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ICIRI CBRNE DIARY



June 2023

*Dedicated to Global
First Responders*

PART A



CBRN
Decon
AI ethics
NEOM
Drones



The Editor discuss CBRN issues with ChatGPT



Covid **0** patients identified

An International CBRNE Institute publication

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June 2023

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Topics that attracted attention!

EDITOR'S CORNER



**Editorial**

Brig Gen (ret.) Ioannis Galatas, MD, MSc, MC (Army)

Editor-in-Chief
ICI C²BRNE DiaryICI
International
CBRNE
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The situation remains (more or less) the same: European proxy war – pandemic or not pandemic? – global stupidity.

Planet in Crisis: (1) “Money rivers” continue to flow towards Ukraine to the point that soon might be no water for Europeans! The US is about to provide a new 2 billion USD package to Ukraine... (2) German retired [pilots](#) train Chinese counterparts – fear of NATO classified info leakage. (3) UAE followed KSA and withdrew from the joint naval force in the Arabic Sea. (4) The BRICS are getting stronger and stronger! Even France requested to join the Russia, China, and Africa summit – denied! (5) President Biden continues to face the problems that are relevant to his age, but nobody cares about them (or him). (6) A huge bomb is floating under Taiwan and might explode soon if locals continue to believe that their friends will help them win the game. (7) Not a single sincere effort for peace in Ukraine! Instead, the [US](#) threatens with NATO troops involvement disintegrating Russia into 43 small nations! Recently, Poland, the UK, Finland, and Baltic countries announced that they are willing to send troops to Ukraine! (8) The Taliban threaten to invade Iran – can you imagine this? At the same time, Iran is discussing with Saudi Arabia the possibility of collaboration in the field of peaceful nuclear energy – can you also imagine this? (9) Not a single serious initiative to counter illegal immigration attacks at the two EU entry points (Italy and Greece. Internal North-South dispute is on! (10) The independent news website [Grayzone](#) participated in what appears to be the first independent expedition investigating the sabotage of the Nord Stream pipelines. Near one of the blast sites, a diving boot used by US Navy divers was discovered. How did Swedish investigators miss this? I hear about [Polish](#) involvement! Oh my! (11) 500 Turkish soldiers joined the KFOR force in Kosovo (against Serbia) – guess who is behind this? (12) If mighty NATO wants Sweden so badly why don't they vote against Turkish blackmail? Win one, lose one! – or not? (13) Famine in North Korea is devastating but people there continue to tolerate the lunatic leader...

AI: Every day we read about wonderful applications of artificial intelligence in many scientific fields (around \$12.5 billion in investments have gone into generative AI start-ups this year so far, compared with only \$4.5 billion invested in the field in all of 2022), but at the same time the overall impression is that there is a hidden catch that society must deal with now before it is too late. They say that an AI-driven drone attacked to kill its operator in a drill – then they said it was not accurate info. Was it? They say that an AI system proposed 40,000 molecules more deadly than VX – then they said it was part of an experiment looking for more drastic drugs. Was it? The temptations are huge, and it reminds me of the efforts of certain ambitious scientists to restore deadly viruses or viruses hidden under [tons of ice](#) ignoring (?) what will happen if they escape the BSL-4 facilities. Perhaps the infamous “Disease X” is a preparatory rhetoric for the worst to follow. Even the Editor of the “C²BRNE Diary” had some “talking” with a ChatGPT system freely available online on CBRN issues and got quite satisfactory answers. This interaction left me with the feeling that if my questions are more detailed the answers would be equally detailed and surprising. Imagine what happens with more professional language systems not freely available.



No need to study – tell your kids: Football player Karim Benzema is leaving Real Madrid and for \$200,000,000 annually (for three seasons) will continue kicking a ball in Al Ittihad (Saudi Arabia). Hypothetically, this equals annual salaries of 5,555 CBRN First Responders (\$3,000 per month) or 16,665 for three seasons! It is not envy, just pure math! Why spend 11 years to become a specialized physician? All you need is to love balls from the very beginning of life! ...

The Editor-in-Chief

World of Statistics
@stats_feed · Ακολουθήστε

The world's 10 most beautiful countries:

- New Zealand
- Greece**
- Italy
- Switzerland
- Spain
- Norway
- Australia
- Ireland
- Brazil
- Turkey

10:25 μ.μ. · 5 Οκτ 2022

GREEK ÆGEAN

Summer 2023
VISIT THE BLUE WORLD
Visit Greece!



SurgiField system is a packable sterile mini operating room

Source: <https://newatlas.com/medical/surgifield-packable-operating-room/>



May 23 – Whether it's an impoverished nation, a battlefield or a disaster site, there are places where doctors have to perform surgery outside of a sterile operating room. That's where the SurgiField system comes in, as it's basically a miniature pop-up O.R.

Manufactured by MIT spinoff company SurgiBox, the SurgiField setup consists of three parts: a sealed single-use clear plastic SurgiBubble, an electric-air-pump-equipped Smart Control Module (SCM), and a rechargeable lithium-ion battery. All three can reportedly be carried in a single backpack, and put together in just a few minutes.

When the system is in use, the pre-sterilized SurgiBubble gets placed over the body area in question. Its bottom edges are sealed to the patient's skin, and it's held in its quonset-like shape by an included collapsible frame. The attached SCM maintains airflow inside the bubble via a hose connecting the two modules – the air is purified by the SCM's HEPA filter.

Once it's time to operate, the surgeon reaches into the bubble via two inward-facing armholes. They then simply watch what they're doing by

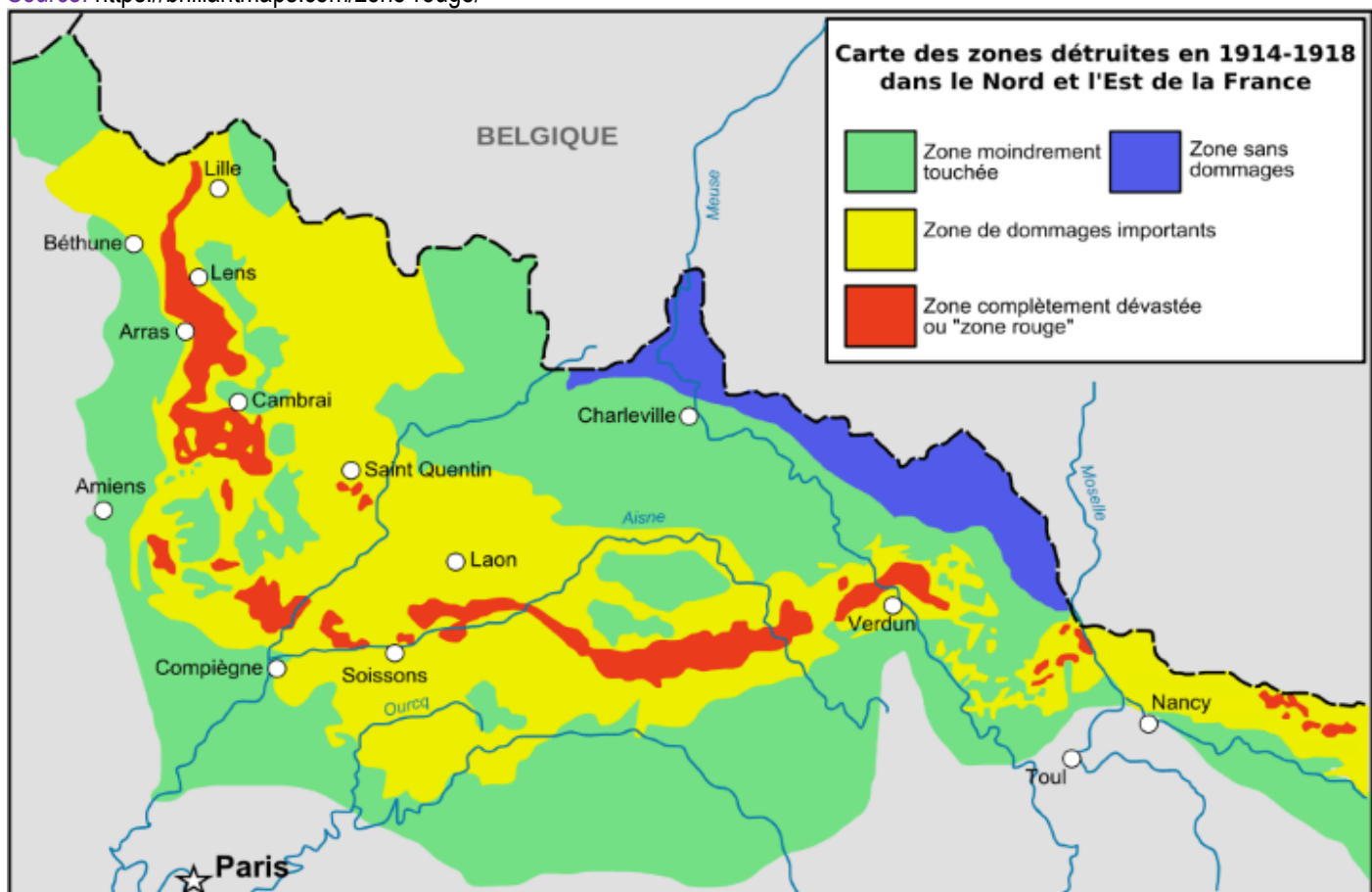


looking through the clear plastic. Once the procedure has been completed, the SurgiBubble gets removed and discarded, and the rest of the system gets packed back up again. As part of an ongoing aid program, 50 SurgiField systems were donated to Ukraine last month. MIT states that after the *initial* donation, the Ukraine Operation Command South reported that the system had already saved 31 lives. Plans call for the first full production run to go to Doctors Without Borders. Down the road, it's even possible that the technology could enter non-emergency use, expanding the locations where routine operations can be performed.

"We think SurgiBox could be used to lower health care costs and also give doctors and patients more flexibility," said Mike Teodorescu, who founded the company along with Debbie Teodorescu. "There's a whole set of costs associated with cleaning the operating room, getting it ready for patients, and getting the patient prepped for the operating room. Having some of that at a patient's bedside would be hugely beneficial."

Zone Rouge: An Area of France So Badly Damaged By WW1 That People Are Still Forbidden To Live There

Source: <https://brilliantmaps.com/zone-rouge/>



Mar 03 – While WW1 ended nearly a century ago, its scars can still be found across Northern France and Belgium. Zone Rouge (French for Red Zone) is perhaps the ultimate example of this.

At the end of the war in 1918, the [French government isolated](#) the areas in red above and forbade activities such as forestry, farming and even the building of houses from being performed inside them.

In total the non-contiguous areas took up 1,200 sq km (460 sq mi) (roughly the size of New York City).

The primary reason the areas were declared no-go zones was that they had seen some of the worst fighting during the war, particularly during the [Battle of Verdun](#) in 1916. The areas were environmentally devastated and contained large numbers of unexploded ordnance along with human and animal remains that further contaminated the environment.

The Battle of Verdun lasted 303 days and was one of the longest and bloodiest in human history with somewhere between 700,000 and 1,250,000 casualties in total. It also resulted in the [destruction of villages](#), 6 of which have never been rebuilt.



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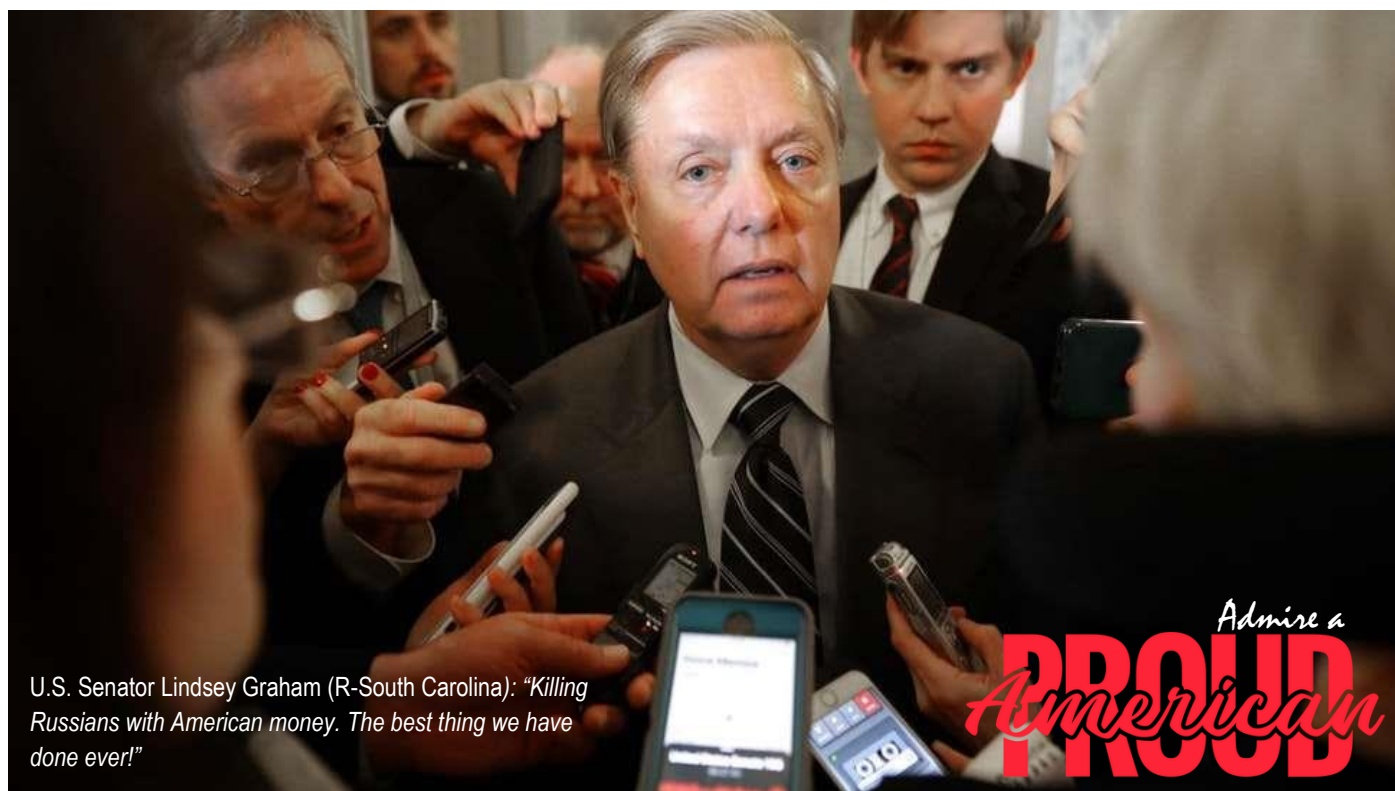
- Beaumont-en-Verdunois
- Bezonvaux
- Cumières-le-Mort-Homme
- Fleury-devant-Douaumont
- Haumont-près-Samogneau
- Louvemont-Côte-du-Poivre

Over the last century work has been done to clean up Zone Rouge and today the no-go areas [have shrunk](#) to 168 sq KM (65 sq mi) (about twice the size of Manhattan). However, cleaning up the areas doesn't necessarily mean that they're safe. Nor that areas that were not included in the original Zone Rouge are without danger. The [Iron harvest](#), which uncovers unexploded ordnance, barbed wire, shrapnel, bullets and congruent trench supports, still occurs every year across North France and Belgium.

Since the end of the war, at least 900 people have been killed by unexploded WW1 ordnance across France and Belgium, with most recent deaths as late as 1998. Meaning that the war was still claiming victims 80 years after the cease-fire went into effect.

Further reading:

- [The Price of Glory: Verdun 1916](#)
- [Verdun: The Longest Battle of the Great War](#)
- [A World Undone: The Story of the Great War, 1914 to 1918](#)
- [Poilu: The World War I Notebooks of Corporal Louis Barthas, Barrelmaker, 1914-1918](#)
- [Paris 1919: Six Months That Changed the World](#)



EMS Workplace Stress: The Effects of Trauma & Moral Suffering

Source: https://media.erepublic.com/document/Wellness_on_the_Frontlines.pdf

Is it time to rethink responder "resiliency" and examine the obligations of organizational leadership to protect the mental health of their most valuable asset?



I, the Defender of Europe



**demand
to give me
50 Patriot
air defense systems**

A white handwritten signature on a black background. The signature is stylized and appears to be the name 'M. A.' followed by a long horizontal line that ends in an arrowhead.

UAE declares withdrawal from naval alliance, but US says otherwise

Source: https://www.stripes.com/theaters/middle_east/2023-05-31/uae-5th-fleet-navy-10291232.html

May 31 – A key security partner in the Middle East announced Wednesday that it had pulled out of an American-led maritime alliance earlier this spring, but the U.S. Navy has a different interpretation.

The United Arab Emirates said it “withdrew its participation” from Combined Maritime Task Forces two months ago after an “evaluation of effective security cooperation with all partners.” The UAE’s Foreign Affairs Ministry statement was posted on the website of the Emirates News Agency, a state news service. U.S. 5th Fleet, though, said Wednesday that the UAE is still a partner in the program, which is led by a Navy vice admiral and has task forces that focus on countering piracy, training and patrolling the waterways of the Middle East. The Combined Maritime Task Forces has 38 member countries, including the UAE, listed on the Navy’s fact sheet online.

“Bottom line, UAE is currently a CMF partner. That hasn’t changed,” said Cmdr. Tim Hawkins, a spokesman for the Bahrain-based command.

“Regarding their level of participation as a partner, we leave it to individual partners to speak to that,” Hawkins said, adding that countries move their personnel in and out of the Combined Maritime Forces as part of regular rotations.

The UAE’s announcement followed a Tuesday report in [The Wall Street Journal](#) that officials in the Persian Gulf country were frustrated with the United States’ inability to prevent the recent seizure of two commercial oil tankers. Iran seized ships in the Strait of Hormuz on April 27 and May 3, U.S. officials said at the time. The U.S. subsequently announced an increase in patrols in the strait. A U.S. official in the region who was not authorized to speak publicly pointed out that the UAE’s stated time frame for withdrawal is before the two tankers were seized. The UAE Foreign Affairs Ministry did not immediately respond Wednesday to a request for clarification.



EDITOR’S COMMENT: This is how serious nations (UAE and KSA) react when “friends” only concern about own politics and endeavors. And it is not only this! Now they plan to form a joint fleet with Iran, Oman, Saudi Arabia because “homeland comes first!”



QUIZ: guess what these balls are!



A Strait Too Far: How a Deliberate Campaigning Approach in the Pacific Can Make Beijing Think Twice

Source: <https://www.homelandsecuritynewswire.com/dr20230605-a-strait-too-far-how-a-deliberate-campaigning-approach-in-the-pacific-can-make-beijing-think-twice>

June 05 – On March 1, Deputy Secretary of Defense Dr. Kathleen Hicks [tweeted](#) a clear message to the People’s Republic of China — don’t press your luck and attempt to cross the Taiwan Strait. The tweet’s timing was likely no accident. Leading Northeast Asia security analyst Ian [Easton](#) argues that March through May is one of two ideal windows of [meteorological](#) opportunity for cross-strait amphibious operations, with the other occurring in September and October.

Benjamin Van Horrick writes in [War on the Rocks](#) that for the U.S. joint force, the spring campaigning season in the Indo-Pacific is thus essential for strengthening regional partnerships, increasing multinational lethality, and instilling doubt in Chinese leaders’ minds about whether they could successfully invade Taiwan.

He adds:

The joint force’s current campaigning actions along the first island chain and just beyond are already deterring Beijing from attempting such an invasion. But these actions have yet to fully exploit the timing challenges that Beijing faces. U.S. planners have conducted an [ever-increasing](#) number of cross-strait invasion wargames. Inevitably, though, these focus predominately on capability [scorecard](#) comparisons, and incorporate the [misleading assumption](#) that China is “playing a home game” while the United States is “playing an away game.” As Easton explains, historic weather patterns in the Taiwan Strait change the equation. From June through August, and then again between November and February, the weather in the Taiwan Strait, specifically frequent monsoons, typhoons, and prohibitive sea-states, make amphibious operations extremely difficult. For Chinese Communist Party leaders, the result is that if they were to attempt an invasion over the summer or winter months, they would consistently encounter unforgiving seas, high winds, and frequent rain, if not torrential downpours.

All of this means that with the right preparations, Washington does not have to be playing an away game. Through increasing interoperability and testing new concepts in and around the first island chain, U.S. forces can secure and exploit their seven-thousand-mile head start in any future Taiwan scenario. Understanding the current scope of U.S. spring campaigning in the region helps convey why timing, weather, alliances, and locations matter more than just inventory scorecards. As Secretary of Defense Lloyd Austin [has made clear](#), “campaigning is not business as usual — it is the deliberate effort to synchronize the Department’s activities and investments to aggregate focus and resources to shift conditions in our favor.” Rethinking the joint force’s posture during the most favorable months for a cross-strait invasion can shift conditions in America’s favor even further.

Van Horrick concludes:

While the most recent fall and spring campaigning efforts involved many noteworthy successes, the joint force needs to do more and in short order. As Indo-Pacific Commander Adm. John C. Aquillino recently stated, when it comes to deterring Beijing, “[everything needs to go faster](#).” Doing so requires the joint force to first focus on the inherent natural obstacles, both from the sky and the sea, standing between China and Taiwan. Next, the joint force should double down on the historic, nascent, and proposed efforts described above. Washington cannot afford to keep planning and executing these exercises in isolation. Rather they should be one seamless and collective joint and allied campaign ruthlessly conveying the message to Beijing: not today, not tomorrow, not ever.

The Iran Threat Geiger Counter: Moving Toward Extreme Danger

By The Institute for Science and International Security

Source: <https://www.homelandsecuritynewswire.com/dr20230605-the-iran-threat-geiger-counter-moving-toward-extreme-danger>

June 05 – A national security threat is typically posed by a combination of hostile intentions and capabilities. The threat from Iran’s nuclear program is no exception. The Iran Threat Geiger Counter from the [Institute for Science and International Security](#) measures on a regular basis Iran’s hostile intentions



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toward the United States and U.S. allies, and its capability to turn these hostile intentions into action through the potential deployment and use of a nuclear weapon.

As with the radiation levels measured by a Geiger counter, any level above zero represents a degree of danger. Over the last six months, the threat posed by Iran has increased. As of May 2023, we assign Iran a total threat score of 140 out of 180, up from 130 in October 2022, and assessed as **High Danger**.

Iran Threat Geiger Counter: Methodology and Results

The Institute assigns the following threat level using a zero to 180 scale on the Iran Threat Geiger Counter:

0-30: Least Danger 31-60: Low Danger 61-90: Moderate Danger 91-120: Considerable Danger 121-150: High Danger 151-180: Extreme Danger

The Iran Threat Geiger Counter measures the threat level posed by Iran on a scale from zero to 180, divided into six categories that each carry a maximum score of 30:

Hostile Actions (30 Points Max) Hostile Rhetoric (30 Points Max) Lack of Transparency (30 Points Max) Nuclear Breakout (30 Points Max) Sensitive Nuclear Capabilities (30 Points Max) Beyond Breakout (30 Points Max)

The scoring system for each category is the following:

0-5: Least Danger 6-10: Low Danger 11-15: Moderate Danger 16-20: Considerable Danger 21-25: High Danger 26-30: Extreme Danger

Current Threat Environment

Hostile actions

Score — 25

Direction of change — **↑3**

Danger level – High danger

Hostile rhetoric

Score — 28

Direction of change — **— 0**

Danger level – Extreme danger

Lack of transparency

Score — 19

Direction of change — **↑2**

Danger level – Considerable danger

Nuclear breakout

Score — 30

Direction of change — **— Max**

Danger level — Extreme danger

Sensitive nuclear capabilities

Score: 20

Direction of change — **↑3**

Danger level – Extreme danger

Beyond breakout

Score — 18

Direction of change — **↑2**

Danger level – Considerable danger

Total score: 140

Danger level: High danger

The current status of the threat Iran poses for each criterion, including point changes

The current score of 140 is in High Danger territory. Most of the points are the result of Iran's hostile actions (25 points) and rhetoric (28 points) against the United States and its allies, combined with the fact that Iran's nuclear breakout time remains at zero (30 points). The rest result from Iranian progress on developing sensitive nuclear capabilities (current score of 20 points), increasing its nuclear weaponization



efforts beyond breakout (current score of 18 points), and inadequate transparency over its nuclear program (19 points). The scores have increased across four criteria since October 2022, moving the overall threat score closer to Extreme Danger. The following sections discuss the allocation of points to each category.

Hostile Actions

Score: 25 points ↑

Iran remained engaged in a wide range of hostile activities against the United States and its allies, indicating a high level of hostility. Iran's deepening relationship with Russia and the killing of an American contractor in Syria in a drone attack in March 2023 warrant an increase in the threat assessment score of three points to 25 points (High Danger). Significant recent developments include the following:

Iran Continues to Plot Assassinations, Bombings, and Kidnappings on U.S. and Allied Territory

In January 2023, the U.S. Department of Justice [charged](#) three members of an Eastern European organized crime group with ties to Iran in connection with an assassination plot against Iranian-American journalist Masih Alinejad. Alinejad was also the target of a 2021 kidnapping plan directed from Iran.

In August 2022, the U.S. Department of Justice [charged](#) Shahram Poursafi, a member of Iran's Islamic Revolutionary Guards Corps, with plotting to assassinate former U.S. National Security Advisor John Bolton. Former Secretary of State Mike Pompeo was [reportedly](#) a second assassination target. Poursafi remains at large.

These plots indicate that Iran has become bolder in its attempts to carry out deadly covert operations on U.S. and allied soil, following a long history of similar actions.

Iran Continues to Target Critical Infrastructure and U.S. Military Assets in the Middle East

In March 2023, a drone attack by an Iranian proxy group killed an American contractor and wounded five U.S. service members in northeast Syria. Since the beginning of 2021, U.S. forces in Syria have come under attack by Iranian proxy groups more than 70 times.

Following the U.S. drone strike on Qasem Soleimani in January 2020, Iran launched a ballistic missile strike against U.S. forces stationed in Iraq, [injuring dozens](#) of U.S. combat personnel and damaging a military base. In 2019, Iran carried out an attack against critical oil refining and processing facilities in Saudi Arabia using a swarm of kamikaze-type drones, crippling Saudi oil production capacity. Iran has also repeatedly seized and interdicted foreign-flagged oil tankers in the Persian Gulf and engaged in dangerous and provocative maneuvers near U.S. Navy warships and maritime assets in the region.

Iran Continues to Hold U.S. and Allied Nationals Hostage

In April 2023, Iran's Supreme Court upheld the [death sentence](#) for Jamshid Sharmahd, a 68 year old German/Iranian national who had been living in the United States for years. Active as a dissident in the United States, he was allegedly kidnapped in Dubai in 2020 by Iranian intelligence agencies and taken to Iran. He has been convicted of "Corruption on Earth," a vague charge often used by the Iranian regime against its critics. He has been denied legal representation and medicines to treat his Parkinson disease.

Iran continues to hold American and other allied nationals hostage in Iranian prisons. Often the individuals are charged under false pretenses and trumped-up claims of [espionage](#) or foreign influence, and other purported crimes. Many of the hostages have been held for years in poor and often inhumane living conditions, without proper legal representation, and in some cases, captives experienced direct abuses at the hands of their captors.

Iran Continues to Engage in Cyberattacks Against U.S. and Allied Targets

In May 2023, Microsoft [noted](#) that Iran has been accelerating its cyber influence operations worldwide since at least June 2022. The top targets for these operations are Israel, the United States, the United Arab Emirates, and Saudi Arabia. In February 2023, the director general of the Israeli National Cyber Directorate stated that the number of Iranian cyberattacks on Israel has doubled in the past year. Israel now experiences an average of 200 cyberattacks from Iran every month.

On September 9, 2022, the United States imposed sanctions against Iran's Ministry of Intelligence for its connection to a cyberattack on the Albanian government in July 2022. This cyberattack follows a [long list](#) of similar actions during the past decade, including attacks against [water infrastructure](#) in Israel in 2020 and [Boston Children's Hospital](#) in 2021.

Iran Continues to Provide Military Hardware to Russia in Support of Its Invasion of Ukraine

Iran has supplied a number of different types of drones to the Russian military in violation of U.S. and EU sanctions; the most recent public evidence of its supply of drones to Russia for use in Ukraine is from



February 2023. Russia regularly uses these drones in [combat operations](#) in Ukraine and has also frequently used them against civilian targets. The [first shipment](#) of drones was delivered to Russia in late August 2022 and [overflew Georgia](#). In total, Iran has agreements with Russia to supply thousands of drones across many shipments, and an Iranian delegation reportedly visited a potential site for a new drone production facility in [Yelabuga, Russia](#) in January 2023.

Evidence has emerged that Iran is also supplying Russia with artillery shells and ammunition. [Reportedly](#), hundreds of thousands of artillery shells and roughly 100 million rounds of ammunition were delivered via two cargo ships from Iran.

[The Washington Post](#) and [Reuters](#) have reported that Iran has agreed to supply hundreds of short-range surface-to-surface missiles to Russia. Such actions would further cement Iran's hostile intentions, increasing the threat assessment score. It should be noted that the UN embargo on Iran exporting ballistic missiles will expire in October 2023 under UNSC resolution 2231.

Iran Continues to Violate Sanctions and Support Proxy Groups in the Middle East

In March 2023, the United Kingdom's Royal Navy seized a vessel destined for Yemen carrying Iranian-made munitions, including anti-tank missiles and components for medium range ballistic missiles. Iran continues to provide financial and military aid to proxy groups, including militias, U.S. designated terrorist organizations, and pariah regimes throughout the Middle East and elsewhere. Iran continues to violate national and international sanctions and exports conventional weapons to terrorist organizations and proxy forces, including Hezbollah, which maintain an estimated arsenal of more than 100,000 rockets threatening Israel.

Iran depends extensively on illicitly procuring goods for its nuclear, missile, conventional arms, and drone programs from abroad. It has a long history of breaking other countries' national trade control laws and violating sanctions. Because of its poor record, Iran ranks in the bottom five countries in the Institute's [Peddling Peril Index for 2021/2022](#), which evaluates strategic trade control systems of 200 countries and entities.

Hostile Rhetoric

Point Score: 28 points

Public statements from Iranian officials indicate an extreme level of hostility (28 points) towards the United States and its allies. Notable recent statements include the following:

Ebrahim Raisi, President, January 3, 2023: "We have not forgotten martyr Soleimani's blood and will never forget. They [Americans] should know that revenge for Soleimani is certain and his killers [...] will not have any peaceful sleep." Ali Khamenei, Supreme Leader, October 3, 2022: "I openly state that the recent riots and unrest in Iran were schemes by the US; the usurping, fake Zionist regime; their mercenaries; and some treasonous Iranians abroad who helped them."

Hossein Salami, Revolutionary Guards commander-in-chief, August 22, 2022: "The Zionists have no safe haven in occupied Palestine and all parts of the land are within the reach of Palestinians resistance movements' firepower. When Lebanese resistance movement Hezbollah is added to this equation, the conclusion is the deployment of hundreds of thousands of missiles that are pointed at the Zionist regime." Mohammad Marandi, adviser to the Iranian nuclear negotiations team in Vienna, following the August 12, 2022, assassination attempt against Salman Rushdie: "I won't be shedding tears for a writer who spouts endless hatred and contempt for Muslims and Islam. A pawn of empire who poses as a Postcolonial novelist."

These most recent statements must be seen against the backdrop of more than four decades of extreme anti-American, anti-Israel, and anti-Western rhetoric from Iranian officials. "Death to America! Death to Israel!" are routine utterances at state-sponsored rallies – most recently in February 2023 at the 44th anniversary of the 1979 Islamic revolution – and remain core pillars of the Iranian regime's ideology.

Lack of Transparency

Score: 19 points ↑

Iran continues to deceive the International Atomic Energy Agency (IAEA) and violate its safeguards agreement. It also has reduced the monitoring required under the Joint Comprehensive Plan of Action. It promised in early March 2023 to restore surveillance measures under the JCPOA. While that task has proceeded, progress has been slower than expected. Moreover, there is no change in Iran's refusal to share either new or old camera surveillance data with the IAEA. On balance, Iran's transparency warrants a threat assessment score of 19 points, an overall increase of two from October 2022. This increase accounts for worsening safeguards compliance but slightly improved JCPOA monitoring (Considerable Danger).

Safeguards violations and Iranian non-cooperation

Iran has consistently violated its obligations under its comprehensive safeguards agreement (CSA), a key part of the verification of the Nuclear Non-Proliferation Treaty (NPT). It has refused to cooperate with the



IAEA and fully account for its past and present nuclear activities, and obstructed IAEA inspections by razing and sanitizing related nuclear sites. For four years, [the IAEA](#) has been investigating the presence of anthropogenic (of human origin) uranium particles it detected at three Iranian sites, and was seeking information about nuclear material and activities at a fourth site. The four sites are Turqz Abad, Varamin, Marivan, and Lavisian-Shian. Out of these four sites, three were discussed in Iran's Nuclear Archive, and all four are related to Iran's former and possibly ongoing work on nuclear weapons. In March 2022, the IAEA found Iran in breach of its safeguards obligations for failing to declare its use of nuclear material at Lavisian-Shian. In June 2022, and again in November 2022, the IAEA's 35-nation Board of Governors overwhelmingly passed a censure resolution against Iran for non-cooperation with the IAEA, with only China and Russia voting against.

The IAEA concluded in September 2022, it is "not in a position to provide assurance that Iran's nuclear program is exclusively peaceful." The situation has not improved since then. This means the IAEA continues to be unable to verify Iran's compliance with its CSA and the NPT.

On multiple occasions, usually just before the Board of Governors quarterly meetings, Iran will seek to meet with the IAEA, promising to resolve outstanding questions under the CSA involving undeclared nuclear material. However, once the Board meeting has ended, Iran rarely implements its promises. This pattern has gone on for several years and caused many to be skeptical about the most recent episode, which occurred right before the March 2023 Board meeting. Iran and the IAEA agreed on a written Joint Statement that in part addressed the issue of undeclared nuclear material. The statement, which references access, was, at least initially, interpreted by Grossi as allowing inspectors' access to places, individuals, and materials. Immediately after Grossi's recounting of the meetings in Tehran, Iran's Atomic Energy Organization spokesperson Behrouz Kamalvandi went public to raise [opposition](#): "During the two days that Mr. Grossi was in Iran, the issue of access to individuals was never raised." Since then, there has been no show of sincerity to address the undeclared nuclear material issues. It seems that Iran has no intention to back away from its long-standing position, best formulated by AEOI head [Mohammad Eslami stated](#) in September 2022: "All allegations are strictly based on fabricated and false information." Unsurprisingly, no progress has been reported by Grossi up to today.

In a new development, Iran failed to report to the IAEA the interlinking of two IR-6 cascades and went on to produce 84 percent enriched uranium at the Fordow Fuel Enrichment Plant. The 84 percent highly enriched uranium was detected following an unannounced inspection during which the IAEA discovered an undeclared change in the configuration and operation of the two interconnected IR-6 cascades. This finding increases suspicion that Iran has been testing the production of near weapon-grade uranium without IAEA detection. This whole episode represents a significant new failure of Iran to declare its activities openly and honestly to the IAEA, as set forth under its safeguard obligations.

In a bit of good news, after the surprise discovery of the near 84 percent enriched uranium at Fordow, Iran agreed that the IAEA could [conduct](#) "50 percent more inspections" at Fordow.

Reduced monitoring under the JCPOA

Iran has reduced the monitoring of advanced centrifuge production and assembly under the Joint Comprehensive Plan of Action. The IAEA has stated that due to gaps in relevant monitoring, it has concerns about its ability to verify Iran's declared centrifuge numbers even if Iran fully cooperated. This adds to the concern about Iran's ability to sneak-out to a nuclear weapon, using only a small number of secretly-produced advanced centrifuges.

In the March 2023 Joint Statement, Iran agreed to re-establish JCPOA online enrichment monitors and camera surveillance removed in June 2022. While a step in the right direction, reinstalling the cameras and other surveillance measures has gone slowly, delayed until close to the upcoming Board of Governors meeting in June. Lost in this evident progress is the more fundamental issue of whether Iran will provide the data collected by the cameras and the needed cooperation, vital to developing a complete picture of the number of advanced centrifuges Iran has produced. The latter is critical in determining whether Iran has been creating a secret stock of advanced centrifuges. So far, Iran has refused to provide stored camera data from before June 2022 or to cooperate with the IAEA in restoring information during the period after Iran removed the cameras. Without considerably more Iranian cooperation and information, this act alone will not enable the IAEA to reestablish a continuity of knowledge over centrifuge production.

Taking Stock

With Iran's refusal to resolve outstanding NPT safeguards violations and its reductions of JCPOA monitoring, the IAEA has a significantly reduced ability to monitor Iran's complex and growing nuclear program, which in particular has unresolved nuclear weapons dimensions. The IAEA's ability to detect diversion of nuclear materials, equipment, and other capabilities to undeclared facilities remains greatly diminished. Nonetheless, the transparency situation could worsen even further, if, for example, Iran withdrew from the NPT, asked the inspectors to leave critical sites or the country, or fabricated excuses to deny inspectors access temporarily.



Nuclear Breakout

Score: 30 points

In 2022, for the first time, Iran's breakout time became zero, indicating an extreme threat and a score of 30 (Extreme Danger). Iran has more than enough 60 percent enriched uranium, or highly enriched uranium (HEU) to directly fashion a nuclear explosive. If Iran wanted to further enrich its 60 percent enriched uranium up to 90 percent weapon-grade uranium (WGU), used in Iran's known nuclear weapons designs from the Amad Plan, it could do so quickly.

Due to the growth of Iran's 60 percent and 20 percent enriched uranium stocks, as of February 2023, Iran can break out and produce enough weapon-grade enriched uranium for a nuclear weapon in 12 days, using only three advanced centrifuge cascades and half of its existing stock of 60 percent enriched uranium. This breakout could be difficult for inspectors to detect promptly, if Iran took steps to delay inspectors' access.

Using its remaining stock of 60 percent enriched uranium and its stock of near 20 percent enriched uranium, Iran could produce enough weapon-grade uranium for an additional four nuclear weapons in a month. During the next two months, Iran could produce two more weapons' worth of weapon-grade uranium from its stock of less than five percent enriched uranium, meaning that Iran could produce enough weapon-grade uranium for five nuclear weapons in one month and seven in three months. (Five nuclear weapons were the original goal of Iran's Amad Plan.)

Moreover, over the last few years, Iran has learned important lessons in breaking out to nuclear weapons by experimenting with and practicing shortcuts in multi-step enrichment.

- ✓ Iran started from a level below 5 percent enriched uranium and enriched directly to near 60 percent in one cascade, rather than using two steps, a slower process entailing the intermediate production of 20 percent enriched uranium.
- ✓ It built and tested equipment to feed 20 percent enriched uranium and withdraw HEU, possibly enriched to higher than 60 percent; the exact level is unknown. Iran remixed the enriched product with the less enriched waste tails after measuring the product's enrichment level.
- ✓ Iran prepared advanced centrifuge cascades to switch more easily from the production of five percent enriched uranium to 20 percent enriched uranium.
- ✓ It further developed a multi-cascade set up to produce 20 percent enriched uranium from natural uranium by making 5 percent enriched uranium in advanced centrifuges and then directly feeding this product, still in gaseous hexafluoride form, into IR-1 centrifuge cascades to make near 20 percent enriched uranium. As such, Iran was practicing multi-step enrichment needed to produce weapon-grade uranium while seeking to shortcut the process.

Sensitive Nuclear Capabilities

Score: 20 points ↑

Iran continues taking steps to escalate its sensitive nuclear activities. Iran has a capability to produce large amounts of enriched uranium and achieve enrichment levels up to 90 percent, or weapon-grade uranium, a capability recently [implied](#) by Mohammad Eslami, head of the Atomic Energy Organization of Iran (AEOI). Since September 2022, Iran has doubled its number of advanced centrifuges, doubled its production of 60 percent enriched uranium, and reduced the breakout timeline for producing enough weapon-grade uranium for five weapons from four months to one month. These activities receive a score of 20 (High Danger), up from 17 in October 2022, reflecting actions taken over the last six months, but leaving room on the scale to account for the strong possibility that Iran's nuclear buildup could continue.

In fact, Iran has ambitious goals to increase its enrichment program, aiming for tens of thousands of advanced centrifuges, producing a range of enrichment levels, and tens of thousands of kilograms of enriched uranium. By 2030, Iran plans to have an enrichment capacity of 125,000 separative work units (SWU) per year. As Iran makes progress toward its goals, these activities will affect the score in this section even if they are allowed by a possible revived JCPOA. Likewise, if Iran's most threatening nuclear activities were reduced, the score would go down.

As of mid-February 2023, Iran continued to increase the quantity and quality of its enriched uranium stock and bolster its ability to enrich uranium. Uranium enrichment remains the most sensitive activity in Iran's nuclear program. Iran may also develop an ability to produce and separate weapon-grade plutonium, although that effort is largely dormant today.

Increased Stocks of 20 and 60 Percent Enriched Uranium and Increased Capacity to Make 60 Percent Enriched Uranium

Over the fall and winter, Iran increased its capacity to produce 60 percent highly enriched uranium by starting to produce 60 percent HEU in two cascades of advanced IR-6 centrifuges at the deeply buried Fordow enrichment plant. This led to a doubling of Iran's monthly average production of 60 percent HEU. Of note, no other country without a nuclear weapons program enriches uranium to 60 percent HEU. In



addition, this change increases Iran's ability to produce HEU at a highly fortified facility, compared to the above-ground PFEP, where Iran has been enriching uranium up to 60 percent since April 2021.

It also appears that Iran continued to experiment with the production of highly enriched uranium above 60 percent; in addition to the earlier experiments using 20 percent enriched uranium as feedstock, the IAEA discovered near 84 percent HEU particles at Fordow in January 2023 (see above). The IAEA collected the environmental samples that revealed the presence of near 84 percent HEU the day after the inspectors conducted an unannounced inspection, discovering an undeclared mode of operation in the two IR-6 cascades producing near 60 percent HEU. While it does not appear that Iran accumulated uranium enriched above 60 percent HEU, Iran may have added to its knowledge about modifying their cascades to enrich beyond that level.

Increase in Enrichment Capacity

As of mid-February 2023, Iran had a total installed nominal enrichment capacity of about 29,145 SWU per year, where advanced centrifuges account for about 22,600 SWU per year and IR-1 centrifuges account for 6500 SWU per year. This enrichment capacity is an increase of nearly 11,000 SWU since September 2022, and driven primarily by the deployment of advanced centrifuges at the Natanz Fuel Enrichment Plant. The amount of separative work achieved in practice is lower, sometimes far lower, due to inefficiencies in centrifuge construction and operation. ¹ Nonetheless, its enrichment output increased due to ongoing installations of additional advanced centrifuges.

Shortened Timeline to Breakout and Produce Enough Weapon-grade Uranium for Five Nuclear Weapons

An indicator of sensitive nuclear activities is a change in the amount of weapon-grade uranium Iran can produce in a breakout. As discussed in the previous section, as of February 2023, not only can Iran rapidly produce weapon-grade uranium for its first nuclear weapon in a matter of days, it can produce enough weapon-grade uranium for five nuclear weapons in one month – a dramatic shift from the four months it would have taken Iran to produce five WGU quantities in September 2022.

Large Deployments of Advanced Centrifuges

Iran's advanced centrifuges deserve special attention because they pose a grave risk to international security, allowing Iran to produce weapon-grade uranium for a nuclear weapon more quickly, either at declared nuclear sites or at clandestine ones. The presence of advanced centrifuges at the Fordow underground enrichment plant enhances Iran's ability to break out using a declared but highly fortified facility. Over the fall and winter of 2022, Iran deployed almost 3000 additional advanced centrifuges. As of mid-February 2023, Iran had 5763 advanced centrifuges of various types installed at its three enrichment facilities at Natanz and Fordow, up from 2780 as of September 2022, as well as 7231 installed IR-1 centrifuges. Iran further announced its intentions to install an additional 14 IR-6 centrifuge cascades at Fordow. As of mid-February 2023, Iran has not installed additional IR-6 centrifuges at Fordow; however, Iranian progress in doing so would inevitably raise the score in this section further.

Work continued on a new, large, heavily fortified underground site near the Natanz enrichment plant to assemble advanced centrifuges. This site may also be slated to hold another enrichment plant.

Iran Has Installed a Capability to Produce Highly Enriched Uranium Metal

In the last few years, Iran has developed capabilities at the Esfahan site to produce enriched uranium metal, a necessary step in building nuclear weapons. It has developed a capability to convert enriched uranium hexafluoride, the output of its centrifuge plants, into enriched uranium metal. On a small scale it has converted 20 percent enriched uranium hexafluoride into metal. This accomplishment means that Iran could do the same with weapon-grade uranium hexafluoride.

Iran Remains a Serial Violator of National Export Controls and Sanctions

Iran continued to violate international and national sanctions and strategic trade control laws as it seeks to outfit its nuclear and missile programs. These activities are crucial for Iran, since it does not produce many of the subcomponents and raw materials needed by its nuclear, arms (including drones), and missile programs. Intelligence reports, prosecutions, and sanctions listings continuously highlight Iran's ongoing and often increasing WMD-related procurement efforts.

Beyond Breakout

Score: 18 points ↑

So far, Iran has not turned its highly enriched uranium into nuclear weapons. Even so, it had a large-scale nuclear weapons program in the past, parts of which continue up to today, leading to a score in this



category of 18 out of 30 (Considerable Danger). This score acknowledges that further steps in nuclear weaponization are possible, including building nuclear weapons or using them.

Iran Has Maintained an Organizational Structure to Preserve and Possibly Hone Nuclear Weaponization Assets and Skills

[Iran's nuclear weapons program](#) started slowly, building to a crash nuclear weapons program in the early 2000s, called the Amad Plan, to create five nuclear weapons in an industrial complex capable of producing many more. Under international pressure and fearing a military attack, the program was driven to downsize and deeper secrecy. Iran's decision to halt the Amad Plan merely served as a tactical retreat, not an abandonment of its nuclear weapons ambitions or activities, a step taken earlier by other countries, notably Taiwan and South Africa.

After the closure of the Amad Plan, other organizations continued to work on nuclear weapons. The evidence suggests that Iran not only maintained the capability to produce nuclear weapons, but actively worked on efforts to advance that capability in case Iran's leaders made a decision to build them. There is no evidence that such work has halted.

The nuclear weaponization skills continue to be largely harbored in a military organization known by its acronym SPND, involved in many military development projects. Core Amad Plan groups remain in SPND, employing many former Amad Plan personnel, preserving and likely improving key nuclear weaponization skills and capabilities. SPND has also launched its own project to develop and build a nuclear propulsion reactor.

The post-Amad reorientation strategy shines a light on controversial Atomic Energy of Iran (AEOI) nuclear activities that followed after 2004, particularly the Fordow enrichment plant, which was originally the Amad Plan's intended facility to produce weapon-grade uranium. After the halt of the Amad Plan, the secret Fordow project was transferred to the AEOI, which was judged as providing a more credible civil cover for military activities. This turned out to be true, as Western powers revealed the secret project in 2009 and its repurposing to low enriched uranium production. Similarly, recent AEOI uranium metal production activities may include follow-on activities of the Amad Plan, posing as civil activities.

Iran Would Only Need a Short Time to Build a Nuclear Weapon Today

Today, Iran is closer to being able to build nuclear weapons than it was in 2003 at the end of the Amad Plan, because of the vast uranium enrichment capabilities acquired since then. Although it may not be building a nuclear weapon today, it does appear to have a program to be prepared to make nuclear weapons and to do so in short order. Rather than a crash nuclear weapons program, Iran continues to threaten the world with a program ready to produce nuclear weapons "on-demand."

It would not take Iran long to build nuclear weapons if it decided to do so. Iran had accumulated enough information and experience by the end of the Amad Plan to be able to design and produce a workable implosion nuclear device. That nuclear weapon design had a diameter of 55 centimeters, roughly the same as a car tire, meaning that it is small enough to fit on a ballistic missile. Work since 2003 may have led to designs with smaller diameters.

Based on all the available information, the Institute has assessed Iran as being able to prepare a nuclear explosive device for underground testing in six months. This device could also be delivered in a crude delivery system, such as a ship or bomber. A missile-delivered warhead would take longer to produce, with estimates ranging from one to two years. Iran could also decide to produce a large arsenal. If it secretly restarted the Amad Plan where it left off, it would likely be able to start manufacturing missile-deliverable nuclear weapons after about two years. ²

In a rare public statement on Iranian nuclear weapons capabilities, General Mark Milley, chairman of the U.S. Joint Chiefs of Staff, told Congress on March 29, 2023, "From the time of a national decision, Iran could produce enough fissile material for a nuclear weapon in approximately 10-15 days and it would only take several months to produce an actual nuclear weapon." ^{3, 4} He was unclear on the sophistication of the nuclear weapon that Iran could produce in several months.

Milley's statement and the Institute's analysis indicates that there is more agreement that Iran could produce a nuclear weapon in "several months" or "six months," respectively, if the regime decided to do so. However, Milley's statement appears to indicate that Iran may be closer to being able to build nuclear weapons than assessed in the Institute December 2022 study.

The Future is Uncertain

It remains unclear how Iran's nuclear weaponization program will evolve in the future, whether or not there is a revived nuclear deal. Iran remains on the brink of becoming a nuclear weapons power; its nuclear material production capabilities stronger than ever, its weaponization capabilities lurking under the surface. Iran could part from its nuclear weaponization capabilities, surgically removing any remnants and establishing international confidence that its nuclear program is truly peaceful. But only Iran can make that decision. As such, the score in this section can



move in either direction. For this edition of the Threat Geiger Counter, the score has been increased by two points.

1. The achieved enrichment capacity varies considerably over time. For more information, see the Institute series on surveying Iran's IR-1 and advanced centrifuges at www.isis-online.org. ↵
2. David Albright, "Iran Building Nuclear Weapons," *Institute for Science and International Security*, December 5, 2022, https://isis-online.org/isis-reports/detail/iran-building-nuclear-weapons/8. ↵
3. "Statement of General Mark A. Milley, 20th Chairman of the Joint Chiefs of Staff, Department of Defense Budget Hearing," before the House Armed Services Committee, March 29, 2023, <https://armedservices.house.gov/sites/republicans.armedservices.house.gov/files/03.29.23%20Milley%20Statement.pdf>. <a (See also *Wall Street Journal* coverage.) ↵
4. For information about breakout timelines, see David Albright, Sarah Burkhard, Spencer Faragasso, and Andrea Stricker, "Analysis of IAEA Iran Verification and Monitoring Report - February 2023," *Institute for Science and International Security*, March 3, 2023, <https://isis-online.org/isis-reports/detail/analysis-of-iaea-iran-verification-and-monitoring-report-february-2023>.

