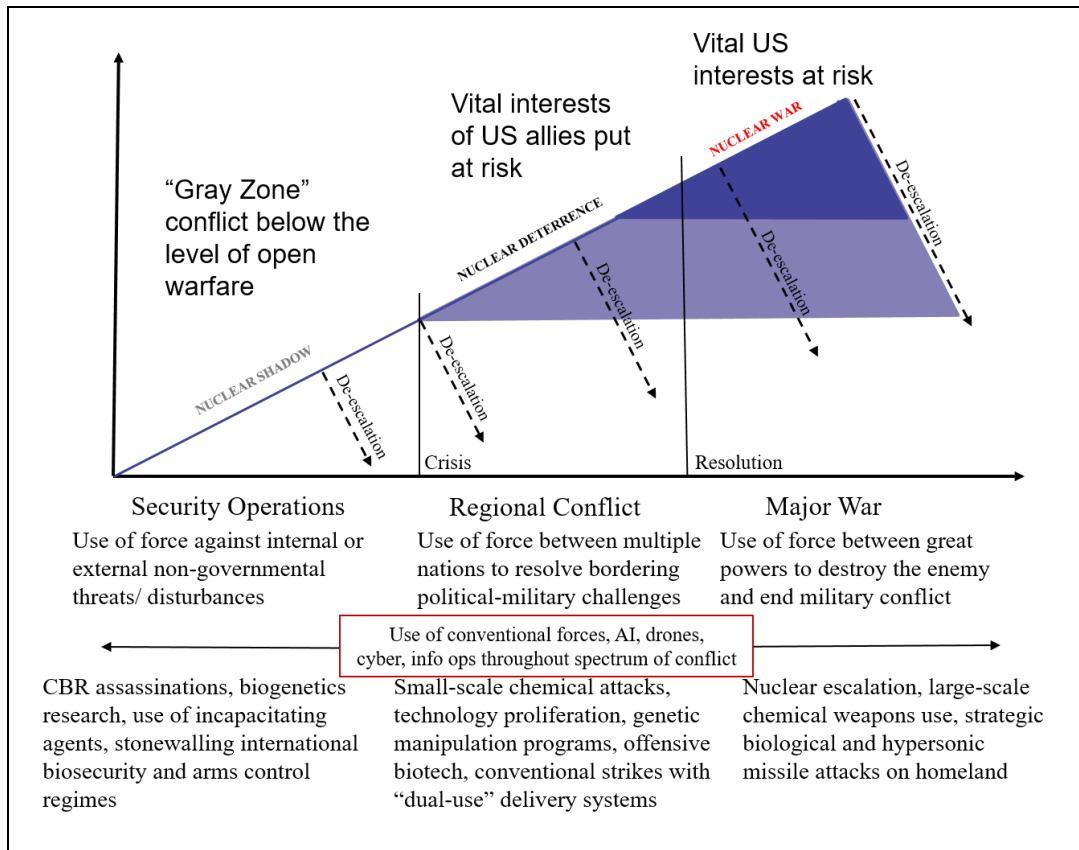


Figure 1. Red Theory of Victory

*Adapted from Dave Johnson, "Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds," LLNL CGSR, 2018

The most familiar concept would be the foundation of a national strategy to counter Russia's and China's use of WMD in a total war conflict with the United States. If one were to review the past efforts of U.S. administrations to counter adversarial use of nuclear, biological, and chemical weapons during the Cold War, a familiar model emerges. The U.S. policy approach prior to 1992 was to engage the former Soviet Union in diplomatic talks to constrain the deployment and use of unconventional weapons through bilateral and multilateral arms control and nonproliferation agreements, while simultaneously developing military capabilities to support deterrence policy objectives as a "guarantor" of strategic stability. At the same time, it was understood that diplomacy and deterrence were not enough to guarantee the prevention of unconventional weapons use, and so military forces had to develop defensive countermeasures to protect themselves and to sustain operations in a contaminated environment. While one might eschew a Cold War concept as a matter of principle, this foreign policy approach was generally viewed as successful in containing a great power threat (as much as contemporary analysts can agree on Cold War deterrence concepts).⁵¹ Today we need a multi-layered approach to countering WMD use, addressing strategic and regional conflicts as well as those incidents that fall below the threshold of combat.

