Welcome to USAF Center for Strategic Deterrence Studies News and Analysis! As part of the CSDS mission to develop U.S. Air Force, Department of Defense, and other government leaders to advance the state of knowledge, policy, and practices within strategic defense issues involving nuclear, biological, and chemical weapons, we offer the government and civilian community a source of contemporary discussions.

**Feature Paper**

“Medical Support in a Chemical, Biological, Radiological, and Nuclear Contested Environment.” Air University Library/Air University Press, July 2021.

This collection of essays discusses different aspects of conducting medical care during a CBRN event, as well as in contested or denied environments. The authors are all Air Force medical providers and medical planners, and discuss the current realities of the MHS, and the issues that they will face in future conflicts if the service fails to quickly address training needs. The authors contend that sweeping changes will be difficult to coordinate without following prescribed planning measures, notably those outlined by John Kotter in his book, Leading Change. Read Paper.

**Nukes and Deterrence, Counter-WMD, and Arms Control in News and Research**

**NUCLEAR WEAPONS AND DETERRENCE**

- **B-52 Engine Replacement Could Keep Bomber Flying Through Its 100th Birthday** (Defense One)
The new engines are intended to enable the B-52 to serve alongside the future B-21 Raider as the airborne leg of the nuclear triad into the 2050s.

- **Nuclear Officials Discuss Modernization of Arsenal in Online Forum** (Santa Fe New Mexican)
A group of nuclear weapons managers agreed Tuesday that making more plutonium cores for warheads will be key to modernizing the nation’s arsenal as a deterrent against rival countries.

- **Report: Germany’s Upcoming Election and the Future of Nuclear Sharing** (Brookings)
Two of the three leading political parties have called for an end to nuclear sharing and the withdrawal of U.S. nuclear arms — although with some ambiguity regarding timing.

- **NSWC Crane Holds Biannual Triad Nuclear and Advanced Conventional Strike Symposium** (Naval Sea Systems Command)
An industry panel discussed developing and delivering the technology for nuclear deterrence. A Navy/Army panel discussed long-range conventional strike.

- **Lawmakers Urge Biden to Make ‘Bold Decisions’ in Nuclear Review** (The Hill)
The Biden administration is poised to kick off its ... (NPR) this month. The review, which is expected to conclude in early 2022, will update the Trump administration’s 2018 nuclear blueprint.
ICYMI: Air Force Budget Seeks Addition By Subtraction (Air Force Magazine)
Leaders say they “fully funded” the nuclear enterprise, including the [GBSD] to replace the Minuteman III ICBM force, the … (NC3) infrastructure program, the Long-Range Standoff missile, and the B-21.

COUNTER-WMD

Method for Verification of Exposure to Novichok Nerve Agents (Global Biodefense)
Precursor ion scanning, with a generic fragment ion of the nonapeptide, was used to pinpoint any modified nonapeptide, while HRMS was used for structural elucidation of the adduct moiety.

Report: Missile Defense for Guam Needed to Improve Deterrence in the Indo-Pacific (Heritage)
To deter the Chinese threat, the Department of Defense (DOD) should commit to a phased approach toward missile defense for Guam, initially providing an Aegis Ashore system.

US Army Launches Patriot Missiles During Talisman Saber 21 (U.S. Army)
In the historic first, Soldiers … successfully engaged drone targets with Patriot missiles as part of TS 21, Australia’s largest military exercise with the U.S.

As Drone Popularity and Potential Risk Soars, So Too Does DHS S&T Preparedness (Homeland Security Today)
Mitigation strategies range from electronic disruption of the operator’s control to physically interdicting the sUAS operator.

CWMD Office Looks to Enhance CBRN and Food Security Programs, Expand Outreach (Homeland Security Today)
The request also funds the Securing the Cities program, which focuses on reducing the risk of a radiological/nuclear device being used by terrorists in a major metropolitan area.

US ARMS CONTROL

Russia: The Navalny Poisoning, Chemical Weapons Use, and U.S. Sanctions (Congressional Research Service)
The March 2021 determination is the second time the United States has determined that Russia has used a chemical weapon and imposed sanctions under the CBW Act.

‘A Big Blow’: Washington’s Arms Controllers Brace for Loss of Their Biggest Backer (Politico)
The MacArthur Foundation’s decision to stop funding nuclear policy work threatens to silence key voices amid fears of a new arms race.

Bioweapons Research is Banned by an International Treaty – but Nobody Is Checking for Violations (The Conversation)
The history of the Biological Weapons Convention reveals the limits of international attempts to control research and development of biological agents.

Introduction: UNSCOM and the Future of WMD Verification (Bulletin of the Atomic Scientists)
This special issue highlights this history, commemorating the 30th anniversary of UNSCOM, set up to oversee the elimination of Iraq’s chemical and biological weapons.

Webinar: Negotiating Next Steps on Arms Control with Putin’s Russia (WMD Center)
Bilateral strategic arms control with Russia is a complicated and relevant topic which combines historical, technical, legal, psychological, and cultural dimensions.

COMMENTARY

A New Paradigm: Mutually Assured Security (War on the Rocks)
“The United States and Russia continue to rely on mutually assured destruction to deter nuclear war, despite the fact that it has come close to failing multiple times, both during the Cold War and after.”
• **Launch Arms-Control Talks with China** (Defense One)  
"Following the near-catastrophe that was the Cuban Missile Crisis, the United States and Soviet Union realized that their mutual capacity to end the world multiple times over was untenable."

• **To Deter Iran, Give Israel a Big Bomb** (Bloomberg)  
"The best way to ensure Tehran doesn’t gain the capability to make a nuclear weapon is for the U.S. to empower its ally."