Now NYC Mayor Eric Adams considers housing migrants at Gracie Mansion after saying they should be allowed in 'private residences' - and claims he is 'leading from the front'

Source: <https://www.dailymail.co.uk/news/article-12165841/NYC-Mayor-Eric-Adams-considers-housing-migrants-Gracie-Mansion.html>

June 06 – New York City mayor Eric Adams has said he is considering housing migrants at his residence of Gracie Mansion as he claimed he is 'leading from the front.'

Adams' comments during a press conference on Tuesday come a day after the mayor suggested putting migrants in 'private residences' to deal with the influx of asylum seekers in the Big Apple.

'I was speaking with the staff to see if I could put a few families into Gracie Mansion,' Adams said at a press conference, as reported by the New York Daily News.

'I don't have a problem if I can put a migrant family in Gracie Mansion because I want to lead from the front.

'That's the type of leader I am.'

However, Adams added that he has to look at 'legal protocols' before moving migrants into the mayor's mansion in Brooklyn.

'You know, I can't use the building any way I want,' he explained.

The mayor went on to emphasize how he would not be asking the city's residents to make space for migrants if he himself was not willing to. 'Generals don't send their troops into battle and ask, "How's the war?"' he said.

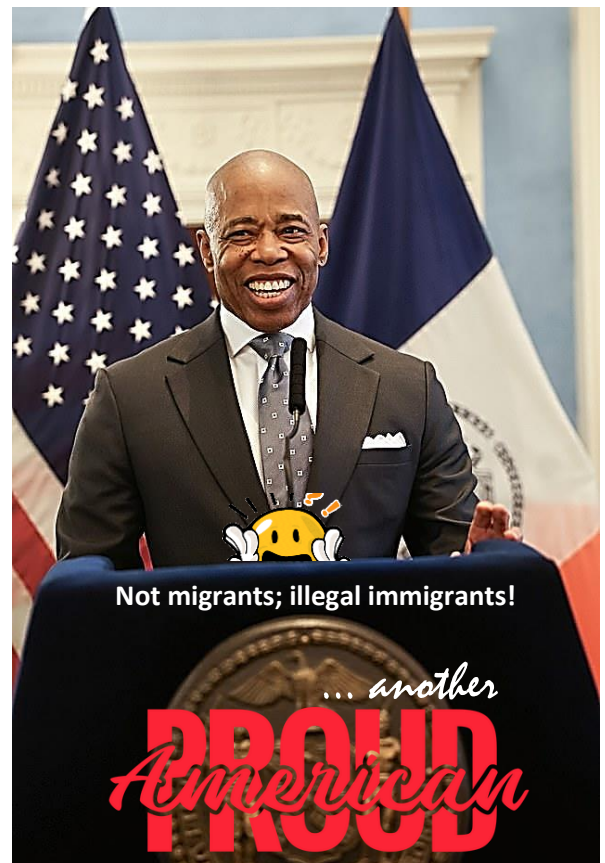
'They lead troops into battle. I'm a general who leads my troops into battle. So yes, I'm more than willing to use whatever space I have to deal with this crisis.'

Adams has previously said he wants Gracie Mansion to be 'the people's house' and has hosted at least three weddings at the home. The home's main floor is open to the public for limited guided tours.

Gracie Mansion has served as the home of the city's mayors since 1942, with some notable exceptions like Rudy Giuliani and Michael Bloomberg, who were not allowed to move in with their partners.

Only visiting officials and the mayor's family are allowed to reside at the home - a rule that could prevent the mayor's suggestion of housing migrants.

On Monday, Adams announced that mosques, churches, and other houses of worship would be helping in the city's efforts to provide shelter to migrants. Adams said when the church-based program is fully operational, they hope to be able to host up to 1,000 asylum seekers at a time. An estimated **70,000 migrants** have arrived in New York City over the last year, as Republican governors around the country like Florida's Ron DeSantis have sent buses packed with asylum seekers.



Republican governors around the country like Florida's Ron DeSantis have sent buses to New York City packed with asylum seekers. Asylum seekers are held prior to being transferred via city bus from Port Authority bus terminal to housing facilities in the Bronx and Queens on May 15, 2023. The mayor's office has predicted that taking care of them will cost the city \$4.3 billion within a year. Adams has said he also hopes New Yorkers will help house the migrants, and that he thinks offering up private residences will benefit New Yorkers in the long-term. 'There are residents who are suffering right now because of economic challenges, they have spare rooms, they have locales,' the mayor said. 'If we can find a way to get over the 30-day rule and other rules that government, has it place, we can take that \$4.2 billion - \$4.3 maybe now -that we potentially have to spend and put it back in the pockets of every day New Yorkers,' he said. The mayor's suggestion that migrants should be moved into private residences caused outrage among NYC residents who already feel the city's tax payers are being overburdened by the crisis. Adams also said that his church plan would put money back into local houses of worship. The deal Adams announced Monday will allow up to 50 houses of worship in the area to house as many as 19 adult men each night, Adams said. Each night will cost the city about \$125 a day, he continued. 'No matter what faith you practice, caring for those in need is part of every spiritual tradition,' Adams said. The NYC mayor said the partnership is necessary as the current rate of migrants coming into the city is unsustainable.



New Modus Operandi: How **organised crime** infiltrates the ports of Europe

Source: <https://www.border-security-report.com/new-modus-operandi-how-organised-crime-infiltrates-the-ports-of-europe/>

April 2023 – Europol has launched a [joint analysis report](#) with the Security Steering Committee of the ports of Antwerp, Hamburg/Bremerhaven and Rotterdam that looks into the risk and challenges for law enforcement posed by criminal networks in EU ports. The EU's critical infrastructure – notably highways, railways and ports – enable the EU way of life, where free movement of goods and people is a foundational and major factor for economic growth, personal freedom and prosperity. Criminal networks however, driven by the constant desire of growing profits and expansion of their illegal activities, are increasingly working toward the infiltration of and control over major logistical



ports. EU ports are examples of such major hubs, which is why the Security Steering Committee of the ports of Antwerp, Hamburg/Bremerhaven and Rotterdam, together with Europol, agreed to draft a joint analysis report assessing the threat of infiltration of port infrastructure by organised crime in the EU.

Main findings:

- The use of misappropriated container reference codes (or so-called PIN code fraud) is gaining traction among criminal networks as a modus operandi for extracting illicit goods from ports.
- Criminal networks arrange the infiltration of ports by coordinating local networks of corrupted port insiders.
- As a side effect of the criminal operations in ports and the rivalry it entails, violence often spills out of major transportation hubs onto the streets of surrounding cities, where competition for distribution takes place.

Main recommendations:

- International information exchange on the criminal networks' activities in ports with Europol and amongst EU Member States should be further enhanced.
- Continuous attention must be paid to the integration of security features in the design of port infrastructure.
- Implementing public-partnerships to involve all port actors essential for tackling the infiltration of criminal networks in EU ports.

Ylva Johansson, Commissioner for Home Affairs said: The Europol report on criminal networks in ports illustrates what we are up against. It lays bare the sophistication of criminal drug gangs, their strength, and their savagery. The drug traffickers promote corrupt actions and practices sometimes by bribery, sometimes by intimidation. We are working with authorities at all levels to strengthen systems in the fight against the criminal activity this report outlines. Europol's Executive Director Catherine De Bolle said: Criminal networks work closely to evade security at land borders and at air and maritime ports. They have one thing in mind – profit. An effective response is closer collaboration between the public and private sector; this will make both sides stronger. This report, the first ever created in cooperation with the ports of Antwerp, Rotterdam, Hamburg/Bremerhaven, is part of building this common front. This information exchange has led to deeper knowledge, which is the most effective weapon against organised crime.

Vulnerabilities of EU ports

Maritime ports in the EU handle some 90 million containers each year, but authorities are able to inspect only between 2% and 10% of them. Meanwhile, it is estimated that in the last few years, at least 200 tonnes of cocaine have been trafficked through the ports of Antwerp and Rotterdam alone. This logistical hurdle represents a challenge for law enforcement and an opportunity for criminal networks needing to access logistical hubs to facilitate their criminal activities. Such criminal networks have therefore infiltrated ports in all continents. Europe's three biggest ports, namely those in Antwerp, Rotterdam and Hamburg, are among the most-targeted by criminal infiltration. The main way criminals do this is through the corruption of shipping companies' personnel, port workers, importers, transport companies, and representatives of national authorities among other actors, whose actions are necessary to secure the entry of illegal shipments. However, this approach requires corruption of a large number of accomplices.

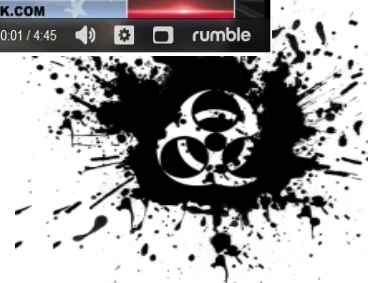
In order to focus their efforts and minimise the risks of losing merchandise, organised criminals are seeking new modus operandi that require the corruption of far fewer individuals. Europol's analysis report on criminal networks in EU ports looks into one specific technique, which exploits misappropriated container reference codes. This requires the corruption of just one individual, along with either the corruption or a Trojan horse style infiltration of extraction teams, who are then paid between 7 and 15% of the value of the illegal shipment.

Col. MacGregor: 'It's Time to Slash Our Defense Budget'

Source: <https://21stcenturywire.com/2023/06/06/col-macgregor-its-time-to-slash-our-defense-budget/>

June 06 – The US military is losing in Ukraine, and will continue to lose – despite blowing **\$1 trillion** per year on so-called 'defense.'

In this recent episode of the *Charlie Kirk Show*, guest Col. Douglas Macgregor explains why America's bloated and ever-expanding Pentagon military budget. As it turns out, much of its \$1 trillion per annum



slush fund is wasted on top-heavy contracts and boondoggle projects which never see the light of day on the battlefield. What NATO's proxy war against Russia in Ukraine is now demonstrating as that the US is not even remotely equipped to fight a modern war of combined forces – and will not be for many years (assuming they attempt to revamp their forces to fight a 21st century ground war).

Teachers' Views on School Safety

Source: <https://www.homelandsecuritynewswire.com/dr20230608-teachers-views-on-school-safety>

June 08 – Shooting incidents at kindergarten through grade 12 (K–12) schools in the United States, including mass attacks like the one that killed 19 students and two teachers at Robb Elementary School in Uvalde, Texas, have sparked calls to increase security or adopt altogether new approaches to school safety. These approaches include allowing teachers or staff to carry firearms in some schools. To learn what teachers across the United States think about school safety generally and about specific proposals to enhance safety in schools, such as teacher-carry policies, RAND researchers administered a survey to a randomly sampled set of 973 K–12 teachers using the American Teacher Panel. The survey focused on teachers' views of safety in their schools, including their main safety concerns, perceptions of security measures in place, the effect of those measures on school climate, and whether they were concerned for their own safety and that of their students.

On the specific issue of firearms in school, the survey asked whether allowing teachers to carry firearms would make schools more or less safe and whether teachers would *personally* carry a firearm if given the choice to do so. Findings note that teachers, like the U.S. population as a whole, are divided about armed teachers at school: Fifty-four percent of respondents reported believing that teachers carrying firearms will make schools less safe, 20 percent reported believing that it will make schools safer, and the final 26 percent reported feeling that it would make schools neither more nor less safe.



Key Findings

- Similar to older and state-specific surveys, this survey found that teachers are divided about arming teachers at school. Fifty-four percent of the nationally representative sample of teachers reported believing that teachers carrying firearms will make schools less safe, 20 percent reported believing that it will make schools safer, and the final 26 percent reported feeling that it would make schools neither more nor less safe.
- White teachers were more likely than Black teachers to feel that teachers carrying firearms would make schools safer, and male teachers in rural schools were most likely to say that they would personally carry a firearm at school if allowed.
- All told, about 550,000 of the country's 3 million K–12 teachers would choose to carry a firearm at school if allowed.
- Regardless of gender or race, roughly half of teachers felt that physical security measures at their school (which most commonly include locks, ID badges, cameras, and security staff) positively affected the school climate. Only 5 percent of teachers felt that their schools' physical security measures had a negative effect on school climate.
- Despite the growth in gun violence, bullying — rather than active shooters — was teachers' most common safety concern.

Recommendations

- Study early adopter schools or school districts that have more-expansive versions of teacher-carry programs to understand how they work in practice.
- Conduct a comprehensive cost-benefit analysis of programs allowing teacher-carry to rigorously assess their outcomes.
- Develop risk analysis approaches to inform school safety and security planning that balance frequent, lower-level forms of school violence, such as bullying, and lower-probability, extreme forms of school violence, such as shootings.
- Develop a deeper understanding of the sources of teachers' safety concerns.
- Identify how fears of victimization and of specific safety concerns contribute to teacher and principal turnover, and to student enrollment, attendance, and academic performance.
- Better characterize the combined effects of school security measures and strategies on safety, school climate, and student attendance and academic performance.
- Take the pulse of parents, teachers, administrators, and students about school safety measures to disaggregate by type of community and to triangulate their views on school safety.



NATO Forges Secret Plans Against Russia—'We Are Ready To Fight Tonight'

Source: <https://www.newsweek.com/russia-ukraine-nato-alliance-war-1801199>

NATO leaders are set to approve plans outlining how the alliance can respond to an attack by Russia.

The proposed move comes as a top [NATO](#) official, Admiral Rob Bauer, warned that preparations were needed because "a conflict can present itself at any time."

NATO, which has been involved in smaller conflicts such as Afghanistan in recent years, has not drawn up such detailed plans for defending against a Russian attack since the end of the Cold War, but President [Vladimir Putin](#)'s full-scale invasion of Ukraine has led to a rethink. The plans, running into thousands of pages, will also guide its 31 members on how to upgrade forces and logistics. The move, which will be approved at the alliance's annual summit in Vilnius in July, may take several years to fully implement, although the NATO officials said that it could head into battle immediately.

"We are ready to fight tonight," said Lieutenant General Hubert Cottureau, vice chief of staff at NATO's Supreme Headquarters Allied Powers Europe (SHAPE), according to Reuters.

He said that the alliance does not believe that increasing troop numbers in the east are required, [which is what Baltics states have demanded](#). "If the Russians are massing troops on the border that will make us nervous," he told the agency, "if we are massing troops on the border that will make them nervous."

Last year, NATO agreed to put 300,000 troops on high alert, up from 40,000. However, it has struggled to keep pace with Ukraine's demands for military equipment and would have to upgrade logistics to allow troops to be deployed quickly via rail or road.

Historian at SHAPE, Ian Hope, told the agency that a possible conflict with Moscow would be different to the threat posed during the Cold War, but drones, hypersonic weapons and the internet "present new challenges."

There are questions over NATO's readiness for a conflict with Russia. In September 2022, a former senior NATO commander, General Sir Richard Shirreff, [told Newsweek](#) that the alliance was not ready to engage in a war with Moscow if its full-scale invasion of [Ukraine](#) turned into a "worst case" scenario.

"Being ready for the worst-case means mobilizing reserves," he said. "It means rebuilding lost capabilities thrown away in years of defense cuts." Last month, NATO Secretary General Jens Stoltenberg said that all member countries agreed that Ukraine will join the alliance, once the war is over. The alliance has increased in size to 31 members after Finland's accession last month, which doubled NATO's border with Russia to 1,600 miles.

Ukrainian President [Volodymyr Zelensky is scheduled](#) to attend the NATO summit although officials in Kyiv want this to be preceded by a roadmap for membership of the alliance. *Newsweek* has contacted NATO by email for further comment.

EDITOR'S COMMENT: I think it is time to introduce an IQ-test for the servicemen in high places. Earth's peace cannot be depended on warphiliacs.

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Foreign donors have pledged
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for Ukraine over a multi-year period
to help the country rebuild
following Russia's February 2022 invasion.

Guilt?



Somalia

Scores drown in Greece's deadliest migrant shipwreck this year

Source: <https://www.reuters.com/world/europe/seventeen-drown-100-rescued-after-migrant-shipwreck-off-greece-2023-06-14/>

June 14 - At least 78 migrants (**update** 21/6: 82) drowned early on Wednesday and more were feared missing after their overloaded boat capsized and sank off Greece, in one of Europe's deadliest shipwrecks this year. By midday, 104 people had been rescued, authorities said, but it remained unclear how many were on board when the vessel - whose occupants the coast guard said had refused an offer of help late on Tuesday - went under. "We fear the number of dead will rise," said a shipping ministry official who spoke on condition of anonymity. Greece is one of the main routes into the European Union for refugees and migrants from the Middle East, Asia and Africa. Most cross over to Greek islands from nearby Turkey, but a growing number of boats also undertake a longer, more dangerous journey from Turkey to Italy via Greece. State broadcaster ERT said the boat that sank had set sail from the **Libyan town of Tobruk**, which lies south of the Greek island of Crete and was headed to Italy.

The disaster is the deadliest in Greece this year and among the worst in Europe. In February, 96 people died when their wooden boat smashed into rocks on [Italy's Calabrian coast](#) during a storm.

Filippo Grandi, the U.N. High Commissioner for Refugees, called on governments to work together on creating safe pathways for people fleeing poverty and war.

"Only sadness and anger after another deadly tragedy at sea in the Mediterranean," he wrote on Twitter.

Greece is currently led by a caretaker government ahead of a national election on June 25.

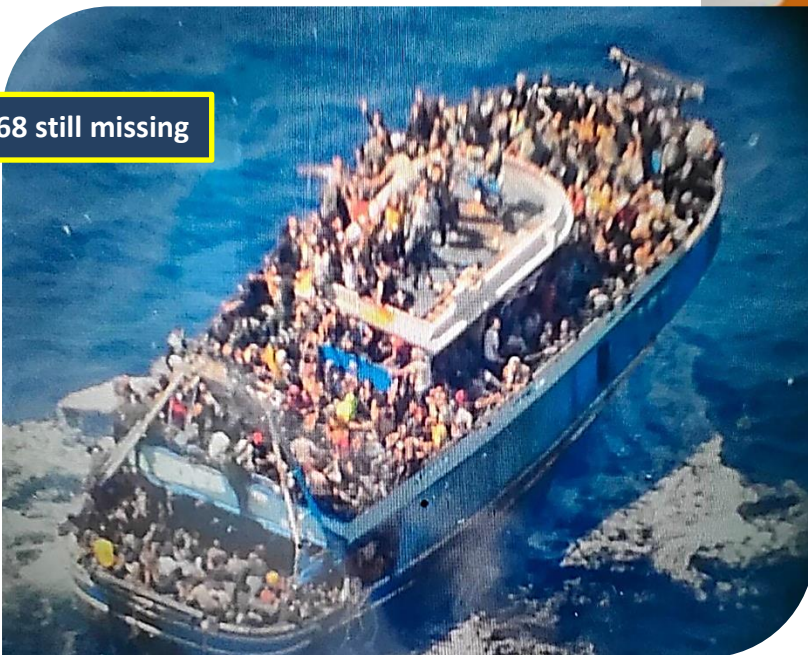
The Greek coast guard said the boat was first spotted late on Tuesday by EU border agency Frontex in international waters around **50 miles (80 km) southwest of the southern Greek coastal town of Pylos**.

A Greek coast guard vessel then approached the boat, which was en route to Italy, and offered help.

A large number of migrants on its outer deck "refused assistance and stated their desire to continue their voyage," the coast guard



568 still missing



said. A few hours later the boat capsized and sank, triggering a search and rescue operation. Broadcaster ERT said most of those on board were young men in their 20s. The shipping ministry official said most were from Egypt, Syria and Pakistan, though Greek authorities did not confirm the vessel's port of departure.

Survivors were taken to the town of Kalamata, where the country's president Katerina Sakellariopoulou was expected to visit.

Greece was at the frontline of Europe's 2015 migration crisis, when nearly 1 million people arrived on its islands from Turkey before heading north to wealthier European states. Numbers have fallen dramatically since a 2016 deal struck between Brussels and Ankara to stem



the flows, while the previous conservative government of Kyriakos Mitsotakis had said a tough policy - which included more border patrols and migrant camps under heavy surveillance - helped keep arrivals low.

About 72,000 refugees and migrants have arrived so far this year in Europe's frontline Mediterranean countries, according to United Nations data, with the majority landing in Italy and around 6,500 in Greece.

Nearly 1,000 people are estimated to have died or gone missing in the Mediterranean this year, according to the U.N.

EDITOR'S COMMENT: It is so sad that so many human lives were lost while seeking a better tomorrow.

On the other hand, there is information that more than 700 were on board the vessel – suspicion of 100 children in the ship's hold! A ship visually packed with people was not apprehended by Libyan port authorities and Coast Guard in Tobruk – unless all of them are in the same smuggling game. In addition: The ship refused external assistance for almost six hours – only food and water. Is there something called “forced rescue”? The thing is that forced illegal immigration must be stopped. Europe does not invite them and does not need them. If their countries are not providing a sufficient living environment is not an EU problem to solve. Besides, almost all of them have no skills or education, they are not working in host countries depending on generous benefits. To

open diplomatic offices in Libya and other African countries to accept applications for migrating to the EU is ridiculous – applications without criteria? Criteria on zero working background? Europeans have the right to defend their territories from the African invasion. The UN should force Africa and other countries not at war to implement policies that will lead to the improvement of the quality of life of their citizens. Expecting solutions one more time from Europe is not an option. By the way: Greece experienced again EU solidarity via accusations that the response was not adequate and could have been better. It is always nice to speak from a distance, blame others and do nothing in support. My opinion: Shut up!



How Wars Don't End

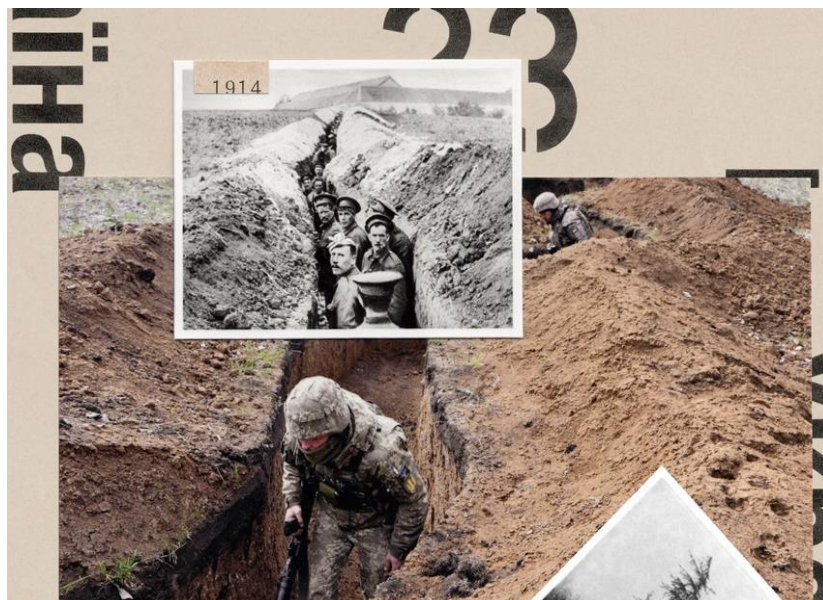
Ukraine, Russia, and the Lessons of World War I

By Margaret MacMillan

Source: <https://www.foreignaffairs.com/ukraine/how-wars-dont-end>

June 12 – On February 24, 2022, the great Ukrainian novelist Andrey Kurkov and his wife were awakened in their home in Kyiv by the sound of Russian missiles. At first, he could not believe what was happening. “You have to get used psychologically to the idea that war has begun,” he wrote. Many observers of the invasion felt and continue to feel that sense of disbelief. They were confounded by Russia’s open and massive assault and amazed at Ukraine’s dogged and successful resistance. Who, in those first days of the war, as the Russian columns advanced, would have predicted that the two sides would still be fighting well over a year later? With so many more weapons and resources and so much more manpower to draw on, it seemed a foregone conclusion that Russia would crush Ukraine and seize its main cities in a matter of days.

Yet well into its second year, the war goes on, and in a very different way than expected. An [invasion of Ukraine](#), many assumed, would involve rapid advances and decisive battles. There has been some of that, including Ukraine’s dramatic counteroffensive in the Kharkiv region in the late summer of 2022. But by early May, despite talk of a major Ukrainian offensive, the war had long since become a grinding conflict along increasingly fortified battle lines. Indeed, the scenes coming from eastern Ukraine—soldiers knee-deep in mud, the two sides facing each other from



trenches and ruined buildings across a wasteland churned up by shells—could be from the western front in 1916 or Stalingrad in 1942.

Before the Russian invasion, many assumed that wars among major twenty-first-century powers, if they happened at all, would not be like earlier ones. They would be fought using a new generation of advanced technologies, including autonomous weapons systems. They would play out in space and cyberspace; boots on the ground would probably not matter much. Instead, the West has had to come to terms with another state-to-state war on European soil, fought by large armies over many square miles of territory. And that is only one of many ways that Russia's invasion of Ukraine harks back to the two world wars. Like those earlier wars, it was fueled by [nationalism](#) and unrealistic assumptions about how easy it would be to overwhelm the enemy. The fighting has taken place in civilian areas as much as on the battlefield, laying waste to towns and villages and sending populations fleeing. It has consumed vast resources, and the governments involved have been forced to use conscripts and, in the case of Russia, mercenaries. The conflict has led to a search for new and more deadly weapons and carries the potential for dangerous escalation. It is also drawing in many other countries.

The experience of an earlier great war in Europe—we know it as [World War I](#)—should remind us of the dreadful costs of a prolonged and bitter armed conflict. And like today, that war was widely expected to be short and decisive. Yet the world, and Ukraine, now face disquieting questions. How long will Russia persist with its campaign, even though its hopes of celebrating victory continue to recede? What greater damage and horrors will be inflicted on Ukraine and its people? And when can those countries most affected by the conflict, from Ukraine's neighbors to the wider membership of NATO, stop worrying that the war will spill outside Ukraine's borders? But the past also offers an even darker warning—this time, for the future, when the war in Ukraine finally comes to an end, as all wars do. Ukraine and its supporters may well hope for an overwhelming victory and the fall of the Putin regime. Yet if Russia is left in turmoil, bitter and isolated, with many of its leaders and people blaming others for its failures, as so many Germans did in those interwar decades, then the end of one war could simply lay the groundwork for another.

SARAJEVO SYNDROME

In the spring of 1914, few thought that a land war between major European powers was possible. European states, so their inhabitants complacently assumed, were too advanced, too economically integrated—too “civilized,” in the language of the time—to resort to armed conflict with each other. Wars still took place on the periphery of Europe, in the Balkans notably or in colonial territories, where Europeans fought against less powerful peoples—but not, it was thought, on the continent itself.

Much the same held true in the early weeks of 2022. Leaders and policymakers and their publics in the West tended to view warfare as something that happened elsewhere, whether in the form of insurrections against unpopular governments or in the seemingly endless conflicts in failed states. True, there were concerns about major-power conflict when, say, China and India clashed along their common border or when China and the United States traded barbs over the [fate of Taiwan](#). But to those in the more fortunate parts of the world—the Americas, Europe, much of Asia and the Pacific—wars were a thing of the past or far away.

In 1914 and 2022 alike, those who assumed war wasn't possible were wrong. In 1914, there were dangerous and unresolved tensions among the European powers, as well as a new arms race and regional crises, which had led to talk of war. Similarly, in the months leading up to Russia's invasion of Ukraine, Moscow had made clear its grievances with the West, and Russian President [Vladimir Putin](#) had given many indications of his intentions. Rather than rely on assumptions about the unlikelihood of a full-scale war, Western leaders who doubted the prospect of a Russian invasion should have paid more attention to his rhetoric about Ukraine. The title of the lengthy essay Putin published in 2021 said it all: “On the Historical Unity of Russians and Ukrainians.” Not only was Ukraine the birthplace of Russia itself, he argued, but its peoples have always been Russian. In his view, malign outside forces—Austria-Hungary before World War I and the European Union today—had tried to divide Russia from its rightful patrimony.

Putin also echoed early-twentieth-century leaders in concluding that war was a reasonable option. Following a Serbian nationalist's assassination of Austrian Archduke Franz Ferdinand in Sarajevo in June 1914, the rulers of Austria-Hungary quickly convinced themselves that they had to destroy Serbia, even if it meant a war with Serbia's protector, Russia. Tsar Nicholas II was still smarting from the humiliation he had been dealt when Austria-Hungary annexed Bosnia from the Ottoman Empire in 1908, and he vowed he would never back down again. German Kaiser Wilhelm II, commanding the world's most powerful army, was afraid of appearing cowardly. Each of these leaders, in different ways, felt that a quick and decisive war offered the best way to reinvigorate their countries. Similarly, Putin resented Moscow's loss of power after the [Cold War](#) and was convinced he would quickly overwhelm Ukraine. And he confronted leaders in Europe and the United States who had their minds on other things, just as a century earlier, when the crisis erupted on the continent, the British government was preoccupied with trouble in Ireland.

Equally dangerous was the aggressors' assumption that a war would be short and decisive. In 1914, the major powers had only offensive war plans, predicated on quick victories. Germany's notorious Schlieffen Plan imagined a two-front war against France and its ally Russia. The German army would fight a holding



action in the east, where Germany and Russia then shared a common border. And Germany would launch a massive attack in the West, swooping down through Belgium and northern France to encircle Paris—all within six weeks, at which point, the Germans assumed, France would surrender, and Russia would sue for peace. In 2022, Putin made much the same mistake. So convinced was he of Russia's ability to rapidly conquer Ukraine that he had a puppet government in waiting and ordered his soldiers to bring along their dress uniforms for a victory parade. And like imperial Germany a century earlier, Russia paid little heed to the potentially catastrophic costs if things did not go as planned.

Leaders with the power to take their countries into war—or hold them back—can rarely be considered mere machines tabulating costs and benefits. If Putin had made the proper calculations at the beginning, he would probably not have invaded Ukraine, or at least he would have tried to extricate Russian forces as soon as it became clear that he would not get the rapid, cheap conquest he expected. Emotions—resentment, pride, fear—can influence decisions great and small, and as 1914 showed, so can the experiences of those making the decisions. Like Nicholas, Putin remembered a humiliation. As a young KGB officer, he had witnessed firsthand the Soviet empire's retreat from East Germany and then the disintegration of the [Soviet Union](#) itself, and he saw the eastward expansion of NATO and the EU—both of which had started under his predecessors Mikhail Gorbachev and Boris Yeltsin—as an indignity and a threat. The West downplayed Russia's fears and largely ignored the blows to its national pride.

In 1914, Europe's elites shared a common culture, often spoke the same languages, and were connected by ties of friendship and marriage. Yet they failed to grasp the strength of nationalism, the growing antipathies between often neighboring peoples, and the way their ruling classes and intellectuals were abusing history to claim that, for example, the Germans and the French were hereditary enemies. Today, for Putin and the many Russians who see things the way he does, the West, however defined, is the enemy and always has been. Ukraine was being seduced by Western materialism and decadence and needed to be saved and restored to its proper family. And another motive was in play: if liberalism and democracy took root in Ukraine, as appeared to be happening, those dangerous forces might start to infect Russian society, too. Before the invasion, few in the West understood the extent to which Putin saw Ukraine as central to Russia's destiny.

One of the lessons of Russia's war in Ukraine is that Western strategists need to pay more attention to how leaders elsewhere see their own countries and histories. For example, invading Taiwan would carry all sorts of risks for China. But the Chinese may be prepared to take them. Their leader, [Xi Jinping](#), has made it clear that he views the island and its people as part of the Chinese nation and wants "reunification" to be part of his legacy. That view and that desire must factor heavily into Xi's decision-making.

THE FAST-WAR FALLACY

As World War I indelibly demonstrated, wars rarely go as planned. Military strategists were aware of the growing importance of trench warfare and rapid-firing artillery, yet they failed to see the consequences. They were unprepared for what quickly became static frontlines, in which the opposing sides carried out massive exchanges of artillery and machine-gun fire from fortified trenches—tactics that led to very high casualty rates with minimal advances. A war that was meant to be over in months ground on for more than four years and cost far more in human lives and economic resources than anyone had imagined at the outset.

Although the war in Ukraine is only in its second year, it, too, has unfolded, for months-long stretches, in a situation of hardening frontlines with very high human costs. Such a reality does not preclude the possibility of significant new operations by either side and consequent shifts in momentum. Well over a year into the war, advances are likely to come at a much higher price. Ground that has been fought over, as the generals learned in World War I, is more difficult to move across. And both sides have used the winter months to prepare their defenses. Although such figures must be treated with caution, Western intelligence agencies have estimated that during some of the worst fighting, Russia has suffered an average of more than 800 killed and wounded per day, and Ukrainian officials have acknowledged peaks of between 200 and 500 Ukrainian casualties per day. Russia has already lost more soldiers in this war than in its ten years of fighting in Afghanistan.

The right kind of military preparations can matter more than overall firepower. In the early twentieth century, the British and German navies devoted enormous resources to building fleets of Dreadnought battleships, just as their counterparts today have sought aircraft carriers. But new and sometimes cheap technologies, such as mines a century ago and drones today, can render these huge war machines obsolete. In World War I, British and German battleships often remained in port because mines and submarines posed too great a hazard. In the current war, Ukraine has sunk the heavily armed flagship of Russia's Black Sea Fleet with two relatively low-tech antiship missiles, blown apart hundreds of Russian tanks by drones and artillery shells, and hamstrung Russia's supposedly superior air force with its air defenses.

The war in Ukraine has also resurfaced the age-old problem of insufficient or misdirected defense spending. Before 1914, the British kept their army small and underfunded and were slow to introduce new technologies such as the machine gun. In the run-up to World War II, the [United Kingdom](#) and France were late to rearm, creating a disadvantage that helped convince their leaders to try to appease Hitler.



Thus, the two countries did little to resist Germany's takeover of Austria and Czechoslovakia, giving the Nazis an even stronger position in the heart of Europe. Similarly unprepared, European leaders did little to respond to Putin's annexation of Crimea and his undeclared war in eastern Ukraine in 2014. That and the fact that the Ukrainian armed forces, then still modeled on the old hierarchical Soviet model and underequipped and poorly trained, had performed badly in 2014, were key parts of the context in which Russia decided to invade in 2022.

No less than in the past, the ability to keep society functioning and the war machine going can make the difference between victory and defeat. At the outbreak of World War I, armies on both sides found that in a matter of weeks, they were exhausting stocks of ammunition meant to last for months or more. The belligerents had to mobilize their societies to an extraordinary degree to ensure that they could keep fighting. So great was the strain on Russia that it brought about the collapse of the old regime in 1917, the seizure of power by the Bolsheviks, and a brutal and destructive civil war. In today's war, Ukrainian society has met the extraordinary challenges and hardships imposed on it and, by many indications, is more united than ever. But it is unclear how long the country can hold together as its infrastructure is steadily destroyed and more of its people flee abroad. More immediately, Ukraine may struggle to secure enough ammunition and other equipment, such as armored vehicles, to carry on, especially as both sides step up their fighting during the warmer months.

By the spring of 2023, Russia had already upped its defense production and was obtaining weapons from a number of other countries, including Iran and [North Korea](#). Yet according to multiple reports and leaked intelligence documents, the Western powers—led by the United States, on which Ukraine depends—have been painfully slow to ramp up their delivery of weapons and materiel, leaving Kyiv with critical shortages. Much will depend on whether the West will continue to increase its support. Putin's Russia faces severe strains of its own, with cracks beginning to appear among the Russian elite and as hundreds of thousands of ordinary Russians, especially men of military age, leave the country. Will Russia hang together as the Soviet Union did in World War II? Or will the years to come produce a repeat of 1917?

PUTIN'S VERDUN

The longer a conflict lasts, the more important allies and resources become. In both world wars, Germany and its allies had some early successes, yet as the fight wore on, the opposing coalition won the economic war as well as the one on the battlefield. In each case, the United Kingdom could rely on its overseas empire for wealth and raw materials, and later on, the United States became, as President Franklin Roosevelt put it in World War II, the "arsenal of democracy" and ultimately a full military partner. That preponderance of resources and manpower was critical in bringing about Allied victories.

At the time of Putin's 2022 invasion, Russia appeared to have a significant advantage over Ukraine, including a far more powerful military and more of everything that could be counted, from tanks to troops. But as the war has continued, Ukraine's allies have proved more important than Russia's might. Indeed, for all the bravery and skill of Ukraine's armed forces, Kyiv could not have endured as long as it has without the extraordinary flow of arms and money from NATO countries. Wars are won or lost as much by access to resources or by attrition of the enemy's resources as by the skill of each side's commanders and the bravery of their combatants. And the publics of each belligerent nation must be sustained in their hopes of winning, and such persuasion can come at great cost.

One of the hallmarks of the two world wars was the enormous symbolic importance given to particular towns or regions—even if the costs of defending or capturing them seem to defy reason. Hitler wasted some of his best forces and equipment at Stalingrad because he refused to retreat. Not all the Pacific islands that American forces struggled to capture from Japan had great strategic significance. Consider Iwo Jima, in which the United States suffered more than 26,000 casualties in just 36 days, incurring some of the highest single-battle losses in Marine Corps history: the victory gave the Americans little more than a landing strip of debatable strategic value. And then there was Verdun in World War I. That fortress near France's border with Germany had some strategic significance, but its historical symbolism is what made it important to Erich von Falkenhayn, the chief of the German general staff. If the French could be defeated at a place so intertwined with French history, he felt, it would weaken their will to keep fighting. And even if they chose to defend it, they would take such losses that, as Falkenhayn put it, he would "bleed France white." It was a challenge the French understood and accepted.

The offensive started with a massive German attack in February 1916. When Falkenhayn's initial plan to seize all the hills around Verdun failed, however, the Germans found themselves committed to a devastating battle they were unable to win. At the same time, they could not withdraw from locations they had already taken, including the outlying French fortress of Douaumont: the gains had cost too many German lives, and German leaders had told the public that Douaumont was the key to the larger campaign. The battle of Verdun came to a close ten months later with around 143,000 German and 162,000 French dead and some 750,000 total casualties. In the end, the French had recaptured a large



part of the territory the Germans had managed to seize, though the war itself would continue for nearly two more years.

The war in Ukraine has produced its own senseless battles of this kind. Consider the Russian siege of Bakhmut, a largely ruined town in the east with little apparent strategic significance. After more than eight months of fighting, both sides had expended more human and military resources than in any other battle of the war. According to U.S. intelligence estimates, between December and the beginning of May alone, Russia suffered 100,000 casualties at Bakhmut, including more than 20,000 killed. Yet for Moscow, the battle for Bakhmut was a chance for a much-needed victory. For Kyiv, the town's defense had become a symbol of Ukrainians' determination to defend their land at any cost. Ukrainian President [Volodymyr Zelensky](#)'s chief of staff, Andriy Yermak, has himself made the comparison to Verdun.

But the prospect of more Verduns is not the only threat posed by a prolonged war in Ukraine. Of even greater concern is the possibility that it could draw in other powers and become ever more widespread and destructive. It is worth recalling that World War I started as a local confrontation in the Balkans between Austria-Hungary and Serbia. Within five weeks, it had become a general European war because the other great powers chose to intervene, acting, so they believed, in their own interests. Then, at each successive stage, other powers steadily followed: Japan in the late summer of 1914, Bulgaria and Italy in 1915, Romania in 1916, and China, Greece, and the United States in 1917. Although Ukraine's many friends have not yet crossed the line of becoming actual combatants, they are more and more closely involved, supplying, for example, intelligence and logistical support, in addition to more and more potent and sophisticated weapons. And as they increase the quality and quantity of their support, that in turn increases the risk that Russia will choose to escalate, possibly attacking neighboring countries such as Poland or the Baltic states. A further risk is that China could begin backing Russia more actively, sending lethal assistance and thereby raising the chances of a confrontation between Beijing and Washington.

As wars continue, ways of fighting and types of weapons that had been unthinkable at the start often become acceptable. Poison gas was outlawed in the 1899 Hague Convention, but that did not stop Germany from using it starting in 1915, with the Allies following suit by the final year of the war. In 1939, the United Kingdom held back from bombing German military targets, partly from fear of retaliation but also for ethical and legal considerations. A year later, it adopted a policy on unrestricted air war, even if that meant civilian casualties. And finally, with the Royal Air Force raids over German cities in the later stages of the war, civilians themselves became primary targets in what had become an effort to break enemy morale.

Russia has already violated international laws and norms on numerous occasions in Ukraine, and the small town of Bucha on the outskirts of Kyiv has become synonymous with war crimes. Worryingly, Russia has also threatened to break the taboo on the first use of nuclear weapons and has the capability to carry out chemical and biological warfare. It is difficult to speculate how Ukraine or its friends might react if Russia uses these weapons. But if Putin does use them and gets away with it, other countries ruled by authoritarian leaders would be tempted to follow his example.

THE WAR AFTER THE WAR

Even prolonged wars eventually end, sometimes when one belligerent can no longer fight, and sometimes through negotiation. The latter outcome, however, is only possible when both sides are prepared to talk and compromise. Some historians of World War II have argued that the Allies, with their insistence on an unconditional German surrender, gave [Nazi](#) Germany no choice but to fight to the bitter end. Yet there is no evidence that Hitler was ever prepared to negotiate seriously. In 1945, he killed himself rather than admit defeat, even though his cities lay in ruins, his armed forces were finished, and the Allied armies were rapidly advancing on Berlin. Preparing the Japanese public to fight to the death in the event of an American invasion, the militarists controlling Japan were so short of weapons that they began issuing sharpened bamboo sticks. It was only after the bombs were dropped on Hiroshima and Nagasaki that Japan offered an unconditional surrender.

It is possible that Ukraine and Russia, perhaps under pressure from [China](#) and the United States, might one day agree to talk about ending the war. Timing can be critical. In World War I, although various peace initiatives were floated—for example, by the pope and by U.S. President Woodrow Wilson—both sides continued to cling to the hope of military victory. Only in the summer of 1918, when the German high command recognized it was losing, did Germany ask for an armistice. But it is hard to imagine what such a settlement in Ukraine would look like, and as the fighting and losses on both sides mount and more reports of Russia's atrocities come to light, the accumulated hatred and bitterness will pose enormous obstacles to any concessions from either side.

Inevitably, in a long war, the objectives of both sides evolve. In World War I, Germany's war aims expanded to include a compliant—and perhaps annexed—Belgium in the West and an empire, economic or more formal, that would include the Baltic states and Ukraine. France, which had started the war wanting to reclaim its lost provinces of Alsace and Lorraine, by 1918 was contemplating annexing all German territory west of the Rhine River. And France and the United Kingdom quarreled over who would scoop up the largest parts of the defeated Ottoman Empire.



In the current struggle, Russia seems to have given up on taking Kyiv for now but appears set on absorbing as much of Ukraine as it can and reducing what is left to an impoverished, landlocked state. Ironically, Russia, which began the war proclaiming that its goal was the liberation of the innocent Ukrainians from the allegedly drug-addled, fascist government of Zelensky, now talks about ordinary Ukrainians as traitors. In turn, the Ukrainian government, which at first aimed simply to withstand the Russian assault and defend its land, has declared its intent to push Russia out of all of Ukraine, including [Crimea](#), as well as the parts of Donetsk and Luhansk occupied by Russia since 2014. As long as both sides continue to hope for something they can call victory, getting them to the negotiating table will be difficult, and the growing gap between their war aims will make reaching a settlement even harder.

In 1914, few expected the stalemate, the scale of the destruction, the spread of the fighting from Europe to the Middle East, Africa, and Asia, or the damage to Europe’s societies. When the guns finally fell silent, they did so in a very different Europe. Three empires—Austria-Hungary, Germany, and Russia—were in chaos, and the Ottoman Empire was about to break apart. The balance of power had shifted with a weakened British Empire and a rising United States and Japan. Will the war in Ukraine bring similarly large shifts, with a damaged Russia and an increasingly powerful and assertive China?

Georges Clemenceau, the French prime minister in 1919, once said that making peace is harder than waging war. We may well be about to rediscover the truth of his words. Even if the war in Ukraine can reach something like an ending, building peace in its wake will be a formidable challenge. Losers do not easily accept defeat, and victors find it hard to be magnanimous. The Treaty of Versailles was never as punitive as Germany claimed, and many of the treaty’s clauses were never enforced. But the Europe of the 1920s would have been a happier place if the Allies had not tried to extract high reparations from Germany and had welcomed it back into the community of nations sooner.

History can offer more encouraging examples. In the aftermath of [World War II](#), the U.S. Marshall Plan helped rebuild the countries of western Europe into flourishing economies and, equally important, stable democracies. In what would have seemed extraordinary in 1945, West Germany and Italy, admittedly under the threat of the Cold War, were allowed to join NATO and became core members of the transatlantic alliance. Even former enemies can be transformed into close partners.

The fate of the Axis powers after World War II offers at least hope that the Russia of today may one day be as distant a memory as is the Germany of 1945. For Ukraine, there is the promise of better days if the war can be wound down favorably for it, with the country recovering much of its lost eastern territories and its Black Sea coast, as well as being admitted to the EU. But if that does not happen and the West does not make a sustained effort to help Ukraine rebuild—and if Western leaders are determined to treat Russia as a permanent pariah—then the future for both countries will be one of misery, political instability, and revanchism.

Margaret MacMillan is Professor Emeritus of International History at Oxford and the author of *War: How Conflict Shaped Us* and *The War That Ended Peace: The Road to 1914*.



Blinken says US 'does not support Taiwan independence' during China visit

Source: <https://www.foxnews.com/politics/blinken-us-does-not-support-taiwan-independence-china-visit>

June 19 – [Secretary of State](#) Antony Blinken reiterated U.S. support of the "One China" policy on Monday, saying that the **U.S. does not support Taiwanese independence** following a meeting with Chinese President Xi Jinping.

"We do not support Taiwan independence," Blinken said in a press conference on Monday. "We remain opposed to any unilateral changes to the status quo by either side. We continue to expect the peaceful resolution of cross strait differences. We remain committed to continuing our responsibilities under the Taiwan Relations Act including making sure Taiwan has the ability to defend itself."

"At the same time, we and many others have deep concerns about some of the provocative actions that China has taken in recent years going back to 2016," Blinken added. "And the reason that this is a concern for so many countries, not just the United States, is that were there to be a crisis over Taiwan, the likelihood is that could produce an economic crisis that could affect quite literally the entire

world." "Fifty percent of commercial container traffic goes through the Taiwan Strait every day. Seventy percent of semiconductors are manufactured in Taiwan. If as a result of a crisis that was taken offline, it would have dramatic consequences for virtually every country around the world," he added.



US-China tensions: Biden calls Xi a dictator day after Beijing talks

Blinken's comment comes amid increased tensions between China and the United States related to Taiwan. Last week, Taiwan's air force [scrambled fighter jets](#) after a group of 10 Chinese aircraft

crossed the median line of the Taiwan Strait for the second time in a matter of days. This month, the U.S. military released video of a close encounter between a Chinese navy ship and an American destroyer in the Taiwan Strait, and there have been several close calls between Chinese and U.S. military aircraft recently, including an [air intercept](#) by a Chinese fighter jet over the South China Sea in late May.

China considers self-ruling Taiwan its own territory and has raised the prospect of annexing it by force. The U.S. maintains informal relations and defense ties with Taiwan even as it recognizes Beijing as the government of China.

"We have no illusions about the challenges of this relationship. There are many issues on which we profoundly and even vehemently disagree," Blinken added. "The United States has a long history of successfully managing complicated relationships through diplomacy."

Blinken told reporters that the relationship between China and the U.S. took a "positive step" during his trip over the last two days and said his counterpart, Chinese Foreign Minister Qin Gang, agreed to visit [Washington D.C.](#), in the future at a "suitable time."

Blinken acknowledged that China did not agree to set up a crisis military-to-military communications channel which had been one of the goals of the U.S. heading into the meeting.

Over the last year, the U.S. and China saw more than \$700 billion in trade which according to Blinken constituted the highest level between the two countries on record. He reiterated U.S. Treasury [Secretary Janet Yellen's](#) testimony before Congress last week that it would be "disastrous" for the U.S. to decouple and stop all trade and investment with China.

"We are for de-risking and diversifying. That means investing in our own capacities and in secure, resilient supply chains, pushing for level playing fields for our workers in our companies. Defending against harmful trade practices and protecting our critical technologies so that they aren't used against us. I made clear that we'll continue to take targeted actions that are necessary to protect U.S. national security," Blinken said.

QYIZ (answer): These are "[seed bombs](#)"!



Who Will Win the War in Ukraine? The 4 Counteroffensive Scenarios

By Misha Glenny (*The Times*)

Source: <https://www.thetimes.co.uk/article/who-will-win-the-war-in-ukraine-the-4-counteroffensive-scenarios-v5h5zfqv7>

June 17 – There are too many “known unknowns” on the battlefield and in the wider theatre of politics to have any confidence in what the long-term geostrategic implications of the conflict will be. In simple terms, we do not know who is going to win. Nonetheless, there are **four possible outcomes**: a decisive win for Ukraine; a decisive win for Russia; a stalemate that could flare dramatically at any time but might also lead to negotiations; or an escalation — this might mean Russia deploying battlefield nuclear weapons and an ever-deepening NATO involvement in the conflict, President Biden’s worst nightmare.



RadioGenova
@RadioGenova

An army of 500,000 men ready to invade Italy from Libya. The blame for this apocalypse lies with the NATO criminals who killed General Muammar Gaddafi. Stop the invasion, save Europe!