	Total War	Regional Conflicts	Security Operations
Nuclear Component	Nuclear Warfare	Nuclear Deterrence	Nuclear Shadow
Security Framework	Use of force between great powers to destroy the enemy and end military conflict	Use of force between multiple nations to resolve bordering political-military challenges	Use of force against internal or external non-governmental threats/disturbances
Peer Unconventional Threats	Nuclear escalation, large-scale chemical weapons use, strategic biological and hypersonic missile attacks on homeland	Small-scale chemical attacks, technology proliferation, genetic manipulation programs, offensive biotech, conventional weapons with “dual-use” capability	CBR assassinations, biogenetics research, use of incapacitating agents, stonewalling international biosecurity and arms control regimes
U.S. Countermeasures	Conventional-nuclear integration, installation CBRN defense, nuclear C3 hardening, WMD defeat munitions, theater air/missile defense	Prolif Prevent Program, European and Pacific Deterrence Initiatives, CBRN forensics, WMD disposal/dismantle capabilities	Diplo/econ sanctions, NBC verification regimes, WMD interdiction ops, international oversight on bio research, Global Health Security Agenda

Table 1. Identifying the Spectrum of Future Peer Unconventional Conflict

Given a scenario of total war with a great power, the policy objective is to protect U.S. forces and the homeland from strategically-employed WMD using diplomatic, deterrent, and defensive policies. While WMD proliferation concerns continue, there is no substitute for direct negotiations with Russia and China on their compliance with international agreements of which they are signatories.⁵² The Biden administration has already signaled its intent to return to diplomatic vehicles to engage China and Russia, and certainly this includes bilateral and multilateral arms control treaties on nuclear, biological, and chemical weapons. The 2018 Nuclear Posture Review Report outlines the importance of deterrence capabilities in managing the threat of strategic attacks against the United States. A state of general deterrence between great powers, to include an aspect of mutual vulnerability, maintains strategic stability during peacetime. If general war does break out, nuclear weapons continue to offer deterrent capabilities to limit conflict to conventional and non-kinetic weapons.

There are significant defensive measures available to the U.S. military, starting with the development of specialized munitions and capability to deliver offensive strikes on WMD delivery systems. This does not mean preventive strikes that may inadvertently escalate the conflict to a nuclear exchange, but rather counter-force strikes that occur during a conflict to pre-empt any employment of WMD delivery systems. There must be a high priority on improving CBRN defense capabilities for military forces for long-term, extended operations in contaminated environments, above and beyond what might have passed as adequate for smaller adversaries during the 1990s and early 2000s. Homeland security options includes the protection against ballistic missiles and cruise missiles, to include hypersonic missiles, as well as the need to develop installation CBRN defenses for military bases in the continental United States as well as those outside the continental United States. The basic model stands as a well-tested and familiar process – the United States can counter the strategic use of WMD against the United States in a great power conflict through the use of diplomacy and deterrence, and in the event of the failure of deterrence, the United States and its allies will use active and passive means of defense to protect U.S. forces and the homeland during active combat with these major powers.

China and Russia have demonstrated their intentions to be the regional hegemonies in their respective areas of Asia and Europe, and are also engaged with client states in the Middle East and Africa. With the possibility of regional conflicts between these powers and non-nuclear states, one can expect the possibility of lesser restraints on the use of chemical and biological weapons as well as the threat of nuclear deterrence as mechanisms to keep the United States and Western allies at bay. This may extend to covert support to another nation's unconventional weapons program, or at the least, ignoring said use in regional conflicts (e.g., Syrian or North Korean use of chemical or biological weapons). Russia and China both have the distinction of being nuclear-weapon states and retaining significant conventional forces to develop regional hegemonies along their borders. If they use unconventional weapons in conflict with U.S. partners or non-aligned countries, the United States and its allies may be constrained from overtly countering such use. While Iran, North Korea, or Syria would face the threat of U.S. offensive operations to deter or contain such behavior, this option will not work with great powers. The concept of "pathway defeat," as described in DOD's Joint Publication 3-40, *Joint Countering Weapons of Mass Destruction*, is not an option to take out production and storage sites in China and Russia. Any preventive attack on great power critical infrastructure would quickly escalate to a strategic conflict.