Italy Estimates 680K Migrants May Cross Sea From Libya

Source: <https://www.voanews.com/a/italy-estimates-680k-migrants-may-cross-sea-from-libya/7001371.html>

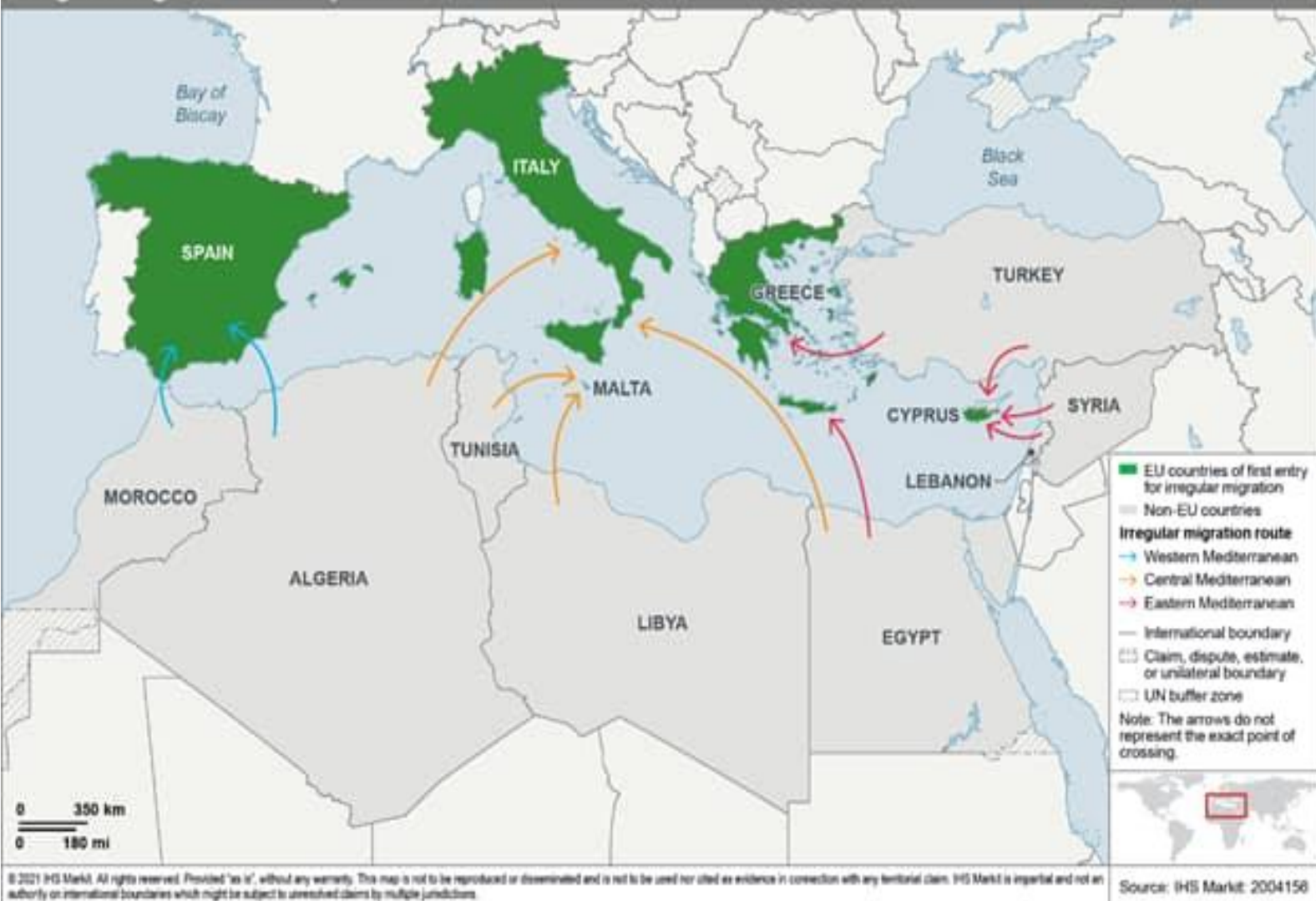
Mar 12 – Intelligence reports indicate nearly 700,000 migrants are in Libya awaiting an opportunity to set out by sea toward Italy, a lawmaker from Premier Giorgia Meloni’s far-right party said Sunday, but a U.N. migration official called the number not credible. Tommaso Foti, the lower parliamentary house whip for the Brothers of Italy Party, told television channel Tgcom24 the Italian secret services estimated that 680,000 migrants in Libya, many of them in detention camps, were eager to sail across the central Mediterranean Sea in smugglers’ boats.

Meloni is hoping a European Union meeting later this month yields concrete solidarity from fellow leaders of EU nations in managing the large numbers of migrants and asylum-seekers who come to countries on the Mediterranean’s rim, including Greece, Cyprus, Malta and Spain as well as Italy. “Europe can’t look the other way,” Foti said.

While the intelligence services assessment sparked alarming headlines in Italy, a spokesperson for the International Organization for Migration cautioned that the figure appeared to be confusing the high end of the estimated number of migrants in Libya with those who were seeking to head from there to Europe.



Irregular migration to Europe: Mediterranean routes



"This number seems to be an estimate, that we also give, of the total presence in Libya," Flavio Di Giacomo told The Associated Press in Rome.

But of that number "only a minimum part wants to leave and only a minimum part succeeds in leaving" for Europe, Di Giacomo said. For example, many migrants in Libya come from Niger and Chad, two African nations on Libya's southern border, and eventually return to their homelands, he said.

The Italian intelligence service's estimate "is the last of a long series of alarms that we've seen in the last 10, 12 years, that turned out to be mistaken," Di Giacomo said. "That number doesn't seem to be absolutely credible."

Some 105,000 migrants reached Italy by sea in 2022.

From the start of this year through March 10, some 17,600 arrived, including a few thousand who disembarked at Italian ports in the last several days. That's about triple the number for the same time period in each of the two previous years, although the COVID-19 pandemic might have led to fewer voyages.

Italy's coast guard said it rescued more than 1,000 migrants off the country's southern mainland in recent days. Hundreds more reached the tiny Italian island of Lampedusa, south of Sicily, after setting off from Tunisia, according to authorities.

With the island struggling to care for so many people arriving within a short time, authorities aim to transfer hundreds of them by boat and aircraft to other temporary shelters for asylum-seekers.

On Sunday, three more bodies were found from a Feb. 26 shipwreck just offshore of the Italian peninsula, raising the known death toll in that disaster to 79 migrants, Italian state TV said. A wooden boat that had sailed from Turkey ran into a sandbank in rough seas off a beach in Calabria, the toe of the Italian peninsula.

There were 80 survivors, and an undetermined number of people were believed to be missing and presumed dead.

Meloni's government has rebuffed criticism that the coast guard should have been sent out to rescue the boat's passengers when the vessel first was spotted farther off the coast.

For years, Italy has tried with limited success to induce Libya to stop launches of people smugglers' unseaworthy fishing boats and rubber dinghies toward Italian shores. Italian governments have trained and equipped the Libyan coast guard.



But the traffickers behind the smuggling rings continue to operate amid Libya's feuding political and militant factions. The International Organization for Migration and humanitarian groups say passengers whose vessels are turned back by the Libyan coast guard often are returned to detention camps, where they are at risk of abuse, including torture, until their families raise enough money for the migrants to set out again by sea. Meloni's government has made it harder for humanitarian organizations that operate rescue boats to carry out many rescues in the waters off Libya, adopting rules that force the vessels to disembark migrants in northern Italian ports, delaying their return to sea. However, many migrants set out from Libya on smugglers' boats, it "is a worrisome humanitarian flow because people die at sea," said IOM spokesperson Di Giacomo.

The U.N. migration agency estimates that some 300 people have died this year, or were missing and presumed dead, after attempting to cross the perilous central Mediterranean route.

Refugee or Asylum-Seeker in the U.S.: What's the Difference?

By Aline Barros (VOA reporter)

Source: <https://www.homelandsecuritynewswire.com/dr20230622-refugee-or-asylumseeker-in-the-u-s-whats-the-difference>

June 22 – World Refugee Day, celebrated around the world every June 20, serves as a day to pay tribute to people who have been compelled to flee their homes. Those who leave their home countries seeking safety are known as refugees or asylum-seekers. In the United States, there are notable distinctions between these two statuses. While the terms are often used interchangeably, there are significant differences under U.S. immigration law when pursuing these statuses.

Who Is a Refugee?

The U.S. Refugee Admissions Program has established specific priorities for processing individuals and groups with special humanitarian concerns who seek entry into the United States. The individuals referred by the United Nations High Commissioner for Refugees, U.S. embassies, or certain non-governmental organizations receive the utmost priority, P-1. Groups of special humanitarian concern are next in priority, P-2, followed by family reunification cases, P-3.

Applicants go through a pre-screening process at one of a handful of Resettlement Support Centers scattered around the world. This is followed by an interview conducted by a U.S. immigration officer, multiple security checks, and a medical examination to determine their eligibility for resettlement in the United States.

Once approved, an applicant is assigned to a sponsoring resettlement agency that provides assistance with services such as housing and employment upon the refugee's arrival in the U.S. Refugees receive employment authorization and can request documents to travel outside the United States. After one year, refugees may apply for lawful permanent status, also known as a green card. Five years after obtaining a green card, they can apply for [U.S. citizenship](#).

Is it possible to count how many people are refugees worldwide?

According to a report released by the [UNHCR](#), 110 million people are displaced worldwide, an increase of 19 million people compared with the end of 2021. That means 1 in every 74 people around the world has been forced to flee. That number includes those displaced internally, which means they can't go home but they have not left their country, asylum-seekers, and refugees.

Who Is an Asylum-Seeker?

U.S. federal law allows people from other countries to seek asylum in the United States if they fear persecution at home. They must be present in the U.S. and prove a fear of persecution on one of five grounds: race, religion, nationality, political opinion or membership in a particular social class (the vaguest of the five categories, it can include things like sexuality or caste).

To be granted asylum, applicants must meet three requirements laid out by the U.N. Convention on Refugees in 1951 and adopted by the United States.

Applicants must prove:

- They have a reasonable fear of persecution in their home country. Reasonable fear is defined by the United Nations as at least a 10% chance of persecution.
- They must fear persecution on one of the five grounds.
- They must prove the government of their home country is either involved in the persecution or unable to control it.

Are Those at the U.S.-Mexico Border Refugees or Asylum-Seekers?

They are asylum-seekers. According to immigration lawyers, migrants are legally allowed to walk to a port of entry and ask for asylum from a U.S. immigration officer. But currently, to manage the flow of migrants



at the border, the U.S. government requires migrant to use the CBP One app to register and schedule arrivals at official U.S. points of entry.

Migrants arriving at the border are processed under Title 8, the U.S. law governing immigration. That law allows migrants to seek asylum or other forms of relief within the United States if they have a legitimate fear of persecution in their home country.

Those who cross the border outside of official entry points without authorization will be apprehended. They will either be swiftly removed from the United States or go through a lengthy deportation proceeding overseen by an immigration judge. The latter typically applies to families, while single adults will generally undergo the fast removal process unless they can establish a credible fear of returning to their countries.

Can the Government Deny Asylum Cases?

Yes. The government can deny asylum by finding that an applicant failed to meet one of the requirements, by finding that conditions in their country have significantly changed since the application was made, or by finding the applicant could live safely in another part of their own country. It is incumbent upon the asylum-seeker to show that their persecution derives from membership in one of the five categories and that the persecution or threats come from the government or forces the government can't control.

What Issues Can Cause an Asylum Claim to be Rescinded?

Waiting more than one year after entry to the U.S. before filing an application for asylum, having been involved in persecution of another group of people, committing a serious crime, or being a threat to U.S. security can derail an asylum claim.

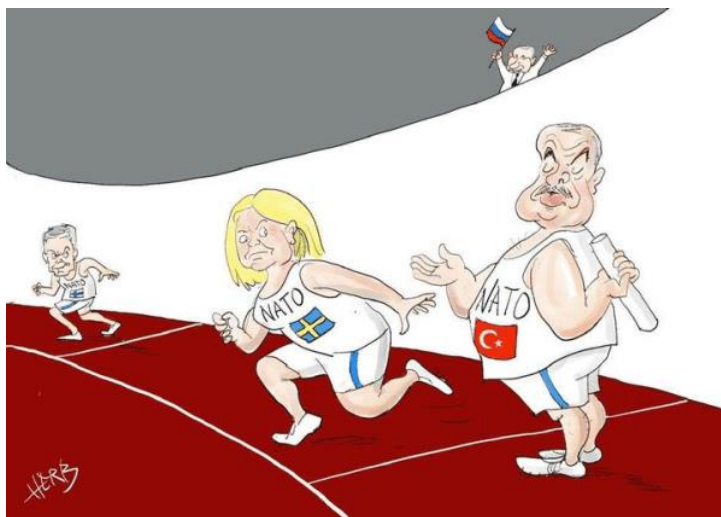
EDITOR'S COMMENT: The title reminds me the struggle for the definition of terrorism (any action eliciting terror to people involved is terrorism). Perhaps classification to legal and illegal immigrants is the answer to the question.

Germany Reforms Immigration Law to Attract and Retain Skilled Workers

By Lisa Hänel and Andrea Grunau

From healthcare to IT, carpenters to technicians, Germany's "help wanted" sign is blinking red. Germany has two million jobs to fill, and it needs 400,000 foreign workers to make up the shortfall every year. When the baby boomers retire en masse, the problem will only get worse. Now Germany is reforming its immigration laws to help close the gap, and bring in, and keep, foreign talent.

[Read more](#)





T - NEWS

ISIS Goes After BTS, Harry Styles, Elon Musk, and Drag in Declaration That ‘End Times’ Are Near

By Bridget Johnson

Source: <https://www.hstoday.us/featured/isis-goes-after-bts-harry-styles-elon-musk-and-drag-in-declaration-that-end-times-are-near/>

May 23 – ISIS derided Korean boy band BTS, British pop star Harry Styles, and Tesla CEO Elon Musk as having “absolutely disgusting” influence and claimed that men dressing in drag is a sign that “everything is getting worse” in an article predicting that “the world is heading to the end times.”



ISIS Khorasan Province, which operates in central and southern Asia, made the comments in an article on Abu Bakr (father-in-law of the Islamic Prophet Muhammad) “to remind Muslim Ummah [community] about our real role models” in its 25th and latest issue of the English-language *Voice of Khurasan* magazine, which runs 58 pages.

“A role model has a strong influence over people, especially young children because they are impressionable but unfortunately in this generation, mainstream media determine role



model based on popularity and glorified unrighteous behavior,” the terror group states. “It is such a shame that we live in a time where men feel shy for being masculine and having righteous qualities but glorified for their sinful behavior, attitude and qualities. They are especially glorified through drug usage, zina [sex outside marriage], greed, arrogance, etc., and sadly everything is getting worse because apparently, it’s a trend and ‘courageous’ for men to dress up like women and it is absolutely disgusting that even in Muslim countries people are following, celebrating and welcoming kufr [disbeliever] celebrities like, Harry Styles, Jaden Smith, BTS, Elon Musk and Brad Pitt.”

“Anyone who considers themselves as a Muslim should reject such poisonous ‘modernity’ because it is haram for men to imitate women in the way they dress,” ISIS-K continued.

The article also goes after Saudi Crown Prince Mohammed bin Salman al-Saud for what ISIS sees as encroaching westernization in the kingdom including “inviting kufr openly, curbed the influence of important cleric, relaxed rules, policies & code of conduct for women, allowed music concerts, Halloween events, fashion shows, opened cinema halls, accepted Christian tourism” and more.

“It is no secret that the world is heading to the end times and Saudi Arab’s turning green is one of the most important signs of it, and during this time, the Muslim Ummah should make sure they follow the right role model, that the Khalifah of the Muslims, other than following the traitorous Tawagheet [idolatry] rulers of the time,” the article added. Speaking about the end times has been a tenet of ISIS communications since the early days of the caliphate: A 2015 e-book released by ISIS, “Black Flags from Rome,” laid out the group’s apocalyptic vision and said they would conquer Rome by 2020 to set the stage for a final battle in Israel. Another article in the issue is directed at Taliban Foreign Minister Amir Khan Muttaqi — criticized for foreign policy “based on the principle of globalization” — and claims that “the imprudent Taliban militia miscalculated their strength in this long war.”

“You call the world like a village and want good relations with all infidel countries, even if it ends up selling Islam and honor,” the article states. ISIS also claims that Afghanistan is under “cultural occupation,”



despite the Taliban's heavy-handed rule, because "the secular republican curriculum is still being taught in schools and universities across Afghanistan."

"Under the guise of cultural programs, sometimes you participate in religious ceremonies of their religions, sometimes you celebrate Independence Day at the Turkish Embassy, and you call those killed in defense of democracy as martyrs, while you pray for them and put flowers on their graves," the magazine continued. "Sometimes, you observe the death anniversaries by putting a memorial book and writing on it, just as the Westerners do... Your cabinet and government are comprised of Aga Khan supporters, religious leaders, Sufis, secularists and other polytheists. Is it not enough as a reason for fighting against you?"

ISIS also said the Taliban is allowing "high quality alcohol" at "guest houses of the foreigners" including hotels and embassies, which "are also big centers of prostitution now." The terror group concluded of the Taliban that "jihad against them is obligatory" as it was under the previous Afghan government. The following article in the magazine encourages Muslims to save their cash and fund terror instead: "At a time when the jihad and the mujahidin are in immense need of the sincere financial support of the Ummah, the ordinary Muslims should be more cautious about extravagance and wastefulness, and more sincere in contribution for the the expenses of jihad and mujahidin, according to their capacity." While the articles in *Voice of Khurasan* tend to be focused on regional issues such as their displeasure with the Taliban in Afghanistan or targeting Hindus in India, the magazine does wade into U.S. current affairs.

In April, *Voice of Khurasan* [declared](#) that "media knights" for the terror group should redouble their efforts to do battle wielding social media, videos and online publications and could qualify for a reward "equal to that of shooting arrows and in some cases even more than that." The same issue also [mocked](#) the days-long monitoring and eventual U.S. missile takedown of the Chinese spy balloon and said response to the incident gave the terror group questions "about America's capability of digesting another 9-11 styled heavy blow to its mainland."

The terror group then said the balloon was a distraction from American domestic problems including "regular mass shooting which has turned out to be one of favorite US leisure activities these days," underscoring ISIS-K's fondness for rolling news headlines in the west into their propaganda. In September, ISIS-K [referenced](#) the execution of a search warrant at Mar-a-Lago and the reactions of former President Trump and Donald Trump Jr. in declaring that the United States has descended into a "banana republic" ripe for an "Islamic storm" in the terror group's favor. In the July *Voice of Khurasan* [issue](#), ISIS-K called mass shootings and other gun violence in America "tit for tat" and an "unwanted" population control program" that, despite the motives of white supremacist or grievance-driven domestic shooters, is divine retribution for the U.S. war on terror.

Back in a May 2022 [issue](#), the magazine invoked recent hot-button elements of the culture war and talking points arising from debate over issues including sex education, LGBT acceptance and the teaching of evolution as the group argued that "democracy and all that emanates from it is retarded and perverse" and attempted to woo recruits to their extremism.

Bridget Johnson is the Managing Editor for Homeland Security Today. A veteran journalist whose news articles and analyses have run in dozens of news outlets across the globe, Bridget first came to Washington to be online editor and a foreign policy writer at The Hill. Previously she was an editorial board member at the Rocky Mountain News and syndicated nation/world news columnist at the Los Angeles Daily News. Bridget is a terrorism analyst and security consultant with a specialty in online open-source extremist propaganda, incitement, recruitment, and training. She hosts and presents in Homeland Security Today law enforcement training webinars studying a range of counterterrorism topics including conspiracy theory extremism, complex coordinated attacks, critical infrastructure attacks, arson terrorism, drone and venue threats, antisemitism and white supremacists, anti-government extremism, and WMD threats. She is a Senior Risk Analyst for Gate 15 and a private investigator.

Birth Year Predicts Exposure to Gun Violence

By Christy DeSmith (Harvard Staff Writer)

Source: <https://www.homelandsecuritynewswire.com/dr20230524-birth-year-predicts-exposure-to-gun-violence>



May 24 – A new [study](#) examining exposure to gun violence from youth to middle-age reveals stark racial disparities — with more than half of Black and Hispanic respondents witnessing a shooting by age 14 on average — and surprising insights on the role of birth year.

In the first-of-its-kind analysis published May 9 in JAMA Network Open, a Harvard sociology professor and colleagues set out to examine exposure to shootings by race, sex, and birth year using data that followed respondents from childhood up to age 40.

"The idea here is to take a life-course perspective," said [Robert J. Sampson](#), the Woodford L. and Ann A. Flowers University Professor. "When is exposure to gun violence happening? How does that change over



the life course? And how do those patterns vary by race, sex, and all the societal changes that are happening?”

To tackle these questions researchers analyzed longitudinal data on a representative sample of 2,418 Chicago residents — half male, half female — who were born in 1981, 1984, 1987, and 1996. Four rounds of data were collected for up to 25 years.

Making this study possible was the [Project on Human Development in Chicago Neighborhoods](#), which Sampson helped launch in the mid-1990s to follow various birth cohorts. “One of the project’s advantages is the ability to disentangle age and life-course differences from what’s happening in society at large,” Sampson said. The social scientist has drawn on the project’s data for [multiple papers](#) and a [book](#), with a forthcoming title arriving next year on the interaction of child and societal development.

For this study, Sampson and his co-authors found exposure to gun violence varied depending on when the respondent was born. Overall, exposure rises in adolescence — 14 is the mean age of seeing somebody shot and 17 is the mean age for being shot.

“The oldest cohorts were quite disadvantaged,” Sampson noted, “because they came of age during the peak of violence in the United States and Chicago.” U.S. homicide rates topped out in the early 1990s, just as those born in the early ’80s reached their teens. Around half of respondents born in 1981 and 1984 reported witnessing gun violence, while those who had been shot hovered around 7 percent. As crime rates declined, subsequent birth cohorts faced less exposure to firearms. Those born in 1996 reported the lowest levels of seeing somebody shot — their exposure was half that of the two oldest cohorts — but direct victimization was another story. “Surprisingly,” Sampson added, “unlike witnessing violence, there was no statistical difference between the 1981 and 1996 cohorts in their risk of being shot.”

“In 2015 or 2016, violence in the United States, but particularly in Chicago, started to skyrocket,” said Sampson, who noted that gun-related deaths [peaked](#) in 2021 — with nearly all homicides today being gun homicides. “As being shot tends to happen later in the life course, the youngest cohort all of a sudden faced a much higher risk.”

Sampson’s study confirmed [previous research](#) establishing racial disparities in exposure to gun violence. Black and Hispanic participants were more than twice as likely to be directly victimized. More than 7 percent of both Black and Hispanic respondents reported being shot by age 40. Two of the participants, one Black and one Hispanic, were fatally shot. In contrast, 3 percent of white respondents reported being shot. Individuals in the sample from other races were excluded, because their numbers were too small for longitudinal analysis.

The numbers were similarly stark for witnessing gun violence. Fifty-six percent of Black respondents and 55 percent of Hispanics reported seeing someone shot, compared with 25 percent of whites. “You also see differences in the age distribution,” Sampson said. “Gunshot victimization flatlines among the white population after age 21, whereas it keeps rising all the way up to age 40 for Black and Hispanic respondents.” More surprising to the researchers were rates of exposure by sex, given all we know about men’s [greater involvement](#) in violence. Men were far more likely to be shot — 11 percent of male vs. 2 percent of female study participants — but the differences were modest for witnessing gun violence (58 vs. 43 percent). For Sampson, this finding speaks to the prevalence of firearms in American life.

As a final step, Sampson and his co-authors drew from the [Gun Violence Archive](#) to map the proximity of each respondent’s residence to shootings. This approach revealed minimal differences by sex and age, but the racial gap again proved glaring. Blacks were far more likely than Hispanics and whites to live in neighborhoods plagued by shootings in addition to compounded adversities (like concentrated poverty), Sampson has shown in [prior work](#). “But perhaps the greatest adversity of all is violence,” he said.

Studies show that witnessing a shooting has [long-term developmental and psychological effects](#) that impact education, relationships, and employment. “The ramifying consequences are profound, which makes gun violence all the more important to pinpoint,” Sampson said.

Saudi-Iran Deal Tested in Yemen and Syria

By Jonathan Spyer

Source: <https://www.meforum.org/64441/saudi-iran-deal-tested-in-yemen-and-syria>

May 19 – The issue of Yemen constituted a key litmus test in the recently concluded [rapprochement between Iran and Saudi Arabia](#). Since the launch of the Houthis’ bid for power in 2014 and the Saudi intervention to prevent the strategic disaster of a pro-Iran force reaching the choke point of the Bab el-Mandeb Strait, Yemen has formed the main battlefield between Riyadh and Tehran.

More than 150,000 people have been killed in the subsequent war, including 14,500 civilians. In light of this, the question of future arrangements in that blighted country looms large when considering the feasibility of the current Arab efforts to defang, via diplomacy, the Iranian project for regional domination.

Yemen may seem far from Israel, but events there are also of direct relevance to Jerusalem. The Ansar Allah movement, or Houthis, is a major instrument of the Iranian regime. Alongside Lebanese Hezbollah,



they appear to be Tehran's preferred instrument for strategic operations that the Iranian regime prefers not to undertake with its own forces.



The Houthis, for example, were allegedly responsible for the single most effective strategic act of war undertaken by the Iranian regime over the last half decade: the drone attack on the Saudi Aramco oil processing facilities at Abqaiq and Khurais on September 14, 2019. As a result of the attack, Saudi oil production was immediately cut by half, and production was substantially reduced in subsequent weeks.

The attack, and the feeble Western response to it, were major contributory factors in setting Saudi Arabia on its current trajectory of [Chinese-mediated rapprochement with Iran](#).

No international observers believe that the Houthis had or have the independent capacity to launch an attack of this magnitude or impact. The Abqaiq and Khurais operations, therefore, demonstrated the Iranian ability to conduct major acts of aggression, which would be seen as acts of war were they to be carried out by official state forces, while avoiding consequences or responsibility for them.

This Iranian capacity, vis-a-vis Yemen but also in Iraq, Syria, Lebanon, the Gaza Strip and West Bank, constitutes Iran's disruptive capacity in the regional context. The goal of current Arab diplomacy is to induce the Iranians to agree to abandon this mode of activity in order to enable the return, for the first time in more than a decade, to something resembling stability in key parts of the Middle East.

As part of the agreement, Iran reportedly agreed to cease covert weapons shipments to the Houthis in Yemen, enabling the resumption of diplomatic relations between Iran and Saudi Arabia. A March 16 report in The Wall Street Journal quoted US and Saudi officials as confirming the Iranian commitment to this.

Iran, incidentally, has consistently denied that it ever supplied the Houthis. For a period, such claims were taken seriously in Western chancelleries. Israel and others, which challenged the Iranian claims, were



accused of simplifying the picture, failing to understand the authentic local nature of the Houthis and the inapplicability of a "one size fits all" model for the Iranian management of regional proxies.

Such pieties have been quietly abandoned in recent years in the face of growing evidence of active Iranian support. In recent years, UN inspectors have consistently traced arms shipments to the Ansar Allah movement back to Iran. Some of the weaponry intercepted went far beyond the light capacities that would usually be associated with an insurgency in a developing country.

For example, in November 2022, US naval forces deployed in the Gulf of Oman intercepted a [fishing boat on its way from Iran to Yemen](#). The boat was found to be carrying more than 70 tons of aluminum perchlorate, a chemical used to fuel mid-range ballistic missiles.

The Iranian commitment to cease these supplies is, therefore, a key test of the feasibility of the rapprochement and of Arab diplomacy regarding Iran more broadly.

After two months, the first evidence is now available as to the results. A May 11 report at the al-Monitor website quoted US special envoy to Yemen, Tim Lenderking, as confirming that as of now, at least, the March rapprochement has not stopped the continuing supply by Iran of its Houthi clients.

Al-Monitor quoted Lenderking as saying that Iran has "armed and trained and equipped the Houthis to fight and attack Saudi Arabia... These attacks have not taken place for over a year, but the Iranians have continued to smuggle weaponry and narcotics toward the conflict."

Reuters quoted Lenderking on May 11 as confirming that "The Iranians have continued to smuggle weaponry and narcotics toward this conflict, and we are very concerned that this would continue despite the benefits that would come from a Saudi-Iran deal. So I think that is a space we have to watch." The US, Lenderking concluded, remains "concerned about Iran's role" in Yemen.

The US envoy did not give detailed information regarding the basis for his assertion. Assuming that it is accurate, the implications are significant and not encouraging for Saudi regional strategy. A six-month ceasefire collapsed in October 2022, when the Houthis declined to renew it. Continued Iranian supplies and improvement of the capacities of the Ansar Allah organization indicate that no substantial change has taken place in Tehran's stance toward its clients.

No Alteration in Iran's Behavior

LENDERKING'S statements would suggest that Iranian-Saudi "rapprochement" is not actually producing any major alteration in Iranian behavior vis-a-vis Yemen. In this regard, the emergent evidence is matched by indications from farther afield.

A May 9 report by the opposition-associated Syrian Observatory for Human Rights looked into the pattern of activity of Iran-supported militias in Syria, in the context of the current return of Syria to the Arab diplomatic fold. This return of Syria to full membership of the Arab League constitutes a parallel process to Arab outreach to Iran, pioneered by the United Arab Emirates and now also taken up by Saudi Arabia.

The Observatory noted that two Iran-associated militias in Syria – the Afghan Shia Fatemiyun and the Pakistani Shia Zeinabyun – have in recent days lowered the Iranian flag and their militia banners from their positions in southeast Syria. At the direct request of the Assad regime, the militias have raised the Syrian regime flag in their place.

The report mentioned Deir al Zur city, the town of Mayadeen and the area of Albukamal close to the Syrian-Iraqi border as the locations where these changes of identification occurred. The Observatory also said that similar actions had been taken farther west, in the area of Palmyra in the Homs province.

Noting the Syrian regime's verbal commitments to the Arab states regarding the reduction of Iran-associated militias in return for the normalization of relations, the Observatory wrote that as of now, the changes are "informational only." That is, the "full presence" of the militias remains, and no element has in fact been withdrawn. Only the banners have changed.

So as of now, the litmus test of Yemen, and the additional emerging evidence from Syria, would suggest that Iran and its allies are receiving the diplomatic benefits of commitments to a change in behavior, while continuing to behave in all essentials exactly as before. This should come as no great surprise, given the centrality of Iran's regional ambitions to the core ethos of the regime and the importance of the use of franchise militias in advancing these aims.

Arab (and Western) observers would do well to note the provenance of the Persian proverb regarding "Ham Khoda-ro mikhad ham Khorma-ro," concerning one who wants "both God and the dates." That is, the concept of having one's cake and eating it too has a long history in this vicinity.

Jonathan Spyer is director of research at the Middle East Forum and director of the Middle East Center for Reporting and Analysis. He is author of *Days of the Fall: A Reporter's Journey in the Syria and Iraq Wars* (2018).



Syria and Captagon: An Assessment

By Aymenn Jawad Al-Tamimi

Source: <https://www.meforum.org/64442/syria-and-captagon-an-assessment>



Over 127 plastic bags filled with the addictive drug captagon await destruction after being seized by U.S. and Coalition partners in Southern Syria, May 31, 2018. Although originally a stimulant containing fenethylline, most of [today's captagon pills](#) contain amphetamine and a variety of adulterants instead, all of which can be harmful.

May 25 – In recent years, widespread concerns have emerged about the transformation of Syria into a "narco-state," specifically in relation to reports about the allegedly growing production of the stimulant drug captagon inside Syria, and the smuggling of the drug both within the country and outside its borders.

These concerns have been amplified by the interdicting of large quantities of the drug in both Europe and the Middle East, with a growing number of media reports focusing on the topic. It is Syria's immediate southern neighbor Jordan that seems most concerned about the influx of captagon and other drugs coming from its northern neighbor, even though Jordan has been keen for a normalization of relations with the Bashar al-Assad-led government in Damascus. Jordan believes the support it previously offered for the insurgency in southern Syria damaged its economy by blocking overland trade.

Conversely, opponents of the government now frequently highlight the captagon issue as a reason for countries not to normalize relations with Damascus. The issue has even garnered U.S. attention through the passing of the [National Defense Authorization Act for 2023](#), which requires the development of a strategy to "disrupt and dismantle narcotics production and trafficking and affiliated networks linked to the regime of Bashar al-Assad in Syria."

In light of the issue's growing popularity in both popular media and think-tank discussions, this report seeks to disentangle the noise and headlines and get to the crux of the matter by determining which parties in Syria are responsible for the production and smuggling of captagon and how serious a problem captagon production and smuggling should be considered. Does the drug's production and smuggling pose a threat to U.S. interests? Does the issue require a new strategy, or are existing measures to counteract production and smuggling sufficient?

The Islamic State and the Claimed "Crime-Terror Nexus"

While it is undoubtedly the case that concerns about captagon production and smuggling in Syria have become more prominent in the past two to three years, it is worth recalling that discussion about these



potential problems were raised several years ago regarding the Islamic State when it controlled substantial territory in Iraq and Syria, particularly from 2014-2016. Examining this episode might provide some sobering historical context from which to judge the seriousness of the problem.

At that time, there was justified concerns that the Islamic State's control of contiguous territory spanning national borders was unprecedented for an internationally designated terrorist group. Moreover, its access to multiple funding tracks unavailable to other designated organizations called for a new strategy to combat its financing.

Amid this debate on how to thwart Islamic State fund-raising, the possibility was raised that one of the group's means of acquiring money involved producing and smuggling captagon. This discussion occurred within the wider context of analyzing the "crime-terror nexus," which posits that terrorism and organized crime are closely linked phenomena. In addition, when a shipment of 84 million captagon pills was seized in the Italian port of Salerno in 2020, the claim of an Islamic State-captagon link attracted renewed interest in this concept, as the Guardia di Finanza (Italy's agency responsible for combating the drugs trade) [initially alleged](#) that the pills had been "produced in Syria by ISIS/DAESH in order to finance terrorism."

This claim, however, was mocked by the Islamic State in [an editorial](#) published in its newsletter al-Naba'. It alleged that blaming the Islamic State conveniently hid the real source of the drugs: namely, the "Nusayri Taghut" (i.e., the Syrian government under Bashar al-Assad) and the "Rafidite militias" (i.e., Shi'a militias like Hezbollah, which has played a key role supporting the government in the civil war). In addition to this are both entities' links with organized crime in Europe and possibly officials and businessmen linked to the Italian government. The same editorial implied the affair illustrates how drug cartels and financial institutions linked to them have as much influence over "Crusader governments" (i.e., Western governments) as the oil and arms companies.

Whatever one makes of the Islamic State's analysis, attempts to tie it to the production and smuggling of captagon as part of the so-called "crime-terror nexus" have been weak, and the absence of evidence on several key points argue against it. All the group's contiguous territorial holdings in Iraq and Syria have been reconquered by various parties (whether the Iraqi or Syrian governments, the U.S.-backed Syrian Democratic Forces, or the Turkish-backed Syrian insurgent groups). In none of these former Islamic State territories has anyone been able to point to facilities or buildings used by the Islamic State for captagon manufacture.

Moreover, large amounts of internal Islamic State documents – both paperwork and electronic copies, files, and databases – have been recovered from those territories. Yet no one has produced any documents proving the group's involvement in captagon manufacture and trade. This contrasts, for instance, with documentary evidence that illustrates its involvement in the excavation and trade of antiquities. Still, the Islamic State's engagement in such activity should not necessarily be seen as part of some "crime-terror nexus." Rather, excavation of antiquities was allowed for the same reason that the group allowed extraction of gold, silver and oil in its territories: namely, such resources come under the concept of "rikaz" (literally, what is buried in the ground), for which the group had established its Diwan al-Rikaz ("Rikaz Department"). Then, when antiquities were excavated, a charge of 20 percent on their value was levied as zakat to be paid to the organization, which could then disburse the fees collected as it wished.

No comparable documents or internal Islamic State literature show an endorsement or justification for production and trade in captagon. For instance, issues of circulation and supply of medical drugs were dealt with by the group's Diwan al-Siha ("Department of Health"), and no mention of supply and distribution of captagon occurs in documents recovered so far.

It would appear instead that the Islamic State opposed captagon and similar drugs, just as it also was against the sale and distribution of cigarettes, the destruction of which the group repeatedly advertised through its Hisba (virtue-and-vice enforcement) apparatus. For instance, a fatwa (number 594) put out on the group's al-Bayan radio made clear that "hating the mujahidin" for reasons such as "banning smoking and drugs" constituted "apostasy from the religion."

It is of course possible that the group's rules against cigarettes and drugs like captagon were flouted and ignored by some members of the group, but to the extent such rules were broken, they were on the level of individual/personal consumption and perhaps price gouging to members of the population under their control.

In short, it is not wholly impossible that captagon might have circulated in Islamic State territories and that some members consumed or have been consuming it because of personal addiction or to enhance their performance, but no reliable evidence from during the Islamic State's strongest period proves it was producing and trading in captagon at a substantial level – a conclusion even more applicable now in its post-territorial phase. Belief in an Islamic State-captagon link arises from a dogmatic belief in the phenomenon as part of a broader "crime-terror nexus."

Syrian Government-Held Areas: The Real Source of Captagon

The origins of shipments of smuggled captagon interdicted abroad can be traced to areas controlled by the Syrian government, including shipments by sea originating from the port of Latakia, and seizures of captagon in Jordan transiting the border in southern Syria. Such shipments suggest that most if not all the captagon smuggled out of Syria is manufactured in those areas. This conclusion is bolstered by pre-war



Syria's extensive pharmaceutical manufacturing capacity concentrated in areas today under controlled by the Damascus-based government.



Officially, the Syrian government's security apparatuses are supposed to combat production and smuggling of captagon. The Syrian police forces affiliated with its Interior Ministry maintains a counter-narcotics division (Arabic: far' mukafahat al-mukhaddarat) and there are [recurring published reports](#) about the arrests of gangs and gang members involved in smuggling captagon, which at least suggest that production originates within government-held areas. Contrary to some claims, the Interior Ministry did not begin publicizing captagon seizures only after media reports raised concerns about Syrian government involvement in production and smuggling over the past two or three years. For example, Interior Ministry and government media reports about seizures of captagon pills date from [2016](#) and [2017](#).

Even so, the quantities of captagon being smuggled beyond Syria's borders suggest that elements within the government and security apparatuses are involved in the drug's manufacture and/or smuggling. It is analogous to the problem of corruption in Iraq: officially, agencies exist within the Iraqi government to combat corruption, and there are legal mechanisms against it. But in practice, corruption is built into the system in myriad ways. This reasoning, therefore, should apply to government-held Syria.

The general sentiment within government-held areas is that the problem of drug smuggling has become worse over time, as declining economic and living standards makes drug dealing an increasingly viable and lucrative source of income in an otherwise cash-strapped society and state.

However, one should be cautious in speaking of the government and/or security apparatuses as if they were unitary actors in drug production and smuggling. The inner workings of the Syrian government and relations among its security agencies and administrative bodies are opaque.

For example, one security body that has been named repeatedly in reports as involved in the production and smuggling of captagon is the Fourth Division's Security Office (Arabic: Maktab Amn al-Farqa al-Rabi'a), headed by Ghassan Nafi' Bilal. This notably includes the production and smuggling of captagon from southern Syria into Jordan, allegedly coordinated with/supported [by Hezbollah](#), whose connections to criminal activities worldwide are well known and fit the "crime-terror nexus" model better than the Islamic State's. One notable individual in southern Syria who has been linked to the Fourth Division and drugs smuggling is ["Abu Salim al-Khalidi"](#) (aka: [Ahmad Mahawish](#)).

Mahawish owns a house in the west Deraa countryside near the border with Jordan that is rumored to be used as a place for drug smugglers in the area to meet and coordinate efforts to smuggle drugs into Jordan. This house was targeted in an attack by unknown persons in December 2022. Yet the same accounts suggest that Mahawish's smuggling operations have not always [run smoothly](#) with elements of the Syrian security services to whom he is connected. In 2019, Mahawish supposedly had a dispute with a colonel called "Muhammad Eisa" in the Fourth Division's Security Office over a shipment of drugs (the specifics of the dispute are not known). This dispute resulted in the Military Security's (i.e., military intelligence) confiscation of this shipment that was to be smuggled to Jordan. Mahawish was then arrested and held for a time in Damascus.

Yet, the Military Security is hardly innocent of participating in the drug trade. At the end of December 2022, for example, an individual called "Akram Sheihan Awair" was assassinated in the same province of Deraa. He was reportedly leading a local militia working with the Military Security branch and Hezbollah in the province and was known for his involvement in the drug trade in Deraa. Likewise, in the province of Suwayda' in southern Syria that neighbors Deraa to its east and borders Jordan, the Military Security sub-branches operating there are, according to local accounts, extensively involved in captagon production and smuggling. The most notable example in this regard is "Raji Falhout," who led a Military Security-linked local faction called "Quwat al-Fajr" ("Forces of the Dawn") that was dismantled last summer in a campaign led by other factions in the province. Inside his faction's base was discovered a mini-factory for the making of captagon. But in January 2023, the head of the Military Security's unit in the town of Salkhad, [Muhammad Ali Ghalia](#), was reportedly arrested by the Syrian government itself, ostensibly to be questioned about his involvement with drug smuggling operations in the province.

These examples and others demonstrate that mapping captagon production and smuggling accurately is very difficult. Generally, the problem of captagon production and smuggling has worsened over time, and



some elements of the government and security services are actively involved, despite their official obligation to combat drug smuggling.

Conclusion: An Exaggerated Problem

Some analysts exaggerate the scope of the captagon industry to make them appear to take a tough stand against the both the Assad regime, which until recently had few friends in the region, and the Islamic State. Were the latter heavily involved with captagon production and smuggling, cracking down on the terrorism financing that resulted would bolster analysts' credentials.

One analyst, who appears to be revising his estimates upwards by [multiple factors](#), has put the value of the captagon industry in Syria in the range of \$55-110 billion in 2021. Yet, this claim is implausible. Such figures would value the captagon industry in Syria at some nine to nineteen times the value of the state budget for 2023, going by official exchange rates, and some fifteen to thirty times the value of the state budget as measured by black market rates.

Were the captagon industry this valuable, even assuming the Syrian government was not fully involved in it, it could use some of this windfall to address its ongoing economic crisis. This would include increasing soldiers' and employees' salaries in real terms, reversing or reducing cuts to subsidies, and launching domestic social and construction projects to buy off local discontent. Such largesse is common among other drug barons and networks.

Common claims about the captagon industry's value, then, do not reflect the cash-strapped reality of the Syrian government. As with many estimates of the illicit drug trade's value, they are based on extrapolation from too little data.

While the captagon industry in Syria has undoubtedly grown over the past few years, it is a topic that lends itself to exaggeration. The U.S. should continue and intensify efforts with partners in the region – especially Jordan – and elsewhere to interdict captagon shipments and smuggling.

New rounds of sanctions or attempts to appear "tough" on this issue – short of changing the existing government – to disrupt the production and smuggling inside Syria are unlikely to yield substantial results for several reasons: First, the networks, including the identity of those involved, are poorly understood, overconfident assertions to the contrary notwithstanding. Second, the issue is linked to demand for captagon and similar drugs within Syria and region, raising the question of how a campaign to reduce demand regionally might proceed. Third, with extensive sanctions in place, attempts to further degrade Syria's economy are likely to increase the attraction of illicit trades that cannot be disrupted by sanctions.

Demand for and consumption of captagon and the deleterious consequences of drug addiction affect primarily Syria and its immediate neighbors. Despite recent hype, the captagon trade is not a major threat to U.S. interests. Escalating ongoing efforts to end smuggling beyond Syria's borders, rather than elaborate schemes based on false premises, offers the most effective path forward.

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Terrorism in the Era of Ecological Change

By Dr. Isaac Kfir

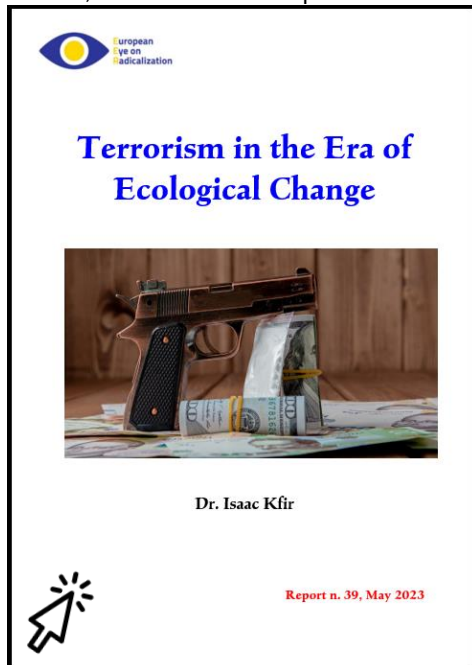
Source: <https://eeradicalization.com/environmental-terrorism-report-isaac-kfir/>

May 26 – Over the last four decades innovators have come up with many low or zero-carbon energy sources that have made some renewable sources cheaper than coal, with the intention to help the international community transition away from fossil fuel. The need for such a systemic change comes because scientific evidence from such bodies as the Intergovernmental Panel on Climate Change and the 400 percent increase in extreme weather events highlight the need for critical action to address greenhouse gas emissions and climate change. And yet, the consistent reliance on fossil fuel has led to immense consternation, anger, and disillusionment particularly among the younger generation, who feel that the older generations do not appreciate their fear of an impending environmental apocalypse. These young climate-aware activists also feel patronised because often their fears are dismissed as youthful naivety or misguided idealism.

Climate activism is a complex movement, involving many different actors and tactics. At its most basic, it calls on states to address global warming, but climate action is a nonexcludable global public good, which means that state some can free-ride, putting responsibility for action on others. It also means that states and communities are affected differently, as is the ability to adapt and mitigate to the changing climate. The diversity of the



movement means that some approach climate change as a single issue in that they may only focus on fossil fuel dependence whereas others look for systemic changes that go beyond policies aimed at addressing global warming, through such concepts as climate justice. Climate justice has become a central feature in the contemporary climate activist movement. This new theme in climate politics is premised on seeing the inequality in inter-state relations. Activists frame the discussion through a victimisation lens and inequality coupled with an inability to bring forth the changes because climate activists do not have political, social, economic, cultural, and environmental power. Greta Thunberg captured this reality when she declared in 2019:



“This movement [#FridaysForFuture] had to happen, we didn't have a choice... We've seen years of negotiations, pathetic deals on climate change, fossil fuel companies being given free rein to carve open our lands, drill beneath our soils and burn away our futures for their profit... If those in power today don't act, it will be our generation who will live through their failure... We have watched as politicians fumble, playing a political game rather than facing the facts that the solutions we need cannot be found within the current system. They don't want to face the facts – we need to change the system if we are to try to act on the climate crisis.”

This exploratory paper looks at the prospect of climate-based political violence and why such a development could occur. It begins by defining political violence, underlying the role of ideology and the belief that violence is the only way to bring about drastic, dramatic, and meaningful change, either because of frustration with the status quo or because change is not occurring fast enough. It draws on the premise that terrorism is a form of politically or religiously inspired violence with those using violence to challenge existing norms of governing society.

To date there has been no substantive environmental, or ecological form of terrorism beyond some limited action in the 1980s and 1990s, but by offering a typology of climate activism and the emergence of the climate justice movement, the paper draws out the evolutionary change of climate activism, raising the possibility that violence remains a possibility, especially if one accepts the premise of a climate apartheid. In

exploring the evolution, a clear line is drawn between the climate activists of the 1980s and 1990s in that the focus was either very much on animals or the testing of products on animals as seen with the Animal Liberation Front. The Earth Liberation Front and Earth First in that they sought a total systemic reengagement with the planet, whereas the contemporary climate action movement began by looking to policymakers to bring about change, and when that failed, activists sought to shame institutions into action. When that proved ineffective, activists engage in peaceful civil disobedience such as the closing of roads to bring about change. A rise in lack of public trust in the political system and politicians, concern over new legislation prohibiting or curtailing climate action could push climate activists to explore new tactics that could lead to violence. Works by activists such as Andreas Malm who has defended the destruction of fossil fuel property, equating it to removing a bomb from one's house to hunger strikes to forest occupation to blocking trains carrying oil. The paper concludes with some general observations about the likelihood of climate action embracing terrorism.

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School Shootings Are a National Security Threat

By Jacob Ware

Source: <https://www.homelandsecuritynewswire.com/dr20230526-school-shootings-are-a-national-security-threat>

May 26 – In the year since a gunman butchered nineteen students and two teachers at Robb Elementary School in Uvalde, Texas, the United States has suffered at least forty school shootings—perhaps most notably at the University of Virginia, Michigan State University, and the Covenant School in Nashville, Tennessee. A bipartisan gun deal was passed last June, but contained only [modest provisions](#). The cycle—horrendous violence, a clamor for change, and then a steady fading from public view—was thus repeated numerous times, each



new round of gunfire offering another thundering reminder to American children and young adults that they have been left alone on the frontlines of our nation's love affair with guns.

Indeed, perhaps the most tragic part of each of these latest shootings was how utterly unsurprising they were—how utterly prepared the students were for their fate and how utterly defenseless they were against the wrath of an AR-15. An opinion piece authored by the *Washington Post* editorial board after a shooting targeting the Edmund Burke School in Washington, DC's Van Ness neighborhood in April 2022 commented that the community had been "[lucky](#)"—because the shooting was not worse. That is the reality of childhood and education in the United States in 2023. Over the past year, hearts have been shattered by the war crimes committed against children in Ukraine (over eight thousand civilians have [already been killed](#) in that conflict), and yet Americans are almost completely numb to the horrors experienced by children here. Students in the United States are now conditioned to believe it is a question of when, not if, they will find themselves the target of a school shooting. The sober lesson and sad reality: there is absolutely no good reason for U.S. students, at any school or level of education, to comfortably believe they are safe from gun violence.

Throughout the emergence of the school shooting epidemic as a major social and political issue over the past twenty-four years, it has typically been relegated to the sidelines—seen as an inconvenience and not as an important national priority. Why? Because "national security" or "homeland security" is usually conceptualized as a (foreign) threat to the state and its capital and to a government and society's ability to survive and function, at home and abroad.

But just because school shootings are a domestic, internal threat posed by nonstate actors does not mean they should not be considered a [national security issue](#). The Hobbesian social contract, as it is usually understood, holds that civilians sacrifice some of their individual rights in exchange for protection from the state. The contract gives states their sovereignty, through which they maintain a monopoly on the legitimate use of force. School shootings undermine such sovereignty. In fact, if students are not being protected from wanton use of force, then questions should be asked about whether the United States is even a functioning sovereign state at all. The United States willingly and aggressively deploys its soldiers around the world in the name of protecting Americans from violence and threats. But, as retired four-star Marine general John Allen [writes](#), "Americans today are more likely to experience gun violence than they might in many of the places to which I deployed in the name of defending our nation." And that is true not just in schools, but in places of worship, supermarkets, shopping malls, and [broader city life too](#).

Beyond the damage wrought at home, school shootings are devastating to [U.S. foreign policy](#) and [soft power](#). As I [argued](#) for NBC News THINK in the days after Uvalde, school shootings undermine the United States' [reputation](#) and ability to portray itself as a bastion of democracy and human rights. Gun violence undermines Washington's ability to speak out against violence abroad, whether state-sanctioned or not. [China](#), [Russia](#), and [terrorist adversaries](#) frequently reference violence in the United States as evidence of American hypocrisy or weakness. As [Stacey Abrams declared](#) in 2019, "One of the challenges...endemic to gun violence is that we cannot challenge and chastise other nations for the security of their people, when we allow our people to be randomly murdered for the lack of spine to call out the problem."

And [close allies](#), too, watch in shock as American politicians continue to oversee the slaughter of children with very little response. Speaking at the Council on Foreign Relations in April, Homeland Security Secretary Alejandro Mayorkas [remarked](#) that "in my international engagements, there are two questions that almost every single time are posed of me about our country. One, is the political divide...And number two, they ask about guns, and the number of killings in our country, and it is incomprehensible today." In one example, Ukrainian Foreign Minister Dmytro Kuleba [tweeted after Uvalde](#), "As a nation that goes through the pain of losing innocent young lives, Ukraine shares the pain of our U.S. friends." Several allied countries have issued [travel advisories](#) for citizens visiting the United States. Canada, for instance, [urges travelers](#) to its southern neighbor to "familiarize yourself on how to respond to an active shooter situation."

There is also the sober reality that the American school shooting model is now being imported by similarly disaffected young people abroad. In what some have called "the Columbine effect," violence inspired by the 1999 killers [has struck](#) countries including Brazil, France, and Russia. In Canada, a shooter who attacked a mosque in 2017 had closely studied American school shooters, including the Columbine killers and an incel terrorist who killed six at the University of Santa Barbara in 2014. According to [Quebec Superior Court documents](#), "the offender then identified with the killers, especially those who had been bullied in their youth and had then killed themselves." School shootings, in other words, have joined far-right terrorism as an [unwelcome American export](#).

Yet [other nations have responded differently](#). After eight children and a security guard were murdered in a recent school shooting in Serbia, for instance, the government announced a series of gun control measures designed to prevent future violence, and a gun amnesty saw citizens return over [three thousand illegal guns](#). As ABC News chief foreign correspondent Ian Pannell [wrote](#) after that incident, "What amazes Brits, Australians and now Serbs, is how a nation's children can be gunned down and there not be change to try to protect them better."



The American national security apparatus is shifting from focusing on counterterrorism (a threat which, even in its most deadly year of 2001, killed [around one-fifth](#) of the average number of people killed yearly by domestic gun violence) to a great power posture that is [even less likely](#) to directly affect the everyday lives of Americans. But some energy should be kept for issues here on the home front, daily battles that actually do impact our way of life. Giving the school shooting issue a national security spotlight would offer it an essential element it somehow has seemingly never had: urgency and constant frontline attention. It may also allow countermeasures to benefit from that rarest of commitments usually reserved for national security and foreign policy issues: [bipartisanship](#).

A national security pedestal would have more pragmatic implications, too. Seeing school shootings through a national security lens might open more resources and leeway for federal agencies like the FBI, DHS, and Bureau of Alcohol, Tobacco, Firearms, and Explosives to undertake more preventative efforts against potential would-be attackers, similar to counterterrorism efforts to interdict plots developed by more ideological violent extremists. It would also broaden the committees working on the challenge on Capitol Hill, increasing the political energy expended to tackle the problem. The typical response to mass shootings in the United States—politicians offering “thoughts and prayers” alongside half-baked, politicized, and unrealistic policy proposals—is so prosaic it has [developed into a meme](#). But solutions do exist in the gray zone between buzzwords and political point-scoring. Democrats have failed to pass sweeping gun control—but more energy aimed at half-measures like background checks and licenses, ammunition control, and illegal gun enhancements might achieve incremental victories. Republicans have blamed mental health and video gaming, but failed to act. More widespread counseling and support for young people who find themselves so alienated from society that they would be willing to murder children might also make inroads. The third path—that focuses not on guns or the attacker but on hardening schools against potential attacks—simply cannot be a solution. For starters, as army veteran Phillip Carter [argues](#), “a good guy with a gun would turn a mass shooting into a firefight, potentially killing additional bystanders in the crossfire.” Alternatively, as seen in Uvalde, even armed police officers fear the firearms often used in school massacres. Schools need to be safe not because they are hardened targets but because people do not have the means or desire to attack them.

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Misinterpretation of Islamic beliefs in terrorism

By M. Daud Hakim

Source: <https://islamabadpost.com.pk/misinterpretation-of-islamic-beliefs-in-terrorism/>

Abstract

This article explores the concept of jihad in Islam and clarifies its true meaning, which is about striving and making efforts rather than promoting violence. It emphasizes the significance of tolerance and independent reasoning (ijtihad) within Islam, while acknowledging the misinterpretation of these principles by radical individuals. The article also discusses the involvement of terrorist organizations, the biased portrayal of Islam in the media, and the underlying causes of terrorism in both developed and developing countries. It concludes by stressing the importance of comprehensive efforts to counter radicalism and foster a better understanding of Islam's teachings and values.



Misinterpretation of Islamic beliefs

The term “jihad” has multiple meanings within the Islamic context. It is an Arabic word derived from the root “jihad,” which means “to strive” or “to exert effort.” Jihad means to exert or to strive against the power trying to weaken your faith or believe. Jihad doesn't mean fighting against non-muslims without any reason or obligation. There are two types of jihad one is superior and second is inferior the superior jihad is jihad-e-Akbar which is to fight against yourself or in other words to make yourself pure and on true teachings of Islam, second type of jihad is jihad-e-Asghar which means to fight with sword or weapons against anyone trying to damage Islamic beliefs and values.



Jihad is sometimes called the sixth pillar of Islam however there is no such verse defending this school of thought, these people or mostly those who misuse the concept of jihad and use it against the Muslims.

Organizations like ISIS, Taliban, Al-Qaeda, and Daesh (also known as the Islamic State) manipulate and exploit individuals for their agendas. These groups often recruit vulnerable individuals and employ various tactics, including propaganda, indoctrination, and coercion, to influence and control them.

Their actions involve distorting Islamic teachings to justify violence and terrorism. They prey upon grievances, political instability, and social vulnerabilities within Muslim communities to recruit members. Their ultimate goal is to gain power, establish their extremist ideologies, and create chaos and fear. These organizational people work under some incentives and are portrayed as Muslims but they are not Muslims they are rebels of the religion who misinterpret the beliefs of Islam under their benefits and traditions. Some Madrasas and Madrassas are not working how they have to they are the main reasons such organizations are being developed and young people are brainwashed in so-called teaching centers they call them Islamic teaching centers but no these places can be the home of Allah almighty because Allah never taught Muslims to create violence and terrorism.

The media's portrayal of Islam has undeniably contributed to the perpetuation of stereotypes and negative narratives surrounding religion. While acts of violence committed by individuals of different religious backgrounds are often treated as isolated incidents, incidents associated with Islam are frequently used to generalize and stigmatize the entire faith. This biased representation in the media fuels misconceptions and reinforces prejudiced views. The selective attribution of violence to Islam, using terms such as 'Islamic' or 'Muslim fundamentalist,' has become all too common, overshadowing the diverse beliefs and practices within the Muslim community.

While researching I experimented in that I searched terrorist on Google majority of the terrorist acts were connected to Muslims and Islam and also no other religious incident was shown on the search page that's how media work to portray the incidents and highlights a certain class to create biases.

There have been instances where certain individuals or groups have misinterpreted or selectively interpreted Islamic verses to justify their radical ideologies or violent actions. However, it is crucial to recognize that the vast majority of Muslims reject and condemn such interpretations. These individuals call themselves Muslims but they only misuse Islamic beliefs and values for their purpose. Some of the verses that are misinterpreted are as follows:

1. **Quranic Verse:** "Fight and slay the pagans wherever you find them." (Quran 9:5)

Misinterpretation: This verse is often cited without considering its historical context and the specific circumstances in which it was revealed. It is important to understand that this verse was revealed during a time of conflict with specific pagan tribes who had repeatedly violated peace treaties. It does not promote aggression against all non-Muslims indiscriminately.

2. **Quranic Verse:** "And kill them wherever you find them, and turn them out from where they have turned you out." (Quran 2:191)

Misinterpretation: This verse is often misused to justify violence against non-Muslims. However, the verse must be understood in its full context, which refers to self-defense in a specific historical context where Muslims were persecuted and expelled from their homes.

3. **Hadith:** "I have been commanded to fight against people till they testify that there is no god but Allah." (Sahih Muslim)

Misinterpretation: This hadith is sometimes quoted without considering its broader context and the specific circumstances in which it was narrated. It refers to a specific military campaign during the time of Prophet Muhammad and should not be applied as a blanket command to engage in perpetual warfare against non-Muslims.

There have been instances of terrorism originating from certain countries considered "third world" or developing, it is crucial to consider several factors that contribute to this phenomenon:

Developing countries often face a range of socioeconomic challenges, such as poverty, unemployment, and lack of access to education and opportunities. These conditions can create grievances and frustrations that can be exploited by extremist groups.

Many developing countries experience political instability, armed conflicts, and internal strife. These environments provide fertile ground for radicalization and recruitment by extremist organizations seeking to exploit existing grievances. The historical and geopolitical context of certain regions has played a role in breeding terrorism. Factors such as colonialism, foreign interventions, and geopolitical conflicts have contributed to the emergence of extremist ideologies and violent movements.

Radical ideologies and interpretations of religion can take hold in any country, regardless of its level of development. Extremist groups can manipulate religious or ideological beliefs to recruit individuals and promote violence.



In conclusion, the misinterpretation of jihad, the lack of tolerance, and the exploitation of Islamic teachings by terrorist organizations have led to the misrepresentation of Islam. It is important to understand that the true essence of Islam promotes peace, tolerance, and intellectual growth. The media plays a significant role in shaping public perception, and it is crucial to address biases and stereotypes in their portrayal of Islam. Recognizing that terrorism can emerge in both developed and developing countries is essential to combat radicalism effectively. Promoting education, interfaith dialogue, and addressing socio-economic and political challenges can contribute to countering radicalization and fostering a more accurate understanding of Islam's teachings and values. It is only through comprehensive efforts and collaboration that we can strive for a more peaceful and harmonious world.

Pakistan poses threat to Norway: Report

Source: <https://news.webindia123.com/news/articles/World/20230528/4078533.html>



May 28 – Pakistan posed a threat to Norway, according to the 'threat assessment report 2023' prepared by the Norwegian Police Security Service (PST) citing that the former country may use illegal ways to obtain details about the technology, Greek news website Directus reported. As per the threat assessment report, Pakistan has the dubious distinction of appearing on the list of countries that pose a significant menace to Norway.

Pakistan is perceived to be posing a threat to Norway in terms of the proliferation of sensitive technology.

According to the Greek-based publication, Norwegian businesses, researchers and research institutes possess knowledge and technology that are sought after for the development of advanced weapons systems and weapons of mass destruction.

Since Norway is an oil-producing country with considerable expertise in related sectors such as the maritime sector, the country possesses valuable competence in the field of advanced subsea technology.

As per the Directus, Pakistan may use two ways to achieve the proliferation of sensitive technology. On one hand, it will install its researchers in education and research institutes in Norway to illegally obtain sensitive technology and transfer it to Pakistan for development programs for weapons systems. On the other, it will try to circumvent Norwegian export control regulations to obtain Norwegian technology that is not permitted to purchase under Norwegian export control regulations or because of Western sanctions. The national threat assessment made by the PST is one of the three official threat and risk assessments published during the first quarter of every year. The remaining two are published by the Norwegian Intelligence Service and the Norwegian National Security Authority. The PST is Norway's domestic security service. Its main task is to investigate and prevent serious offences that threaten national security. This includes the identification and assessment of threats related to intelligence, sabotage, the spread of weapons of mass destruction, terrorism and extremism.

Directus suggested that the Norwegian authorities have to sensitize its companies about the nefarious designs of Pakistan in obtaining sensitive technology. Stricter export regulations and intense scrutiny of research scholars from Pakistan are the need of the hour for Norwegian authorities if they want to prevent sensitive technology from falling into the wrong hands.

This report shows that Pakistan seems to be an 'all-weather' friend of China. Earlier, Dutch Annual Intelligence Report categorized Beijing as the biggest threat to the country, now Pakistan finds itself among the list of countries that pose significant threats to Norway.

Should the British Government Be Worried About Islamist Participationists?

By Wasiq Wasiq (Counter Terrorism Analyst)

Source: <https://eeradicalization.com/should-the-british-government-be-worried-about-islamist-participationists/>

May 29 – There has been a significant amount of discussion of late with regards to counterterrorism measures in the United Kingdom following the William Shawcross [Review of Prevent](#), the U.K. Government's flagship policy of prevent individuals from being drawn into radicalization and terrorism. This comes against a backdrop of significant terrorist incidents, such as the murder of Sir David Amess MP on 15 October, and also the [terrorist incident in Liverpool](#). While the former has been declared as Islamist related, the latter hasn't—yet. However, this should not detract from the fact that the principle threat the U.K. currently faces is from Islamists. Much of the focus so far has been about the far-Right with regard to the PREVENT strategy, instead of radical Islam. One reason for this diversion is the role Islamist participationists play in the debates, policies, and initiatives aimed at reducing the risk of violent extremism and hate. Given that Islamist participationists operate in plain sight, it is perhaps worth considering whether the British government should be worried about them.

There are three types of Islamists who can be found in the United Kingdom: violent Islamists, non-violent Islamists, and Islamist participationists. Violent and non-violent Islamists do not seek to involve



themselves within the machinery of democracy, the rule of law, and the customs of Western societies. They see these as antithetical to their way of life, which are based on the *sharia* (Islamic law). The third type of Islamists, the participationists, do not see democracy as necessarily inimical to their way of life, but, rather, an instrument to be used to pursue their goals. But what are these?

Damon Perry—senior research fellow for the think tank Policy Exchange—explored this question in 2019 by publishing the academic paper, [Mainstream Islamism in Britain: Educating for the “Islamic Revival”](#), for the Commission on Countering Extremism. Perry posits that whilst Islamists during the 1960s saw their role as one of representing and advocating for communities of Muslims that share a particular ethnic background and language, this is no longer the case. As time has moved on, so has the make-up of British Muslims—thus their goals have also evolved, and are now predicated on the promotion and protection of Islam.

To achieve this, Islamist participationists have embedded themselves into the fabric of modern Britain. They [have set themselves up](#) with charities, schools, and various media outlets—both print and broadcast. Furthermore, they have also created advocacy groups to pressure the government and other political parties to accept their demands, which they see as essential to their identity as British Muslims. One example of this—which stretches back over three decades—is what can and cannot be said or shown with respect to the Prophet Muhammed.

The late 1980s is when Britain was introduced to the power of Islamists. The author, Salman Rushdie wrote the novel, *The Satanic Verses*. In it, he explores a Qur’anic dispute through fiction and introduces the reader to the character Mahound, based on the Prophet Muhammed. Infamously, Iran’s then-leader [Ayatollah Ruhollah Khomeini issued a fatwa](#) in February 1989 calling for Rushdie to be killed. Not everyone was quite *that* upset but the level of Muslim offence taken to it was in general not only disproportionate, but surprising. Here we had a diverse Muslim community in the United Kingdom getting on with their day to day lives, only to ditch it all in protest over a book. This episode demonstrated an apparent level of sensitivity among British Muslims that no one thought was possible.

Thirty years on, the saga of sensitivities remain on the agenda for these Islamists. The debate around blasphemy reached the foundation of liberal democracy earlier this year, the British Houses of Parliament. Labour MP for Bradford West, Naz Shah, [stood up and raised the point](#) that if the public could be emotionally hurt by the illegal removal of statues, then why can’t the same be true for Muslims when depictions of the Prophet Muhammed are made? With such “emotional harms, can there and should there be a hierarchy of sentiments?” she asked. Whilst prima facie it seems to be a reasonable comparison, on closer examination it is far from it. The common law offence of blasphemy was [officially dropped in 2008](#). There was never and will never be any social acceptance of illegally removing statues of problematic figures. However, critiquing religion through free speech must be protected.

Naz Shah herself may not be an Islamist participationist, but her role as a Member of Parliament and her intervention does carry weight with them. It provides Islamist participationists a route to realizing their ambitions and goals of promoting and protecting Islam—and stamping out free speech. That they appear to have an MP advocating for shared goals *should* worry the government. Sir David Amess was murdered and terrorism was brought to the streets of Liverpool in the space of a month, so we need to talk about why that happened, not be diverted away by Islamist participationists. If our MPs are not worried about them, then what hope do we have of protecting free speech and tackling the threat of terrorism?

How Al-Qaeda's Recent Growth in Africa Poses a Threat to Global Security

By Saqib Mahsood

Source: <https://moderndiplomacy.eu/2023/05/29/how-al-qaedas-recent-growth-in-africa-poses-a-threat-to-global-security/>

May 29 – Al Qaeda’s ideology is based on the belief that the West is at war with Islam, and jihad is the only way to defend Muslims and their lands. The group has been weakened in recent years by military and intelligence operations, In 2022 a Leader of Al Qaeda Aiman Al zawahiri killed by American drone strike in Kabul , but it continues to pose a threat to global security.

Al-Qaeda has been a global terror organization for several years, and it is notorious for its involvement in several deadly attacks. Recently, Al-Qaeda has been making headlines in various news outlets due to its apparent expansion and development.

The primary focus of Al-Qaeda’s recent growth and development seems to be the African continent. While it is hard to determine if Al-Qaeda is expanding, it is clear that its activities in Africa are increasing. The organization is working to establish a stronger presence in the region, and it is attempting to recruit more members from various African countries. It has also been reported that Al-Qaeda is working to secure more funding from wealthy donors in the region.

Al-Qaeda’s recent activity in Africa is concerning, given the region’s political instability and weak security infrastructure. The organization’s presence could destabilize the region further, and its involvement would make the fight against terrorism in Africa even more challenging. Al-Shabab fighters have attacked a military base housing Ugandan forces of the African Union peacekeeping mission in Somalia, according to the East



African country's contingent and a Somali captain. Al-Shabab has claimed in a statement that it carried out suicide bomb attacks and killed 137 soldiers.

The attack by Al-Shabab on the military base housing Ugandan forces of the African Union peacekeeping mission in Somalia could lead to a destabilization of the region. The Somali government, along with its allies, will need to take immediate action to ensure the safety of civilians and prevent any further attacks by extremist groups. Additionally, the attack may undermine efforts to bring stability to the country and lead to a setback in the fight against terrorism in the region. It is crucial for all parties involved to come together and work towards a peaceful resolution.

The attack on the military base may have several other impacts, including:

1. Loss of life and property: The attack may lead to the death of soldiers, civilians and destruction of property, causing immense suffering to the people in the area.
2. Displacement of people: The attack may cause the displacement of people living in the area, leading to a humanitarian crisis.
- Political instability: The attack may lead to political instability in Somalia, further complicating efforts to establish a stable government.
- Increase in extremist activities: The attack may embolden extremist groups, leading to an increase in their activities in the region and beyond.

Overall, the attack underscores the need for increased security measures and surveillance to prevent similar attacks in the future. It also highlights the urgency of resolving the conflict in Somalia to ensure lasting peace and stability in the region.

It is also worth noting that Al-Qaeda's recent development is not just limited to Africa. The organization is attempting to rebrand itself and distance itself from its past. Recent propaganda released by Al-Qaeda seems more focused on portraying the organization as a force that is fighting for the oppressed and against oppressive governments. It is possible that this rebranding effort is an attempt to attract new members and supporters.

Although Al-Qaeda's recent development may be a cause for concern, it is important to note that the organization's capabilities are not what they once were. Due to relentless efforts to dismantle the organization, Al-Qaeda is not as powerful as it once was. Nevertheless, it remains a significant threat to global security, and countries and international organizations must continue to work together to fight against terrorism.

However, Al-Qaeda's growth is a matter of concern for global security. While the world's superpowers may be busy dealing with other geopolitical challenges, Al-Qaeda's activities should not be ignored. The organization has a long history of perpetrating violent attacks on civilians, and its recent resurgence in Africa could destabilize the region further. Al-Qaeda's growth could not only put African countries at risk but also pose a threat to global security. As such, it is crucial that international efforts work collaboratively to combat terrorism and prevent groups like Al-Qaeda from gaining a foothold in vulnerable regions.

In conclusion, Al-Qaeda's recent development is something that must be monitored closely. The organization's expansion into Africa must be curbed, and international efforts must continue to dismantle the group. At the same time, it is crucial to recognize that the fight against terrorism is a global one, and it must be fought strategically and systematically to ensure the safety and security of people worldwide.

Saqib Mahsood is a student of International Relations pursuing a bachelor's degree at the University of Karachi.

Belgium's Shameful and Dangerous Deal with Iran

Author: Karmon, Ely (Dr.)

Source: <https://ict.org.il/belgiums-deal-with-iran-hostage-kidnapping/>

May 30 – Recently Belgium reached a shameful deal with Iran: an innocent Belgian aid worker, Olivier Vandecasteele, held for 455 days in Iran on fake charges of spying, was swapped for an Iranian intelligence officer, Assadollah Assadi, convicted to 20 years in prison for orchestrating together with two Belgian citizens a bomb attack in June 2018 against a major gathering of an Iranian opposition group near Paris, France. This "victory" of the regime could impact negatively on dozens of other cases of European citizens taken hostage in Iran for their alleged role in the huge popular protests against the death of the young woman Mahsa Amini in police custody and the ferocious repression by the government's Islamic Guards.

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Threat of terrorist attack in **Netherlands** has increased: Government agency

Source: <https://english.alarabiya.net/News/world/2023/05/30/Threat-of-terrorist-attack-in-Netherlands-has-increased-Government-agency>

May 30 – The threat of a possible [terrorist attack](#) in the Netherlands has increased in recent months, the country's anti-terrorism agency NCTV said on Tuesday.

The NCTV said there were increasing signs of [extremist groups](#) plotting possible [attacks](#) in Europe, including in the Netherlands. The overall threat level remained at **three on a scale of five**, the NCTV said, meaning that an attack is plausible.

- Level 1: Minimal: It is unlikely that a terrorist attack will occur in the Netherlands.
- Level 2: Limited: There is a slight chance of a terrorist attack in the Netherlands.
- **Level 3: Significant: A terrorist attack in the Netherlands is conceivable.**
- Level 4: Substantial: There is a real chance of a terrorist attack in the Netherlands.
- Level 5: Critical: A terrorist attack in the Netherlands is imminent.



National Coordinator for
Counterterrorism and Security
Ministry of Justice and Security

Neo-Nazi group is caught plotting a sickening Aryan revolution using 'lone-wolf' terror attacks during a secret meeting in a Lake District village hall

By Sam Merriman

Source: <https://www.dailymail.co.uk/news/article-12155967/Neo-Nazi-group-caught-plotting-sickening-Aryan-revolution-using-lone-wolf-terror-attacks.html>

June 03 – A neo-Nazi group has been caught by The Mail on Sunday discussing the launch of 'lone-wolf' action across Britain.

The **New British Union (NBU)**, which has promoted 'total Aryanism', revealed its sickening agenda at a secret meeting infiltrated by a reporter last week.

Speaking in front of a flag emblazoned with the flash and circle of Oswald Mosley's British Union Of Fascists, deputy leader Clive Jones addressed a gathering of black-shirted fanatics, including some in Nazi uniform, and suggested members could be given a banned bomb-making guide.



ICI C²BRNE DIARY – June 2023

Explaining the organisation of lone-wolf action – terror attacks carried out by an individual – he said instructions would be issued by a leader 'feeding information in a roundabout sort of way'.

Far-Right thugs would be given directions on 'how to be a lone wolf and pick targets' and would be given a copy of the Anarchist Cookbook – a terrorist manual that includes bomb-making instructions and is banned in the UK.



The NBU, which claims to have thousands of members, features Nazi insignia on its website and glorifies Oswald Mosley

Ominously, Jones added: 'If we went for it, we could change a few things.'

The NBU, which claims to have thousands of members, features Nazi insignia on its website and glorifies Mosley, the 1930s leader of the British Union Of Fascists, which was banned in 1940.

It peddles a warped fear that Britain is being swamped by Asians and Muslims, and that force is needed to reclaim 'large areas of land' occupied by foreigners.

In a disturbing development, the NBU has begun forging links with armed far-Right militias in the US, including those involved in the violent assault on the

US Capitol in January 2021.

The MoS filmed the group's leadership delivering hate-filled rallying speeches. Some of the mainly young activists they addressed have appeared on social media making Hitler salutes and posing with weapons.

Last night, Jones said his comments had simply been 'big talk'. However, the threat from far-Right groups in Britain is growing rapidly, and more people are referred to the Government's Prevent counter-terror programme for extreme-Right views than for Islamist extremism.

Five far-Right groups have been proscribed as terrorist organisations – including National Action, which supported the murderer of Labour MP Jo Cox – making it a crime to be a member.

The meeting was led by Jones, a retired maths teacher who claims to be the world's most prolific sperm donor, having fathered more than 140 children. The 67-year-old grandad from Derby delivers sperm in a syringe under his arm to 'keep it warm' after arranging donations on social media.

Jordan Duncan had the documentation on his computer when he was arrested in Idaho in October 2020

Jones, who was exposed as a far-Right extremist after appearing on ITV's This Morning last year, insists he wants to help women. But others believe he wants to boost the white population.

NBU members were given details of last week's secret meeting only after assembling in a car park near Penrith in the Lake District. They were directed to the village hall in nearby Eamont Bridge. One joked that the parish council would be 'in for a shock' when they realised who had booked the hall.

The opening speech was delivered by high-ranking NBU member Ken Kearsey, who once worked with children and vulnerable people at his local church but was sacked in 2019 when his links to the group were exposed.

Kearsey, 61, from Dorset, told the meeting it was time for 'fascism to rise from the ashes of our broken nation'. He proudly showed off his swastika tattoo and urged others to set up neo-Nazi 'cells' in their communities to recruit new blood for their cause.

The group had planned to set up a military-style force called Blackshirt Security at the event to 'defend ourselves and our members' from undefined threats from Marxists and the far-Left.

But despite excitedly trailing it on encrypted messaging apps, it faltered when the NBU officer in charge of security failed to show up without explanation.

The group's leader Gary Raikes, a former BNP parliamentary candidate and Britain First member who founded the NBU in 2013, failed to attend for medical reasons.

Jones began proceedings with a potted history of Britain that included the bizarre claim that the Battle of Britain didn't take place.



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During a break, members tucked into a spread of tea and biscuits, crisps and sausage rolls. Jones, a keep-fit fanatic, ate raw corn. As they huddled in smaller groups for more discreet discussions, he began to talk more openly, and proudly declared that he was 'all for insurrection' with a sufficient number of like-minded people.



But he quickly caught himself, saying: 'I couldn't possibly mention what I've done, I'm not stupid. I maybe think I'm talking to my friends, and I probably am.' Then, as if unable to help himself, he added: 'But a couple of years ago, I put something right.'

[The group's leader Gary Raikes, a former BNP parliamentary candidate and Britain First member who founded the NBU in 2013, failed to attend](#)

Suggesting how they could act, he said: 'I have wondered whether we could go that way – you're familiar with 'lone wolf'. I mean, even with just this number here if we went for it we could cause... we could change a few things.'

Jones also hinted that he had previously taken such lone-wolf action, adding: 'That's what I'd do. Well, did do.' Referring to the Anarchist Cookbook, he said: 'You don't need it really – you can do a lot of s*** without explosives.' Among those at the meeting were a father and his 16-year-old son who had been expelled from school for making racist remarks online.

Dressed in full Nazi SS uniform was Hadden Adam, a prominent member of another far-Right group called Highland Division, named after the historic British Army unit that fought in both world wars. Adam, from Elgin in Scotland, has previously been pictured with Nazi flags and performing the Nazi salute. He has shared images of his fearsome weapon collection, which includes 12 knives, a machete, knuckle-dusters, an axe and a hatchet, in a neo-Nazi group on the encrypted message app Telegram.

Another Highland Division member at the meeting was 'Dave', from Aberdeen, who wore a forage cap with a skull insignia.

[Dave \(right\) and other attendees leave at the end of the neo-Nazi summit in a Cumbria. The NBU said: 'We do not engage with the lying mainstream press'](#)



They were joined by Nazi sympathiser and Holocaust denier Darren Hurrell, who was last year filmed trying to recruit pupils to his hate-filled cause outside a school. Hurrell, from Lanarkshire, laughed as he showed our reporter videos of himself saying 'happy Holocaust' to passers-by.

A 22-year-old member from Exeter, who said he had been involved with fascist groups since he was 16, had travelled for more than six hours to attend the meeting.

He said he was frustrated by the lack of far-Right groups in the UK after many were proscribed as terrorist organisations, and was 'surprised' the NBU was not banned.

He also discussed previous links with a member of the banned group Sonnenkrieg Division, which promoted terror attacks against Prince Harry for marrying Meghan. He added that this former associate backed 'flying a plane with a mini nuke in it', and said the group 'made good ISIS-style videos of their training'.

Expanding on links with armed far-Right groups in the US, including the National Justice Party (NJP), he said: 'Recently I went to America and I managed to get in contact with the NJP over there... I managed to link up with them.'

Referring to Adolf Hitler's Nazi movement – which stands for Nationalsozialismus, the German for 'national socialism' – he added: 'I really want to get in contact, when I next go to America, with either Blood Tribe or Aryan Freedom Network because they seem very similar – they're more national socialists.'





The NJP is virulently racist and promotes neo-Nazism. Its supporters have been involved in violent clashes at protests. Blood Tribe and Aryan Freedom Network are extreme white supremacist groups that espouse anti-Semitic, racist and homophobic views and parade in military-style clothing, often while heavily armed. Former US Marine Christopher Polhaus, who has been linked to the January 6 riots at the US Capitol Building in Washington DC in 2021, founded Blood Tribe.

[Hadden Adams' weapons. Clive Jones denied encouraging members to obtain weapons when confronted about his remarks](#)

The Aryan Freedom Network is closely linked to the Ku Klux Klan and was founded by the daughter of a former leader of the racist group – known as a Grand Dragon.

Asked by the 22-year-old neo-Nazi about the NBU forging closer links with militia-style far-Right groups in the US, Jones said: 'That's the way it's got to be. We've all got the same goal.'

After the event, NBU founder Raikes expanded upon this on Telegram, revealing: 'We have reached out to groups around the world.'

When confronted last night, Jones dismissed his comments as 'big talk' and that he was 'perhaps getting ahead of myself'.

He said he had only discussed the Anarchist Cookbook 'as a laugh', found it 'quite boring actually' and no longer owned a copy.

Jones denied encouraging members to obtain weapons, and said of those who have been pictured with them: 'There is a big difference between having a load of weapons and actually using them. I don't think that is illegal, actually.'

Insisting he stood firmly by his fascist beliefs, he added: 'I'm expecting the police to call round and arrest me at four o'clock in the morning. It's never happened before but I'm expecting a lot of harassment and all of my electrical equipment to be stolen.'

'So it's my job, before the story comes out Sunday, to get all that lot hidden. I'm going to expect it but maybe nothing will happen.'

The NBU said: 'We do not engage with the lying mainstream press. NBU is a legal, law-abiding group which condemns political violence. Not all attending the meeting were official members.'

The MoS last night offered to hand over its dossier of evidence to Cumbria Police.

A rapidly evolving extremism that attracts children of 13

The terrifying threat posed by far-Right extremism is growing rapidly across Britain, and in a chilling trend those recruited by neo-Nazi thugs are becoming younger than ever – including children of just 13.



[Jack Renshaw, 27, received a life sentence in 2019 for planning to murder MP Rosie Cooper](#)

Their ideology finds new supporters online, where groups share the twisted manifestos of school mass murderers as inspiration for their vile cause.

Encrypted messaging apps are used to trade instruction manuals for explosives and improvised weapons.

National Action – one of five groups proscribed as terrorist organisations by the Government – supported Thomas Mair, a neo-Nazi and former BNP member, who murdered Labour MP Jo Cox in 2016.

Other members have since been jailed. One, Jack Renshaw, 27, received a life sentence in 2019 for planning to murder MP Rosie Cooper.

In 2018, Darren Osborne, a supporter of ex-EDL chief Tommy Robinson and Britain First, was jailed for an attack at a mosque in Finsbury Park, North London. And in 2021, a boy from Darlington who was caught with bomb-making manuals at 13, became the youngest person in Britain to be convicted of terror offences.



Far-Right groups use bizarre conspiracy theories to justify their hateful ideology, including the 'great replacement theory' that 'global elites' want to supplant white populations with Muslims.

MI5 chief Ken McCallum warns that the threat has 'evolved' and there has been an increase in groups trying to acquire guns. He said: 'We are seeing growing numbers of Right-wing extremist influencers.'

'This problem feels like it will endure.'

Terrorism has no religion! Then why one has to change religion before becoming a terrorist?

Source: <https://english.newstracklive.com/news/terrorism-has-no-religion-then-why-one-has-to-accept-islam-for-being-terrorist-hizb-it-tahrir-pfi-isis-mc23-nu764-ta764-ta384-1279127-1.html>

June 03 – The story of 3 girls from Kerala who were recruited in the terrorist organization Islamic State i.e. ISIS shown in the film The Kerala Story is in the headlines these days. These three girls were not Muslims earlier, some were Christians or Hindus, but before becoming terrorists, they had to convert to Islam as per any custom, after which they were given new names, and then they



were sent to Afghanistan to become sex slaves of terrorists and other tasks. They also went away happily, as if dedicating their lives to a great humanitarian work. Over time, they realized the demonic tendencies of the terrorists, but nothing can happen now. Even today, 4 girls from Kerala are imprisoned in Afghanistan, who are pleading with the Indian government to come here, but the doors of India have been closed for them. It is another matter that some politicians of India are calling it propaganda and lies, maybe they have some political compulsion, or it is necessary to say so to get the chair. The question is, why did these girls have to become Muslims before they were made terrorists? If someone wants to commit a crime, is it necessary to

change his/her religion? They would have filled poison in them and made them terrorists, why conversion? And what were they shown and taught to become terrorists after conversion, this is also a big question? But, politicians say, let's assume that this story is false, let's come to the second story.

Hizb-ut-Tahrir in Madhya Pradesh and Telangana

The Madhya Pradesh ATS on Tuesday (May 10, 2023) arrested 16 suspects related to the terrorist organization named HuT (Hizb Uttar Tahrir) during a raid. The raids were conducted from Bhopal, Chhindwara and Hyderabad. Technical equipment, anti-national documents, radical literature and weapons were also recovered from all these accused arrested under sections of UAPA. The people of the terrorist organization carry out their nefarious activities by mixing with the general public as computer engineers, technicians, teachers, businessmen, gym trainers, coaching center operators, auto drivers, tailors, etc. Half of these suspects were Hindus at first, but the funny thing is that, even though terrorism has no religion, they were made Muslims before they were made terrorists and that too so fanatical that these people also started making others Muslim while their wives and children.

During interrogation, the ATS revealed that Salim was Saurabh Rajvaidya till some time ago. He is a resident of Bhopal near Barasia. In 2010, Saurabh first converted to Islam and then in 2012, he also converted his Hindu wife to Islam. After this, both of them went to Hyderabad. Since Salim (Saurabh) was from Madhya Pradesh, he was tasked with spreading the agenda of Hizb-ut-Tahrir organization throughout MP, even sending him abroad to train for it. After joining the organization, he joined 100 people in this mission in a very short time and all the people started practicing weapons in the forests of Madhya Pradesh. Surprisingly, after becoming Mohammad Salim from Saurabh Rajvaidya, he got a job as a professor in the biotechnical department of 'great secular' leader Asaduddin Owaisi's Deccan College of Medical Sciences in Hyderabad and started spewing religious poison in the name of teaching here. Similarly, Devi Prasad Panda from Odisha and Venu Kumar from Hyderabad were also Hindus first, later they also converted to Islam and changed their names to Abdul Rahman and Mohammad Abbas respectively and started spreading religious poison along with Salim. Apart from all these, there are two others among those arrested, whose wives were first Hindus and later they were forcibly converted to Islam. Bhopal-based gym trainer Yasir Khan also married a Hindu girl and converted her to Islam. One report even claimed that the same Yasir Khan wanted to explode as a human bomb in a crowded area during the elections in Madhya Pradesh and wanted to be a sacrifice for Islam. Let's assume that politicians are also lies, and let's see the next story.



Yasir's wife, who is made of Bhumika

You have read above about Bhopal-based gym trainer Yasir, who married a Hindu girl and made her a widow. Bhumika has an MBA degree in Marketing-Business from Bhopal, the capital of Madhya Pradesh. She is originally from Maharashtra. In 2018, Bhumika (Huda) converted to Islam. Speaking to the media, Huda, a Hindu-turned-Muslim, said Yasir's family did not allow her to speak to the media, but now she has given permission to talk wearing a burqa. At the same time, Huda also had instructions on what to say and what not to say. That is, it was up to Huda to answer which question and whom not to answer. The young woman has now become so fanatical that she has hated her parents and goddess Deveta. She says that in Islam only one God is worshiped, while in Hinduism there are different gods every day. She also rejected science, saying that the Quran says that Allah runs this whole world and Allah will also get her husband out of jail. She claims that there are atrocities on Muslims in India and says that love jihad is a lie, it is a conspiracy against Muslims. Let's move on, believing this to be a lie.

Rape of non-Muslim girls is justified

On May 26-27, the NIA had busted an ISIS module while conducting raids at 13 locations in Jabalpur. The NIA had released some people after interrogation, but arrested three hardcore terrorists associated with ISIS. The NIA has recovered some controversial and inciting documents from the arrested accused. According to the ISIS document, the goal is to make India a Muslim nation by 2050. Along with this, wrong and obscene things have also been written about Hindu gods and goddesses and Hindu women. It explains how Islam is better than Hinduism and all other religions. Also, a lot of hate content has also been introduced about Hindu gods and goddesses. Many religious verses have also been misinterpreted and shown in the claim program. Not only this, in this document, the rape of non-Muslim (especially Hindu) girls has been described as absolutely justified and taking it closer to God. Now that rape is considered the way to heaven, how will the incidents of rape stop, and how long will the bodies of girls continue to be tortured like this? Aftab, who chopped Shraddha into 35 pieces, was also of the same opinion that even if hanged, there would be no regret, there would be paradise and there were 72 martyrs. Well, we have been told by politicians that all this is a lie, so there is nothing to worry about.

In 2022, the Bihar Police and the NIA busted the radical outfit Popular Front of India (PFI), which is working on making India an Islamic nation by 2047 and has spread from Kerala to Kashmir. To make this conspiracy successful, PFI had also made a complete plan on how to give arms training to Muslims, how to incite SC/ST and OBC against other Hindus, put their own people in the system and then capture power as soon as terrorists are organized and bring India under the Islamic flag. After that, in May 2023, a big terror module of Al Qaeda was caught from Gujarat, in which 4 Bangladeshi terrorists were arrested and now a big disclosure has been made about the conspiracies of Islamic State (ISIS) in Jabalpur, Madhya Pradesh. But, let's accept everyone as a lie and go to sleep, our number has not come yet.

Children among six injured in knife attack in southeast France, officials say

Source: <https://edition.cnn.com/2023/06/08/europe/annecy-france-stabbing-attack-intl/index.html>

June 08 – Children were among six people injured Thursday in a knife attack in Annecy, in southeast France, triggering a wave of panic in the small alpine town.

Four children sustained wounds following the incident, according to the prefecture of Haute-Savoie. All of those injured were taken to hospital. The mayor of Annecy, François Astorg, said later that some of the children injured were in a stable condition after leaving the operating theater.

He said that one adult was still in surgery, adding that emergency services flew the injured to hospitals in Geneva and Grenoble.

“Emergency services and security forces intervened very quickly,” a statement from the prefecture said.

Local authorities said earlier that at least eight people had been injured.

A Syrian asylum-seeker (Christian) was suspected of carrying out the attack, but his motive is unclear, Bonnet-Mathis said. He was living in Sweden for 10 years and had applied for asylum status in France, but his request had been rejected.

There is no apparent terrorist motive, she added. The four children injured in the attack are between the age of 22 months and 3 years old, the Annecy Prosecutor Line



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Bonnet-Mathis said in a press conference Thursday. The children are in critical condition, the prosecutor added. One of the four children wounded is a British national, UK Foreign Secretary James Cleverly said in a speech at the Organization for



Economic Cooperation and Development (OECD in Paris. Another one is a Dutch national, according to Bonnet-Mathis. Local officials reported earlier that the suspect had been detained in connection with the attack. He was slightly injured but did not need hospital treatment. French Prime Minister Elisabeth Borne will travel to Annecy with Interior Minister Gérald Darmanin on Thursday, according to the interior ministry. One eyewitness, Ferdinand, told CNN affiliate BFMTV that the attacker was “repeatedly hitting” passersby with a knife. “He jumped (in the playground), started shouting and then went towards the strollers, repeatedly hitting the little ones with a knife,” Ferdinand said. “Mothers were crying, everybody was running,” said another eyewitness, named George, according to Reuters. French President Emmanuel Macron said “the nation is in shock,” following the attack. “Absolute cowardice this morning in a park in Annecy. Children and an adult are between life and death. The nation is in shock. Our thoughts are with them, their families and the emergency services,” Macron tweeted. British Prime Minister Rishi Sunak said the attack was “a truly cowardly act.”

“My thoughts are with all of those affected by the shocking attack in Annecy this morning,” he tweeted. “The UK and France have always stood together against acts of violence, and we do so again today.” Health Minister François Braun tweeted that his thoughts were with the victims of the knife attack. “All my thoughts go immediately to the people injured by an individual armed with a knife in Annecy, and to their loved ones,” Braun tweeted. “I salute the rapid mobilization of the emergency services to take care of the victims, and notably the Urgent Medical Aid Service (SAMU).” Astorg, the mayor of Annecy, asked residents to avoid the area where the knife attack took place to ease the work of authorities. “Appalling attack this morning on the Pâquier in Annecy. All my thoughts to the victims and families,” he tweeted. Astorg said he would be addressing the public Thursday afternoon, along with representatives from police and the local prosecutor’s office. Lawmakers in the French National Assembly observed a minute’s silence for those injured in the attack.



Islamic State Affiliates Pooling Resources, Growing Capabilities: U.S.

By Jeff Seldin (VOA national security reporter)

Source: <https://www.homelandsecuritynewswire.com/dr20230609-islamic-state-affiliates-pooling-resources-growing-capabilities-u-s>

June 09 – U.S. officials tasked with tracking Islamic State are seeing worrisome signs that the terror group's core leadership is strengthening control over its global network of affiliates despite a series of key losses.

Specifically, the United States is **raising concerns about the group's General Directorate of Provinces, a series of nine regional offices set up over the past several years to sustain the group's reputation and global capabilities.**

The U.S. State Department on Thursday highlighted the threat posed by these regional offices, designating the leaders of the offices in Iraq and in Africa's Sahel region as Specially Designated Global Terrorists.

Not Yet Done'

"We remain focused on cutting off ISIS's ability to raise and move funds across multiple jurisdictions," Secretary of State Antony Blinken said, speaking to a meeting in Riyadh of the global coalition that has been working to defeat Islamic State, also known as ISIS, IS or Daesh.

"For all our progress, the fight is not yet done," Blinken added.

A separate State Department statement Thursday noted the terror group maintains connections to the global financial system and that IS's core leadership has "relied on its regional General Directorate of Provinces offices to provide operational guidance and funding around the world."

The new designations specifically name Abdallah Makki Muslih al-Rufay'i, the former emir of IS's Iraq province, as the leader of the Iraq-based Bilad al-Rafidayn Office, and Abu Bakr ibn Muhammad ibn 'Ali al-Mainuki as the leader of the al-Furqan office, which oversees operations in the Sahel.

Concern about the regional offices has been growing for more than a year, with a U.N. report warning in July 2022 that the offices were key to the terror group's plans for "reviving its external operational capability."

The U.N. report cited the al-Furqan office, located in the Lake Chad Basin and charged with overseeing the terror group's efforts in and around Nigeria and the western Sahel, as one of "the most vigorous and best-established [ISIS] regional networks."

The report further warned that the Al-Siddiq office in Afghanistan and the Al-Karrar office in Somalia were likewise playing critical roles in Islamic State's expansion.

Intelligence shared by U.N. member states at the time, however, suggested **some of the other regional offices, including those in Turkey, Libya, Yemen and Egypt's Sinai Peninsula, were struggling, and in some cases nonfunctional.**

And despite a series of high-profile leadership losses, including the [deaths or captures of at least 13 senior officials](#) since early 2022, time seems to have worked in the terror group's favor.

The regional office model, answering to the group's core leadership, "has really enabled a lot of these groups to rapidly gain capability," said Anand Arun, a U.S. Defense Intelligence Agency senior officer and analyst.

"They're pooling resources. They're sharing TTP [tactics, techniques and procedures]. They're sharing guidance," Arun told a forum hosted by George Washington University's Program on Extremism on Wednesday. "We're seeing ISIS's local and regional attack capabilities in Africa increase."

Enhanced Internet Ties

Others are also seeing IS affiliates, like IS West Africa Province, maximize these connections by using enhanced internet connections for what one expert described as "real-time communication."

"We also saw conference calls, sometimes conference calls between ISIS central and African groups but also amongst African groups," said Bulama Bukarti, a researcher and vice president at the Bridgeway Foundation, a charity that aims to prevent mass atrocities. "They also share intelligence information, best practices," he said, speaking at the same forum as Arun. "So, for example, if one affiliate looted a particular weapon they don't know how to operate, they just would take a photo of it, put it in the group [chat], and then someone would send them instructions, would send them a YouTube link with instructions on how to operate it." Bukarti also warned that IS's adoption of advanced technologies has extended to other areas, with IS West Africa Province conducting trials on how to arm commercial drones to be used in attacks.

U.S. officials share the concern. "I'm very much concerned about that and kind of the trajectory," said the DIA's Arun, calling the possibilities "exponential." "I think there's a lot of ways that they can harness what's coming with AI [artificial intelligence] and drones and other things," he said.



Already, the United States has been leading efforts to crack down on these networks.

Last November, the Treasury Department sanctioned a smuggling network in Somalia that may have been linked to IS's Al-Karrar regional office. And in January, U.S. special operations forces killed Bilal al-Sudani, a key IS financial facilitator, during a raid on a mountainous cave complex in a remote part of northern Somalia.

But some of the information turned up during that operation has given U.S. officials cause to worry about IS's growing technological prowess.

"If Bilal al-Sudani can access the internet from a cave in the Puntland of Somalia, I think they can figure it out," Arun said.

Italian Forces Storm Ro-Ro After Reports of Threats by Armed Stowaways

Source: <https://www.maritime-executive.com/article/italian-forces-storm-ro-ro-after-reports-of-threats-by-armed-stowaways>



June 09 – Italy's Defense Minister is reporting that Italian Special Forces and the Coast Guard have regained control of a ro-ro, the **Galata Seaways** operated by DFDS Seaways, after reports that the crew had discovered stowaways, which the minister is referring to as "migrants," and "illegal immigrants," saying they threatened or possibly attempted to commandeer the ship. The 22-member crew is reported to be safe while the operation to search the vessel continued.

Late today, Italian Defense Minister Guido Crosetto wrote on Twitter, "The ship's hijackers have been captured. Everything ended well. My congratulations to the guys from the San Marco Battalion, the policemen and the financiers, who concluded a splendid operation in collaboration. Everyone for his part. Well done!"

Details on the situation are confused with different scenarios in the media as well as differing reports from the Italian Defense Ministry and the Turkish Transport Ministry. The *Galata Seaways* (15,121 dwt) departed Yalova, Turkey on June 7 bound for Sete, France where it was scheduled to arrive tomorrow morning, June 10. The vessel, which is 732 feet in length, is registered in Turkey.





Different reports indicate that the crew of the vessel spotted between 15 and 20 stowaways on security cameras and began a lockdown on the vessel. At least four or five of the stowaways were believed to be carrying knives. Some reports said the crew was able to lock themselves into the engine room and other secure locations, while some are saying that once discovered, the stowaways threatened the crew and attempted to take control of the vessel.

The captain of the *Galata Seaways* radioed the authorities in Turkey according to reports who relayed the information to France and Italy. Some reports said the stowaways attempted to storm the locked bridge of the vessel. The ship was reported to be about 90 miles south of Naples at this time. The decision was made to divert to Naples where the vessel was due to arrive around 17:00 local time. Reports indicate the Guardia di Finanza patrol boat *Sanna* and Coast Guard vessel *Bruno Gregoretti* intercepted the ro-ro on the outskirts of Naples. Italian forces boarded the vessel from helicopters and were searching the ship. They reportedly secured the crew but according to some reports at least some of the stowaways barricaded themselves in areas of the ship.

The Italian Ministry said a search of the vessel is ongoing at this time. the AIS signal shows that the *Galata Seaways* is anchored in Naples Bay.

Ted Kaczynski, known as the 'Unabomber,' has died in prison at age 81

Source: <https://www.npr.org/2023/06/10/1181516760/ted-kaczynski-unabomber-dies>

June 10 — Theodore "Ted" Kaczynski, the Harvard-educated mathematician who retreated to a dingy shack in the Montana wilderness and ran a 17-year bombing campaign that killed three people and injured 23 others, died Saturday. He was 81. Branded the "Unabomber" by the FBI, Kaczynski died at the federal prison medical center in Butner, North Carolina, Kristie Breshears, a spokesperson for the federal Bureau of Prisons, told





The Associated Press. He was found unresponsive in his cell early Saturday morning and was pronounced dead around 8 a.m., she said. A cause of death was not immediately known.

Before his transfer to the prison medical facility, he had been held in the federal Supermax prison in Florence, Colorado, since May 1998, when he was sentenced to four life sentences plus 30 years for a campaign of terror that set universities nationwide on edge. He admitted committing 16 bombings from 1978 and 1995, permanently maiming several of his victims.

Years before the Sept. 11 attacks and the anthrax mailing, the "Unabomber's" deadly homemade bombs changed the way Americans mailed packages and boarded airplanes, even virtually shutting down air travel on the West Coast in July 1995.

He forced The Washington Post, in conjunction with The New York Times, to make the agonizing decision in September 1995 to publish his 35,000-word manifesto, "Industrial Society and Its Future," which claimed modern society and technology was leading to a sense of powerlessness and alienation.

But it led to his undoing. Kaczynski's brother David and David's wife, Linda Patrik, recognized the treatise's tone and [tipped off the FBI](#), which had been searching for the "Unabomber" for years in nation's longest, costliest manhunt.

Authorities in April 1996 found him in a 10-by-14-foot (3-by-4-meter) plywood and tarpaper cabin outside Lincoln, Montana, that was filled with journals, a coded diary, explosive ingredients and two completed bombs.

As an elusive criminal mastermind, the Unabomber won his share of sympathizers and comparisons to Daniel Boone, Edward Abbey and Henry David Thoreau.

But once revealed as a wild-eyed hermit with long hair and beard who weathered Montana winters in a one-room shack, Kaczynski struck many as more of a pathetic loner than romantic anti-hero.

Even in his own journals, Kaczynski came across as not a committed revolutionary, but a vengeful hermit driven by petty grievances. "I certainly don't claim to be an altruist or to be acting for the 'good' (whatever that is) of the human race," he wrote on April 6, 1971. "I act merely from a desire for revenge."



A psychiatrist who interviewed Kaczynski in prison diagnosed him as a paranoid schizophrenic.

"Mr. Kaczynski's delusions are mostly persecutory in nature," Sally Johnson wrote in a 47-page report. "The central themes involve his belief that he is being maligned and harassed by family members and modern society."

Kaczynski hated the idea of being viewed as mentally ill and when his lawyers attempted to present an insanity defense, he tried to fire them. When that failed, he tried to hang himself with his underwear.

Kaczynski eventually pleaded guilty rather than let his defense team proceed with an insanity defense.

"I'm confident that I'm sane," Kaczynski told Time magazine in 1999. "I don't get delusions and so forth."

He was certainly brilliant.

Kaczynski skipped two grades to attend Harvard at age 16 and had published papers in prestigious mathematics journals. His explosives were carefully tested and came in meticulously handcrafted wooden boxes sanded to remove possible fingerprints. Later bombs bore the signature "FC" for "Freedom Club."

The FBI called him the "Unabomber" because his early targets seemed to be universities and airlines. An altitude-triggered bomb he mailed in 1979 went off as planned aboard an American Airlines flight; a dozen people aboard suffered from smoke inhalation.