In this scenario, counterproliferation concepts that have matured in the past will be useful to mitigate great power use of WMD in regional conflicts, if only through the concept of security cooperative activities and threat reduction programs. Proliferation prevention programs can enhance allied CBRN defense capabilities and provide critical training in times of crisis. Extended deterrence and military support to U.S. allies will be increasingly important to maintaining stability in these regional conflicts, as will tailored deterrence capabilities against any state sponsored by China or Russia. Conventional deterrence integrated with theater nuclear plans will play a major role in both the European and Pacific theaters. The

development of tailored deterrence concepts, focusing on specific actors and specific responses in light of crisis management, will be needed to deter, dissuade, and roll back WMD use in cases where the United States and its allies are not directly targeted.

Given that great powers could develop significant chemical or biological arsenals for use in anti-access/area denial efforts, theater air and missile defense as well as military CBRN defense countermeasures remain fundamental to surviving and sustaining combat operations in contaminated environments. Improving our allies' air/missile defense capabilities, such as deploying the Patriot system in the Middle East and the THAAD system in South Korea, can be a vital defensive measure. Improving allied installation CBRN defense benefits those nations' hazardous response capabilities as well as inherent force protection measures. Multilateral interdiction exercises will not only improve regional security, but it is an important confidence-building measure between the United States and its allies. Programs such as the Proliferation Security Initiative, Cooperative Threat Reduction Program, and Open Skies remain viable options to reduce the threat of unconventional weapons in regional situations through engagement with U.S. allies and partners. Last, we should recognize the value of U.S. Special Operations Command providing counter-insurgency and unconventional operations in support of U.S. allies and partners during regional crises involving WMD.

Certainly, the most complicated factor of a new counter-WMD strategy will be addressing Russia's and China's use of unconventional weapons below the threshold of total war. We have described the potential scenarios for chemical and biological weapons use by these powers, which would not cause mass casualties but would have significant political impact. The nuclear shadow cast by China and Russia's nuclear weapons prevents a direct military response to such actions. Given that possible scenario, the United States must re-invest in diplomatic channels to build upon America's primacy in the liberal international order, to include re-invigorating the arms control regimes that have successfully decreased the possibility of unconventional weapons being used in a future conflict. The international arms control regimes will be invaluable as a source of constraint, if only to verify the deliberate use of weapons as opposed to accidental releases or accusations of sub-state group use.

The United Nations' verification regimes, notably the International Atomic Energy Agency (IAEA) and the Organization for Prohibition of Chemical Weapons (OPCW), are important platforms by which to challenge Russian and Chinese use of unconventional weapons in the Gray Zone. While those nations get a significant vote in what actions are taken through the United Nations, the verification regimes still represent a significant international fora by which the United States can build coalition responses. Initiatives that support health security, such as the Global Health Security Agenda, offer the ability to negate perceived Gray Zone advantages. The United States should also consider a larger role in international oversight of biotechnology research, if not only to stay aware of where the BSL-3 and BSL-4 labs are and who runs them. While the United States has an obvious interest in overseeing dual-use research of concern and gain-of-function research

within its borders, the possible application of biological research to weapons programs must be monitored.

The focus of this paper has been on great power competition, but we suggest that this generic Blue theory of victory does support a coordinated government approach to non-nuclear and small nuclear states that have chemical and biological weapons programs. The 2014 *DOD Strategy to Counter WMD* did, in a broad fashion, articulate a national-level concept to prevent, protect against, and respond to lesser states with WMD programs. Those aspects should be retained, but articulated clearly as a case requiring a tailored approach toward adversarial nations, as opposed to its current form of focusing on WMD as an object of strategy. There should be a distinct difference between how the U.S. government addresses smaller powers and how it addresses great powers, but this is not a difficult step. It just requires a direct articulation of ways and means for specific actors, instead of an agnostic approach as it stands now.