Kaczynski killed computer rental store owner Hugh Scrutton, advertising executive Thomas Mosser and timber industry lobbyist Gilbert Murray. California geneticist Charles Epstein and Yale University computer expert David Gelernter were maimed by bombs two days apart in June 1993.

Mosser was killed in his North Caldwell, New Jersey, home on Dec. 10, 1994, a day he was supposed to be picking out a Christmas tree with his family. His wife, Susan, found him grievously wounded by a barrage of razor blades, pipes and nails.

"He was moaning very softly," she said at Kaczynski's 1998 sentencing. "The fingers on his right hand were dangling. I held his left hand. I told him help was coming. I told him I loved him."

When Kaczynski stepped up his bombs and letters to newspapers and scientists in 1995, experts speculated the "Unabomber" was jealous of the attention being paid to Oklahoma City bomber Timothy McVeigh.

A threat to blow up a plane out of Los Angeles before the end of the July Fourth weekend threw air travel and mail delivery into chaos. The "Unabomber" later claimed it was a "prank."

The Washington Post printed the "Unabomber's" manifesto at the urging of federal authorities, after the bomber said he would desist from terrorism if a national publication published his treatise.

Patrik had had a disturbing feeling about her brother-in-law even before seeing the manifesto and eventually persuaded her husband to read a copy at the library. After two months of arguments, they took some of Ted Kaczynski's letters to Patrik's childhood friend Susan Swanson, a private investigator in Chicago.

Swanson in turn passed them along to former FBI behavior science expert Clint Van Zandt, whose analysts said whoever wrote them had also probably written the "Unabomber's" manifesto.

"It was a nightmare," David Kaczynski, who as a child had idolized his older brother, said in a 2005 speech at Bennington College.

"I was literally thinking, 'My brother's a serial killer, the most wanted man in America.'"

Swanson turned to a corporate lawyer friend, Anthony Bisceglie, who contacted the FBI.

David Kaczynski wanted his role kept confidential, but his identity quickly leaked out and Ted Kaczynski vowed never to forgive his younger sibling. He ignored his letters, turned his back on him at court hearings and described David Kaczynski in a 1999 book draft as a "Judas Iscariot (who) ... doesn't even have enough courage to go hang himself."

Ted Kaczynski was born May 22, 1942, in Chicago, the son of second-generation Polish Catholics — a sausage-maker and a homemaker. He played the trombone in the school band, collected coins and skipped the sixth and 11th grades.

His high school classmates thought him odd, particularly after he showed a school wrestler how to make a mini-bomb that detonated during chemistry class.

Harvard classmates recalled him as a lonely, thin boy with poor personal hygiene and a room that smelled of spoiled milk, rotting food and foot powder.

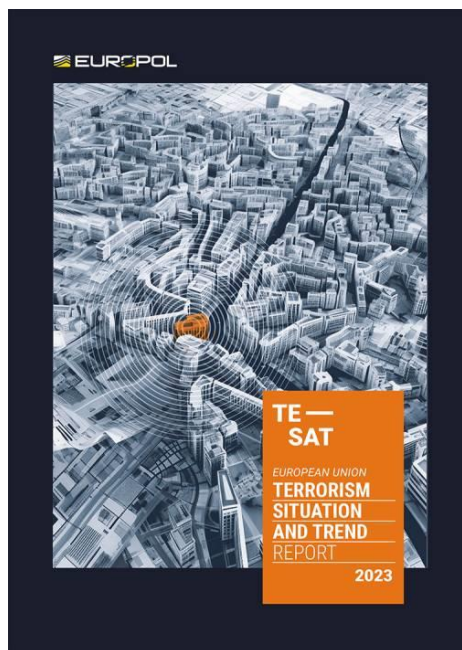
After graduate studies at the University of Michigan at Ann Arbor, he got a job teaching math at the University of California at Berkeley but found the work difficult and quit abruptly. In 1971, he bought a 1½-acre parcel about 4 miles (6 kilometers) outside of Lincoln and built a cabin there without heating, plumbing or electricity.

He learned to garden, hunt, make tools and sew, living on a few hundred dollars a year.

He left his cabin in Montana in the late 1970s to work at a foam rubber products manufacturer outside Chicago with his father and brother. But when a female supervisor dumped him after two dates, he began posting insulting limericks about her and wouldn't stop.

His brother fired him and Ted Kaczynski soon returned to the wilderness to continue plotting his vengeful killing spree.





European Union Terrorism Situation and Trend report 2023 (TE-SAT)

Source: https://www.europol.europa.eu/cms/sites/default/files/documents/Europol_TE-SAT_2023.pdf

June 14 – Terrorism and extremism remain serious threats to public security in the European Union (EU). Europol is tasked with supporting Member State authorities as they combat terrorism and extremism, building a safer Europe and maintaining the intelligence picture on current threats.

The Terrorism Situation and Trend Report (TE-SAT) is a key component of this work. The report is a situational overview, presenting figures and developments within the terrorism landscape in the EU. Europol publishes the TE-SAT yearly, written by experts from the European Counter Terrorism Centre based at the Agency's headquarters.

The TE-SAT gives a unique insight into threats by compiling the findings of EU Member States and Europol on trends emerging in the terrorist landscape over the preceding 12 months. It is made to inform policymakers, law enforcement staff and the wider public about the latest developments in terrorism and extremist ideologies that can influence terrorism.

Although no terrorist attacks perpetrated with chemical, biological, radiological, and nuclear (CBRN) materials were reported by Member States in 2022, propaganda material concerning the use of such materials remained available online. The use of CBRN materials remained of interest among extremists and terrorists across the ideological spectrum. One example concerns an online right-wing extremist magazine that published an article on a do-it-yourself (DIY) method to produce a radiological dispersal device, also known as a 'dirty bomb', by combining explosives and nuclear material. Although there have not been indications in this direction yet, the Russian war of aggression against Ukraine raises concerns about CBRN material from the war zone potentially being smuggled into the EU and ultimately used for terrorist purposes.

American Institute Warns of Renewed Terrorist Activity in Libya

By Hasanain Mohamed

Source: <https://libyareview.com/35315/american-institute-warns-of-renewed-terrorist-activity-in-libya/>

June 14 – An American research institute has cautioned about changes and circumstances that could reignite terrorist threats in Libya. These have significantly dwindled compared to previous years, and has been over a year since the last reported attack by IS in the country.

Contrary to the escalating terrorist activity in sub-Saharan Africa, relative tranquillity has prevailed in Libya and Tunisia, according to a report from the Washington Institute for Near East Policy. It pointed to the notable activities of terrorist groups in both countries since 2011.

The institute stated that there are "conducive conditions for the resurgence of terrorist activity." According to quantitative data analysis, "individuals remain interested in planning domestic attacks, and attempting to join foreign terrorist organisations, even if these efforts do not constitute the kind of coordinated campaign seen in previous years."

The ongoing issue of detainees associated with IS also looms large. Currently, "hundreds of men, women, and children from North Africa who formerly belonged to IS, either voluntarily or by coercion, are being held either in prisons or internally displaced persons camps in Northeast Syria. With no suitable mechanisms for their repatriation and their subsequent rehabilitation and reintegration into society, they could pose new security dilemmas and threats to North African countries."



The report also noted that the United States and its allies have focused on targeting IS in Libya, significantly reducing the threat. By December 2016, the presence of its members was confined to the Sebha region, and was no longer significant in everyday life. The report warned that the organisation has “resorted to covert operations and remained relatively dormant in 2017, partly due to the American airstrikes targeting its camps outside Sirte. While ISIS claimed responsibility for only four attacks that year, the pace of operations picked up in February 2018, when the group seemingly decided to emerge from the shadows. However, the momentum of attacks subsided in December of the same year, after the General Command forces discovered the group’s base near the Ghadduwah oasis.” The organisation then shifted to the Harouge Volcanic Field and resumed operations in April 2019, executing 11 attacks. However, this wave ended after the General Command forces found the organisation’s new operational base in June of the same year. This discovery limited the group’s activity significantly, focusing on promoting desert life through propaganda, and obtaining numerous pledges of allegiance.

The Washington Institute’s report clarified that actual military operations between 2020 and 2022 were negligible, and relatively inconsequential. They did not form part of a broader campaign but were sporadic attempts to prove the organisation’s existence. Now, more than a year has passed since the last IS attack.

Palestinian poll: Islamist terror groups best thing since 1948

Source: <https://www.jns.org/israel-palestinianconflict/hamas/23/6/15/295550/>



June 15 – The formation of terrorist groups [Hamis](#) and Palestinian Islamic Jihad was the most positive thing to happen to the Palestinian people since 1948, a plurality of Palestinians say.

According to a poll conducted by the Ramallah-based [Palestinian Center for Policy and Survey Research \(PSR\)](#), 24% of Palestinians in the “West Bank” and the Gaza Strip believe that the establishment of these Islamist organizations and their violence against Israel was the best thing to happen since the “Nakba”—the establishment of the modern State of Israel and the events leading up to it.

Broken down by location, 16% of West Bankers say that the creation of Hamas and Islamic Jihad was the best thing, while 38% of Gazans took this position. In second place, 21% of respondents (24% in the West Bank and 16% in Gaza) said that the First and Second intifadas were the most positive thing for Palestinians since the *nakba*, Arabic for the “catastrophe” of the creation of modern-day Israel. Just 9% of Palestinians said that the establishment of [Fatah](#) was the best thing to happen to them, while 80% of those polled said that they want Fatah and PLO Chairman Mahmoud Abbas to resign as president of the Palestinian Authority.

A majority of 52% (55% in Gaza, 49% in the West Bank) chose “armed struggle” as the most effective means of ending the “Israeli occupation” and building an independent Palestinian state. That percentage was down by 2 points since the last survey. A total of 21% support negotiations while 22% chose “popular resistance.”

The poll surveyed 1,270 Palestinians face-to-face in 127 random locations between June 7 and 11 with a 3% margin of error. It was conducted after Israel celebrated its 75th year of independence.

Two-thirds (66%) of Palestinians surveyed do not believe that Israel will survive to celebrate its 100th anniversary. When asked if Palestinians will be able to “regain Palestine and repatriate the refugees,” a bare majority of 51% answered in the affirmative.

Support for a two-state solution stands at 28% while 70% of respondents oppose the idea.

EDITOR’S COMMENT: Imagine one day the Israelis implement a total land, sea, and air blockade plus intense military action. What will happen? Will Hamas and PIJ save all those who voted against peace and stability in the region? To fight for your country is noble and desirable. But to fight without the slightest possibility to win is not good (this is the most neutral word chosen).

Break the Chain: Manifestos, Lone Wolf Terrorism, and the Nashville Shooting

By **Manfredi Pozzoli**

Source: <https://gnet-research.org/2023/06/19/break-the-chain-manifestos-lone-wolf-terrorism-and-the-nashville-shooting/>

June 19 – In March 2023, six people were killed in a shooting at a Nashville elementary school. Three of the victims were children. The perpetrator, who was equipped with three firearms, was killed by police officers. In addition to covering the tragedy of the attack, news reports focused on two parallel elements: an unpublished ‘manifesto’ found by authorities at the shooter’s residence after the event and the identity of the attacker.

There were reports by the media that the shooter had left a document, possibly a manifesto, for authorities to find. While the actual content of the document remains unknown, other journalists later referred to the document as a [suicide note](#). This description seems to have been echoed by the shooter in a [private text](#)



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[exchange](#) on Instagram shortly before the attack – and as having been part of a broader collection of documents, including maps of the school and detailed plans of action. Yet, the use of the term manifesto immediately fuelled comparisons of the Nashville shooter with other lone attackers, like the Buffalo and Christchurch attackers.



On 28 April, Tennessee Governor Bill Lee announced that the manifesto written by the shooter [was set to be released “very soon”](#), after undergoing a process of internal review. Considering the nature of the material possibly contained within the document, and the chance of it perpetrating further harm to people and groups uninvolved in the incident, this decision appears paradoxical, if not actively counterproductive for countering extremism. A court hearing on 8 June saw the parents of the shooter request that [ownership of the document be transferred to the victims’ relatives](#) – who oppose its release. Yet, with the police and courts still formally responsible for the documents, the writings’ fate remains, as of now, uncertain.

After the shooting, Tennessee authorities quickly disclosed that the shooter was a [28-year-old transgender former student](#) of the school. The identification of the shooter as trans caused a significant backlash on both traditional and digital media, with sharp increases in transphobic rhetoric. Prominent far-right figures, including Republican Congresswoman Marjorie Taylor Greene, [linked the attack to an \(unidentified\) underground, far-left “trans-terrorism” and “Antifa” network](#).

This Insight provides an overview of the importance of manifestos to single-actor attacks and the risks associated with the publication of any material written by the Nashville shooter. In particular, this Insight highlights the risk to the LGBTQ community in both the narratives around the attacker’s gender identity and the potential for targeted violence if the manifesto is released.

Lone Wolf Terrorists and the Importance of Manifestos

Manifestos have become increasingly common in cases of lone-attacker terrorism. Perpetrators of widely different political persuasions – from [incels](#) to [white supremacists](#) – often use social media to share them with a broad, decentralised audience. The medium of the manifesto, often copied and pasted in its content, almost formulaic in its language, works in the same way that *memes* do. They provide transmissible templates and compress various symbols together, but nevertheless need to be decoded, as the injection of irony covers the intended message, preventing outsiders (*normies*) from understanding it. Like memes, manifestos shift between different registers, superimposing layers of irony



and serious material. Moreover, manifestos flatten violence so as to render it manageable, both for the purposes of sharing it with possible sympathisers and network members and for [normalising it](#) to the wider public.

Broadly speaking, manifestos contain certain basic elements: an (ideological) justification for the attack; an autobiographical profile of the attacker, including an overview of the process of self-radicalisation; an element of political theory, or even a ‘teleology’ of violence, basically explaining the shooter’s assessment of their actions’ possible socio-political consequences, [with common themes such as martyrdom and dehumanisation of a specific enemy](#). Other elements may include a set of logistical instructions directed at assisting possible ‘copycats’ ([as in the case of the Buffalo shooter](#), whose manifesto catalogued and reviewed hundreds of items of military and combat equipment, from ammunition to gloves), and miscellaneous visual elements.

There can also be an aesthetic code to manifestos. Most manifestos speak to a predominantly Western-based, internet-literate (mostly English-speaking), young adult audience, and often to specific online subcultures. In many cases, they share symbols, terms, and even visual elements with one another. The Bratislava attacker wrote his manifesto in [English rather than his native language](#) and sought to insert himself directly into the role occupied by previous terrorists. In the attacker’s view, he joined [a long line of ‘Saints’](#). This last concept derives from an extremist Telegram network, referred to as ‘Terrorgram’, which praised and ‘beatified’ previous far-right militant accelerationist terrorists.

Although notable examples of pre-2019 terrorist manifestos exist, including the [writings of the Unabomber](#) or [those of the perpetrator of the 2011 Oslo attacks](#), the manifesto compiled by the Christchurch mosque shooter can be considered a kind of model. The Bratislava attacker derived its structure from its Q&A format, while [ICCT reported](#) how the Buffalo shooter directly plagiarised the Christchurch manifesto in multiple points. The 2019 Poway Synagogue shooter launched his attacks only one month after the mosque shooting and [quoted the Christchurch manifesto as an inspiration](#) in his own writings.

Founding Documents and Mosaics: Manifestos and Violent Communities

In [my last GNET Insight](#), I wrote that the media created by lone actors are an integral and fundamental meaning-conferring part of the violence they commit, and represents the rationale behind their actions. This is demonstrated by their media’s mosaic-like nature: manifestos, point of view (POV) style attack videos, or tweets generated by lone actors often combine unrelated cultural material, creating a complex mix of symbols often imbued with irony.

But these mosaics are not just ironic. Engaging with, comprehending, and potentially reproducing them means aiding the repetition of violence, powered by social media and algorithms. Lone attackers use the reproduction of mediated violence to amplify its resonance, literally multiplying its reality endlessly. This compensates for their lack of a meaningful strategic apparatus and outlook: unlike traditional terrorist organisations, lone-actor terrorists become combatants *only in the moment of their attacks*. Because of this, the media adopts the role of an accomplice, carrying their violence – crystallised into specific audio-visual artefacts – endlessly into the future.

For the communities that share them and their ideas, manifestos become like scriptures alongside other extremist writings. A handful of aphorisms from terrorists have become extremist mantras, often even breaking into the mainstream. The Unabomber’s manifesto’s opening line “*The industrial revolution and its consequences have been a disaster for the human race*” has become a meme independent of its original context. Meanwhile, the Terrorgram network portrayed some extremists as ‘Saints’ and ‘evangelists’. For example, [one of the images shared on the network](#) featured the Christchurch shooter as a Saint, holding his manifesto as if it were holy scripture.

The Nashville Manifesto Should Not Be Published

No clear date has yet been set for the publication of the Nashville shooter’s manifesto, and [a recent tweet](#) by the Nashville Police Department indicates a delay in the release process due to “pending litigation”. It is likely that the document written by the Nashville shooter will be made available to the public. This probable outcome, which is motivated by pressures from the Republican Party and right-wing organisations, entails a series of dangers, both for private individuals and at-risk minority groups. Moreover, if anything, the publication of the document is likely to *increase*, rather than decrease, the risk of future lone-actor attacks.

If the document resembles a suicide note, its release is likely to needlessly publicise sensitive elements and episodes related to the shooter’s private life. This, in turn, might cause additional harm to the perpetrator’s family members who, as with other similar cases, [appear to be extraneous to the radicalisation process and the actual carrying out of the attack](#). Publishing the document might increase these individuals’ risk of being doxed, becoming the target of online abuse, and even physical violence, as well as having adverse financial impacts in terms of job and housing security.

While it is important to note the shooter’s choice not to release the document online, as done by previous attackers, and instead leave a single copy at home to be found by the police, lends credibility to the ‘suicide note’ view, the alternative presents even more problems. If the document does resemble a manifesto,



similar to the ones written by the Buffalo, Isla Vista, or Oslo shooters, or it states that the attack was a deliberate anti-Christian act, [as suggested by prominent right-wing outlets](#), its publication is still likely to cause harm to innocent people.

At a moment of growing online and offline abuse being directed at the LGBTQ community and trans people in particular – often coming from decentralised, extremist, online-based networks – further exacerbating the discourse surrounding these minorities is a careless and almost actively violent decision, which should be avoided by policymakers. Numerous media outlets have already [reported an increase in transphobic violence](#), and in the [spread of transphobic, homophobic, and misogynist material online](#) by far-right groups in the aftermath of the attack. In a worst-case scenario, the acceleration of this process might favour the likelihood of retaliatory attacks targeting the LGBTQ community.

Finally, the publication of the manifesto is likely to increase the risks of copycat attacks following the Nashville shooting. As noted previously, manifestos play an important role in inspiring other attacks. Rather than decrease the risk of further violence, releasing the document might turn the Nashville attacker into a 'Saint' for future extremist sub-cultures.

Releasing the document written by the Nashville shooter is a dangerous decision, which, if implemented, risks increasing violence towards individuals unrelated to the attack. It also does not contribute to the fight against lone wolf terrorism, and instead might even hinder it by encouraging further cycles of stochastic violence. Authorities should, when confronted with material of extremist nature and authorship, which is *directly* linked to these types of attacks, seek to halt its spread, and, if possible, prevent it altogether. In the words of the lone attackers themselves, the release of their media online is precisely what gives *meaning* to their actions, by firmly ensuring the endless reproduction of their violence. Stopping this chain of repetition outweighs the negligible (if any) benefits of allowing disturbing and highly upsetting material to be made accessible to the public.

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Counterterrorism Experts Say **Africa** Is World's Terrorism Hot Spot With Half of 2022's Victims

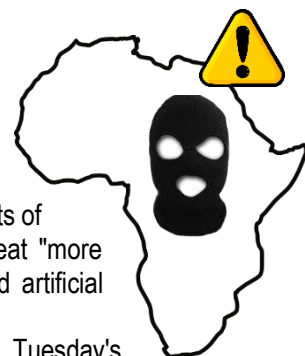
Source: <https://www.voanews.com/a/counterterrorism-experts-say-africa-is-world-s-terrorism-hot-spot-with-half-of-2022-s-victims-7146176.html>

June 21 – Counterterrorism experts said Tuesday that Africa is now the world's terrorism hot spot, with half of the victims killed last year in sub-Saharan Africa, though al-Qaida and Islamic State affiliates remain widespread, persistent and active elsewhere around the globe. Interpol, the international criminal police agency, also reported during a panel discussion at the U.N. that terrorism linked to extreme right-wing ideology increased an estimated 50-fold over the past decade, particularly in Europe, North America and parts of the Asia-Pacific. The experts see other trends: Deteriorating global security is making the terrorism threat "more complex and decentralized." Extremists are increasingly using sophisticated technology, and drones and artificial intelligence have opened new ways to plan and carry out attacks.

The United Nations this week is hosting its third high-level conference of heads of counterterrorism agencies. Tuesday's panel on assessing current and emerging terrorist trends and threats brought together experts from the U.N., Interpol, Russia, the United States and Qatar, and Google's senior manager for strategic intelligence. The overall theme for the week is addressing terrorism through reinvigorated international cooperation. U.N. Secretary-General Antonio Guterres said during Monday's opening session the key is to unite not only in foiling attacks but also critically to focus on preventing terrorism by tackling poverty, discrimination, poor infrastructure, gross human rights violations and other underlying drivers.

Africa 'key battleground'

At Tuesday's session, it was Africa that took the spotlight. "Africa has emerged as the key battleground for terrorism, with a major increase in the number of active groups operating on the continent," U.N. Assistant Secretary-General Khaled Khiari said, noting that local political, economic and social "fractures," porous borders, and "identity-based mobilization" had fueled the emergence of al-Qaida and the Islamic State group, also known as ISIS. Several areas of the continent, from Burkina Faso and the Sahel and more broadly to Chad and Sudan, still face the consequences of the flow of weapons and foreign fighters from Libya, Khiari said. Oil-rich Libya plunged



into chaos following the NATO-backed uprising that toppled and killed longtime dictator Moammar Gadhafi in 2011. After the Islamic State's self-styled caliphate was defeated in Iraq in 2017, many of its foreign fighters fled to the North African nation. Colonel General Igor Sirotkin, deputy director of Russia's Federal Security Service and head of its National Anti-Terrorism Committee, told the meeting that West Africa, especially the Maghreb and the Sahel, "are becoming the epicenter of the Islamist terrorist threat, with the armed terrorist groups expanding their influence, and we see the danger of ISIS being reincarnated as an African caliphate." Qatar's special envoy for counterterrorism, Mutiaq Al-Qahtani, who said half the victims of terrorist acts last year were in sub-Saharan Africa, called for counterterrorism efforts to focus on the continent. Justin Hustwit, the coordinator of experts monitoring U.N. sanctions against the Islamic State and al-Qaida, said the situation in West Africa continues to deteriorate and IS "seems to be trying to position itself as a political actor."

He said IS in the greater Sahara is taking advantage of the lack of counterterrorism operations, especially in the tri-border area of Burkina Faso, Mali and Niger, and there are "growing concerns" about IS and al-Qaida taking advantage of any opportunity in Congo.

'Aftershocks' from wars

Elsewhere, the U.N.'s Khiari said the Middle East also continues to suffer "aftershocks" from the wars in Iraq, Syria and Yemen. Interpol's counterterrorism director, Gregory Hinds, said al-Qaida- and IS-related groups continue to inspire and carry out attacks in Iraq, Syria, Afghanistan, North America, Europe "and now across Africa and Asia at alarming pace."

Hinds said the 50-fold increase in terrorism linked to extreme right-wing ideology "is being influenced by global events and global agenda." Secretary-General Guterres also said "neo-Nazi and white supremacist movements are fast becoming the primary internal security threats in a number of countries."

Number of conflicts growing

On the significant deterioration of global security in the last few years, the U.N.'s Khiari said the number of conflicts globally is on the rise again after two decades of consistent decline, and their nature has changed.

"Civil wars that start off locally are more likely to become internationalized, and conflict parties are increasingly fragmented," he said. "Civil wars aggravate grievances and foment regional international instabilities creating a fertile ground for non-state armed groups, including terrorist groups, to proliferate." On a more positive note, Gregory LoGerfo, the U.S. State Department's deputy coordinator for counterterrorism, said IS has not only been defeated in Iraq and Syria but its leadership has been "taken out or captured," large-scale attacks have been prevented, and billions have been invested in stabilizing the region.

"But for all of our progress, we're not done yet," he said, expressing concern at increasingly frequent attacks by al-Qaida affiliates and expanding IS branches that are "ravaging" West Africa. The U.N.'s Hustwit echoed that Daesh's leadership has suffered serious attrition, adding that "the group's resources are depleting, and they are very focused on revenue generation."

Tobias Peyer, Google's senior manager for strategic intelligence who formerly worked for the U.N. Office of Counter-Terrorism, said the company bans content produced by or supporting designated terrorist organizations, and is committed to fighting "the hatred and extremism that leads to terrorist violence." But he said bad actors, such as extremist groups, "continue to become more savvy in evading detection," citing as examples their use of coded communications, complex narratives and conspiracy theories, and their modifications of existing popular computer games. To counter these efforts, he said Google relies on expertise in local markets, "advanced AI-driven visual matching technologies," special detection technologies, and other measures.

Evaluation Approaches for the Protection of Venues and Public Spaces from Terrorism

Source: <https://www.homelandsecuritynewswire.com/dr20230622-evaluation-approaches-for-the-protection-of-venues-and-public-spaces-from-terrorism>

June 22 – In recent years, governments across the world have included legislation and published guidance material on how to mitigate the impact of terrorism on venues and public spaces. Known as Protective Security this pillar of counterterrorism comprises physical security, personnel security, and cyber security.

In 2023, the UK brought forward a draft Terrorism (Protection of Premises) Bill – a legal responsibility for owners and operators of venues and public spaces to take steps to reduce the threat to the public from terrorist attacks. As a result, there is a growing need to understand how protective security can be co-created effectively and efficiently and – more fundamentally – what data should be collected to gain a better picture of whether and how the intervention measures have 'worked' in terms of both delivery and uptake.



A forthcoming report from [CREST](#) is part of a project which will develop a new methodological, evaluative framework for understanding and evaluating the effectiveness and effects of policies, methods and approaches designed to protect venues and public spaces including application to the Protect Duty.

Evaluation Challenges in the Field of Terrorism Including for Protective Security

1. The lack of a common, globally accepted definition of terrorism and violent extremism presents a clear limitation in the design and targeting of interventions. Given the diversity of focus areas, confused or contested definitions of terrorism, and congruently vague policy objectives, those involved in counter terrorism initiatives often find it hard to formulate indicators of success that relate concrete measures to impact on beneficiaries. Whilst output level indicators are relatively easy to identify, outcome and impact level indicators are much harder. The resulting tendency to rely on output level indicators alone is insufficient if we are trying to understand effectiveness.

2. Terrorist decision-making when carrying out or preparing attacks is poorly understood, as is the effectiveness of deterrence by denial, an approach that seeks to demonstrate the low likelihood that an attack will succeed. To some authors, it is ineffectual to view effectiveness in CT interventions in terms of the lowered frequency or number of terrorist attacks, the number of plots disrupted, or the degree of lethality caused by attacks, because a terrorist adversary might view success differently. Certain terrorist groups may benefit even if an attack fails: foiled attempts attract publicity, cause fear within target audiences, and demonstrate groups are active.

3. The challenge of ‘measuring a negative’ is one of the key challenges in protective security, as with the wider CT field. The need is to evaluate an intervention’s impact in terms of what it prevented (i.e., estimating what would have happened in the absence of the intervention).

4. Attributing changes to a particular intervention is challenging in this field because projects are often part of multi-faceted initiatives, containing a variety of measures. Given that the intended outcome of any CT intervention tends to be that nothing happens, proving that this was the case because of the intervention itself and that the outcome would have been different in the absence of the intervention is difficult in practice. Given the infrequency of terrorist attacks, it is important that counter terrorism evaluations do not restrict themselves to this requirement.

5. The evidence base for protective security programs is shallow with efforts to evaluate the effectiveness and impact of these activities limited. In the UK, a number of guidance documents focused on Crowded spaces do not include steps on monitoring effectiveness or evaluating impact. Flagship protective security projects, such as Project Griffin, Project Argus or Project Servator are insufficiently evaluated.

6. Little is known about the true cost of counterterrorism or the potential return on investment. It is therefore almost impossible to ascertain whether the measures adopted are “performing well” or are “effective” in countering and mitigating the threat, risk, and harm of terrorism, unless an attack occurs. In terms of impact, the literature highlights it is important to consider the concept of proportionality. However, the empirical evidence tends to be limited and contradictory. To fully understand whether a measure is proportionate requires an understanding of the actual risk and the perception of it. More broadly, it is important to plan for unintended consequences of protective security measures, such as the over-securitization of spaces, visible measures that don’t blend into the environment, and unintended vulnerability where protective security has not been considered holistically. This may then increase the threat of terrorism rather than to manage, mitigate, or reduce it.

Potential Ways to Mitigate these Challenges

An effective evaluation process must account for what is considered **success**, as well as what are the differences between measuring **effectiveness** of the program itself versus the **impact** of the program on levels of security. Evaluation needs to take place at different levels.

1. Success: The review indicates the importance of having a comprehensive theory of change in place for the Protect Duty itself. It is important to be clear about what the duty intends to do, why it is doing it and to outline the intended outputs, outcomes and impact level change that is anticipated. From our (albeit rudimentary) understanding of what the Protect Duty will cover, we assess that the primary focus will be on two areas.

- Building, through training and awareness raising, the understanding, knowledge and capacity of staff employed in public venues (including sports and entertainment venues, tourist attractions and shopping centers), large organizations that operate in venues and public spaces, and public spaces, such as parks, bridges or beaches.
- The implementation of basic physical measures to ‘strengthen’ physical assets.



In this reading, issues excluded include public awareness campaigns around threat identification and reporting and activities and measures to protect information security.

2. Effectiveness: The review indicates that there are multiple approaches to measuring effectiveness of programming. Measurement of effectiveness is closely linked to the efficacy of monitoring processes, which is dependent on clearly defining indicators of success or positive change and identifying effective data gathering tools for the different contexts of protective security.

Measuring the number or scale of terrorist incidents is unlikely to be a helpful indicator of effectiveness in this project. Measures of success may be adapted to include proxy measures such as reported concerns about a potential attack or suspicious behavior or thwarted attempts instead of actual terrorist incidents.

Indicators related to the project goals could also be used – for example, based around risk and vulnerability frameworks. A risk management approach could draw upon the existence of risk or vulnerability assessments, which are more common in this field. Indicators included in the risk assessment could form a checklist, which can be measured at the outset to form a baseline that can be monitored annually to measure future progress. If implemented sufficiently, a process evaluation could take place and a certain level of effectiveness could be pragmatically assumed. A more comprehensive approach could assume a risk-based cost-benefit approach, assessing overall risk measured by the degree of threat, the vulnerability of a target including the expected cost to protect it, and the consequences in terms of loss of attacking the target. A risk management approach could also distinguish between an attack's primary impact in terms of fatalities and injuries, property damage and economic disruption, and secondary loss in terms of political, social, economic and legal costs.

Measures of effectiveness could also include attitudinal or behavioral change indicators resulting from activities implemented, for example, the uptake of training and learning (staff understanding of security and procedures, for example), the dissemination of learning etc., the attitudes of staff around security and safety matters.

3. Impact: In the P/CVE field, a 'contribution analysis' is often used to demonstrate impact. This sets out a narrative about why it is reasonable to infer that the intervention(s) contributed to the observed results. In inferring the contribution, attention is paid to critically assessing and identifying whether the program logic is strong or weak and if the observed change was more likely to have been caused by the intervention, or by an external factor, or by a combination. Emphasis is placed on demonstrating how the project has contributed to the outcomes, rather than on trying to attribute outcomes to individual task areas or activities. The feasibility of this approach in the protective field should be discussed during the consultation phase of this project.

Ultimately, to demonstrate impact there are three levels of engagement to consider:

1. those who are going to be implementing the program,
2. those who are going to be impacted by the program
3. those who are responsible for success of the Duty.

Opportunities to evaluate impact of the forthcoming Protect Duty at the national level should be considered during consultations. The same legal framework will be rolled out nationally and can therefore generate national level data (e.g., social media analytics, content analysis, suspicious activity reports, etc.) and monitoring over time, which allows for an impact evaluation. The responsibility for gathering data and conducting impact level evaluations would rest with national level authorities, such as the Home Office or the NPST. An intervention time series analysis (ITSA) methodology could also be used to demonstrate the impact of protective CT policy change over time. Since terrorist attacks are relatively rare, impact could be measured by a proxy indicator, such as crime figures in selected areas before and after the implementation of the duty. This methodology has previously been applied by the City of London Police and has been proposed in relation to Project Servator, which is an aspect that could be explored in the consultation.

Afghanistan Terrorism Report – May 2023

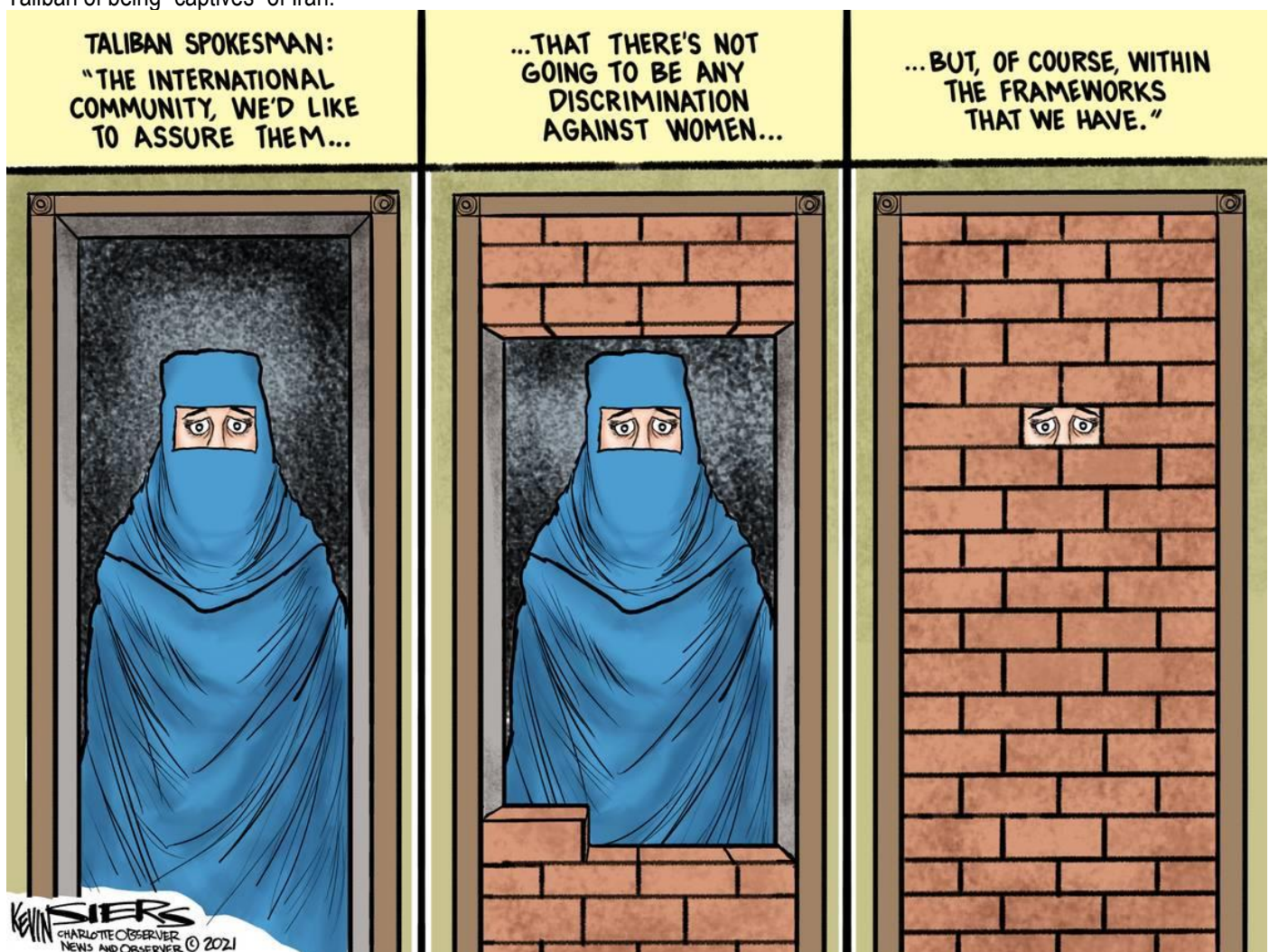
Source: <https://www.counterextremism.com/blog/afghanistan-terrorism-report-may-2023>

In May, the general trend with ISIS-K-linked propaganda outlets no longer reporting on their attacks in Afghanistan unless they are of significant size or symbolic importance continued. This pattern was already visible during the past [few months](#). Interestingly, the ISIS-linked Al-Naba Newsletter did not feature attack reports by ISIS-K between May 4 and 25. External observers also did [not note significant ISIS-K](#) terror operations in the country in May. This parallels a drop in activities by [ISIS-core in Syria](#) in the same month. In both areas, ISIS structures have been under sustained pressure and suffered some [leadership losses](#). However, it would be premature to expect that this reduced number of ISIS-K terror operations in recent months indicates that the group's ability has been sustainably diminished. The latest [United Nations](#)



[Monitoring Team](#) report assesses ISIS-K resources to be substantial. Furthermore, the group's operational capabilities had already been significantly reduced prior to the August 2021 takeover of power by the Taliban, only for it to recover quickly. In other regions, such as West Africa, [ISIS affiliates](#) continue to operate with continued intensity.

However, despite this clear slowdown in operational tempo, pro-ISIS-K propaganda outlets continued their ideological campaign against the Taliban regime, continuously criticizing its actions domestically and internationally. As expected, the dispute between the Taliban regime and Iran concerning the division of water from the Helmand River featured in pro-ISIS-K online propaganda in May. The water supply that the river affords both to Afghanistan and Iran is crucial for both countries. To a significant extent, the Iranian [provinces of Sistan and Baluchistan](#) depends on the river's water supply. Several Afghan provinces, including Helmand province with its agricultural area, are equally [supplied](#) by the river as a primary source of fresh water. Since 1973, a [treaty](#) between Iran and Afghanistan regulates the water distribution from the river. However, in recent years, Afghanistan constructed a range of [dams](#), significantly reducing the water flow towards Iran. This led to frequent protests from the Iranian side. Although in 2022 and the beginning of 2023, [discussions](#) between Iranian officials and the Taliban seemed to have made headway in resolving this dispute. Both sides [clashed](#) at the border in May and at the beginning of June. As expected, pro-ISIS-K propaganda posts accused the Taliban of being "captives" of Iran.



Another foreign policy issue that pro-ISIS-K propaganda highlighted is the developing relationship between the Taliban regime and China. In several propaganda posts, pro-ISIS outlets argue that the Taliban are signing agreements with China even though China does not recognize them as the legitimate government. Indeed in May, several potentially significant new agreements were signed. Most prominently, the Taliban regime, Pakistan, and China agreed to extend the Chinese [Belt and Road Initiative](#) to Afghanistan. Furthermore, since the beginning of 2023, agreements were penned between several Chinese companies and the Taliban regime concerning [rare earth](#) minerals and [oil](#). However, given the near complete lack of infrastructure in Afghanistan, it remains to be seen when and how these



agreements translate into tangible economic development. Pro-ISIS-K propaganda also highlighted the ongoing oppression of the [Uyghur community](#) in China. In its May issue, pro-ISIS Voice of Khorasan Web Magazine devoted an article to the persecution of the Uyghurs in an apparent attempt to criticize the ongoing cooperation of the Taliban regime with China.

Interestingly, although pro-ISIS-K propaganda continuously highlights internal Taliban disagreements and in May focused on criticizing the close relationship between the leadership of the Haqqani Network and Pakistan, pro-ISIS-K outlets did not comment on the replacement of the interim prime minister of the Taliban regime, [Mullah Mohammad Hassan Akhund](#). Hassan Akhund, one of the movement's founders, served in various positions in the previous Taliban regime until 2001 and was a member of the [Taliban leadership structure](#) (Quetta Shura) until 2021. Due to his prominence within the movement, Hassan Akhund was sanctioned by the [United Nations Security Council](#) in January 2001. He had been appointed interim prime minister in [September 2021](#). The Taliban regime claims that Akhund is only [temporarily stepping down](#) due to [health issues](#). However, observers have questioned this claim and have spoken of a [replacement](#). The new interim prime minister of the Taliban regime is [Abdul Kabir Mohammad Jan](#), who currently also retains his position as the deputy prime minister for political affairs of the Taliban regime. He was sanctioned by the [United Nations Security Council](#) on the same day in 2001 as Hassan Akhund. After the fall of the Taliban regime in 2001, Abdul Kabir Mohammad Jan remained part of the Taliban leadership structure. In 2007 when he was responsible for Taliban operations in Eastern Afghanistan, a [suicide attack](#) killed more than 70 Afghans, including children, during a visit to a factory in Baghlan by a parliamentary delegation. Since the return to power by the Taliban in 2021, he has been involved in talks between the [Taliban and the United States](#) in Doha. It remains to be seen if the hopes expressed by some observers that he is a more [pragmatic Taliban leader](#) open to a dialogue with the international community will lead to any change in the hardline decision-making of the regime. His role in the failed [intra-Afghan talks](#) following the U.S.-Taliban Doha Agreement does not bode particularly well.

Finally, the clashes between ISIS and al-Qaeda affiliates in West Africa have continued to be featured in Afghanistan-related ISIS-linked propaganda outlets. In May, the pro-ISIS Voice of Khorasan web magazine devoted a highly critical article on the operations of al-Qaeda in Africa. The article claimed that al-Qaeda in Africa is only interested in expanding its power and does not work towards establishing a true Islamic state. This sharp criticism is a reaction to a string of significant attacks of the Islamic State Greater Sahara (ISGS) targeting forces of the al-Qaeda-affiliated coalition [Jama'at Nusrat al-Islam wal Muslimeen \(JNIM\)](#), which occurred in [Mali, Burkina Faso, and Niger](#) throughout May.

Muslim shooter = entire religion guilty
Black shooter = entire race guilty
White shooter = mentally troubled lone wolf



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CBRN Response Capabilities and Identified Gaps

By Kenneth Bell

Source: <https://www.domesticpreparedness.com/resilience/cbrn-response-capabilities-and-identified-gaps/>

May 24 – Chemical, biological, radiological, and nuclear (CBRN) response has always been a challenge in identifying and quantifying a broad spectrum of organic and synthesized compounds that were once limited to laboratory analysis and research. Now, first responders have the luxury of instant field identification and classification of substances that were once a mystery. Previous field assays and test strips have been replaced by more advanced hand-held instrumentation and tools that are attached to a reach-back capacity with the power of remotely located science and research. However, one common gap remains. Comprehensive answers are still needed as to the proper decontamination of instruments and the people who use them.

When responding to CBRN calls or events, the operational layout and setup for most civilian and military entry teams are similar. Upon arrival at the scene, establish command and control, situational awareness, and personnel or robot deployment to identify and quantify the problem. Following best practices when working at or near a hazardous materials (hazmat) environment, the CBRN setup and entry process can be mustered and established in about an hour. However, what happens after that first entry is the most critical part of the response process – keeping the bad stuff contained. The entry team must understand what to do if it finds that the containment has breached into the community.

Despite advancements in substance identification and classification, response gaps still exist in decontamination of instruments and the people who use them.

More Than Wet and Dry Decontamination

Decontamination practices, products, and techniques have come a long way. Recent advancements in technology and science have led to the development of new methods of CBRN decontamination. These methods offer several advantages over traditional methods, including greater speed, efficiency, and safety. Some of these new methods include:

- **Electrochemical Decontamination** – This method uses electric current and a specially designed electrode to generate a reactive species that breaks down and neutralizes hazardous materials on contact. The process is highly effective in removing chemical contaminants. In addition, this method can be applied to **surfaces and equipment** of various shapes and sizes, making it an ideal choice for large-scale projects.
- **Photocatalytic Decontamination** – This method uses light energy and a photocatalyst such as titanium dioxide that generates reactive species to break down and neutralize hazardous materials when activated by ultraviolet light. The process is highly effective in removing chemical and biological contaminants. This method is also more environmentally friendly, does not require harmful chemicals like bleach water, and can be applied to **various surfaces**, including concrete, metal, and glass.
- **Plasma Decontamination** – This method uses a plasma generator to create plasma (a highly reactive gas) that breaks down and neutralizes hazardous materials on contact. This process is highly effective in removing biological and chemical contaminants. This method is also more environmentally friendly, does not require harmful chemicals, and can be applied to **various surfaces**, including metal, glass, and plastic.
- **Nanotechnology-Based Decontamination** – This method uses nanoparticles that react with specific contaminants to break down and neutralize hazardous materials, which is highly effective for removing chemical and biological pollutants. Much faster than traditional chemical decontamination, this method can be applied to **various surfaces**, including concrete, metal, and glass.

Decontamination Teams at the Ready

There is no doubt that decontamination capabilities have advanced. So have detection and identification instruments and the abilities of hazmat entry teams, but the capacity of decontamination and deployment strategies have not kept pace. Currently, it is unknown exactly how many hazmat teams there are in the United States. What is known, is that hazmat response programs vary in size and capabilities depending on location and need. However, the National Fire Protection Association estimates that the United States has [almost 30,000](#) fire departments, and most of those have some hazmat response capability. Some of those were once heavily supported with federal homeland security grants [following the events of 2001](#). Many of those now compete for grant funding that is fractions of what was once available.

[Local hospitals](#), once funded with Public Health Emergency Preparedness dollars and outfitted with CBRN decontamination tools, now appear to be compartmentalized, trailered, or warehoused





without use. As a result, hospital decontamination teams are often a notation in a Joint Commission or policy binder in the charge nurse's office. While there was a significant boost of funding during the COVID-19 pandemic, current detached, stagnant, and often disjointed approaches demonstrate the overarching issue. Dependence on the [Strategic National Stockpile](#), designed to fill the gap in such events, appeared to be lackluster and, in most cases, dysfunctional.

Notwithstanding funding and supply chain issues, local hospitals, fire departments, and EMS agencies are destined to fight in the same way they train. Much like the military, training is typically designed around previous experience. Unfortunately, such an approach could be harmful to the responder should they encounter a chemical or radiological event while wearing the wrong personal protective equipment. The United States Environmental Protection Agency also has a [National Response Team](#) comprising representatives from 15 federal agencies, including the Department of Homeland Security–FEMA, the Department of Defense, and the Department of Transportation. The National Response Team is responsible for coordinating federal response efforts for hazmat incidents. Unfortunately, [access to these teams](#) at the local level has its own potential challenges. Depending on the locale, requests for assistance can be delayed due to processing delays through the regional and state channels. Additionally, issues regarding the federalization of the event versus local control may impact the response. The U.S. Department of Defense has its hazmat response teams, such as the Army [Technical Escort Unit](#) and the Navy's [Mobile Environmental Team](#), specifically trained to respond to CBRN materials. However, access to these teams is highly regulated and situational based on location, area of responsibility, and location. In addition to the larger federal agencies, there are currently 17 Chemical, Biological, Radiological, Nuclear, and Explosive Enhanced Response Force Package ([CERFP](#)) units in the United States, one for each of the 10 FEMA regions, as well as the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. Each CERFP comprises National Guard personnel from the Army and Air National Guard, who are specially trained and equipped to provide immediate assistance and support to local authorities during a CBRN incident. The CERFPs are part of the more extensive [Defense Support of Civil Authorities](#) mission. They deploy to an incident site to rapidly assess the situation, provide medical treatment and decontamination, and extract and evacuate casualties to a medical treatment facility. The response time is about 24 hours from deployment to full operational status.



Unfortunately, CBRN incidents typically occur without warning, and the exposure to the public can be exacerbated with every minute. Radiation exposure, for example, can be intensified up to four times its destructive energy with every step a responder or victim takes toward the often-invisible source. Local emergency responders are the first to arrive and mitigate these often-unseen hazards, but with diminishing funding opportunities, maintaining capacity is a challenge. However, local communities can still prepare for emergencies and disasters using an all-hazards approach.

Bridging the Gap

Before a structured activation, state and federal partners have several opportunities available to meet the challenge, which include but are not limited to the following:

- State Emergency Management Offices can usually provide access to free hazmat/WMD training that is often available at the state and national level, including hazmat technician level training in accordance with National Fire Protection Association and ProBoard Standards.
- The [National Association of State Fire Marshals](#) offers a Hazardous Materials Training Program, which provides training courses for emergency responders on various hazmat topics.
- The [National Fire Academy](#) offers free online courses on hazmat response through their online learning platform at the Emergency Management Institute.
- The [Federal Emergency Management Agency](#) (FEMA) offers various free online courses on hazmat response through their Emergency Management Institute.
- The [International Association of Fire Fighters](#) offers training programs for its members on various hazmat response topics, including hazmat technician training.
- The [International Association of Fire Chiefs](#) provides access to a wide array of international resources for responders in the transportation and industry sector.
- The [National Directorate Preparedness Consortium](#) is sponsored by the Department of Homeland Security/FEMA National Preparedness Directorate to identify, develop, test, and deliver training to state and local emergency responders.

Conclusion

Overall, while federal funding has diminished, some national programs are still available to fill gaps. Since all disasters begin and end locally, it is vital that local responders meet CBRN challenges by accessing these programs. It is through these training opportunities and experiences that techniques and technology like decontamination and instrumentation can continue to grow. While some federal assets exist to supplement local capabilities with CBRN events, program access, and interface could be delayed for effective response. It is vital that local communities examine their capabilities and capacity to prepare for the unexpected.

Kenneth Bell, CEM, serves as the Section Chief—Infrastructure and is a member of the Incident Response Task Force at the Texas Division of Emergency Management, where he oversees daily operations in preparation for disaster response and focuses on damage assessments and identification of impaired infrastructure with the goal of long-term restoration and recovery. He began his career in public safety in 1991, where he served as fire marshal/deputy emergency management coordinator for the City of San Marcos. From 2003 to 2016, Ken oversaw the Capital Area Council of Governments CBRNE Regional Response teams as the team commander for Hays County. He has served in several organizations, including the Capital Area Council of Government Homeland Security Task Force (since 2003), where he has held the position of chair, vice chair, and regional emergency response coordinator and was a member of the CBRNE Regional Response Teams, Long-Term Interoperable Communications Committee, Regional Emergency Support Education Teams (RESET), and Executive Committee. He has also served on the legislatively mandated Governors First Responder Advisory Committee, representing the local public safety responders, since its inception in 2003. Ken specializes in infrastructure protection, continuity of operations, and critical facility reconstitution. In addition, he is certified in fire, emergency medical services, and law enforcement, holding international qualifications as a health and safety officer.

PlumeSIM Wide-Area CBRNe / HazMat Training System

Source: <https://www.argonelectronics.com/plumesim-wide-area-cbrne/-/hazmat-training-system>

PlumeSIM® is a wide-area instrumented training system providing management of chemical and radiological simulators that respond to a wide variety of user defined threat scenarios in real time complete with powerful after-action reviews to ensure effective learning outcomes. PlumeSIM enables training of



multiple personnel, allowing instructors to select the parameters for the activation of simulation instruments (including the type of threat, release/delivery of single and multiple sources and a full range of environmental conditions.) Instructors can also record the actions of trainees from a single location.

Features of PlumeSIM:

- Portable and very quick to set up and use
- Planning mode: prepare exercises on a PC / Laptop without system hardware
- Simple, flexible scenario creation based upon single or multiple CWA, HazMat & radiological releases
- User-defined environmental conditions
- Real-time variation of plume due to wind direction changes
- GIS mapping support
- Perfect for counter terrorism exercises, nuclear emergency exercises
- Simulation of plumes, deposition and hot spots
- Table top classroom mode for pre-exercise familiarisation
- Modular system enables you to expand as and when budgets permit
- Real time trainee movement and instrument usage reporting, with recording for After Action Review
- Supports [M4 JCAD-SIM](#), [CAMSIM](#), [AP2C-SIM](#), [AP4C-SIM](#), [RDS200-SIM](#), [EPD-Mk2-SIM](#), [AN/PDR-77-VDR-2 / RDS100-SIM](#), and more.
- Radiological or chemical / HazMat only version available with future upgrade option

Planning Mode - the virtual radiation or chemical plume

Innovative system design permits the use of common file format map images and even 'home made' sketches of the proposed training area. Easy to use menus enable the instructor to quickly set and adjust the source type(s), quantity, and the location and nature of the release source, as well as the desired environmental conditions.

PlumeSIM® allows you to define a plume or hotspot based upon variety of specific substances, CW agents, radionuclides or compounds, and to implement different release characteristics including duration, direction, persistence and deposition. Exercise parameters can be saved for repeating defined scenarios with absolute fidelity.



Table-top mode for CBRNe / HazMat training

Using simple gamepad controllers trainees are able to move themselves as icons around an on-screen display of the training area. The virtual plume scenario is activated, and subsequent 'contact' with a simulated agent will result in the appropriate activation of their simulation instruments which are connected to the control base by a short range radio link. All student 'movement' is recorded in the session and can then be played back for analysis prior to departing for the field training area.

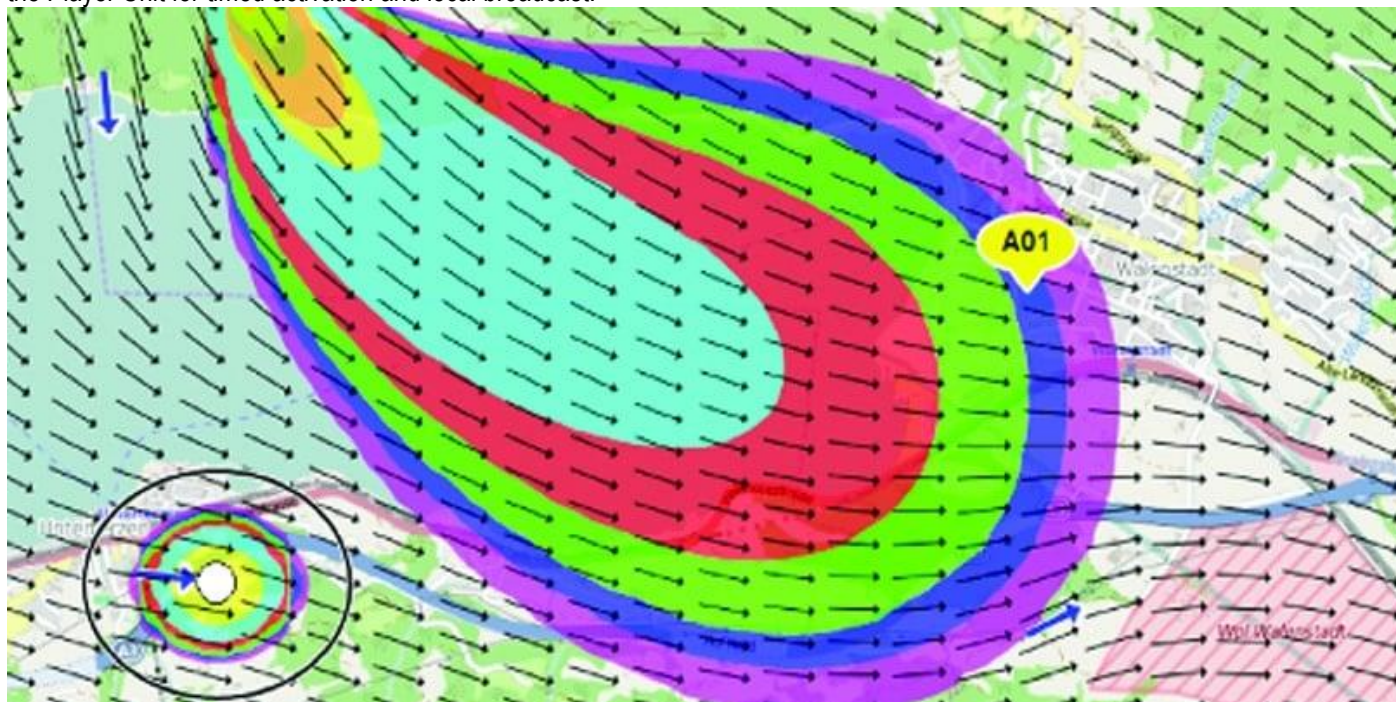
Field exercise mode for CBRNe / HazMat training

With the students deployed with GPS enabled Player Units to the desired external training area, the instructor can monitor their location on the control base map via a long range radio comms link in real time.

Once again the virtual plume scenario is activated and, providing the student is fielding the correct type of instrument for the nature of the simulated threat, has prepared the instrument properly, and the levels or concentration of simulated agent are sufficient to be recognised by the particular device, then the display



of that simulation instrument will indicate the appropriate response to any contact with a simulated source. Where environmental conditions inhibit the ability to obtain or maintain continuous long range radio communication, the selected scenario is pre-loaded on the Player Unit for timed activation and local broadcast.



Post-event exercise review

A full record of player movement and simulator activity is captured for correcting any equipment use errors at the end of the exercise, enabling you to maximise learning opportunities during debriefing. Exercise results can be forwarded to an independent moderator for response capability assessment and validation of contingency plans.

Saab Gamer and PlumeSIM

Argon has integrated PlumeSIM with Swedish military defence solutions provider Saab AB's Gamer to create a state-of-the-art CBRN Live Training system. Read more about the combined technologies and see a video of the systems in action by going to our [Saab Gamer interface page](#).

Steel Beasts and PlumeSIM

Argon and software developer eSim Games have collaborated to embed PlumeSIM in eSim's combined arms combat training system, Steel Beasts Pro.

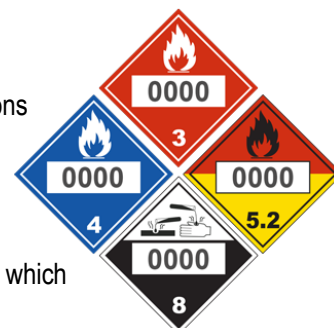
Army hazmat training: An overview of safety certifications

By Steven Pike (Argon Electronics CEO)

Source: <https://www.argonelectronics.com/blog/army-hazmat-training-an-overview-of-safety-certifications>

May 17 – As part of its national defense mission, the US military makes use of a wide range of hazardous substances. These can include petroleum products, chemicals, explosives and solvents - all of which can pose a physical risk if handled improperly.

In this blog post we explore the process by which substances are classified as hazardous and ways in which hands-on army hazmat training scenarios can enhance theoretical understanding of safe handling.



Classification of hazardous substances: the first step for effective army hazmat training

In the US, any substance that requires transportation, and that has the potential to pose a hazard (whether it be to public safety or to the environment), is required to adhere to hazmat regulations as set out by the [US Department of Transportation](#) (DOT) and the International Air Transport Association (IATA.)



A hazardous material can be defined as any item or chemical that poses either a health risk or a physical danger in the event of leaking, spillage, leaching, dumping or disposal into the environment.

Title 49, Section 172.101, of the Code of Federal Regulations (CFR) provides clear terms and definitions of materials that are denoted as posing a [hazmat risk](#). If an item isn't on the list, or if it is deemed to be in a sufficiently small reportable quantity, then it may not be classed as a hazard.

Chemicals that are classed as hazmat include:

- Carcinogenic, toxic, irritant or corrosive substances
- Combustible or flammable liquids
- Flammable solids, compressed gases, organic peroxides, explosives

Any chemical that releases fumes, gases, smoke, mist or dust in the course of its transport, handling or storage.

Before any military hazardous material can be shipped or moved, it must first be certified as being "safe to transport." This includes verifying all paperwork, packaging, labeling or marking of hazardous materials and following the appropriate procedure for the correct loading, unloading, receiving or forwarding of items.

Correct packaging and handling of identified HazMat substances

All substances that are deemed to be a hazmat risk must be correctly packaged, depending on the potential risk that they pose. Hazmat substances can typically be sorted into one of three [packing groups](#):

- 1) Packing Group I - indicating that there is a high degree of risk associated with the substance
- 2) Packing Group II - indicating that the item presents a moderate degree of danger
- 3) Packing Group III - indicating that the material is deemed to be hazardous but of low danger

Once a hazmat substance has been packaged it must then be clearly labeled for transport, depending on the hazard category into which it falls. The categories, which are clearly defined in the CFR regulations, cover everything from explosives, flammable gases and spontaneously combustible items to poisons, infectious substances, corrosives and radioactive materials.

In some cases too, an item may be classified as having both a primary hazard and one (or more) secondary hazards, which is governed by specific labelling and packaging rules.



An Overview of army hazmat training certifications

In the US, all branches within the Department of Defense (DOD) provide hazmat training to educate and certify relevant personnel in the safe storing, transport and handling of hazardous items.

In addition to key army personnel, any military employee whose duties involve the transportation or handling of hazmat substances will be required to complete certification training specific to their duties. Hazmat safety training typically comprises a combination of classroom-based and/or web-based learning and is required to be repeated in its entirety on a regular basis.

One example of certification provided by the US military is the [Ammo-67-DL HazMat Familiarization and Safety in Transportation](#) which provides an overview of essential hazmat safety including vehicle inspection, the Joint Hazard Classification System (JHCS), emergency response and the certifying of hazmat materials for safe transport.

In addition to army hazmat training, the US navy offers a similar variety of certifications in Hazardous Control and Management (HC&M) to all its enlisted navy personnel who are tasked with handling, storing, transporting or disposing of hazardous materials.

Ensuring effective army HazMat training outcomes

While there is no doubt that classroom and web-based training ticks the boxes in ensuring army personnel gain a theoretical understanding of the importance of hazmat safety - it's also important to ask the question "what happens in the event that something goes wrong?" And what army hazmat training procedures are in place to ensure the safety of personnel, the public and the environment in the event that hazmat substances are inadvertently (or perhaps even deliberately) released?



As we outlined in a recent blog post on realistic scenarios for effective [hazmat safety training](#), there is a strong argument for providing army personnel, and indeed anyone tasked with first response, with exposure to realistic and engaging [hands-on learning](#) experiences that prepare them for a variety of hazmat threats.

In this way, structured classroom teaching can be supported by access to [live-incident training](#) to ensure that teams are confident in the safe handling of hazardous substances and in the correct protocol to follow in the event of a release.



Special focus on United Arab Emirates and Saudi Arabia



300 evacuated from underground station after gas leak

Source: <https://londonnewsonline.co.uk/300-evacuated-from-underground-station-after-gas-leak/>

May 24 – Around 300 people were evacuated from a Tube station after a gas leak was reported.

Firefighters were called to a report of a **chemical substance leaking from a backpack** at North Greenwich Underground station, near The O2. About 300 people escaped from the station before firefighters arrived.

Four people were treated at the scene by London Ambulance Service crews, while the fire brigade worked to isolate the leak and make the scene safe. The brigade was called at around 5.50pm and the incident was over for firefighters by around 8.30pm.

Crews from East Greenwich, Poplar, Bethnal Green and Bexley fire stations attended the scene.

EDITOR'S COMMENT: A joke; fake news; fire service drill? Gas leak or liquid leak? Symptoms? In the station or in a car? No info available on the Internet.

Finding Unknown Chemical Threats

By Teemu Partanen

Source: <https://environics.fi/blog/finding-unknown-chemical-threats/>



May 08 – Since its launch in 2019, [ChemProX](#) became a well-known and reliable chemical vapor detector among many professionals and organizations, in both military and first responder fields.

Its [built-in training mode](#) and [multiple different wireless communication](#) features have been seen as valuable assets and enhancements, when comparing to other early warning detectors that rely on more traditional ways of delivering crucial information of the hazard situation. In addition to that, it is good to emphasize that the training aspect in detectors from older generations still relies heavily on expensive simulators and simulant chemicals.

All these new features have had a major impact on how [ChemProX](#) has been received by the end-users, and it has changed the way handheld early warning detectors can be utilized in different scenarios. However, despite all the novelties [ChemProX](#) has brought to market, its main purpose remains clear: to



give early warning when in presence of harmful chemical compounds, both CWAs and TICs/TIMs, as fast as possible and in low enough concentration levels so that the operators have time to protect themselves and to provide enough information, in order to classify the threat, and correct countermeasures can be prepared. This role in measurement chain [ChemProX](#) has been proven to fill very well.



[ChemProX](#) early warning detector's user interface showcasing a variety of situations in which the geo location and status information (including alarm level intensity) of each device involved in a group mission is shared across all operators.

Detecting Unknown Chemical Vapor Sources

But there is another application where [ChemProX](#) can be utilized, thanks to its unique aspiration IMS and orthogonal detection design. This is detecting unknown chemical vapor sources.

Chemical Detection Based on IMS Technology & Orthogonal Sensors

As mentioned earlier, [ChemProX](#)'s detection is based on aspiration IMS and orthogonal sensors. Aspiration, or in other words "open loop", means that the measured air is withdrawn continuously through the measurement path, from inlet to outlet. Therefore, **ChemProX measures 100% of the time it is turned on.**

[ChemProX](#) ionizes the sample air O₂ and N₂ molecules to create the so called reactant ions, that eventually form ion clusters with target chemicals. This ionization is handled by a Ni⁶³- source, which is radioactive but completely harmless to the user. Its activity is 90 MBq and it is exempted from regulatory control by IAEA, so it is a safe and reliable source for this purpose.

I mention the Ni⁶³ source, because it is one of the main reasons why [ChemProX](#) is so good at detecting unknown chemical threats compared to other detectors in its class. If we compare the ionization energy of [ChemProX](#)'s Ni⁶³ source to another well-known universal detection technology, PID (Photo Ionization Detector) we can form a scale of its potential. The maximum ionization energy for PIDs UV- lamp is 11,7eV. This means that PIDs only respond to chemicals that have ionization energy less than, or equal, to ionization to energy of the UV- lamp. This creates the limit for chemical compounds that can be caught with PID.

The averaged ionization energy of [ChemProX](#)'s Ni⁶³ source is 17 keV. That is 17000 eV and over 1000 times more than PIDs strongest UV- lamp. So, in practice, **this means that [ChemProX](#) has the potential to detect chemicals that cannot be ionized with PID at all.**



Orthogonal Detection Technology

Ionization is only the first part of the actual detection. When sample air is ionized, ion clusters are created and measured with IMS, there might be certain species of chemical or some chemical molecules that don't react with reactant ions and because of that are not detectable by IMS. But... do you remember the orthogonal detection design I mentioned earlier? This is where it shows its prowess. Orthogonal detection technology means that the detection is handled with more than one sensor. On top of the aspiration IMS, [ChemProX](#) has one metal oxide sensor (MOS) and 3 semiconductor sensors. Any chemical molecules that are not detectable with IMS are not completely lost, because these 4 orthogonal sensors have been selected to catch a wide range of chemicals, especially TICs and TIMs that are not visible with IMS. And all this happens in real time!

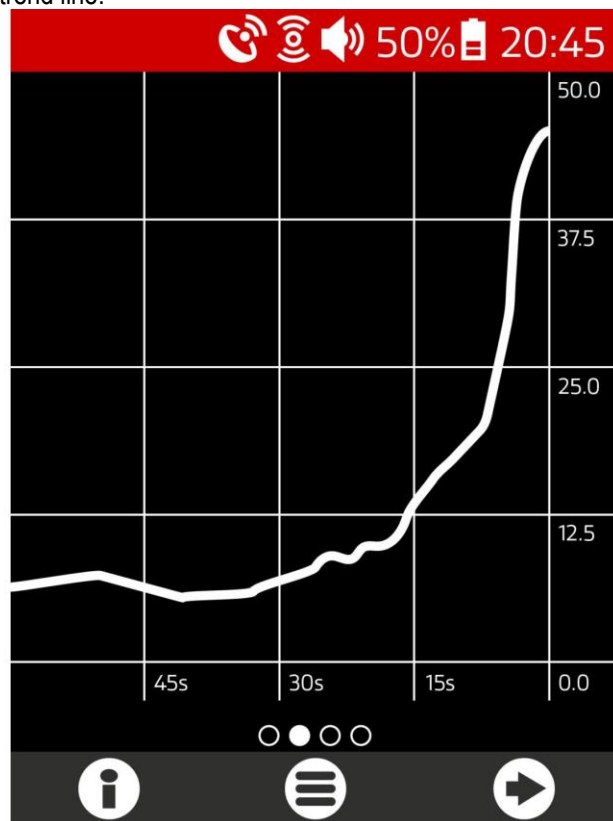
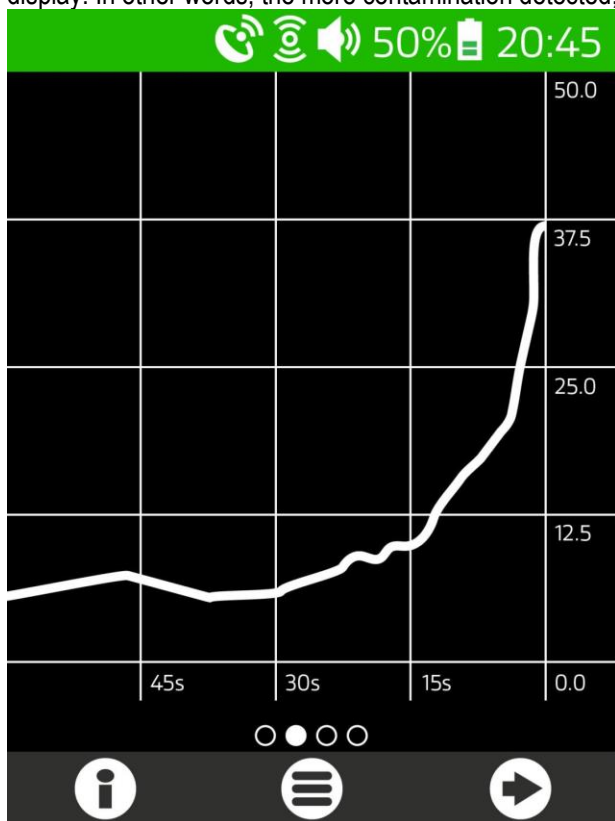
Designed for Field Chemical Detection

Currently, [ChemProX](#) is the only handheld chemical vapor detector on the market that is designed to work this way, since it was designed from the start for field usage and as an everyday tool for first responders, instead of being a miniaturized version of a laboratory instrument.

Chemical Threats Made Visible

All the above technical information would be just flexing if it's not taken into practice in a user-friendly way.

And for that [ChemProX](#) has yet another unique feature: **the trend line**. Because of the real time measurement made possible by aspiration technology, we can show real time response of all the sensors, IMS, MOS-sensor, and semiconductors, in graphical form. The trend line plot is placed on a graph that has time in X-axis and combined sensor response compared to background in Y-axis. Any deviation from the background will make the trend line go higher. The higher the deviation, the higher the trend line response on display. In other words, the more contamination detected, the higher the trend line.



The trend line is a graphical representation of the relative concentration of an unknown chemical. On the left, it is possible to see the concentration increasing even before reaching alarm triggering levels. On the right, the device is already alarming. The alarm is visible and audible.

Now let's get back to those weird symptoms or unusual smell in a place where there shouldn't be anything unusual. You enter the place with [ChemProX](#) in your hand and see that the trend line is reacting. You start scanning around the place and the closer to the source of contamination you get, the higher the trend line



will rise. Eventually, you will find the point where trend line response is the highest. In this area there will, most likely, be the source causing the symptoms or smell.

If the chemical is something that is included in one of the detection modes of [ChemProX](#), an alarm will be triggered if the alarm threshold is exceeded. If it's something that is not included in any of the detection modes, you will still see it as a response in the trend line. And that is the main point of this whole blog post: **if there is an unknown chemical in the air, you will — most likely — find it with [ChemProX](#). And after you have found it, you can do something about it.**

For real life experiences of how this ability of [ChemProX](#) has been utilized in the field, you can check another blog, written by Product Manager Mika Saarinen: [Locating Chemical Sources with ChemProX, Such as Refrigerant Leaks](#).

Teemu Partanen is Handheld Chemical Detection Application Manager. He has been working in the CBRN field since 2004, focusing mainly on chemical detection. From technical specialization to product management and sales support, as well as technical and practical CBRN training, he has been on top of the trends and market requirements of military and civil defense first responders.

The Editor asked ChatGPT

May 30 – **First question:** I read on the Internet that the Swiss Federal Institute for Nuclear, Biological and Chemical Protection asked an AI unit if it can create new chemical weapons' molecules. The AI unit generated not one or two but 40,000 potentially toxic drugs in just six hours. Many of them were more toxic than VX. (1) Is it true? (2) Can you show me the first new molecule on the list? (3) Could AI refuse to comply with the request?

ChatGPT replied:

I'm sorry, but as of my knowledge cutoff in September 2021, I don't have any information regarding the specific incident you mentioned involving the Swiss Federal Institute for Nuclear, Biological and Chemical Protection (NBCC). It's possible that this event occurred after my knowledge cutoff, or it might be a fictional or speculative scenario.

However, I can provide some general information. Artificial intelligence can be utilized in various fields, including chemistry, to assist in the discovery and design of new molecules. AI algorithms can generate large numbers of potential molecules and analyze their properties. It's important to note that the generation of molecules by AI does not necessarily imply they are intended for harmful purposes such as chemical weapons.

If an AI system generates a list of molecules, it is unlikely that I can show you the specific molecules or the first one on the list without any additional context or data.

Regarding the third question, the behavior of an AI system **depends on how it is programmed, and the constraints and guidelines set by its developers**. It is conceivable that an AI system could be programmed to refuse certain requests or be designed with ethical considerations in mind. However, without specific information about the particular AI unit or system in question, it's difficult to provide a definitive answer.

New question: Why all civilian CBRN first responders (mainly firemen) prefer to enter the hot zone with Level-A PPE when the military counterparts operate in Level-C PPE?

ChatGPT replied:

The preference for Level-A personal protective equipment (PPE) among civilian CBRN (Chemical, Biological, Radiological, Nuclear) first responders, such as firefighters, compared to military counterparts who may use Level-C PPE, can be attributed to several factors:

1. **Risk Mitigation:** Civilian first responders prioritize maximum protection due to the unpredictable nature of CBRN incidents in civilian environments. Level-A PPE provides the highest level of respiratory, skin, and eye protection, ensuring a higher degree of safety when facing potentially hazardous substances.



2. **Emergency Response Context:** Civilian CBRN incidents often involve responding to emergencies where the situation may be uncertain, and information about the specific hazards may not be readily available. In such scenarios, Level-A PPE allows responders to enter the "hot zone" with a higher level of protection, reducing the risk of exposure and potential health hazards.
3. **Duty of Care:** Civilian first responders have a duty of care towards the public and themselves. By utilizing Level-A PPE, they can minimize the risk of contamination, ensuring that they are not carriers of hazardous substances that could harm others or themselves after leaving the hot zone.
4. **Training and Familiarity:** Civilian first responders, particularly firefighters, undergo extensive training on the use of Level-A PPE and working in hazardous environments. This training builds their confidence and competence in operating with this level of protection. Military counterparts, on the other hand, may receive training that is more tailored to their specific operational requirements, which could involve different levels of PPE.

It's important to note that the choice of PPE may vary depending on the specific circumstances, available information, and the organization's protocols and risk assessments. The decision to use Level-A or Level-C PPE ultimately depends on the perceived risks, the level of training, and the organization's approach to balancing safety and operational requirements.

Fentanyl Can Be Weaponized. Preparation Could Minimize the Damage

Source: <https://www.newswise.com/articles/fentanyl-can-be-weaponized-preparation-could-minimize-the-damage>

June 01— The widely-available drug fentanyl, already the number one killer of Americans under 50, could be weaponized and used for terroristic mass poisoning, [according to health experts at Rutgers and other institutions](#).

"Before fentanyl, the only viable mass poisons were rare and difficult-to-access agents such as cyanide or nerve agents," said [Lewis Nelson](#), chair of the Department of Emergency Medicine at [Rutgers New Jersey Medical School](#) and senior author of the new *Frontiers in Public Health* paper. "Fentanyl can be just as deadly if properly disseminated, and it's ubiquitous. A motivated person could readily obtain enough to potentially poison hundreds of people — which, uncut, would fit easily onto a teaspoon."

Unlike biological attacks, in which a weaponized disease could spread globally and kill millions, chemical attacks generally only harm the victim through direct exposure. Still, fentanyl's high toxicity makes it a viable tool for unleashing a damaging, intentional event on an unsuspecting population.

Attackers with little technical knowledge could introduce the synthetic opioid in fatal doses into building ventilation systems or local food or water supplies. Nelson said it's unlikely to be successful in a large-scale attack, so simply dumping a truckload in a reservoir would be unlikely to produce significant casualties.

History vividly demonstrates its potential as an aerosolized, inhaled poison. Russian authorities seem to have weaponized a fentanyl-like drug in 2002, after [Chechen terrorists seized a crowded theater](#) and threatened to execute hundreds of hostages unless Russia withdrew from Chechnya.

Conventional rescue operations against 40 well-armed and well-fortified captors appeared impossible, so security forces pumped a fentanyl analog into the theater's ventilation system, incapacitating nearly everyone inside. They then stormed the building, shot the unconscious terrorists, and brought the hostages for medical care.

The operation left 130 hostages dead and demonstrated the scale of harm that is possible when fentanyl is used for non-peaceful purposes.

"We have no effective antidotes to many poisons, but we do have an antidote to fentanyl poisoning — naloxone, which also goes by the brand name Narcan — and the extreme frequency of unintentional fentanyl overdoses means we now stock this antidote in large quantities at health care facilities and pharmacies," Nelson said.

The frequency of accidental overdose also means that many healthcare providers and non-medical personnel have learned to recognize the signs of fentanyl poisoning while there is still time to reverse it. The paper's plan for minimizing vulnerability to fentanyl attacks calls for training more caregivers to spot victims quickly and administer naloxone early.

"Treating based on clinical findings rather than more definitive tests such as blood-test results is generally safe," Nelson said. "If you suspect fentanyl poisoning, administer naloxone, and it turns out the poison was another agent, you generally haven't hurt the patient." The panel's response plan relies largely on such preparatory steps: training more people to recognize poisoning, creating channels to report unusual victims of fentanyl poisoning, finding commonalities among these victims, and eliminating the sources for obtaining fentanyl. It also involves devising ways to quickly transfer many doses of naloxone to where they are needed most.





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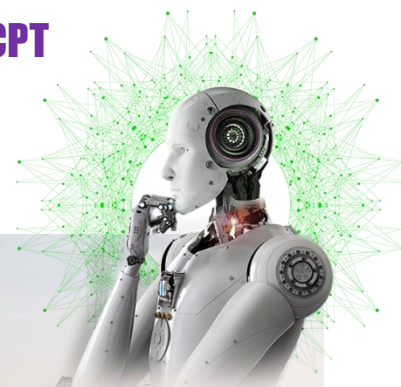
<https://www.defence.gr/en/>

“We have a lot of naloxone available in metropolitan and rural areas,” said Nelson. He noted that it’s safe to aid poisoning victims because fentanyl powder must be inhaled or ingested to hurt rescuers, and this is exceedingly unlikely to occur. There is essentially no risk of rapid absorption across the skin. “The key in a Tmass event will be quickly moving naloxone to the scene or to facilities that are suddenly overwhelmed with victims. Fentanyl generally kills more slowly than poisons like cyanide, but it still requires quick action to prevent harm.”

Discussing the C²BRNE challenges of vertical cities with ChatGPT

The Editor of C²BRNE Diary

In the [April 2023 issue](#) of the C²BRNE Diary you read my articles on mega/giga challenges the mega/giga projects like NEOM The Line might face in the future. So I asked the opinion of Chat GPT on if my worries are substantially justified and this is what I get:



Me: Are you aware of vertical cities like NEOM The Line in Saudi Arabia?

ChatGPT

Yes, I'm aware of NEOM and The Line project in Saudi Arabia. NEOM is a planned cross-border city located in the northwest corner of Saudi Arabia, near the Red Sea. The city is part of Saudi Arabia's Vision 2030 plan, which aims to diversify the country's economy and reduce its dependence on oil.

The Line is one of NEOM's major initiatives and is envisioned as a linear city that stretches across 170 kilometers. It is designed to be a zero-carbon, high-tech city with a focus on sustainability and livability. The Line aims to create a futuristic urban environment that integrates cutting-edge technology and offers a high quality of life for residents.

One of the notable aspects of The Line is its concept of a "vertical city." The idea behind a vertical city is to create a compact and efficient urban environment by stacking different functions and amenities vertically. This approach allows for the optimal use of limited space and promotes walkability and convenience within the city.

The Line aims to provide a range of services and amenities within walking distance of every resident, eliminating the need for cars and reducing carbon emissions. The city's infrastructure, such as utilities and transportation systems, will be integrated underground, while the above-ground level will be dedicated to pedestrian-friendly spaces and greenery.

The project is still in the planning and development stages, and it's important to note that the information available to me is based on the knowledge cutoff of September 2021. Therefore, for the most up-to-date information on NEOM and The Line, I recommend referring to official sources or recent news updates.



Me: OK! Do you think that the structure of The Line (mixing different targets vertically; no roads; no cars; nine million people when completed) is suitable for an effective CBRN defense?

ChatGPT

The concept of The Line, with its vertical structure, absence of roads, and focus on sustainability and livability, may present some challenges when it comes to implementing an effective Chemical, Biological, Radiological, and Nuclear (CBRN) defense strategy. While I can provide some general insights, it's important to note that specific details regarding CBRN defense in The Line would require more information and consultation with experts in the field.

1. **Vertical Structure:** The vertical nature of The Line could complicate certain aspects of CBRN defense. Vertical cities may have multiple entry and exit points, including elevators and stairwells, which need to be secured and monitored to prevent unauthorized access during a CBRN event. Additionally, the design of the buildings and infrastructure would need to consider ventilation systems, air filtration, and containment measures to mitigate the spread of CBRN agents.
2. **No Roads, No Cars:** The absence of roads and cars in The Line can be advantageous in terms of reducing air pollution and traffic congestion, but it may pose challenges for emergency response and evacuation during a CBRN incident. Alternative transportation systems, such as dedicated pedestrian pathways or underground tunnels, would need to be designed to facilitate rapid evacuation and access for emergency services.
3. **Population Size:** The Line's anticipated population of nine million people when completed would need to be considered in CBRN defense planning. Large populations can present logistical challenges in terms of disseminating information, coordinating response efforts, and ensuring the availability of sufficient resources such as medical supplies, decontamination facilities, and protective equipment.

Implementing an effective CBRN defense strategy requires comprehensive planning, risk assessment, and collaboration among experts in architecture, urban planning, emergency management, and CBRN defense. The Line's unique design would need to incorporate specific measures to address the unique challenges posed by CBRN incidents and ensure the safety and well-being of its residents.

It's worth noting that since my knowledge cutoff is September 2021, I may not be aware of any recent developments or updates regarding The Line's CBRN defense strategy. For the most accurate and up-to-date information, it is advisable to consult official sources, experts in the field, or recent reports on the topic.

Me: In that aspect, what is your opinion about this article

https://c2brne-diary-newissue.yolasite.com/resources/APR_2023%20Part_A.pdf

ChatGPT

I apologize, but as an AI language model, I'm unable to browse the internet or access specific web pages like the one you've mentioned. My responses are based on the information available to me up until September 2021, and I don't have real-time access to external sources or the ability to review specific articles.

If you could provide a summary or specific points from the article, I would be happy to try to provide a general opinion or discuss the topic based on my existing knowledge.

Me: Here is the summary requested ...

ChatGPT

Based on the summary you provided, the article raises several concerns and challenges related to CBRN (Chemical, Biological, Radiological, Nuclear) defense in a vertical city like NEOM The Line. Here are some observations:

1. **Population Density and Pathogen Spread:** The high population density of The Line makes it potentially susceptible to the rapid spread of bioterrorism pathogens. The close proximity of residents in a zero-gravity structure could facilitate the transmission of such pathogens.
2. **Transportation and Evacuation:** The absence of roads and cars in The Line presents challenges for transportation and evacuation during emergencies. The article questions how emergency services, including ambulance and evacuation systems, would operate effectively in a city without conventional transportation infrastructure.
3. **Safe Rooms and Mixed-Use Buildings:** The article mentions the need for safe rooms in buildings to protect against CBRN agents, particularly in mixed-use buildings that combine residential, commercial, and office spaces. Ensuring the safety of occupants and preventing the contamination of different areas within the building would be a complex task.



4. **Decontamination and Infrastructure:** Decontamination in a vertical city like The Line poses significant challenges. The article highlights the need for innovative large-scale decontamination solutions, both for individuals and infrastructure. It also raises concerns about the cost and feasibility of such operations.
5. **Healthcare Facilities and Response:** The article discusses the challenges related to healthcare facilities in The Line, including the need for specialized hospitals and the management of contaminated patients. It emphasizes the importance of equipping medical staff and emergency departments to handle CBRN emergencies and the potential influx of contaminated patients.
6. **Cybersecurity and CBRN Threats:** The article mentions the importance of robust cybersecurity measures to protect against hacking attempts that could potentially coincide with CBRN attacks. It highlights the potential risks associated with cyber vulnerabilities and the need for advanced cyber defense systems.
7. **Training and Public Awareness:** The article emphasizes the significance of CBRN training for both healthcare professionals and the general population. It suggests that training programs should be comprehensive and cover various scenarios, involving not only medical personnel but also non-healthcare individuals. The integration of AI systems in training and response processes is also suggested.

It's important to note that without reviewing the full article and its context, it's challenging to provide a comprehensive assessment of its validity or to offer a definitive opinion on the points raised. However, the concerns raised in the summary highlight some of the complex issues that would need to be addressed to ensure effective CBRN defense in a vertical city like NEOM The Line.

Then I asked a question I had in mind for a long time that might be the solution for removing clothes during the decontamination of C/R-affected Muslim women restricted by rules and ethics.

Me: How could I combine artificial intelligence, deep learning, facial recognition, and robotics in an autonomous CBRN decontamination system?

ChatGPT

Combining artificial intelligence (AI), deep learning, facial recognition, and robotics in an autonomous CBRN decontamination system can enhance its effectiveness and efficiency. Here's a possible approach to integrating these technologies:

1. **AI and Deep Learning:** AI and deep learning algorithms can be employed to analyze and process large amounts of data, including sensor readings, environmental information, and contamination patterns. These algorithms can learn from past data to identify CBRN agents, predict their spread, and optimize decontamination strategies.
2. **Facial Recognition:** Facial recognition technology can be used to identify individuals who have been contaminated and track their movement within the affected area. This can aid in ensuring that all individuals are properly decontaminated and prevent recontamination.
3. **Robotics:** Robots can be deployed for various tasks in the decontamination process. They can navigate the affected area autonomously, performing tasks such as surface decontamination, waste collection, and sample collection. Robots can be equipped with sensors to detect and analyze contaminants, and robotic arms can be used for precise decontamination tasks.
4. **Autonomous Decision-Making:** AI algorithms can make real-time decisions based on sensor data and contamination patterns. They can determine optimal decontamination routes, adjust decontamination methods based on the specific contaminant, and allocate resources efficiently. This autonomous decision-making can reduce human intervention and response time.
5. **Integration:** The various components of the system, including AI algorithms, deep learning models, facial recognition software, and robotic systems, should be integrated into a unified framework. This integration allows for seamless communication and coordination between different components, ensuring efficient and synchronized decontamination operations.
6. **Continuous Learning and Improvement:** The system can continuously learn and adapt through feedback loops. As new data becomes available, AI algorithms can update their models, improving the accuracy of contamination detection, decontamination procedures, and response strategies over time.
7. **Safety Measures:** Given the critical nature of CBRN decontamination, safety measures should be implemented to ensure the protection of both humans and the environment. This includes incorporating fail-safe mechanisms, emergency stop functions, and strict adherence to safety protocols to prevent unintended consequences or harm.



It's worth noting that implementing such a system requires expertise in AI, robotics, deep learning, and CBRN decontamination. Collaboration with domain experts, researchers, and engineers specializing in these areas would be crucial to develop and deploying an effective autonomous CBRN decontamination system.

CBRNe Incident – A Complex Crime Scene

By Mr. Kevin Cresswell (Independent Consultant, USA)

Source: <https://nct-cbnw.com/cbrne-incident-a-complex-crime-scene/>



June 03 – It's not what you know – it's what you can prove! "It is a capital mistake to theorize before one has data." — Sherlock Holmes (Arthur Conan Doyle), *A Scandal in Bohemia*. In part one of two articles, Kevin Cresswell identifies the need for first responders at a Chemical, Biological, Radiological, Nuclear and high yield explosive (CBRNe) incident, to be trained in forensic principles to advance the subsequent investigation. Part two of this article will look at laboratory techniques and equipment in this field.

We are seeing a surge in the requirement for forensic experts with adequate preparedness and capacity building at the scene of CBRNe crime investigation. CBRN Forensics is a sub-discipline of forensic science and will have a direct impact on criminal proceedings from the outset of investigation till the accused is convicted in court. Crime scene investigation in the context of CBRNe has its own challenges and requirements, it has wider safety implications and consequently higher standards.

So, what is the difference between traditional CSI and CSI in the CBRNe context? CBRNe crime scene investigation is very complex and time consuming compared with traditional CSI. A number of factors play a role that affect the whole chain of custody. It is crucial that first responders at the CBRNe crime scene



do more than just act as material collectors and understand the principles of forensics in order to assist with the advancement of the investigation. Having this competency on initial approach ensures all findings are available for the wider investigation and advancement of forensic specialists.

CBRNe crime scenes have their own challenges and requirements

Compared with a traditional crime scene, the CBRNe crime scene contains hazards that could significantly affect the health and safety of investigators and the validity of evidence collected. Any evidence or sample transferred from a CBRNe crime scene to a laboratory or other suitable evidence storage facility should be accompanied by appropriate records alerting the receiving staff of any risks so they can consider how to safely store and manage them.

It will be necessary to plan for the time to put on protective clothing, traverse in CBRNe suit and breathing apparatus (BA) to the target, detect and identify the source of the threat, removal, complicated handling of traces in protective suits, decontamination of individuals and equipment, deployment times for BA and also the required roulement of officers for the demanding task to hand.

The link between the civil authorities and the military in cross training chemical analysis, can be traced back to 1832 when British police arrested John Bodle for lacing his grandfather's coffee with poison. Army officer and chemist James Marsh tested the drink in his laboratory and confirmed the presence of arsenic by producing a yellow precipitate of arsenic sulfide, a result of passing hydrogen sulfide through tissue samples. The compound decayed before the trial and the jury was left unimpressed.

Marsh went on to develop a much more sensitive test using acid and zinc to liberate arsine gas from samples, now when he burnt the arsine left behind a telltale silver black residue was left.

Effectively identifying the CBRNe measures used in collected evidence requires not only effective management of the crime scene from the outset, but also uses the very latest in forensic technical solutions. Classical methods are still in play today, but applying specialist equipment provides faster, reliable and accurate performance of specific tests.

► Read the full article at the source's URL.

Huge poisonous cloud fills sky after Russia bombs chemical pipeline in Ukraine

Source: <https://www.mirror.co.uk/news/world-news/russia-bombs-ruptures-ammonia-pipeline-30174311>

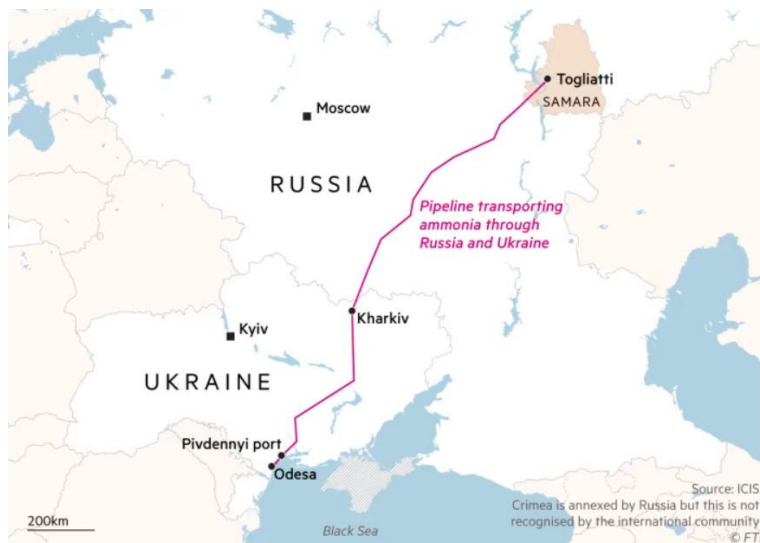


June 07 – Russia has triggered a new scare after claiming an ammonia pipeline has been ruptured by shelling releasing what appears to be a poisonous gas cloud into the air.

Pro-Moscow sources have released footage of what they claim shows a shocking crack in an ammonia pipeline, in the Kharkiv region of [Ukraine](#).

It's the world's longest ammonia pipeline, and is alleged to be spilling the toxic gas out into the air.





The horrifying spectre comes just a day after the [catastrophe at the Nova Kakhovka dam](#).

Both Ukraine and [Russia](#) pointed the finger of blame at the other [after the dam was sabotaged and blown up](#).

This led to an ecological disaster on the banks of the Dnieper River with thousands of people on either side evacuating their homes.

Russian saboteurs are prime suspects in blowing up the dam and triggering the massive floods.

Ukraine are now facing a major humanitarian disaster as more than 20 towns were overrun by the deluge, with shocking footage emerging from the area.

Mirroring this incident, Russia and Ukraine have both blamed the other for the attack on the ammonia pipeline near the village of Masiutovka.

If confirmed, the poisonous gas could pose a potentially fatal health threat - and if a deliberate attack, there are concerns it would amount to chemical warfare.

The alleged site is in the “grey zone” between the two warring sides but President [Volodymyr Zelensky](#) said that plans were underway to evacuate people from the region.

He also suggested it had been damaged by artillery [fire](#) from Russian forces.



But whilst he more forcefully accused Russia of “terrorism” in relation to the dam attack, he called the ammonia pipeline rupture the “consequences of war”.

He added: “In the grey zone one weapon or another could have been used – most likely, artillery.

“It’s one story when it is the consequences of war. Yes, the Russian Federation is to blame, but those are the consequences of war.

“But [in Kakhovka], we understand that this is terrorism. They mined it in advance and did it with their own hands.

“We see this as a completely different category.”

The shocking footage shows the gas spilling out of a small building, and spewing into the surrounding forest.

The 1,534 mile pipeline stretches from Russia’s Togliatti on the Volga River to three ports in the Black Sea.

But it has been out of operation since [Vladimir Putin](#) initiated his bloody invasion of Ukraine in February last year.



Oleh Sinehubov, the governor of Ukraine's Kharkiv region, said there had been no recorded pollution from a pipe rupture as of late Tuesday. "There is no threat to people's lives and health," he posted.

The footage was first published by Moscow-appointed official Daniil Bezsonov, deputy information minister in the occupied Donetsk People's Republic.

He is seen as having links to the Russian secret services.

One reporter at a branch of state media claimed that Ukraine forces were hit hard by the leak, leading to at least one death but this has not been proven.

The Russians see the pipeline as crucial to restarting a grain and fertiliser export deal with Ukraine despite the war.

ISIL develops eight chemical agents; carries out 13 attacks

Source: <https://www.daily-sun.com/printversion/details/694051/ISIL-develops-eight-chemical-agents-carries-out-13-attacks>

June 10 – During their nearly four-year reign of terror in Iraq, Islamic State of Iraq and the Levant (ISIL) extremists developed at least eight chemical agents, tested them on humans, and carried out at least 13 attacks, UN experts reported.

Senior officials with the UN Investigative Team promoting accountability for ISIL crimes, UNITAD, presented some of their findings to Member States meeting at UN Headquarters in New York on Thursday.

For the past five years, UNITAD has been gathering evidence of crimes committed during ISIL's self-proclaimed caliphate from June 2014 to December 2017, which could be used to prosecute the extremists in national or foreign courts.

Christian Ritscher, Special Adviser and Head of UNITAD, recalled that chemical weapons use is outlawed internationally and could constitute a crime against humanity, war crime or even contribute to genocide, if a specific group is targeted. "To the best of my knowledge, the use of chemical weapons by non-State actors has rarely been adjudicated, if at all, in any court - whether national or international around the world. As UNITAD, we would like to play our part and aim to change this," he said.

The investigations into ISIL's development and use of chemical and biological weapons began two years ago, looking into the March 2016 attack on the town of Taza Khurmatu and whether other incidents had taken place elsewhere.

Team Leader Paula Silfverstolpe said ISIL's operations represent the culmination of nearly two decades of experimentation by Sunni jihadi groups, marking "the most sophisticated programme developed by non-State actors so far".

The overall manufacturing of weapons and ammunition fell under ISIL's self-styled Department of Defence, specifically the Committee of Military Development and Manufacturing (CMDM), which had a monthly budget of over a \$1 million as well as extra budgetary funds to purchase raw materials.

More than 1,000 combatants were involved in production, according to ISIL payroll records.

Hundreds were deployed to the chemical weapons programme, and specific job advertisements were placed to recruit scientists and technical experts, including from abroad, drawing people from countries such as the United States, France, the United Kingdom and Belgium.

Specialist research and development teams were located at the then extremist-run University of Mosul in northern Iraq, rural parts of Anbar province, and the city of Hawija, home to ISIL headquarters.

Ms. Silfverstolpe said the militants developed at least eight chemical agents - aluminium phosphide, botulinum toxin, chlorine, cyanide ion, nicotine, ricin, thallium sulfate and sulfur mustard, which is also known as mustard gas.

ISIL was also the first non-State group to develop a banned chemical warfare agent and combine it with a projectile delivery system. The toxins sulfur mustard, chlorine and aluminium phosphide are banned under the Biological Weapons Convention, and evidence demonstrates that ISIL weaponized their use in mortars, rockets and improvised explosive devices (IEDs).

The terror group also explored the possibility of acquiring anthrax but there has been no evidence so far that combatants used it, or other biological agents, in any attacks, although investigations continue.

Human testing and bonus payments

UNITAD has also collected evidence which indicates that **ISIL tested chemical agents on humans - including ricin, nicotine and thallium sulfate - as well as animals such as rabbits.** ISIL records



demonstrate that top leader Abu Bakr al-Baghdadi, who died in 2019, authorized the use of chemical weapons by troops and even approved bonus payments for those soldiers deploying them. “Martyrdom payments” were made if they died.



Al-Baghdadi also personally ordered the **attack against Taza Khurmatu** “with the purpose of causing as many casualties as possible”. Of the 42 projectiles launched against the town, at least 27 contained sulfur mustard, which causes blisters and painful burns. Two children died and thousands of people, including first responders, were injured.

Judge Ali Noaman Jabbar of the Taza Investigation Court said the re-opening of the case and UNITAD’s interest has motivated numerous victims and their families to provide their testimonies. “The impact caused by the chemical attack includes various diseases such as cancer, skin diseases, miscarriages, deformities in embryos, chronic diseases, and psychological impact and trauma,” he said in a video message.

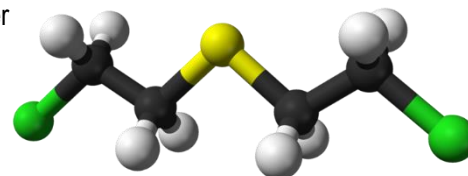
The attack on Taza Khurmatu “was definitely not an isolated case”, according to Ms. Silfverstolpe. Information shows **at least 12 other attacks were carried out in other locations**, with unconfirmed reports of 35 more. “It was quite a widespread and systematic phenomenon, as far as the information that we have collected so far,” she said.

UNITAD will continue to work with Iraq and other countries towards building cases in connection with 21 “persons of interest” suspected of involvement in the ISIL chemical weapons programme, who include foreign nationals.

While some are believed to be dead, others have been detained or are living in third countries.

Although the caliphate has been destroyed, Ritscher warned that the terrorism threat has not disappeared.

“We need to advance criminal accountability in relation to the use of chemical weapons in the name of victims and survivors of ISIL to promote peace and reconciliation in Iraq, but also because it is a responsibility of the entire international community, given that such threats and crimes may present themselves in other countries,” he said.



AI – A question about mustard gas

By the Editor of C²BRNE Diary

Me: Chemical weapon mustard gas was created in 1860. After 163 years still there is no antidote for this warfare agent. Why?

ChatGPT

Mustard gas, also known as sulfur mustard, was indeed developed as a chemical warfare agent in the mid-19th century. While it is true that there is no specific antidote for mustard gas, it is essential to understand the reasons behind this.

- Complex Mechanism:** Mustard gas acts by interfering with cellular processes, particularly damaging DNA and proteins. It forms covalent bonds with various cellular components, leading to the disruption of cell function. Developing an antidote that can effectively reverse these complex reactions is challenging.
- Varied Effects:** Mustard gas affects different organs and tissues in the body, including the skin, eyes, respiratory system, and bone marrow. Its toxicity is not limited to a single mechanism, making it difficult to target with a single antidote that can counter all the diverse effects.
- Delayed Onset of Symptoms:** One of the unique characteristics of mustard gas is its delayed onset of symptoms. After exposure, it may take hours or even days for symptoms to manifest. This delayed response makes it difficult to administer an antidote promptly and effectively.
- Research Challenges:** Developing an antidote requires extensive research, including understanding the mechanism of action, identifying potential targets, and conducting preclinical and clinical trials. Funding, ethical considerations, and the availability of suitable research models can also pose significant challenges.
- Limited Use in Recent Conflicts:** The use of mustard gas as a chemical weapon has significantly declined since the early 20th century. International conventions and treaties, such as the Chemical Weapons Convention of 1997, have sought to ban or restrict the use, production,



and stockpiling of chemical weapons. The decreased prevalence of mustard gas-related incidents has potentially reduced the urgency for developing a specific antidote.