This generic Blue theory of victory can (and should) address the challenge of violent extremist organizations (VEOs) that seek WMD capabilities. We do not need a separate national strategy for countering WMD terrorism, because the responsible agencies for this function are largely the same that operate under this great power construct, particularly against the “Gray Zone” aspects. The State Department leads international discussions on countering terrorism as well as arms control and nonproliferation activities. Deterrence capabilities are not strictly focused on nuclear-weapon states, but can be applied to sub-state groups as well as nation-states. Defensive measures can constrain sub-state groups from acquiring technology and materials just as much as they do against nation-states. While there is the need to tailor an approach to VEOs as distinct from that to great powers, the ways and means are very similar and should be detailed. The failure to distinguish the target of these ways and means, as has been done in the past national and DOD strategies for countering WMD, must be avoided.

While one might assume that the diplomatic corps and U.S. policy makers already use their tools of government power toward the challenge of nation-state WMD programs and VEO desires to acquire WMD capabilities, in fact the U.S. government lacks a consistent approach that unifies their efforts with that of the DOD’s operational concepts. The rule of practice has been to ad-hoc the U.S. approach to a WMD crisis rather than a whole-of-government approach to align resources and programs against the great powers’ WMD capabilities, leverage a long-term policy process to develop, assess, and adjust the U.S. national strategy against this particular challenge.⁵³ This needs to change immediately.

Part IV

Addressing WMD Challenges

in an Era of

Renewed Great Power Competition

Building upon Brad Roberts' excellent thesis, we need a theory of victory that addresses each phase of great power competition, while critically assessing the capability gaps that exist today. Key to the development of any strategy is the identification of specific government agencies (ways) and required capabilities (means) that can lead to the accomplishment of specific political objectives. One of the most challenging issues of DOD's past counterproliferation concept was the push-back by the armed services in the late 1990s and early 2000s, in which the services rejected the need to fund what they saw as unresourced requirements for specific technical capabilities that might never be used. To that end, this theory of victory employs programs that have applications across the spectrum of unconventional weapon use. This requires an understanding that there will be no single budget or portfolio for countering WMD, since the capabilities required belong to a number of discrete parties.

The United States will use diplomacy, deterrence, and defense in response to the use of WMD throughout the range of competition with peer nations. Most notably, this general approach will require a change from having a specific community that addresses countering WMD to expanding the responsibilities of other executive functions to address WMD challenges by great powers. In truth, these are not fundamentally new responsibilities. They have been part and parcel of the U.S. national security approach for decades. The decision to create a counterproliferation strategy in the 1990s to focus on non-nuclear powers seeking WMD ironically caused a loss of focus on great power WMD threats while addressing "rogue" states. The new generic Blue theory of victory for countering WMD can be summarized as below.

	Diplomacy	Deterrence	Defense
Total War	Crisis Management	Integrated Deterrence	Counter-Force
Regional Conflict	Security Cooperation Activities	Tailored Deterrence	Counter-Proliferation
Gray Zone	Arms Control and Nonproliferation	General Deterrence	Incident Response

Table 2. A Framework for a Blue Theory of Victory on Countering WMD

This proposed framework is a combination of three particular approaches – the general foreign policy process used by the U.S. government during the Cold War to address great power competition, the development of deterrence approaches against contemporary security threats, and the operational concepts developed by the DOD to counter the development and use of WMD. While the general capabilities can be defined, identifying the major players is complicated by the particular contexts of which WMD can be employed against U.S. national security interests. There are particular federal agencies that have the lead to address WMD issues, depending on whether the scenario is major combat operations, irregular warfare operations, or homeland security. Any of these scenarios could come into play in a security confrontation with China or Russia.

This underlines the critical need for clear and unambiguous national guidance as to the application of resources and development of capabilities.