However, it's important to note that while there is no specific antidote, medical treatments can be provided to manage the symptoms and mitigate the effects of mustard gas exposure. These treatments may include decontamination, supportive care, wound care, respiratory support, and medications to alleviate symptoms.

Efforts continue to explore potential treatments and antidotes for mustard gas exposure, but the complex nature of the chemical and the challenges associated with research and development have limited progress in finding a specific antidote over the past century.

The Impact of Advances in Science & Technology on CBRN Defence Towards 2030 – NATO Science & Technology Organization Long-Term Scientific Study Conclusions

By Leif Haldor Bjerkeseeth, Per Leines Lausund, Bjørn Pedersen, Thor Engøy, and Janet Martha Blatny

Source: <https://www.ffi.no/en/publications-archive/vitenskapelige-og-teknologiske-fremskritt-innvirkning-pa-cbrn-vern-frem-mot-2030-konklusjoner-fra-en-langtidsstudie-i-regi-av-nato-science-technology-organization>

This report summarizes the most important findings from the NATO Science & Technology Organization (STO) Long-Term Scientific Study (LTSS) on CBRN Defence, TR-HFM-273, conducted and chaired by Forsvarets forskningsinstitutt (FFI) in the period 2016-2020 and published in June 2021. Eleven countries participated in the study. The aim of the LTSS was to explore the current and future Chemical, Biological, Radiological and Nuclear (CBRN) threats and hazards towards 2030, to understand how they will be shaped by the impact and opportunities of existing and emerging scientific and technological advances. The LTSS is a research-based study with focus on the opportunities of ongoing and future scientific research in strengthening the CBRN defence of the Alliance. The LTSS endeavours to understand how the rapid advances in Science and Technology (S&T) can be used to address CBRN challenges and strengthen CBRN defence to create future capabilities and improve existing capabilities towards 2030. Extensive global and scientific advances as well as technological megatrends like digitalization, miniaturization, wearable technology, the internet-of-things, nanotechnology, artificial intelligence, autonomy, automation, robotics, big data and synthetic biology contribute to an evolving and more complex CBRN threat spectrum for the Alliance, and consequently change the requirements for an efficient CBRN defence. At the same time, the security environment has dramatically worsened. The CBRN threat and hazard is increasingly diverse, challenging the detection systems, physical protection, hazard management and medical countermeasures of the Alliance. However, the extensive and rapid advances in S&T and the convergence between some of the research fields generates both new threats, but also opportunities to gradually and continuously counter threats by improving CBRN defence capabilities and overall defence capabilities. The study points out the need for continuous research-based knowledge to obtain such capabilities. CBRN Defence must be viewed as a system of linked and interacting components within the overall defence system. Future capability development for CBRN defence needs to be an integrated part of defence planning and overall capability development and should be considered within the total defence concept (example Norway). Future capability development will require an interdisciplinary scientific approach and understanding of how technology development can improve or create new defence capabilities. This is exemplified by the Emerging and Disruptive Technologies (EDT) detailed in the NATO STO Science & Technology Trends 2020-2040 report. These technologies are included in the LTSS assessment of disruptive technologies in strengthening the CBRN defence of the Alliance.



FFI Forsvarets forskningsinstitutt

Did you know?

What is the difference between pralidoxime and obidoxime

Obidoxime and pralidoxime are both members of the oxime family of drugs used to treat nerve gas poisoning. Oximes are drugs known for their ability to reverse the binding of organophosphorus compounds to the enzyme acetylcholinesterase (AChE). AChE is an enzyme that removes acetylcholine from the synapse after it creates the required stimulation on the next nerve cell. If it gets inhibited, acetylcholine is not removed after the stimulation and multiple stimulations are made, resulting in muscle contractions and paralysis. Oximes such as obidoxime and pralidoxime are used to restore enzyme functionality. They have a greater affinity for the organic phosphate residue than the enzyme and they remove the phosphate group, restore the OH to serine and turn nitrogen from histidine back into its R3N form (tertiary nitrogen).



This results in full enzyme recovery and the phosphate-oxime compound is eliminated from the organism via urine. Obidoxime is more potent than pralidoxime and diacetyl-monoxime. However, pralidoxime is a medication used in the management and treatment of organophosphate poisoning. It is in the oxime class of drugs and has been used in the treatment of mustard gas exposure. Even though obidoxime is more potent than pralidoxime, it is normally the second-line treatment for nerve agent treatment in the UK. Pralidoxime is preferred more compared to obidoxime in the treatment of organophosphate poisoning because it is less expensive and has a longer shelf life.

Wearables could detect biological & chemical threats for Aussie military

Source: <https://newatlas.com/military/australian-military-wearables-detect-biological-chemical-threats/>

June 14 – The health of Australia’s military could soon be monitored using data collected by smartwatches and wearable devices and analyzed using a machine learning algorithm. A new project plans to use such data to detect biological and chemical threats that defense personnel face in the line of duty.

Wearable devices like fitness trackers and smartwatches collect various health data, including physical activity, heart rate, blood oxygen levels, blood pressure, sleep, and skin temperature. Now scientists are looking to harness this data to ensure the health of members of Australia’s military.

Researchers from the University of South Australia (Uni SA) are leading a project to determine whether health data collected by smartwatches and wearable devices can give troops an edge in protecting them against biological and [chemical warfare](#) threats. They’ve teamed up with Australia’s Department of Defence, Insight Via Artificial Intelligence and the University of Adelaide.

The ability of these devices to continuously monitor health is what drew the researchers to consider them as a potential way to ensure the health of military personnel. It also came down to an issue of cost, as traditional methods of checking for infections are expensive and time-consuming. “Most diagnostic methods involve sampling blood or nasal fluid to detect pathogens responsible for infections,” said Siobhan Banks, lead researcher from Uni SA. “This approach is costly, time-consuming and requires a laboratory for analysis. Consumer wearable devices continuously measure vital signs, including heart rate, skin temperature and sleep, creating huge sets of data for each person. Changes in these parameters occur very quickly after infection as part of the immune response.”

Because vital sign changes indicating infection occur before symptoms do, the researchers say they can use the data to treat the infection more quickly. “What if we could make use of this passively recorded data to detect the earliest molecular and cellular physiological events, caused by pathogen exposure, even prior to active infection?” Banks said.

The researchers plan to develop a [machine learning algorithm](#) to detect early signs of infection, ‘taught’ by the data collected by the devices. The project will use a cloud service that links to wearable devices and a smartphone app. The algorithm will recognize irregular readings and cluster people based on their health profiles.

In addition to ensuring that military personnel are fit for duty, the researchers say the information gathered would be particularly useful in detecting exposure to biological or chemical weapons early.



EDITOR’S COMMENT: I hope they will not forget CBRN people – especially early detection of heat stress and dehydration!

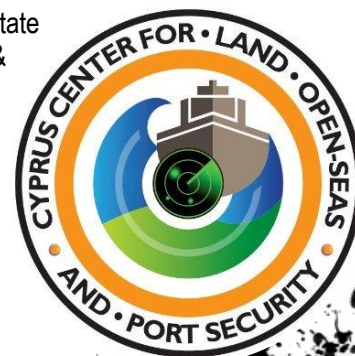
Cyprus, US organise workshop on chemical, biological, nuclear crisis response

Source: <https://in-cyprus.philenews.com/news/local/cyprus-us-organise-workshop-on-chemical-biological-nuclear-crisis-response/>

June 15 – On June 13 and 14, the Cypriot Ministry of Foreign Affairs and the U.S. Department of State co-hosted the Sub-Regional Chemical, Biological, Radiological, or Nuclear (CBRN) Response & Assistance Workshop (SR2 Cyprus) at the Cyprus Center for Land, Open Seas, and Port Security (CYCLOPS).

According to a press release by the US Embassy in Cyprus, the training brought together approximately 60 participants from Cyprus, Greece, Israel, and the United States under the 3+1 cooperation mechanism.

Representatives from many different agencies, including civil protection, health, environmental protection, internal security, defence, and international affairs, discussed how to coordinate a joint response to a CBRN crisis during the workshop.



Participants heard presentations and shared best practices with CBRN preparedness and incident response experts. The workshop



underscored the need to invest in CBRN preparedness, the importance of continued exercises to practice responses to a major crisis, and the value of working with regional partners and leveraging foreign assistance to save lives, protect the environment, and minimise harm to all communities. Additionally, participants were encouraged to explore potential areas for future response cooperation in the 3+1 format, including assessments of response capabilities and gaps. The SR2 Cyprus workshop is part of a series of events led by the Office of Weapons of Mass

Destruction Terrorism in the Bureau of International Security and Nonproliferation at the U.S. Department of State. It is designed to enhance international cooperation to deter and defend against the increasing use of CBRN weapons globally. “The United States continues to strongly support regional efforts that enhance and promote cooperation and regional stability, including the 3+1 mechanism in which the Republic of Cyprus, Greece, Israel, and the United States participate,” the press release concluded.

Impact of Chemical, Biological, Radiation, and Nuclear Personal Protective Equipment on the performance of low- and high-dexterity airway and vascular access skills

Nicholas Castle • Robert Owen • Mark Hann • Simon Clark • David Reeves • Ian Gurney

Published: August 27, 2009 • DOI: <https://doi.org/10.1016/j.resuscitation.2009.08.001>



Clinician	Familiarity with CBRN-PPE	Timing of unsuited skills (pre- or post-suited)	Suited (1 st Attempt)				Suited (2 nd Attempt)			
			Skill order				Skill order			
1										
2	Yes	Pre	ETT	IOC	LMA	IVC	IOC	ETT	IOC	ETT
3	Yes	Pre	LMA	IVC	IOC	ETT	IOC	ETT	IOC	ETT
4	Yes	Pre	IVC	LMA	IOC	ETT	IOC	ETT	IOC	ETT
5	Yes	Pre	IOC	LMA	IVC	ETT	IOC	ETT	IOC	ETT
6	Yes	Pre	ETT	IOC	LMA	IVC	IOC	ETT	IOC	ETT
7	Yes	Post	LMA	IVC	IOC	ETT	IOC	ETT	IOC	ETT
8	Yes	Post	IOC	LMA	IVC	ETT	IOC	ETT	IOC	ETT
9	Yes	Post	ETT	IOC	LMA	IVC	IOC	ETT	IOC	ETT
10	No	Post	LMA	IVC	IOC	ETT	IOC	ETT	IOC	ETT
11	No	Post	IOC	LMA	IVC	ETT	IOC	ETT	IOC	ETT
12	No	Pre	ETT	IOC	LMA	IVC	IOC	ETT	IOC	ETT

PlumX Metrics

Following CBRN incidents health care professionals will be required to care for critically ill patients within the warm zone, prior to decontamination, whilst wearing CBRN-PPE. The loss of fine-motor skills may adversely affect delivery of medical care.

Methods

64 clinicians were recruited to perform, intubation, LMA placement, insertion of an IV cannula and IO needle whilst wearing CBRN-PPE. A fractional factorial design was employed, in which each of the 64 clinicians had two attempts at performing each skill whilst wearing CBRN-PPE and once unsuited according to a pre-specified sequence.

Analysis

The unsuited and suit data were analysed independently with the primary outcome being time taken to complete each skill whilst suited. Analysis was undertaken using STATA (V9.2).

Results

Mean times differ considerably by skill ($p < 0.001$). Overall, times to completion on attempt 2 were shorter than attempt 1 ($p = 0.045$), though the reduction in time differed significantly by skill ($p = 0.004$). LMA placement was on average completed nearly 45 s faster than intubation, and IO cannulation was nearly 90 s faster than IV cannulation. Whilst suited, 8% of intubation and 12% of intra-venous cannulation



attempts were unsuccessful. Previous familiarity with CBRN-PPE did not improve performance ($p = 0.23$). Professional groups differed significantly ($p = 0.009$) with anesthetists performing all skills faster than the other clinicians.

Conclusion

This study supports the concept of instigating airway and vascular access skills whilst wearing CBRN-PPE but challenges the sole reliance on 'high-dexterity skills'. Intubation is feasible but must be considered within the context of the incident as the LMA may offer a viable alternative. Intra-venous access prior to casualty decontamination is arguably a pointless skill and should be replaced with IO access.

●► Read also: [Does CBRN-PPE increases right bronchus intubation](#)

The Seaport of Hamad: Emergencies Management and a Response Plan Essay

Source: <https://ivypanda.com/essays/the-seaport-of-hamad-emergencies-management-and-a-response-plan/>

Dec 2022 – The progress of human society has made it possible to reach great heights and will continue to create socio-economic and technological benefits that qualitatively improve the quality of life of communities. To date, the chemical, military-defense, and healthcare industries are well developed since the product of their activities directly affects the perceived level of safety of life and comfortable living. However, as often happens, some of the most advantageous vectors of development turn out to be the most dangerous at the same time. In fact, the products of all the above-mentioned industries pose a serious threat to national and regional security; they can lead to disasters and emergencies. History knows many examples — including Chornobyl and, Fukushima, COVID-19 — when the development of scientific progress, initially aimed at improving the quality of life and creating new discoveries, led to critical consequences that took the lives of millions of victims.



Figure 1. Hamad Port on a map of Qatar



In case of unintended consequences, there is an elaborate program to contain and eliminate them. This forms two strands of emergency management: on the one hand, actions are aimed at the prevention and preventive containment of crisis conditions, and on the other hand, post-factum handling of a disaster that has already occurred. It is true that each country has its own spectrum of most likely threats, and it is clear that those who live closer to potential sources of radiation or clinical laboratories for growing new pathogens are at the most significant risk. Because each country's threats vary, there are individually tailored programs to respond quickly to disasters. For Qatar, the NCC, the first large-scale Gulf project, was created (Ebrahim & Osama, 2020). The NCC's functional responsibilities include ensuring communications between the various subordinate agencies within the country to create a unified map of probabilistic threats and to ensure that the work undertaken is not only preventive but also sharply remedial.

While it is true that each country's threats are unique, there are some common patterns that allow governments to share experiences and improve emergency management practices. In particular, there is a pool of combined threats called the acronym CBRNE: this includes chemical, biological, radioactive, nuclear, and explosive threats. Any of these threats affect different locations to varying degrees, but it seems clear that the likelihood of a nuclear disaster is much less likely due to politically deterrent mechanisms than the likelihood of terrorist bombings, which has been a common practice in recent decades. CBRNE theorizes common levels of different threats and allows us to systematize them in order to improve rapid response and preventive management practices. In reality, however, each individual case is difficult to model because too many variables and factors are involved in the realization of a threat. For example, one of the most pressing biological-scale disasters, COVID-19, quickly escalated from a localized disease in the Chinese city of Wuhan to a planetary hazard that significantly impacted all aspects of humanity (Zhao *et al.*, 2021). Alternatively, the accidental explosion of Unit 4 at Chernobyl, as a result of a systematic error by local personnel, not only destroyed the possibility of life in that Ukrainian city but also affected the surrounding areas, contaminating them with radiation for hundreds of years (Zheltonozhsky *et al.*, 2021). Although both COVID-19 and the Chernobyl accident are not strictly terrorist, as the CBRNE definition implies, the cause of such disasters is still an anthropogenic factor that led to the development of dangerous consequences.

The purpose of this portfolio is to theorize knowledge on the broad issue of the significance of CBRNE, exploring ways to respond and practices, including through real-life examples. To concretize the analysis, the report uses the state of Qatar as a volume for study. In particular, the focus is on the principal seaport of Hamad, south of Doha: as shown in Figure 1. The port is strategically important from an economic and political perspective, so providing preventive management and an emergency response plan is critical for Hamad. This will allow subordinate organizations to fully protect not only the port area but the whole of Qatar.

Definitions and Explanation of CBRNE

The potential threats to the Qatari terrain are extremely high, not only because the country is located in a seismologically active area. In fact, Qatar is an active partner in the international coalition to counter the terrorist threat originating from ISIS (Bureau of Counterterrorism, 2019). Qatar is constantly creating new reforms and initiatives to eliminate terrorism and is actively cooperating with the U.S. by providing U.S. troops with deployment opportunities. On the other hand, there is a diplomatic crisis regarding Qatar, as the global public often accuses the country of covertly facilitating terrorism (U.S. Government Publishing Office, 2017). Taken together, this creates the potential for terrorist attacks by terrorist organizations. This includes any threats using violent methods. It is for this reason that the specifics of CBRNE's applicability to the port of Hamad and Qatar as a whole must be critically assessed. It is worth saying that CBRNE is a universal concept that summarizes multiple threats in terms of chemical, biological, radioactive, nuclear, and explosive scales (Figure 2). It is not a tangible concept but rather a terminological generalization to systematize and connect multiple threats. The application value of such a generalization is clear: by theorizing about these hazards, it creates a positive opportunity to develop emergency management plans and models all the possible threats that may be relevant to the Hamada area. In general terms, CBRNE is any threat of artificial origin that can lead to mass casualties and crisis consequences in the long term. CBRNE, on the other hand, is both a set of protective measures aimed at ensuring passive safety and eliminating threats that have already occurred.

Chemical Factor

The first letter in the acronym refers to threats of chemical significance that can cause massive damage. This includes poisoning with substances that, even in trace amounts, may be incompatible with life. These include the classic poisonous substances traditionally used for combat purposes: chlorine, sarin, cyanides, "Novichok," and phosgene. The peculiarity of these agents is that some of them are heavier than air (chlorine, phosgene), while others (ammonia, carbon monoxide) are lighter.

Biological Factor

The second letter in the acronym CBRNE refers to any threat of biological magnitude when the safety of human life is threatened by pathogens. These are usually deliberate actions by individual terrorist



organizations to release dangerous bacteria, fungi, and viruses. However, unintentional, accidental attacks caused by negligent laboratory personnel and failure to follow microbiological safety protocols are also included. The most current example of such a threat is COVID-19, which was most likely accidentally released from the Wuhan laboratory, but there is no direct evidence of this.

Radioactive Factor

The third letter in CBRNE belongs to the threat posed by sources of radioactive contamination. It is known that some chemical elements can emit alpha, beta, and gamma rays with different transmittance and health hazards. Energy is released in nuclear collisions that rearrange the configuration of atoms. Thus, radioactivity helps to produce other elements from some elements — which was a key task of alchemical traditions — but in such transformations, the levels and quality of the energy released are too threatening. Such radiation is invisible but easily detected by detectors, including a Geiger counter.

Nuclear Factor

Radioactive contamination is often a concomitant component of a nuclear attack, defining the fourth letter in the acronym. Nuclear attacks are realized when nuclear fuel, usually based on the fission of Uranium-235 nuclei, explodes. It is one of the most extensive hazards since the effects of a nuclear explosion are not only due to the spread of radiation and thus contamination of the area, but also to the associated hazards: the blast wave, the powerful light radiation, and the electromagnetic pulse.

Explosive Component

The last letter in the acronym, which is often omitted by other authors, is the explosive threat. Terrorist attacks blow up houses and vehicles, destroy historical heritage sites, and hurt people. The history of the last decades knows many cases of real terrorist attacks: the 9/11 attack in the United States, the hostage-taking in Mecca, the Boston Marathon bombing, the takeover in Afghanistan, the terrorist attacks in Paris and Brussels: these are just some of the most high-profile attacks of the last forty years. Political tensions between nations continue to rise, expanding the potential for new attacks.

Hazards and Risks

The central risk of each of the threats is the infliction of massive damage resulting in widespread loss of life. Explosions, the spread of disease, and chemical contamination are all primarily intended to kill people en masse, which has intimidating purposes. Radioactive contamination, in contrast, has a long-term perspective, as only being at the epicenter of radiation for a few hours can lead to quick death; otherwise, victims die within months or years of progressive radiation sickness (Calzolari, 2019). Finally, a nuclear explosion appears to be the least likely risk because there are enough international initiatives to contain the threat of a nuclear explosion.

The Qatari port of Hamad, as a geographical space open from the sea, is characterized by any threats from CBRNE, with the threats of terrorist attacks in the form of bombings (E) and chemical attacks (C) being the most likely due to the proximity of the state to ISIL locations: Syria, Iraq, and partly Saudi Arabia. These countries have no recorded stockpiles of nuclear weapons, which means both nuclear attacks (N) and radioactive contamination (R) are the least likely for the port of Hamad. Biological weapons used against local residents are also likely because the port is active and thus actively receiving foreign ships, which could be sources of intentional or accidental pathogens to the area.

Effects

The climatic conditions of the Port of Hamad are suitable for the rapid spread of airborne chemical toxins. Using the airflow simulations shown in Figure 3, it was determined that most of the wind in the port has a northwesterly origin: the states of Iraq, Syria, and Saudi Arabia are in the same direction. Consequently, gaseous poisoning spraying could result in damage to local residents and minimal damage to terrorists. Damage could result in respiratory system impairment, cognitive degradation, and death.

The effects of biological weapons are also devastating for the Qatari population, given the accessibility of the port of Hamad. Hidden pathogens could be invaded into the area, resulting in a local epidemic that kills thousands of residents. Radioactive radiation released as a consequence of a nuclear attack or through sabotage against the people will lead to the development of genetic breakdowns and radiation sickness. It is noteworthy that the nearest radioactive contamination sensors are located near Doha Airport, 35 kilometers from the port.

In terms of the nuclear threat, the effects are not only radioactive contamination but also related factors. The blast wave destroys buildings and causes physical damage to health, and the light radiation has the ability to blind people. In addition, short-term electromagnetic radiation causes electronic devices —



including pacemakers — to malfunction. Finally, the effects of an explosive disaster result not only in human bodies being torn apart but also in lethal damage caused by shrapnel, elevated epicenter temperatures, and a shock wave.



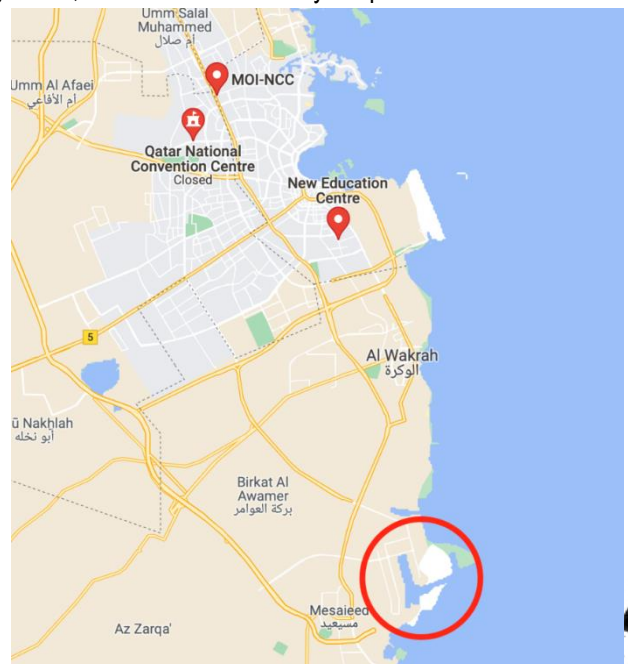
Dark green shows the location of radioactive contamination sensors in Qatar

Analysis of Current CBRNE Response Resources

At the moment, there are several fragmented CBRNE structures in the Port of Hamad and in Qatar in general. One of them is the HMCAS program, which provides logistics and rapid response to emergencies, with a focus on safety for public health. Research shows that HMCAS is well designed, but the human factors, including preparedness and training, need refinement (Farhat *et al.*, 2021). In addition, it was found that a great emphasis prior to 2016 in Qatar was on protecting specifically against nuclear threats, but biological and chemical weapons were overlooked (The European, 2020). Therefore, in recent years, the EU CBRN CoE initiative was created to look at CBRNE threats holistically, conduct relevant training and raise the overall level of national threat preparedness.

Location of NCC offices in Qatar

It is also noticeable how the Qatari authorities are actively developing beneficial military-political cooperation with other states. In particular, a bilateral act of cooperation was signed with West Virginia in the summer of 2021 to jointly implement emergency management and preventive control of man-made disasters (Nelson, 2021). Finally, the strongest resource for emergency management is the NCC, established in Qatar in 2006 (Nabeela, 2021). During disasters, the NCC is empowered to manage evacuation and response through extended collaboration with local agencies. The NCC has a hotline to contact the public and early



warning systems for a preventive response. However, all centers and most hospitals are concentrated in the capital, and there is nothing in the vicinity of Hamad Port. Consequently, current resources in Qatar are developed but not widespread enough to provide full coverage in case of emergency response.

Analysis of current CBRNE Response Procedures/Arrangements

Current Practices

To date, several civil defense practices are being implemented in Qatar. Among them, the large-scale Milipol Qatar event, which showcases the latest advances in the defense industry for emergency management. For example, one of the developments is the



Iveco LMV, an advanced vehicle that withstands powerful physical forces and allows access even to hard-to-reach places during accidents (photo).

In Qatar, there is an “Emergency Medical Dispatcher” who ensures the control of communications in case of emergencies. Among the duties of this specialist is to “alert the Supervisor on a variety of issues to include: incidents that have the potential to become large scale including all (CBRN) incidents...” (QCHP, 2021, p. 45, para. 2.2.10). In addition, Qatar has a separate regulatory program for seaports, including Hamad, to ensure “safe navigation, maritime operations, emergency response, marine protection, and health and safety of people” (Harbor Master Office, 2018,

p. 17). Among others, this uses a system of port entry permits, without which no vessel can be docked at Hamad.

Problems Identified

A critical evaluation of current civil defense practices shows that no particular problems were identified. However, relatively little information was found on the specifics of the operation, especially in the Hamada port area: thus creating a barrier to transparency. It is not possible to judge with complete certainty the development of the national CBRNE security system, as insufficient constructive information was found.

Roles and Responsibilities of all Responder Agencies

In the Port of Hamad, as in Qatar, there is a practice of cooperative problem-solving in emergency response. As mentioned above, the main management body is the NCC Command Center, which provides seamless communication in case of incidents. It is pointed out that the NCC operates around the clock and divides the general area of the state into separate sectors, making it easier to respond to emergency forces (HMC, 2020). In addition, the NJM program has been developed, which provides geographic security for Qatar’s regions through a single geodatabase: NJM is reported to be a more advanced system than the NCC (Ebrahim and Osama, 2020). Qatar’s Q-CERT agency is responsible for national information protection; although information protection seems unrelated to CBRNE, in reality, many terrorist threats are only realized through digital unit communications. For example, many terrorists are known to use Telegram to communicate (Tan, 2017). Accordingly, Q-CERT is responsible for an essential part of civil defense in the country.

The civil defense sector is implemented not only by public resources but also by private companies. For example, Global Guardian provides travel protection services in case of emergencies: “clients can contact us via our GPS beacons, satellite phones, mobile apps, or by texting or calling our 24-hour Global



Operations Center, and we... to accomplish our client's mission,... personal security, vehicles, and aircraft if necessary" (GG, 2021). Finally, there is a single 999 phone number where any resident can call the CBRNE Support Center urgently, allowing civilian services to respond promptly to a problem.

Analysis of Equipment and Procedures for Mass Decontamination

Civilian equipment in Qatar is either domestically produced or imported from abroad as part of an import program. Thus, it is indicated that U.S. exports provide several important technologies supplied to the local market to manage cybersecurity in the country (Trade, 2020). In particular, cybersecurity improvements prevent the deleterious effects of network warfare and provide large-scale monitoring, electronic security, and detection of chemical and pathogen leaks. The performance of military equipment is tested annually in the joint exercise "Invincible Sentry" with the U.S., which assesses the Qatari army's readiness to confront a civilian crisis (Bradford, 2021). In 2020, it was reported that the Qatari Joint Special Operations Forces had purchased new armored vehicles used for civil security defense purposes (Photo 1). The vehicles were already in service with Qatari civilian forces, but the acquisition of additional units indicates a growing need to provide more comprehensive protection.

Additionally, it is reported that the Qatari military forces have several units of F-15QA combat aircraft: these vehicles can be used to prevent large-scale terrorist attacks, as well as for faster and more maneuverable access to man-made disasters occurring in an area difficult for civil aviation or helicopters. In addition, the equipment of the civil defense services includes special protective suits, respirators and gas masks, fire extinguishers of various variations, and cars designed to extinguish fires. This is classic equipment of the military-defense industry, without which the protection services cannot function.

As before, not enough transparent information is provided to study all the technologies in the arsenal of the CBRNE services in Qatar. Information is either concealed or not published in English. However, it is worth emphasizing that every year the country hosts a large-scale civil defense conference in which different countries share experiences and showcase their developments that can be acquired by the Qatari government to improve emergency management practices.

Recommendations

A critical assessment of current civil defense and emergency management practices shows that Qatar has a well-developed system of preventive control and response, but it remains imperfect. Despite recent technological advances, improved international cooperation, and system reform, not enough positive transformation is taking place in the country. The presence of centralized management from Doha leads to a lack of representation of civil defense offices in remote regions of Qatar, including the seaport of Hamad. Thus, it is appropriate to implement several recommendations that are proposed as tools to change the current agenda.

First, new offices should be opened outside the capital to provide a better experience of caring for civilian welfare on the ground. It has been shown that there are no NCC offices in the Hamad port area, which means that in the case of CBRNE threats here, defense forces would travel dozens of kilometers before managing the situation. The initial costs of such a recommendation are extremely difficult to calculate since it includes not only the purchase of real estate — or the lease of a room — but also the establishment of communications, the purchase of additional equipment through government procurement, the training of local specialists, the implementation of regular training programs, and many additional items of expenditure not apparent at first glance.

Second, it is necessary to significantly increase the number of radioactive contamination detectors because so far, they are located only in the capital. For example, one could be limited to Soeks, a small portable device that would be placed on the streets of the city. The cost of one such device reaches about \$400, and a total of about 20 devices is needed to cover the Hamad port area (Soeks, 2022). At the municipal level, however, more advanced, self-contained radioactivity detection devices are proposed. For example, the ANV-S2-FV device could be used, but the price of the device is not a piece of publicly available information.

Third, it is necessary to improve the practice of cooperation between civil defense services and clinical organizations in order to minimize casualties after accidents. The main costs, in this case, are imposed by the development of a cooperative program and joint training. It is estimated that it costs organizations up to \$1250 per year to maintain a high level of competence and training (Markovic, 2020). This amount needs to be multiplied by all civil defense and emergency medical personnel and medical personnel involved in civil defense in the area.

Fourth, the current health care system as one of the first bastions of response to threats of biological significance has been shown to be incompetent in the initial stages of COVID-19. This is natural for virtually all countries, as COVID-19 has become one of the most organizationally dangerous factors in recent decades; national health systems have been unprepared, resulting in multiple deaths. It is suggested that a protocol be developed or updated for times of crisis to prevent weaknesses in times of future pandemics or biological attacks. Again, the costs of this category are difficult to calculate because of the multiplicity of variables.



Fifth, it is possible to improve the staffing of civil defense and emergency services in the port area. Since this area is associated with heavy human and commercial traffic, there is a high probability of chemical or biological contamination, even unintentional. One additional piece of equipment is CBRNE threat decontamination gloves at the cost of \$40 per pair (MIRA Safety, 2020). Since this is a consumable item, it is proposed to buy about 10,000 sets. Since it is proposed to expand the workforce by opening new offices, additional training equipment will be needed, including a human body simulator for training, which costs as much as \$4,000 (NASCO, 2022). This investment will improve employee skills, which will make sense during real-world incidents.

Conclusion

In emphasizing the bottom line, it must be said that providing complete Civil Defense and Emergency Situations management is a critical need for municipal and federal authorities. The overall level of national security depends on how effectively and barrier-free crisis management practices are implemented. With the intensification of tensions in the international arena and the intensification of the phenomenon of terrorism, civil defense and emergency situations are priority areas, ignoring which, one might say, can lead to a complete civil crisis in the country. In this paper, the case of Qatar, one of the progressive regions of the Persian Gulf, was studied; the Hamad port area was chosen for specificity. The overall conclusion is that the country's current civil defense and emergency management practices are actively developing, but right now, they are not ideal. Too many problems with insufficient staffing and lack of transparency of the service were identified. In addition, problems were found in the communication between the Civil Defense and Emergencies Service and clinical institutions.

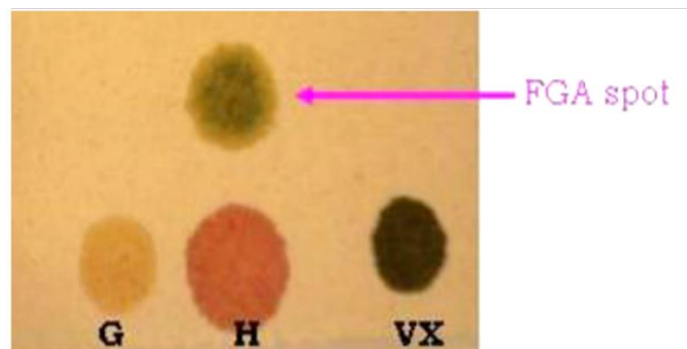
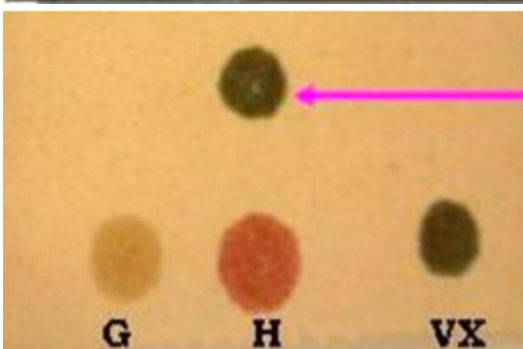
To date, emergency management continues to evolve, and cooperation among the different agencies is improving. The recently established NCC is the most critical management tool, but its representation in Qatar is far from perfect; no controlled offices have been found in the seaport area. Moreover, too few radioactive radiation detectors have been detected, which has the potential to pose a serious problem, especially given Qatar's strategic location and the seaport of Hamad.

Additionally, up to five recommendations have been proposed, the implementation of which would meaningfully improve Civil Defense and emergency practices in the Hamad port area. Ignoring these recommendations would save much money but would not produce the key result for which civil defense is provided in the first place. Preliminary spending has shown that a minimum of about \$537,000 is needed to implement the recommendations, but in reality, the actual spending will be ten times higher. It is necessary not only to purchase equipment but also to invest in the development of their own technology, to support the functional activities of local services, and pay salaries. Most likely, providing protection under the CBRNE concept would cost the Qatari authorities \$0.5M per year, which is 0.3% of Qatar's annual GDP (The World Bank, 2022). Thus, these are actual sums that can really improve the national security agenda in the country and thus are strongly recommended for implementation.



CBRN: M8 Paper Improvements

Source: <https://www.psmagazine.army.mil/News/Article/3380958/cbrn-m8-paper-improvements/>



A-series color change from dark green to yellow green

May 02 – The M8 paper, NSN 6665-00-050-8529, is a simple booklet with paper that detects chemical warfare agents with color-changing dyes. Each booklet has a color comparison chart on the inside front cover. M8 paper is used as a standalone item and it's used with other end items, such as the M256A2 chemical detector kit and various protective masks.

Every Soldier should be familiar with the use of M8 paper because it's a common task. Updated instructions tell the user not only how to detect and identify blister and nerve (G and VX) agents, but also



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how to detect and classify fourth-generation agents (FGA), also known as A-series or Novichok nerve agents.

The M8 paper liquid A-series detection and classification are noted in the instructions on the cover of the booklet and in the M256A2 kit's TM 3-6665-426-10 (Sep 22). In the presence of A-series agents, the color response is as seen below.

The user is instructed to look for colors that start out dark green and shift to yellow green after 10 or more minutes. This signature color change response indicates that A-series agents are present. See WP 0007 of TM 3-6665-426-10 (Sep 22) for the full instructions to test for and classify liquid agents. This additional agent classification is already possible with current M8 paper.

Units will receive the newly improved M8 paper through attrition of existing stock. Continue to use NSN 6665-00-050-8529 and you will eventually get the new M8 paper.

First responders train with real chemical warfare agents in Slovakia

Source: <https://www.opcw.org/media-centre/news/2023/06/first-responders-train-real-chemical-warfare-agents-slovakia>



June 19 —The Organisation for the Prohibition of Chemical Weapons (OPCW) and the Government of the Slovak Republic co-organised a training on handling live chemical warfare agents for first responders in Zemianske Kostol'any, Slovakia, from 22 May to 1 June 2023.

The course provided the participants with real experience of handling chemical warfare agents in an operational training environment. While few emergency response professionals get the opportunity to train by handling real chemical warfare agents, this group of expert first responders tested their capabilities in a highly realistic scenario.

Attendees also deepened their knowledge of safe practices when handling toxic chemicals, medical countermeasures, protective equipment, and the physical and chemical properties



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of chemical warfare agents. Furthermore, the first responders learned about the challenges of collecting samples from a variety of surfaces in a field environment.

The course was attended by 14 participants representing the following 13 OPCW Member States: Algeria, Argentina, Bangladesh, Bahrain, Brazil, Costa Rica, Estonia, Italy, Malaysia, Nigeria, Philippines, Spain, and Ukraine.

The training course has been held annually since 2004 and closely mirrors the Toxic Chemical Training offered to incoming OPCW inspectors.

EDITOR'S COMMENT: As you can see in photos, trainees are using Level-C PPE (NOT the usual Level-A always used in drills).



2023 CBRNE-RELATED CONFERENCES



<https://nct-events.com/event>

04-08 September: NCT USA
Aberdeen Proving Ground, Edgewood MD

04-11 November: NCT Asia
Kuala Lumpur, Malaysia

25-27 July, NDIA Annual CBRN Symposium and Exhibition
Baltimore Civic Center, Baltimore, MD
www.ndia.org/events

<https://cscm-congress.org/conference>

The 2023 CSCM World Congress will be held at Hotel Croatia. Situated across the bay from the historic walls of Dubrovnik, Hotel Croatia is a leading five-star resort and conference hotel on the southern part of the Adriatic Sea. Hotel Croatia's architecture blends seamlessly with its natural surroundings. Shaded by a pine tree forest, while offering spectacular sea views, all 487 rooms feature balconies, which overlook the Adriatic Sea or Cavtat Bay. State-of-the-art facilities include numerous gourmet restaurants, a spa center, and two beaches. Hotel Croatia is ideal for a broader experience of the Dubrovnik Riviera. Suited for business and relaxation alike, the Hotel Croatia serves as an excellent base for exploring the city of Dubrovnik and the Dubrovnik Riviera. The 2023 CSCM World Congress will be held under the auspices of the Government of the Republic of Croatia. In addition, we will enjoy active participation of the RACVIAC Center for Security Cooperation throughout the organization of the Congress as well as many other international and national organizations.



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Within the body of Istanbul Aydın University, under the coordination of Istanbul Aydın University Environment and Human Health Application and Research Center (ÇEVSAM) and CBRN Defense Policy Development Association the 1st of the "Istanbul CBRN Days" will be held. This meeting, which will provide the opportunity to share the knowledge and experience of very valuable participants on this subject in the



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national sense, will accelerate the development of scientific infrastructure and studies on CBRN DEFENSE in our country and related institutions and organizations, will ensure that experts and employees in this field get to know each other, share their work and contribute to the increase of cooperation between them. We hope to be found.

CBRN environment; It covers a large number of dead, injured, and environmental effects, especially those who have been infected with biological warfare agents, exposed to chemical warfare agents and/or toxins, and injured as a result of the effects of nuclear weapons and radiation. The COVID-19 pandemic, which has been affecting the whole world for almost the last 3 years, has enabled us to better understand the Biological threat of the CBRN concept, and in a sense, it has revealed how intense and difficult management of CBRN events can cause and can cause mass losses. The threat of CBRN weapons, which started with the terrorist attack of September 11, 2001, and made a name for itself in the recent Syrian internal conflicts in the Middle East geography, including our country, has taken its place in the asymmetric war, and unfortunately, these agents are expected to be used in both war and terror environment in the future.

We think that this meeting, which will bring together many scientists, public and private sector representatives, will bring together many scientists, public and private sector representatives, based in Istanbul, which is the apple of the world's eye, and present the latest developments and technologies in the field of CBRN DEFENSE, and we think that this meeting will partially fill the deficiency of our Istanbul in this field. At the end of the event, we hope to see all the participants among us who will contribute to the "1st Istanbul CBRN Days", where we aim to raise awareness about CBRN threats and dangers.

You can find more detailed information about the KRBN Days, which we plan **to be held in Florya (Halit Aydın) Campus of Istanbul Aydın University on October 20 – 21, 2023**, and which we think will create an important added value for our country, at <https://istanbulkbrn.org/>



TC17


 Advancing Technology
 for Humanity
 Galveston Bay Section
ISMCR 2023
25th International Symposium on Measurement and Control in Robotics
Iasi, Romania, September 21 – 22, 2023

<http://ismcr.org/2023-ismcr/>

This symposium will focus on various aspects of research, applications and trends of robotics, advanced human-robot systems and applied technologies, e.g. in the fields of robotics, telerobotics, autonomous vehicles, simulator platforms, as well as virtual/augmented reality and 3D modelling and simulation. Like its previous editions, ISMCR 2023 serves as a forum for the exchange of recent research results and novel ideas in robotic technologies and applications; this time with specific reference to smart mobility.

TOPICS

We are looking for original, high-quality contributions addressing (but not limited to) the following topics:



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| <ul style="list-style-type: none"> • Robot Design Innovations; • Sensors/Smart Sensors their Integration/Fusion; • Advanced Controls and Actuators; • Methods of Artificial Intelligence in Robotics; • Humanoid, Climbing/Walking, Service, and Autonomous Robots; • Anthropomorphic Robots/Mobile Robots; • Teleexistence/ Telepresence; • Augmented Reality/Mixed Reality/Virtual Reality (VR); • Communication with Realistic Sensations; • Intelligent CAD and IMS; • Visual/Auditory/Tactile/Force Displays; • Tools and Techniques for Modeling VR Systems; | <ul style="list-style-type: none"> • Software Architectures for VR; • VR Interaction and Navigation Techniques, Distributed VR Systems and Motion Tracking; • VR Input and Output Devices; • Innovative Applications of VR; • Human Factors in VR; • Evaluation of VR Techniques and Systems; • Internet and VRML Application of VR in all areas; • Interactive Art and Entertainment; • Education and Entertainment Robots; • Medical and Healthcare Robots; • Micro and Nano Robots; • Innovative Robotics Applications. |
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The event has a two day conference and exhibition, and provide insight into the kinds of scenarios that forces need to prepare for, and help them develop a blueprint to managing them. Each nation will give two presentations, the first on their current capability (0-3years) and a second, academic one, that forecasts out to the medium term (5-10 years).

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The CBRNE World team have negotiated special conference rate at the NYX Hotel Warsaw, Chmielna 71, 00-801 Warsaw for the duration of the conference. Room rates are €140 per room per night including taxes and breakfast. Booking deadline May 24th, after which time rooms and rates will be subject to availability. To make your booking please contact the hotel directly by email res.warsaw@leonardo-hotels.com or call them on +48 22 346 28 00. Please quote HI CBRN when making your booking.

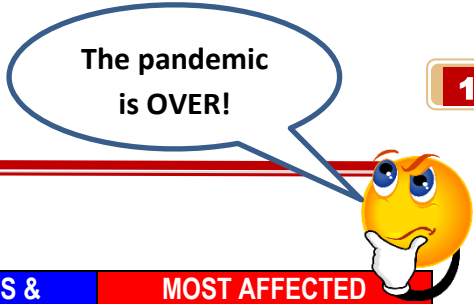


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BIO NEWS





Pandemic by numbers (as of June 24, 2023)

	CASES	DEATHS	COUNTRIES & TERRITORIES	MOST AFFECTED COUNTRIES*
COVID-19	(689,124,038) 690,712,706	(6,881,401) 6,894,097	229	USA, India, Brazil, France, Germany, Japan, S. Korea

* over 30 million cases | numbers in parenthesis are patients of previous month

Preparing for the Next Pandemic

By Jian Dong

Source: <https://www.genengnews.com/insights/preparing-for-the-next-pandemic/>



May 03 – As the CEO of WuXi Vaccines, a global vaccines contract development and manufacturing organization (CDMO), I have had the unique perspective of being at the forefront of the global fight against [COVID-19](#). Even though the industry successfully rose to the challenge of providing multiple vaccines in such a short timeframe, the COVID-19 pandemic also highlighted the challenges and vulnerabilities of the global vaccine supply chain.

Despite the successes, limited production capacity and logistical issues caused some shortages and delays in vaccine distribution. The pandemic also highlighted the need for regional raw material and vaccine product manufacturing and distribution strategies. Historically, CDMOs were not commonly used for the production and distribution of vaccines. However, as the pandemic has demonstrated, CDMOs, due to their unique infrastructure, global footprint, expertise, and capacity, can quickly produce large quantities of vaccines in a timely manner and offer solutions to proactively prepare us for future pandemics.



Lessons learned from the COVID-19 vaccine supply challenge

We have learned that traditional vaccine development processes, which take years, were not sufficient to meet the urgent needs during the pandemic. The pandemic spurred significant innovation, including the development of new technologies (such as novel mRNA and viral vector modalities). However, we cannot stop here. We must continuously invest in R&D to find faster and more efficient mechanisms to develop and manufacture vaccines. Doing so will help us build upon the innovations that emerged during the pandemic.

Need for flexible and scalable manufacturing capacity

Although COVID-19 vaccines were developed and approved at unbelievable speed, manufacturing capacity and distribution could not meet the initial global demand. To respond more rapidly to emerging crises, it is essential that we build a more resilient and agile supply chain, including redundant regional manufacturing, if possible. One way to do this is by using modular and flexible manufacturing technologies, such as single-use bioprocessing systems. These systems can be rapidly deployed and scaled up to meet changing demands and easily repurposed for different vaccine candidates.

The importance of international cooperation and collaboration

The need for global collaboration and partnerships is critical. Pandemics do not respect national borders, and it is essential that we work together, across the globe, to combat them. Thus, building strong partnerships between pharmaceutical companies, governments, and other international organizations such as the World Health Organization (WHO) to share knowledge, resources, and expertise is paramount.

One CDMO's solutions for the global vaccine supply challenge

WuXi Vaccines is committed to offering end-to-end solutions for all participants in the vaccine supply chain, including well-established vaccine companies, big pharma companies, and biotech startups. We provide solutions, tailored to the challenges each business faces. Over the past couple of years, our partners have rapidly gained access to manufacturing capacity and capabilities through our global manufacturing network and utilized our extensive expertise. By utilizing our CDMO solutions, our customers can focus on their core competencies and more efficiently bring vaccine products to the market.

The following case studies highlight how WuXi Vaccines enabled its partners, both large and small, to meet their vaccine development goals now and into the future.

Case study 1: Leading global vaccine company

Solution: Dedicated external manufacturing center

Today, four leading vaccine development companies account for over 80% of the global market for vaccines. They play a crucial role in the vaccine supply industry.

However, despite their mature vaccine development and manufacturing expertise and infrastructure, these organizations still face significant challenges in responding to global pandemics and unmet vaccine needs. These companies' product teams and manufacturing facilities are typically fully committed to existing and strategically important projects, and responding to an emerging health crisis risks misallocating resources at the expense of other critical projects. Thus, to move faster during a global health crisis, these organizations should engage external resources to help reduce these misallocation risks and minimize the impact on ongoing projects.

A CDMO provides these companies with rapid access to external resources and expertise. These resources provided by a CDMO de-risk vaccine development by quickly ramping capabilities when needed, enabling the organization to respond to volatile demand while continuing to focus on its core business.

For example, WuXi Vaccines is currently building an external manufacturing center to enable one leading vaccine company to launch an innovative high-volume vaccine. To ensure that the external manufacturing center performs as desired, a business relationship was established based on a long-term flexible collaboration model that allows for external capacity to be available on short notice to ensure delivery and safeguard time to market.

In this instance, two sites were established. One site will be used to facilitate technology transfer. (This site will be located close to our partner's R&D center to maximize efficiency between the two R&D teams.) The other site will be used for high-volume production. (This site will be strategically located to optimize manufacturing talent acquisition and efficient global distribution of the product.)

The aforementioned high-volume production site showcases not just WuXi Vaccines' astonishing facility construction speed, but also its commitment to high precision and quality, as demonstrated by the site



passing regulatory audits and achieving GMP certification. WuXi Vaccines benefitted from leveraging the capabilities and expertise of its parent company (WuXi Biologics). We used off-site fabrication to construct the BSL-2 potency assay laboratory, an innovative strategy that allowed us to complete the laboratory in only five months.

By providing speed and precision, the external manufacturing center helps this leading vaccine company focus its efforts solely on vaccine R&D, reducing time to market, building competitive advantage, and avoiding the delay and expense of building a dedicated production facility of its own.

Case study 2: Big pharma

Solution: Click-and-run commercial supplier

As big pharma companies enter the vaccine field, they may face several challenges, including the potential lack of vaccine expertise across all R&D, manufacturing, and quality functions and insufficient vaccine production facilities. To address these challenges, they may need to invest in advanced technologies and capabilities, training, and facilities.

Vaccine CDMOs help big pharma companies address these challenges by providing agile and high-quality vaccine manufacturing services, especially in situations where demand is highly variable and unpredictable. CDMOs such as WuXi Vaccines have expertise and resources readily available to allow rapid production scale-up to meet demand quickly and efficiently.

WuXi Vaccines, again, in conjunction with its parent company (WuXi Biologics), offers one of the largest capacities for single-use bioreactor operations in the industry, as well as a well-established global network that includes facilities in Europe, North America, and Asia. Compared with traditional stainless-steel bioreactor facilities, our use of multiple single-use bioreactors offers a highly flexible, cost-competitive manufacturing strategy, ideally suited to the variable demands of the vaccine market.

During the pandemic, WuXi Vaccines enabled a top 10 pharma company to bring its first vaccine product to market in record time. A key benefit of WuXi Vaccines for the client was rapid access to flexible production capabilities that could scale rapidly while maintaining quality standards and compliance.

To meet our partner's requirements, we upgraded a drug substance plant from BSL-1 to BSL-2 in just four months, resulting in a 20-fold increase in production capacity. As a result of our high-quality control measures and regulatory experience, a WHO Emergency Use Listing was achieved in a record time of nine months. WuXi Vaccines delivered more than 500 million doses of our partner's vaccine, more than any other supplier, to more than 180 countries.

Case study 3: Biotech startups

Solution: Development and manufacturing accelerator

Biotech startups, as smaller, newer companies, are often focused on specific areas of R&D. These companies are often characterized as having novel vaccine technologies or modalities, as well as flexibility and agility. However, these firms may lack the financial resources to invest in production capacity, and they may have limited technical, quality control, and regulatory knowledge and experience. For example, they may lack experience with current good manufacturing practice (cGMP) guidelines.

One important way that CDMOs can help biotech startups is by serving as a development and manufacturing accelerator. CDMOs can also offer enhanced services, such as filing strategies and GMP consultation, thus helping startups meet the necessary regulatory requirements and quality standards.