1. **Major Combat Operations:** Departments of Defense, State, Energy, Commerce, and Treasury, and the intelligence community.
2. **Irregular Warfare Operations:** Departments of Defense and State, and the intelligence community.
3. **Homeland Security:** Departments of Homeland Security, Health and Human Services, and Justice, with technical support from Department of Defense and other government agencies.

As the U.S. government prepares for competition with Russia and China, with regards to WMD, the major players will still be DOS, DOD, and the intelligence community (notably, the National Counterproliferation Center and National Counterterrorism Center). Moreover, in particular for cases within the Gray Zone, other government agencies such as Treasury and Commerce will have an important role with State on economic sanctions and trade issues addressed under proliferation prevention policy. The Department of Energy will have a greater role to play in nuclear nonproliferation and assisting states with their nuclear energy programs, as energy demands grow in an increasingly urbanized global environment. DHHS will have increasingly important functions in the oversight and leadership of international health security and biopreparedness, which will factor into great power competition. The FBI's current engagements on WMD

incidents and international terrorism will need to expand to address Russia's and China's use of chemical, biological, radiological weapons in assassinations and external security operations.

As a result of the growth of executive-level government agency involvement, National Security Council (NSC) leadership will be key in managing disparate agency efforts toward measurable and actionable national goals. In 2007, Congress directed the establishment of a "WMD Czar" in the White House with responsibilities to oversee and coordinate the "whole of government" approach to countering WMD.⁵⁴ This position has not always been filled and, when filled, was focused on arms control rather than on integrating and strengthening U.S. national capabilities on countering WMD. The recent pandemic has only caused more confusion over the roles and responsibility of executive agencies addressing natural, deliberate, and accidental biological threats. The State Department, Department of Energy, and FBI all have "counterproliferation" directorates now, while DOD has not retained a counterproliferation strategy within its current operational concepts. These observations suggest that the NSC must re-examine its role in organizing executive agency roles in this area and play a more direct function in developing a national counter-WMD strategy that addresses great power competition.

In particular, the Biden administration has proposed two offices within the NSC that have had overlapping responsibilities – the senior director for arms control, disarmament, and nonproliferation (which may be the new title of the WMD Czar) and the senior director for global health security and biodefense. During the Obama administration, we saw the WMD office take on global health security issues along with the global health security office. During the Trump administration, the global health security office was folded into the WMD office. The current debate over how to counter biological threats – to include natural, deliberate, and accidental – makes it difficult to determine as to whom within the NSC will address biodefense policy issues. To ensure a firm and consistent policy process, the Biden administration must make clear which office will handle counter-WMD policy and which one will support.

The Office of the Secretary of Defense (OSD) has a similar challenge, in that there is no single office for counter-WMD policy, despite the existence of a deputy assistant secretary of defense for counter-WMD in the OSD policy shop. In fact, there are three assistant secretaries of defense with WMD portfolios in OSD policy, two assistant secretaries of defense with WMD portfolios in OSD acquisition, and two assistant secretaries of defense with WMD portfolios in OSD personnel and readiness. The Joint Staff has similarly spread out its WMD offices between its J3, J4, J5, and J8 directorates. This is not to suggest that all WMD responsibilities should be combined under one assistant secretary of defense or within one Joint Staff directorate – far from it, in fact, the primacy of policy direction should depend on the context and not the particular delivery systems used in a crisis scenario. However, the current DOD strategy does not support a deliberate or coordinated function across DOD to develop and implement policy direction on WMD-related issues. On the other hand, the DoD has never had a single, exclusive OSD proponent for a single physical domain.⁵⁵

OSD Policy	OSD Acquisition	OSD Personnel and Readiness
ASD for Strategy, Plans, and Capabilities DASD for Nuclear and Missile Defense Policy	ASD for Nuclear and Chemical and Biological Defense DASD for CB Defense DASD for Nuc Matters DASD for Treaties and Threat Reduction Director, DTRA	ASD for Health Affairs DASD for Health Readiness Policy and Oversight
ASD for Homeland Defense and Global Security DASD for CWMD	ASD for Research and Engineering DARPA	ASD for Manpower and Reserve Affairs DASD for Reserve Integration
ASD for SO/LIC Multiple DASDs		

Table 3. Range of CWMD responsibilities across OSD

Of course, DOD does have a governance system and process that supports the integration of its many functions, in particular to support decision-making in response to emerging crises and to develop strategies for the allocation of resources and the assignment of responsibilities. However, the current DOD strategy does not outline the executive agencies involved, and in particular, does not task the services or defense agencies to any specific development of counter-WMD capabilities required to meet the White House’s political objectives. There is no current mechanism by which OSD can quantitatively or qualitatively identify and assess its resources and capabilities against the three lines of effort as described in the DOD strategy. The Counterproliferation Review Committee, once chaired by the ASD for Nuclear and Chemical and Biological Defense, to provide an annual assessment of the federal government’s efforts to counter proliferation and NBC terrorism, was disbanded after 2013.

Within the past five years, the NSC staff developed a “Countering WMD Unity of Effort Council” with the mission of prioritizing WMD threats, reviewing U.S. readiness requirements, and providing policy guidance across the interagency. There are a number of DOD agencies that support this council. However, it is unclear as to exactly what its charter is and what policy objectives are being pursued. In 2018, U.S. Special Operations Command was given the responsibility to be the coordinating authority for DOD counter-WMD issues, including assessing DOD capabilities and supporting the development of counter-WMD plans. However, it is still an inherent role of the armed services – not the NSC or OSD – to organize, train, and equip its forces for counter-WMD roles. If the services’ concepts to counter WMD are outdated and not focused on contemporary challenges, U.S. forces will not have adequate capabilities for future scenarios.

DOD has articulated guidance for the execution of counter-WMD policy and development of counter-WMD capabilities to meet political objectives outlined in national security guidance.⁵⁶ In addition, there is a joint publication for

countering WMD to describe the doctrinal employment of tactics and procedures for joint theater operations.⁵⁷ However, the services all have unique perspectives on how they intend to develop capabilities for countering WMD, in part due to their operational concepts for particular domains (air, sea, and land). The theater combatant commands all have different staff elements, usually undermanned, to develop plans and request forces to execute counter-WMD missions. While CBRN defense is fairly joint as to requirements and capabilities, theater-level counter-WMD capabilities outside of CBRN defense are not. To some degree, this is due to the failure of the armed services to specifically identify how their conventional capabilities would be used against the capabilities of a WMD-armed adversary.

This leads to a number of questions relating to the leadership of a notional framework that would coordinate counter-WMD efforts. First, does it make sense for DOD to have a lead role in the implementation of a “whole-of-government” strategy, particularly one that involves countering great power use of WMD-related technologies and material, in particular below the threshold of armed conflict? Second, within DOD, does it make sense for U.S. Special Operations Command to retain its coordinating authority role, particularly since it has capabilities needed to address only a small segment of WMD defeat options? Last, who within DOD needs to be in charge of strategy implementation? If not U.S. Special Operations Command, which DOD CWMD stakeholder should serve as the coordinating authority?

Part V

Concluding Observations

The U.S. national security community continues to voice concerns about adversaries developing WMD. National guidance have been terse on what ways and means are required to address this threat outside of the traditional tools of arms control and threats of retaliation. There is no forcing function on the services, which have the requirement but not the desire to develop said means. The national strategies and DOD concepts addressing the evolving nature of how adversarial nation-states and violent extremist groups might use WMD have not examined how to protect U.S. national security interests from great power competitors. Last, the U.S. government has not matched the necessary resources against the spectrum of probable WMD scenarios within the future operating environment. Only a robust and detailed national strategy to counter WMD, identifying specific agents to address these new threat scenarios, can adequately address this challenge.

Because there are new contexts for the use of unconventional weapons across the range of military operations and below the threshold of conflict, this is an ideal time to develop a new national strategy. In general, the U.S. government's capabilities to counter WMD and respond to CBRN incidents are grounded in a context that is 20 years old, that was initially developed solely for military operations, and that has deteriorated in value over time. Given the complexity of great power competition, combined with advances in technology and budget resource challenges, one must take a hard look at how the DOD views countering WMD to ensure that the United States is prepared for the new challenge of China and Russia using unconventional weapons in new and unexpected ways.

The Trump administration directed the national security community to refocus on great power competition in part due to the concerns of maintaining U.S. superiority in light of China's and Russia's continued growth in both the quality and quantity of their armed forces. This neatly reverses the momentum of the "post-Cold War" era that was fixed on the Middle East and counter-terrorism operations and allows for the re-examination of strategy and operations against near-peer nation-states. While one can debate the level of resources and funding needed to address the full gamut of U.S. national security interests, one cannot argue that the U.S. national strategy and DOD strategies on countering WMD address the implications of Russia and China using WMD in the near future. As a result of this lack of relevant strategy, we are at risk of losing our edge vis-à-vis great power competitors armed with WMD.

We need to develop new strategic guidance as a construct on how the U.S. government prioritizes WMD threat sources and aligns whole-of-government resources, starting with a new *National Strategy for Countering WMD* that outlines how to address great power competition through deterrence, diplomacy, and defense operations. While the Cold War offers a model and lessons learned for a new approach, this is not in any way a statement that the U.S. government should

return to a “Cold War” mentality with China and Russia. As some analysts have pointed out, the global context today is very different than the one that existed during the Cold War.⁵⁸ Still, how the U.S. government used the tools of government power to great power competition during the Cold War is applicable.

There is an alternative that could be further explored. The U.S. government could abandon its threadbare reference to WMD proliferation in its national security guidance, and do away with a national counter-WMD strategy. Let the State Department work its traditional diplomatic mission, let the DOD direct the services to emphasize CBRN defense skills, and let DHS and DHHS worry about homeland security threats that involve CBRN hazards. If there is no need for interagency coordination, then there is no need for a national strategy. But if the White House believes this to be a critical priority, then it ought to develop a strong strategy with defined ways, means, and ends – and then resource it appropriately.

To be successful, the next *National Strategy for Countering WMD* must abandon the current actor-agnostic view of past strategies, in which the policy objectives focused on generic WMD threats and not the threat sources, absent of any context. Ironically, the Defense Counterproliferation Initiative was created because strategic ambiguity regarding deterrence threats were seen as insufficient against non-nuclear nations and sub-state groups. Diplomacy and strategic deterrence worked (in theory) against nuclear-weapon states, and so there was no new or revised guidance for that context. Those within the counter-WMD community understood the new strategy and counterproliferation concepts were for non-nuclear scenarios in which U.S. forces were threatened by chemical and biological weapons. Due to advances in technology, changes in adversary concepts of engagement, and a balance of nuclear forces, a tailored approach that focuses on the adversary and not a generic weapon system is required.

Over the past 15 years, the U.S. military competencies in countering WMD operations have degraded, following the focus on Iraq’s alleged WMD ambitions and the failure to find any real capability there. In no small sense, the U.S. government’s approach to preparing for a domestic CBRN incident has not changed since 2002, despite the lack of any mass-casualty capability by any violent extremist group over the past 20 years. Concerns about pandemic outbreaks are blurring distinctions between public health and national security interests. Increasingly, national security guidance is not demonstrating any awareness of the WMD threat other than to say, WMD proliferation is bad and must be addressed. As a result, the U.S. government in general and DOD in particular have significant gaps in our strategy relating to WMD threats posed by China and Russia.

DOD cannot afford to develop a counter WMD strategy in isolation, as it did in 2014, without a refreshed national strategy. The 2014 DOD strategy failed to articulate specific means and ways that it would contribute toward those policy objectives. Of the promise to develop specific technical capabilities addressing WMD threats, there was no implementation plan and as a result, critical capability gaps continue to exist. Given the lack of emphasis during the Trump administration, it becomes even more vital for the Biden administration to develop new strategic guidance that directs the interagency to create specific means and ways to meet its political objectives.

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