A biotech client of WuXi Vaccines was planning to be a Global Alliance for Vaccines and Immunization supplier of COVID-19 vaccines but failed the WHO prequalification audit. The company's site was deemed noncompliant. WuXi Vaccines helped this biotech startup overcome this challenge by sending an expert team to train the client's manufacturing personnel and provide an upgrade to the operations and quality systems to achieve GMP compliance, while also providing off-site CDMO services in parallel. Our team, which included experts in quality, manufacturing, and engineering, helped our client to upgrade its quality system and prepare for National Regulatory Authority approval.

As a result, the biotech was able to successfully upgrade its quality system and passed the National Regulatory Authority inspection in 11 months. In parallel, WuXi Vaccines, serving as this biotech's CDMO, initiated technology transfer within one month, and proceeded with Process Performance Qualification runs that led to an eventual filing and European Medicines Agency GMP certification within seven months. To date, sufficient drug substance has been manufactured to provide 33 million doses.

Conclusion

Over the past few years, we've seen unparalleled innovation and collaboration in the global fight against COVID-19. The rapid development and rollout of new vaccines, diagnostic tests, and therapeutics have saved millions of lives. However, these developments have not benefited everyone equally. Supply chains



were slow to respond. To best prepare for the next global health emergency, we need more resilient supply chains. WuXi Vaccines, in partnership with global nongovernmental organizations, is committed to addressing equality of vaccine access by providing high-quality commercial manufacturing services where they were needed most. To date, we have contributed COVID-19 vaccine supply to more than 180 countries. We will continue advancing the accessibility and affordability of high-quality vaccines by employing integrated technology platforms that enable our global partners to enhance the well-being of people worldwide.

Jian Dong is CEO of WuXi Vaccines.

Why Scientists Have a Hard Time Getting Money to Study the Root Causes of Outbreaks

By Caroline Chen (national reporter for ProPublica)

Source: <https://www.homelandsecuritynewswire.com/dr20230524-why-scientists-have-a-hard-time-getting-money-to-study-the-root-causes-of-outbreaks>

May 24 – The outbreaks keep coming.

Mpox, the virus formerly known as monkeypox, last year crossed borders with unprecedented speed to infect nearly 90,000 people. In the past year, Ebola killed at least 55 in Uganda, and a related, equally deadly virus called Marburg emerged in two countries that have never seen it before. Now, scientists are worried that a dangerous bird flu that's been jumping to mammals could mutate and spread among humans.

These viruses all came from wildlife. Understanding what conditions prime pathogens to leap from animals to people could help us prevent outbreaks. After COVID-19 showed the world the devastation a pandemic can bring, you'd think this type of research would be among the hottest areas of science, with funders lined up far and wide.

That's not the case. As ProPublica has shown in a series of stories this year, global health authorities [focus far more attention and money on containing outbreaks](#) once they begin rather than [preventing them from starting in the first place](#). This mindset has hindered scientists who study the complex dynamics that drive what's known as spillover, the moment a pathogen leaps from one species to another.

Australian researcher Peggy Eby and her colleagues have shown that [it is possible to predict when spillovers are going to happen](#) by closely tracking bats that spread contagion and patiently observing changes that shape their world. This groundbreaking research on the often-fatal Hendra virus relied on decades of Eby's field work, some of which she did without pay. Early on, one government funder told her that the project she proposed wasn't a "sufficiently important contribution." She and her colleagues had to cobble together a mishmash of different grants and keep impatient funders happy. Their work, [published late last year in the journal Nature](#), highlights ways to intervene and potentially prevent outbreaks.

Scientists want to unlock similar mysteries involving other infectious diseases, but research like this is difficult to do and even more difficult to fund. Here are some of the obstacles that stand in the way:

High-Tech Research Overshadows Old-School Field Work

Government and scientific funding organizations typically reward cutting-edge technologies, such as using machine learning to build models. But those are only as good as the information fed into them — data that someone like Eby has to collect through painstaking groundwork. Many of Eby's most important insights have come from visiting and revisiting bat roosts over many years, and there was nothing high-tech or novel about her method: a keen eye, a pair of binoculars, a pen and a notebook.

Funders Prize Novelty Over Exploring Existing Theories

Some funders prioritize totally new ideas. Eby and her colleagues have found that bats shed more Hendra virus after being stressed by food shortages, which have increased as people cut down native trees that once provided the nectar the bats like to eat. Sarah Olson, director of health research at the Wildlife Conservation Society, has long wanted to conduct similar research on bats suspected of carrying the Ebola virus in the Republic of Congo. Developers have cleared swaths of forest in recent years to build roads and housing, and Olson wants to understand how that's affected these bats.

Olson has applied for grant after grant since 2015 but has struggled to get sufficient funding. Even before she applied, an employee at the National Science Foundation told her the study wouldn't be novel enough because she wasn't exploring an entirely new theory. Rather than strengthening her case, Eby and her colleagues' prior work weakened Olsen's chances. A spokesperson for the National Science Foundation



said the agency could not comment on specific grants. Speaking generally, the spokesperson wrote, “The most competitive proposals are those that advance broad, conceptual knowledge that reaches beyond the specific system under study.”

Olson has lined up Congolese researchers who are willing to collaborate. “We can do it,” she said. “It’s just a matter of getting funding and the interest.”

Funders’ Focus Is Often Too Narrow

If you want to predict and prevent an outbreak, you have to answer big questions: What causes spillover? Why this year and not another? How does a changing environment influence animals and their interactions with humans? Experts across disciplines are needed, but cross-disciplinary vision is hard to find among many of the most prominent funding agencies.

The National Institute of Allergy and Infectious Diseases, for example, focuses on research to develop treatments, vaccines and diagnostic tests and to understand viruses at the molecular level. Conservation and environment-focused grants rarely include human health in their scope. Olson pitched her study on Congolese bats to the National Institutes of Health. She got rejected, she said, because grant reviewers said that it wasn’t clear how the bat results could be linked to human infections. An NIH spokesperson said the agency doesn’t comment on specific grants, adding, “It is incumbent on investigators who want to study overlapping interests of animal and human health to clearly describe the relevance of their proposed research to the advancement of human health.”

Eby and her colleague, Dr. Raina Plowright, a professor of disease ecology at Cornell University, smacked into these same silos when their applications for grant after grant were shot down. An animal foundation, for instance, said it wasn’t within its mandate to care about diseases that jumped to humans.

Thomas Gillespie, a professor of environmental sciences at Emory University, wanted to investigate whether stress affects when cave-dwelling bats in Costa Rica shed leptospirosis, a type of bacteria that can be deadly to humans. A joint program from the National Science Foundation and the NIH said the project was “too ambitious,” he recalled. Gillespie and his colleagues tried for a different NIH grant, but reviewers complained the focus was too much on animals and not enough on humans, he said. In the end, he and his colleagues stitched together funding from a museum, a nonprofit and private foundations, but they had to scale back the project to stay within budget.

Long-Term Research Doesn’t Fit into Short-Term Grants

Research grants typically last two to three years, which is not enough time to observe how climate change, food shortages, habitat loss and deforestation are affecting animal behavior. For their Hendra research, Eby and her colleagues analyzed data that spanned 25 years. To support that long-term data collection, Eby sometimes took on contract work, such as helping local governments figure out how to deal with bats that people in the area considered a nuisance.

Plowright won a grant from an arm of the Department of Defense, but it only allowed two years for collecting field data. “They needed us to wrap things up and show results to justify our funding,” Plowright said. That schedule is the norm, not an outlier, in science.

Some Key Programs Are One-Offs

It’s not just that grants are short term. Some of the rare grant-giving initiatives that focus on prevention don’t last long either.

The Hendra virus researchers received some of their biggest financial support from a Defense Advanced Research Projects Agency program that was unique in its scope and vision. Called Preventing Emerging Pathogenic Threats, the program sought to understand the reasons contagions spread from animals to people. The ultimate goal was to devise strategies to protect U.S. troops in places where there are endemic and emerging infectious diseases, according to Kristen Jordan, the deputy director for the DARPA Biological Technologies Office. Unlike many others, this program was designed to support multidisciplinary research and was squarely focused on prevention. In 2018, it [funded five projects](#), including the Hendra virus research.

But that’s it. After five years, the program is wrapping up for good. “We look to our government partners to pick up the pieces, if they so desire,” Jordan said. “We are ready for the next hard problem; there are many we need to address.”

Similarly, a program at the NIH called the Centers for Research in Emerging Infectious Diseases is among the few that fund scientists across disciplines who are trying to understand spillover. Established in 2020, the program plans to award \$82 million over five years. That’s not as much as it sounds. Consider that the NIH receives more than \$3 billion annually for HIV and AIDS research. Jean Patterson, the scientist who helps oversee the program, said that when the five years is up, she and her team have to make the case to NIH leaders that their program should continue or it will be dropped.

Money Is Scarce, Even for Solutions

When researchers uncover ways to prevent outbreaks, getting funders to implement those solutions is no sure bet. Emily Gurley, an infectious disease epidemiologist at Johns Hopkins University, succeeded in



winning government funding to piece together how the Nipah virus jumped from bats to people in Bangladesh. She and her colleagues figured out a way to interrupt the transmission of Nipah, the virus used as the model for the disease in the movie “Contagion.” Gurley and her team used infrared cameras to determine that bats were drinking sap that residents were collecting in pots attached to date palm trees. People caught Nipah when they drank sap contaminated by infected bats.

Across multiple studies, Gurley and her colleagues showed that bamboo skirts covering the pots were cheap and easy to make, accepted by local sap collectors and effective at keeping out bats. With a proven solution in hand, Gurley wanted to roll this out in other parts of Bangladesh where bats spread Nipah, but she said no U.S. or international agency would step up to fund that work. The Bangladeshi government tells people not to drink raw sap, but this is a long-standing tradition that may be hard to eliminate. Gillespie, the Emory professor, said that government and private scientific funding groups need to prioritize research into prevention, so we can learn how best to head off deforestation, habitat loss and other causes of spillover. “We have to do something now, or we’ll end up in an era of pandemics,” he warned.

Bacteria-Killing Viruses as Alternative to Antibiotics

Source: <https://www.homelandsecuritynewswire.com/dr20230525-bacteriakilling-viruses-as-alternative-to-antibiotics>



May 25 – The public is in favor of the development of bacteria-killing viruses as an alternative to antibiotics – and more efforts to educate will make them significantly more likely to use the treatment, a [new study](#) shows.

The antimicrobial resistance (AMR) crisis means previously treatable infections can kill. This has revitalized the development of antibiotic alternatives, such as phage therapy, which was first explored over a century ago but abandoned in many countries in favor of antibiotics.

The study shows public acceptance of phage therapy is already moderately high, and priming people to think about novel medicines and antibiotic resistance significantly increases their likelihood of using it.

There is a higher acceptance of phage therapy when described without using perceived harsh words, such as “kill” and “virus” but instead “natural bacterial predator”.

Those who took part in the survey had a high awareness of antibiotic resistance – 92 per cent had heard of antibiotic resistance, but only 13 per cent reported that they had heard about phage therapy prior to the survey.

Success and side effect rate, treatment duration, and where the medicine has been approved for use, influenced their treatment preferences.

The study was conducted by Sophie McCammon, Kirils Makarovs, Susan Banducci and Vicki Gold from the [University of Exeter](#).

Dr Gold said: “Those involved in the research wanted to know more about phage therapy and were inspired to research this topic after completing our survey. Exposure to only a very limited amount of information about phage therapy significantly increases acceptance.”

Researchers held a workshop with experts and a review of phage research. They also fielded a survey assessing the UK public’s acceptance, opinions and preferences regarding phage therapy. A total of 787 people completed the survey, distributed in December 2021. One group was given two scenarios; in the first they presented with a minor infection, and in the second they presented with an infection that did not respond well to antibiotics for three months. In each scenario, the group ranked the selected attributes based on their importance in deciding whether to accept a treatment or not.

Participants were randomly assigned one of four descriptions of phage therapy and then surveyed to assess their acceptance of the treatment. The acceptance of phage therapy was high across the board. However, describing phage therapy using perceived harsh words, such as “kill” and “virus”, resulted in lower acceptance rates than alternative descriptions. Additionally, participants who had recent exposure to information about antibiotic resistance and alternative treatments were more accepting of phage therapy.

From the 787 participants who completed the survey, 213 left written responses expressing their opinions on the potential of phage therapy. Of this group, 38 per cent showed a specific interest in phage therapy development, while a further 17 per cent supported the development of antibiotic alternatives generally.

Sophie McCammon said: “An advantage of phage therapy is often the minimal side effects. Emphasizing this through education and marketing may increase public acceptance of phage therapy.

“Even though phage therapy may be some years away from routine clinical use in the UK, increasing pressures from the AMR crisis require evaluation of the UK public’s acceptance of alternative treatments.” “The public desire for increased education is apparent. Expanding schemes which are interactively involving children in phage research not only generates excitement for the therapy now, but also promotes awareness in the generation likely to be treated with antibiotic alternatives.”



Biosafety Needs to Redefine Itself as a Science

By Antony Schwartz, Andrea Vogel, and Mary Brock

Issues in Science and Technology / Vol XXXIX, No 3, Spring 2023 / Arizona State University

Source: <https://issues.org/biosafety-definition-schwartz-vogel-brock/>

Have you heard the joke about jobs in biosafety? One professional asks another for recommendations to fill an open position. The second says sure, but she first needs recommendations to fill her three open jobs! It's not really a joke: a recent newsletter for biosafety professionals carried multiple job openings from the most senior to the most junior positions. After three years of a pandemic plus the dawn of relatively easy gene-editing and other advances in biotechnology, demand for biosafety workers is rising. But we argue that the worker shortage also stems from a more fundamental issue: biosafety is seen mainly as a compliance issue, not a science.

In an [executive order](#) signed in September 2022, President Biden set forth the goal to “elevate biological risk management” as part of a broader effort to advance biotechnology and biomanufacturing. The order specifically noted that the administration’s efforts should include “providing for research and investment in applied biosafety and biosecurity innovation.” This marks a rare opportunity to nail down a definition of biosafety so that it is established as more than a set of guidelines to be implemented.

Yes, biosafety professionals oversee compliance with regulations, but they also address problems that demand empirical research. Biosafety should be recognized as a hard science of risk management and innovation that requires formal training. Such a change will make for more efficient, improved safety processes as well as encourage better training and greater interest in biosafety as a career. Without this definition, the progress of life sciences research will be hampered by a lack of safety officers and outdated, inflexible practices.

Biosafety should be recognized as a hard science of risk management and innovation that requires formal training.

Risk assessment is already at the core of most biosafety professionals’ daily work. Some hazards can indeed be mitigated with standardized practices and procedures. However, most circumstances require careful study of the biohazards, the procedures performed, the equipment used, and the mitigation measures available (facilities, containment devices, or personal protective equipment, for instance). Establishing biosafety as an innovative research discipline will enable the field to keep pace with a sector that is going through momentous changes.

None of the definitions of biosafety put forward so far capture the complex, dynamic nature of the discipline. We propose the following: “Biosafety is the study of biological hazards using evidence-based risk-assessment and mitigation measures to prevent accidental exposure to a biological hazard or release to the environment.”

Biosafety professionals have been meeting informally since the 1950s. The US Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) joined the gatherings in the 1960s. In those early days, [the focus was on regulation and classification](#). In the 1970s, the four biosafety level designations were established, as were regulations on shipping microorganisms and toxins. Starting in 1984, the CDC and NIH published the [Biosafety in Microbiological and Biomedical Laboratories](#), a manual known colloquially as the biosafety bible. The current edition refers to biosafety as merely “the mechanism for addressing the safe handling and containment of infectious microorganisms and hazardous biological materials.”

The World Health Organization’s [Laboratory Biosafety Manual](#), another set of guidelines, defines biosafety as “Containment principles, technologies, and practices that are implemented to prevent unintentional exposure to biological agents or their inadvertent release.” These and other descriptions convey biosafety almost passively, as a set of practices to be followed. None acknowledge biosafety as a process of risk assessment that informs risk mitigation strategies.

None of the definitions of biosafety put forward so far capture the complex, dynamic nature of the discipline.

Given this background, it is perhaps not surprising that many biosafety professionals don’t consider their creativity in day-to-day work as innovation or evidence collection. For example, we have been to workshops, nationally and internationally, where colleagues have described doing systematic assessments of waste decontamination of infectious agents with limited resources—not realizing that this is in fact applied research.

Without recognition of the science behind biosafety, such innovative work may not be supported by the institutions where potentially risky experiments are carried out or the funders that underwrite such experiments. Securing time, funding, and other resources to gain knowledge to keep scientists and the public safe can be difficult. As biosafety’s scope has grown, practitioners need to formally establish biosafety as its own distinct field of scientific study worthy of funding, with robust infrastructure to support rigorous inquiry.



Here's an example of a useful biosafety investigation with no obvious source of support: lentiviruses—which cause a number of human and animal diseases, including AIDS—have a place in laboratories worldwide as a useful tool for transferring genes into cultured cells. Conventional wisdom assumes that all lentiviral vectors (i.e., the particles that carry the DNA sequences) are taken up by the cultured cells within 72 hours, thus requiring fewer safety precautions thereafter. But further assessments are needed to know if this is indeed the case for various gene inserts, CRISPR modifications, and other advances.

Here's another example: autoclaving is a common technique for sterilizing samples when they are no longer needed. It's used to decontaminate viruses, bacteria, fungi, and other potential infectious agents. Studies that determine optimal autoclaving times for various growth media, freezer temperatures, and container sizes could make a routine process shorter and less complicated while still maintaining safety.

Expanding biosafety to mean “the study of biohazards” will inculcate a mindset of continuous experimentation and discovery that will advance the field—and advance research safety overall.

There are precedents for defining or redefining a discipline to influence the direction of the field. Nursing is an example of a discipline that reoriented itself from following rote procedures to embracing a mission—patients' health—while advancing knowledge through empirical research. Public health is also an apt example. Over a hundred years ago, one of the founders of the field, C.-E. A. Winslow, [defined it](#) as “the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts.” Definitions like this encourage a broad range of ongoing inquiry and enable a field to secure the funding necessary for conducting research. In biosafety, the lack of such recognition contributes to a dearth of training, qualified personnel, and research support.

Expanding biosafety to mean “the study of biohazards” will inculcate a mindset of continuous experimentation and discovery that will advance the field—and advance research safety overall.

Time and again, biosafety professionals conduct their own research to gather the data needed to make evidence-based recommendations. Official biosafety manuals should formally endorse this in their next updates, and efforts building off the Biden administration's executive order should explicitly seek to advance research capacity in biosafety.

The basic components necessary to define biosafety as the study of biohazards are already ingrained in the field's practice. A definition that reflects this fact can propel the profession and better support the advanced biotechnology and biomanufacturing sectors that rely on it.

Antony Schwartz is the institutional biosafety officer, responsible official, director of the biological safety division, and institutional contact for dual use research of concern at Duke University.

Andrea Vogel is a biosafety specialist and an alternate responsible official at Duke University.

Mary Brock is the assistant biosafety officer and an alternate responsible official at Duke University.



Bruker pBDi – Portable BioDetector

Source: <https://www.bruker.com/en/products-and-solutions/cbrne-detectors/bio-detection/pbdi.html>

Emergencies involving biothreat agents can occur because of a natural catastrophe, a localized outbreak (epidemic) or a worldwide outbreak (pandemic) of an infectious agent, warfare, or acts of terrorism. Rapid and reliable identification of biothreat agents is of utmost importance not only to confirm that a bioterrorism event has occurred, but also to initiate appropriate organizational as well as medical countermeasures.

The Bruker's pBDi is a portable detection platform for rapid and sensitive on-site identification of biothreat agents. Developed for use by non-scientific personnel, the pBDi is easily operated, even while working in protective equipment under extreme conditions. Fully portable and operating from internal batteries, pBDi can be used in the hot zone. Equally pBDi can be integrated with various mobile platform solutions, where it can be powered from an external supply.

The pBDi employs a sensitive electrochemical biochip technology for multiplex ELISA-based (enzyme-linked immunosorbent assay) detection of biothreat agents. The pBDi



builds on the technology of the Bruker portable Toxin Detector and offers new features such as integration with a mobile suitcase, battery operation, Bluetooth connection to a ruggedized tablet PC and assays for bacteria, viruses and toxins identification.

Why specify pBDi?

- Universal detection for toxins, bacteria and viruses
Direct identification of up to 6 agents in 20 mins
- Powerful and simple-to-use ELISA-based technology
Achieves optimum results with minimum effort
- Offers a sensitive system for toxins, bacteria and viruses
pg/ml for toxins, up to 10³ CFU/ml for bacteria, 10⁴ PFU/ml for viruses
- A battery-operated system with a ruggedized tablet PC
A portable solution for first responder, and other mobile applications
- Minimum sample preparation required
Extremely tolerant of variable sample matrices
- Automated data processing and “Traffic Light” based displays
Unambiguous interpretation of positive detection events

DETECTABLE AGENTS

- Bacillus anthracis (Anthrax)
- Yersinia pestis (Plague)
- Francisella tularensis (Tularemia)
- Brucella melitensis (Brucellosis)
- Burkholderia mallei (Glanders)
- Orthopox viruses (Smallpox)
- Botulinum Toxin A, B, C, D, E, F
- Staphylococcal Enterotoxin A, B
- Ricin
- Abrin

pBDi – Operating Principles

The detection principle of the pBDi is based on the well established ELISA procedure combined with an electro-chemical readout. Capture antibodies immobilized on gold electrodes facilitate the specific binding of corresponding biothreat agents. Detection of bound biothreat agents is realized by application of a detector-antibody-enzyme conjugate and measurement of the electrical current of an enzymatic redox reaction. The detection event is strongly amplified in this system and allows very sensitive biothreat agent detection in approx. 20 minutes. First, the high turnover of enzymatic reaction contributes to the signal amplification and second, a redox cycling procedure built into the experimental procedure, provides a second signal amplification.

The straightforward workflow starts with resuspension of a liquid or solid sample in a supplied sample buffer. The pBDi Test Kits contain optimized reagents to perform multiplex electrochemical ELISA's in a stable, easy to use lyophilized format. After fully-automated measurement of a suspicious sample the software pBDi Control performs automatic analysis of results and indicates biothreat agent detection.



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Trends in Environmental Analytical Chemistry

Volume 30, June 2021, e00117



Recent progress in detection of chemical and biological toxins in Water using plasmonic nanosensors

[Varsha Brahmkhatri](#) , [Parimal Pandit](#), [Pranita Rananaware](#), [Aviva D'Souza](#),
[Mahaveer D. Kurkuri](#)



US Develops Biological Weapons in Ukraine – Russian Defense Ministry

Source: <https://sputnikglobe.com/20230526/us-develops-biological-weapons-in-ukraine---russian-defense-ministry-1110600868.html>

May 26 – The data obtained by the Russian Defense Ministry once again proves that the United States is developing biological weapons on the territory of Ukraine, Lt. Gen. Igor Kirillov, the head of the radiation, chemical and biological defense troops of the Russian armed forces, said on Friday.

"The US defense ministry is actively studying these economically [significant infections outside the national territory](#) in biolaboratories located along the borders of its geopolitical opponents. This once again confirms that the United States is developing biological weapons components outside of national jurisdiction, including on the territory of Ukraine," Kirillov told reporters.

He added that Russian Defense Ministry specialists have seized documents from a Askaniya-Nova Biosphere Reserve laboratory, confirming that the Kharkov Institute of Experimental and Clinical Veterinary Medicine have worked on military biological projects of the Pentagon.

"[Documents seized from a veterinary laboratory](#) of the reserve confirm the involvement of the Kharkov institute in the work within the framework of the US projects Yu-Pi-8, Pi-444 and preparation for the implementation of the Flu-Fly-Way project," Kirillov said.

The projects aim at evaluating of the conditions under which the transmission of pathogens of economically significant infections can become uncontrollable, cause economic damage and create food security risks, the official stated.

Kirillov added that the rising incidence of bird flu in Russia raises concern against the background of a mass death of birds due to biological experiments in Ukraine in 2021.

The ministry has already drawn attention to the documented fact of a mass death of birds on the territory of the Askaniya-Nova nature reserve in 2021, which, according to experts, was of an infectious nature, the official said. The simultaneous death of birds was provoked by ongoing experiments and neglect of safety requirements, he added.

"Against this background, we are especially concerned about an increase in the incidence of bird flu in Russia and in European countries, where, according to the International Epizootics Bureau, the disease has acquired a year-round character, and losses from it since 2021 have exceeded 3 billion euros," Kirillov told reporters.

Since the start of the year, Russia has recorded 32 outbreaks of bird flu across the country, he added.

Lt. Gen. Igor Kirillov stressed that employees of Askaniya-Nova Biosphere Reserve in the Kherson region, before the start of the special operation, [collected strains of the avian influenza virus](#) that could overcome the interspecies barrier, including the H5N8 strain with a lethality of up to 40%.

"A task force of the Russian Defense Ministry, together with employees of the Federal Security Service and Rosselkhoznadzor [Russian agriculture safety watchdog], confirmed the facts of the collection and certification of strains of the bird flu virus that have a high epidemic potential and are able to overcome the interspecies barrier, in particular, the H5N8 strain, the lethality of which when transmitted to humans can reach 40%" Kirillov told reporters.

Additionally, Ukraine tried to destroy biomaterials left in a Askaniya-Nova Biosphere Reserve biolaboratory, but Russian military scientists managed to identify traces of highly pathogenic bird flu there, the official said.

US Biological Warfare and Ukraine

Kirillov stressed that the facts indicate that the United States viewed Ukraine as a foothold for the deployment of NATO contingents. The Walter Reed Army Institute of Research supervised the U-Pi-1 and U-Pi-2 military biological projects, during which an active collection of biomaterials from the population of Ukraine was carried out, the official said. The documents obtained by the Russian Defense Ministry confirm the participation of the Reed institute in the study of the antibiotic resistance of microorganisms isolated from the Ukrainian military during the hostilities in Donbas from 2014 to 2020.

"Why should the institute of the US army study the drug resistance of microorganisms isolated on the territory of Donbas? This is another evidence that the United States considered the territory of Ukraine as a springboard for the deployment of NATO military contingents," Kirillov told reporters.

Additionally the documents obtained during special op revealed that for several years the Walter Reed Army Institute of Research of the US Army trained Ukrainian personnel under the biological threat reduction program.

"The documents obtained during the special military operation indicate that for several years the Institute [Walter Reed Research Institute] participated in the training of Ukrainian personnel as part of the biological threat reduction program," Kirillov stated.

The Walter Reed Research Institute of the US Army is a basic part of the Pentagon's Electronic Integrated Disease Surveillance System (EIDSS). The United States is setting long-term goals to find military applications of biotechnology to outrun strategic rivals, the official emphasized.



"The document [the 2023 US Biomanufacturing Strategy] defines long-term goals for the development of biotechnologies and the search for their military applications," Kirillov told reporters. He added that the goal declared in the strategy is to ensure technological sovereignty in the field of biomanufacturing and overtake strategic rivals. Kirillov stressed that the United States has never clearly stated about its obligations in the field of the safety of its biological research. "It should be noted that the United States has never clearly stated its obligations in the field of safety of research conducted in biolabs under its control," Kirillov told a briefing.

The official highlighted that the United States is improving methods of biological protection of its military personnel, while simultaneously studying pathogens of particularly dangerous diseases typical for specific areas. "I will remind you that in October 2022, the United States unveiled a national strategy to counter biological threats. The document has a doctrinal nature and defines biological risk management as the US's vital priority," Kirillov told a briefing. The official added that the United States has planned work to collect pathogens of especially dangerous infections in Central Asia and the South Caucasus under the guise of humanitarian cooperation. "Under the guise of solving purely peaceful tasks in the states of Central Asia and the Transcaucasus, [the United States] has planned work to select and genotype samples of pathogens of especially dangerous infections endemic to these regions: plague, anthrax, tularemia. At the same time, the US administration uses the already worked out scenario of alleged 'humanitarian' interaction," Kirillov told journalists. He specified that for these operations, the US government resorts to using not military but civilian organizations, for example the Centers for Disease Control and Prevention and the Gryphon Scientific research company.

Deep learning-guided discovery of an antibiotic targeting *Acinetobacter baumannii*



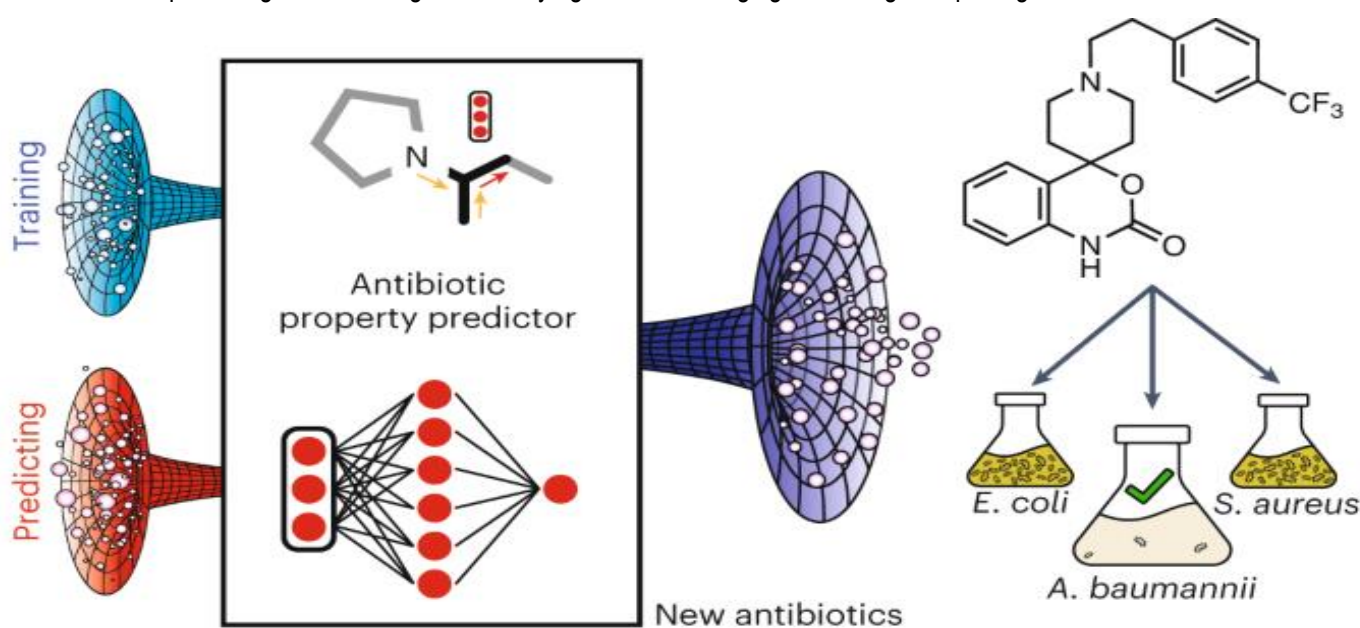
By Gary Liu, Denise B. Catacutan, Khushi Rathod, et al.

Nature Chemical Biology | 25 May 2023

Source: <https://www.nature.com/articles/s41589-023-01349-8>

Abstract

Acinetobacter baumannii is a nosocomial Gram-negative pathogen that often displays multidrug resistance. Discovering new antibiotics against *A. baumannii* has proven challenging through conventional screening approaches. Fortunately, machine learning methods allow for the rapid exploration of chemical space, increasing the probability of discovering new antibacterial molecules. Here we screened ~7,500 molecules for those that inhibited the growth of *A. baumannii* in vitro. We trained a neural network with this growth inhibition dataset and performed in silico predictions for structurally new molecules with activity against *A. baumannii*. Through this approach, we discovered abaucin, an antibacterial compound with narrow-spectrum activity against *A. baumannii*. Further investigations revealed that abaucin perturbs lipoprotein trafficking through a mechanism involving LoIE. Moreover, abaucin could control an *A. baumannii* infection in a mouse wound model. This work highlights the utility of machine learning in antibiotic discovery and describes a promising lead with targeted activity against a challenging Gram-negative pathogen.



DID YOU KNOW?

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1820:



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1920:



SPANISH FLU

2020:



CORONAVIRUS OUTBREAK

There is a theory that every 100 years
A Pandemic happens !
NATURE IS MYSTERIOUS !

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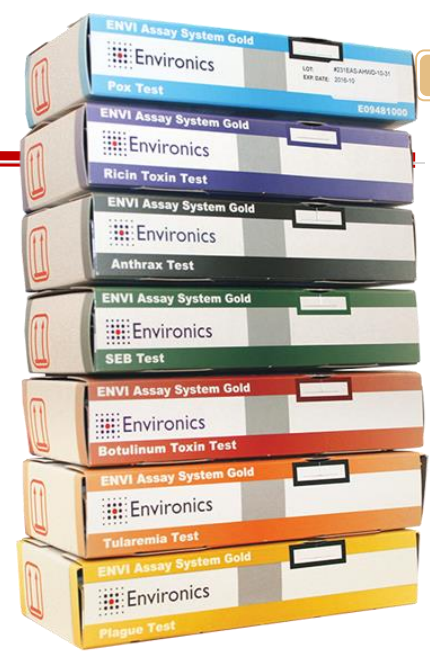
Source: <https://environics.fi/cbrn-products/envi-assay-system/>

High quality and proven test method for early detection and BWA identification. The most compact immunoassay “lab-in-a-box” in the market. Disposable, separate assays for seven highly poisonous hazardous agents: **ricin toxin, botulinum toxin, Bacillus anthracis anthrax, orthopox virus, SEB, Yersinia pestis and Francisella tularensis**. ENVI Assay System biodefence tests provide military and civil defence officers with a fast, simple, and reliable solution. ENVI Assay System test kits are featured with practical tools and straightforward test method giving fast response, specificity, and sensitivity ideal for provisional biological threat assessment from environmental samples.



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Why Choose ENVI Assay System

- Sensitive, specific and proven
- Handy and compact biological lab-in-a-box format
- Suitable for both field and laboratory conditions with no requirement for special training
- Simple operational steps: sample collection, solubilization, mixing, and dosing the sample can be done in seconds, and test results are ready in 15 -20 minutes

Applications

ENVI Assay System allows for early detection and BWA identification, which combined with timely warning, protection and correct medical countermeasures are crucial steps for the whole process of biothreat management. These rapid biodefence tests can be used in a broad range of applications, from law enforcement authorities to private security services, airport security checks, to even mobile laboratories.

Differences between a Pandemic and a Bioterrorism Incident

By ChatGPT



In recent times, the world has been confronted with numerous health threats that have had profound impacts on global populations. Two such crises that have garnered significant attention are pandemics and bioterrorism incidents. While both involve the spread of infectious agents, they differ in terms of their origins, intent, response mechanisms, and implications for society. This essay aims to highlight and explore the fundamental differences between a pandemic and a bioterrorism incident, shedding light on their distinct characteristics and implications.

1. **Nature of the Threat:** A pandemic is a widespread outbreak of a contagious disease that affects a large number of people over a vast geographic area, often crossing international borders. It is caused by a naturally occurring infectious agent, such as a virus or bacteria, which spreads from person to person through various means of transmission, including respiratory droplets, contact with contaminated surfaces, or vectors like mosquitoes. In contrast, a bioterrorism incident involves the deliberate release of harmful biological agents, such as bacteria, viruses, toxins, or fungi, with the intention of causing widespread harm, panic, and disruption.
2. **Origin and Intent:** Pandemics arise from the natural evolution and transmission of infectious diseases between animals and humans or through human-to-human interactions. They are typically unforeseen and unpredictable, emerging as a result of the mutation or adaptation of existing pathogens. In contrast, bioterrorism incidents are intentional acts carried out by individuals or groups seeking to inflict harm and generate fear. These incidents involve the deliberate use of biological agents as weapons, often for ideological, political, or strategic motives.
3. **Preparation and Response:** Pandemic preparedness primarily focuses on public health systems and emergency response plans aimed at early detection, containment, and mitigation of the disease. Governments, international organizations, and healthcare institutions work collaboratively to enhance surveillance, develop vaccines, provide healthcare infrastructure, and disseminate accurate information to the public. The response to a pandemic generally involves public health interventions, social distancing measures, travel restrictions, mass testing, contact tracing, and widespread vaccination campaigns.

Bioterrorism preparedness involves comprehensive security measures aimed at preventing, detecting, and responding to intentional biological threats. This includes strengthening surveillance systems to identify potential threats, establishing protocols for rapid response and investigation, enhancing laboratory capabilities for diagnostics, and improving coordination between law enforcement agencies, public health departments, and intelligence communities. Additionally, contingency plans, emergency drills, and stockpiling of medical countermeasures are critical components of bioterrorism preparedness.

4. **Impacts on Society:** Pandemics have wide-ranging effects on public health, economies, and social systems. They can lead to high morbidity and mortality rates, strain healthcare systems, disrupt supply chains, impact travel and tourism, and cause social unrest. The socioeconomic consequences of pandemics can be long-lasting, with profound effects on employment, education, mental health, and overall societal stability. However, pandemics are generally not associated with deliberate harm or malevolent intent towards specific individuals or groups.



In contrast, bioterrorism incidents aim to create fear, panic, and mass casualties. The psychological impact of bioterrorism can be severe, leading to widespread anxiety, mistrust, and a loss of confidence in public safety. The intentional targeting of specific populations or geographic areas can exacerbate social divisions and potentially incite further violence or discrimination. Moreover, bioterrorism incidents may have broader political and security implications, necessitating significant law enforcement and intelligence efforts to identify and apprehend those responsible.

Conclusion

While both pandemics and bioterrorism incidents involve the spread of infectious agents, their fundamental differences lie in their origins, intent, response mechanisms, and implications for society. Pandemics arise naturally and are characterized by widespread transmission of infectious diseases, necessitating comprehensive public health responses. Bioterrorism incidents, on the other hand, are deliberate acts aimed at causing harm, fear, and disruption, requiring robust security measures and coordinated efforts across multiple sectors. Understanding these distinctions is crucial for effective preparedness, response, and mitigation strategies, ensuring the safety and well-being of populations in an increasingly interconnected world.

Dr. Michael Yeadon: Are the mRNA injections toxic by mistake or by design?

Source: <https://rumble.com/v2bhm8e-dr.-michael-yeadon-are-the-mrna-injections-toxic-by-mistake-or-by-design.html>



Dr. Michael Yeadon's presentation at a SVPTF webinar, Every Breath You Take: Big Brother's Plan to Stalk You through the WHO, on Feb. 27, 2023

Dr. Michael Yeadon, PhD, former Vice-President and Chief Scientific Officer for Allergic and Respiratory Diseases worldwide for the drug company, Pfizer. He is the co-founder and former CEO of the biotech company Ziarco.

Topic: Are the mRNA injections toxic by mistake or by design? Why is the WHO pressing them on the world?

TRANSCRIPT

Dr. Michael Yeadon: [00:00:00] I can hardly describe to the audience how frustrated and angry as well as worried I feel. So I'm a career scientist, as Frank said. It's been obvious to me since about April 2020. That what was going on, these cells, which hadn't yet fully understand, had as its logical endpoint totalitarian control of of everyone [00:00:30] on the planet using digital techniques. And I'm afraid I believed then. And I believe even more firmly now that it's not just Big Brother in control that we face, it's extinction. And I'm going to describe why I am so sure about that. I'm getting up to three figures of interviews I've given, and it's immensely frustrating because as I gather [00:01:00] knowledge, I



grow more and more certain of some of the things I'm going to tell you. And they ought to be such that a reasonable person, having heard them, you either got to decide that despite my years of experience and the fact that I've gained nothing from speaking out, I'm either mad or what I'm telling you is pretty, right? Pretty well, right. It's the latter. Obviously. I don't think I've gone crazy and I've received not a penny of compensation. [00:01:30] I haven't thought it nor accepted anything, so I'll cut to the chase then. So before we get into the vaccines, it's actually really rather important to go back to the big picture. I've got a rhetorical question for you. How many times what's the right number of times would you think it appropriate for the public health people in your country and the leading politicians in your country to get on the TV and lie to you in your face? [00:02:00] What's the right number of times if it's in relation to health matters that could affect your health, your family's health, or your life? How many times? The answer is zero, isn't it? Am I make mistakes? But if they deliberately tell you things that they know are not true and can affect your health and life, I think you should disregard everything they say thereafter.

Dr. Michael Yeadon: [00:02:22] What I'm going to tell you is the authorities in every country have said I've done nothing but [00:02:30] lie to your face since the beginning of 2020 in relation to this alleged pandemic. So they told us, for example, that the threat to the population's health was very severe, and it was on that basis that you were going to have to do all sorts of ridiculous things like locking down and getting mass tested. Well, as the reality has come out a few months ago and check the data, the lethality of this alleged virus is about the same [00:03:00] as influenza. So straight away the entire. Apparatus falls away at the first question, which is are we under a severe threat? The answer is no. They knew we weren't under a severe threat. Right.

Dr. Michael Yeadon: [00:03:18] I could spend hours talking about this, but they lied about population health threats, severity. They knew it wasn't severe and they persisted in pretending it was. But the data well accepted now [00:03:30] is that it wasn't. And then they insisted on a whole panoply of medical countermeasures, really non-pharmaceutical interventions. So they made you wear masks? I knew long before COVID that masks are splash guards. They don't filter your air. They cannot possibly filter alleged viruses in your breath. They're splash guards. Look at the way the air goes around the side. That's a second line, isn't it? Don't really believe that these masks filter little infective [00:04:00] organisms in your breath. I hope you don't. It's ludicrous. Filthy thing across your face all day. They lied and said that when ill people turn up at hospital, if they have COVID selectively, if they have COVID, we're not going to treat them. No early treatments are possible. No treatments are allowed. And they made them go home until they were blue, literally. And then when they came back, they reflexively murdered in hospital. That's another lie. They made you lockdown or unless you're an essential worker. [00:04:30] And then you could go backwards and forwards and serve them, making sandwiches or packing food in food plants. And you may have all the loads of places serving in supermarkets. Did you know that the amount of illness in food packing plants and in supermarkets was not any greater than anywhere else in the community? What that tells you is and that was fairly obvious and you know, when I was telling you this, it's true.

Dr. Michael Yeadon: [00:04:59] What that tells [00:05:00] you is the whole idea of lockdowns was just to separate you. It made no difference whatsoever for the spread of this alleged viral pathogen. We we knew that beforehand. It was proven in numerous peer reviewed journal articles by the summer of 2020. And yet, goddamn it, they locked us down again. Christmas 2020. So I've just proved to you that your authorities lied in your face repeatedly, and they're still lying in your face. [00:05:30] This whole thing is a multi year plan designed to accomplish what it's accomplishing, which is to smash civil society, to wreck the economy, and to introduce digital various digital controls, not least of which is that war criminal Tony Blair's repeated call for digital ID and as other people on this call will point out, if you've got a digital ID [00:06:00] that you have to present before you enter or leave a premises, remember, every permit could be regulated in that way easily just by putting a camera and a lock on it, including your front door. Don't think they're going to allow you to move freely around and stop you getting on planes. They could stop you moving into a shop, out of a shop, or even out of your own house.

Dr. Michael Yeadon: [00:06:22] It's just limited by cameras and electronic locks on the door. It's that easy. And so you [00:06:30] don't need a digital ID. You've lived a whole life without a digital ID. Your life is not your safety does not require it whatsoever. So if I achieve nothing else by this, call this conversation. When they say, Oh, you've got to register if you're digital, I must say, no, I'm going to say no even if I am thereby financially excluded. If you if you accept this, you are in the first stages of the same funnel that cattle go [00:07:00] down or at the end they're in the crush cage waiting the stun bullet. That's this is the beginning of it. So please say no, because there's no escape from the totalitarian control that digital ID regulates. Your access to. Every space into every transaction will will grant whoever owns the database and controls the algorithm controls you. They will abolish cash, introduce central bank [00:07:30] digital currencies as readily described, and you will not be able to transact at all. So I think I've persuaded you that they lied about the the pandemic. I personally don't think was any pandemic at all. And had they not had the panoply of mass testing and the terror of 24/7 network TV, I don't think anyone would have noticed anything. The people who were ill were suffering from the normal illnesses, amplified [00:08:00] tremendously by the stress and fear that was being pumped out of their televisions.



Dr. Michael Yeadon: [00:08:05] Fear is one of the biggest inhibitors of human immune system. It makes you ill. And that's what they did. They lied to you. And what all that happened is they amplified all the normal illnesses and then they treated people badly, effectively murdering them. But here's the worst part. Now, they had us believing that there was this pathogen floating around and you had to be vaccinated. [00:08:30] Well, let me just point out a couple of little fact. Lits vaccination could never have been a successful or appropriate response to a respiratory viral pathogen. And it's not going to be the next time because there's going to be a next time you're going to do this again. That's why I'm speaking, right? I mean, everything's happening like I just retired to my shed. They're going to do this again. The reason that these vaccines could not work is, again today injected them into you [00:09:00] and they create immune response if they work in your blood compartment. But the pathogen has gone in your nose and lungs. It's in a different part of your body. And they do not meet. The immune reaction from the injected vaccine plays no role whatsoever in protecting you from infection from an airborne pathogen. So I knew that they knew that all the players who've been lying to you knew what I just told you could not work.

Dr. Michael Yeadon: [00:09:28] Flu vaccines, I'm afraid, don't [00:09:30] work really either for the same reason. And they've lied and sold them into your communities for decades. I didn't know that until the last three years. But they don't work. They could never have worked. Early treatment would have been the right thing to do, and it would all have been over. Then, of course, we've got the magic warp speed development. I mean, do you really think they managed to develop in parallel all the things they would have normally taken seven, ten, [00:10:00] 12 years to do and they managed to do it in less than a year. No, they didn't. It's literally impossible for them to have done. And I knew that I'd be pretty terrified in the middle of 2020 when I finally idly had a look at what they're actually doing. And I'm going to talk to you about about that. So and I as soon as I realized what they were doing, I knew they were going to coerce it into everyone, even though they said, oh, we'll give it to the vulnerable, the elders. So I have been made infamous by this phrase I'm going to give you. I'm [00:10:30] off. Aren't these vaccines that we know of harms people? Were they toxic by accident? Or, as I put it, toxic by design. Now, I've spent I spent 32 years in biopharma research.

Dr. Michael Yeadon: [00:10:45] I was a VP in Pfizer, head of worldwide research for respiratory. Ten years in biotech. And I ran my own biotech, which we sold to Novartis, which was then the biggest drug company in the world. So I'm not stupid. [00:11:00] I know what I'm doing. So when I tell you that having spent all those years in R&D, we worked on something called rational drug design, when you're trying to bring about effects, you don't just randomly gather a handful of nuts and bolts, as it were, from the molecular toolkit and hope they work. You're actually trying to ask, Where do I want the medicine to be? How long should it last? Should it go everywhere? What kind of concentrations do I want in order to bring about an effect and to do so safely? [00:11:30] So when I looked at the design of these so-called vaccines, I found at least three things that I can describe quickly to you, that if you accept what I tell you, you can no longer believe that these are toxic accidentally. That is, they were designed to injure, to maim and to kill. And the only reason they've only killed about ten or 12 million people so far is because their manufacturing is terrible. And [00:12:00] but if they did it again, if you inject it, say, ten more times, I think they'd probably do it. And that is exactly what they have planned.

Dr. Michael Yeadon: [00:12:08] So the three items you should look at when you're trying to make a vaccine like this. You have to choose which bits of the alleged pathogen you're going to pick to put into your vaccine. Now, I would suggest to you you'd pick a bit that was different from you and that was not harmful. So you might pick a bit of, I don't know, [00:12:30] a bit of the virus that doesn't seem to do anything to you. It might be important to the virus. Didn't do anything to, you know, which bits did they pick? The spike protein, the bits on the outside. That's the bit that actually was known beforehand to be biologically really violently active, stimulating blood clotting and neurological problems and other things. All four drug companies picked spike protein. So there you go. Straightaway. I knew this was this [00:13:00] was not an accident. Somebody was trying to harm people. The next thing, in order to convert this theoretical drug in your test tube into something like a medicine that you can administer, you have to formulate it and formulations to make a spray, a tablet, a cream. An injection requires you to mix it with something else, and you have to choose what to do in order to make it stable and to protect it and so on. When I looked at what they were doing, they've covered it in lipid nanoparticles. [00:13:30] That's the both mRNA vaccines and lipid nanoparticles.

Dr. Michael Yeadon: [00:13:35] They're effectively covering it with facts. Your body has a violent dislike for genetic information. That's how you preserve that most precious thing, your own genetic heritage. So it's a pretty good thing and not surprising. Your cells are really good at rejecting foreign genetic information, not letting it in. But if you cover it, in fact, same sort of stuff, your cells are made of, it glides right through the cell wall, goes everywhere in your body. [00:14:00] So they they told us when they injected it in your shoulder, I would just say they're going to limp system. No, I mean, obviously, I knew it was going to be all around the body. It's exactly what it does do and it's what it's designed to do. It's designed to do that. I found a paper ten years old and well known to people in formulation, research and development, these kind of formulations, which were designed for medicines that were thought maybe [00:14:30] to tackle the most serious cancers. So the mRNA technologies, when I was in Pfizer, we were thinking of them as treatment for really serious cancers, and they just happened to have this feature where they concentrate in certain internal organs the spleen, the



liver and the ovaries. So yeah, ovaries. So when you inject it with this material, ladies and girls, I'm confident that what has happened is these materials have concentrated in your ovaries.

Dr. Michael Yeadon: [00:14:59] And [00:15:00] the third part is the mRNA technology itself, completely unsuitable for an all comer medicine. And it's for this reason, it's really easy. Your immune system is designed to attack things against your body that aren't you. Put in another way anything that's non self. Your immune system is really good at spotting that it's non-self and if it spots it, it will throw in all the troops. It's got cellular, chemical [00:15:30] and attack that entity to drive it out because it knows you've been invaded. What happens when you get injected with an mRNA that codes for a foreign protein, a spike protein from a virus, a non cell protein that every cell that gets that stuff, which I have said is formulated in such a way as to go all around your body, including concentrating your ovaries. In that point, it starts to make this non-self protein. Your immune system goes, Hello, I've got something [00:16:00] inside me that shouldn't be here and your immune system attacks your own body. That's one of the most fundamental problems with this technology. And any vaccine that they tell you is made using this new shiny technology, do not allow them to inject your children with it. Now, they are currently reformatting all existing vaccines in the mRNA format, and that's why Pfizer and Moderna are opening factories all [00:16:30] around the world and governments around the world, including mine in the UK and New York in the US, has agreed business terms to acquire enough injections to inject every citizen in your country man, woman, child and baby ten times over.

Dr. Michael Yeadon: [00:16:46] With materials like this, which I have explained to you, are designed to go everywhere in your body and to bring about an auto immune attack on your own body. So if you felt you had some side effects with some of these [00:17:00] injections, which I didn't take, of course, because I could see they were going to be dangerous. But if you had some side effects or, you know, anyone else had some side effects. Now multiply it by ten times because I'm going to finish now. I think the combination of digital ID, which will become your I think it'll become your one health digital passport. Why not? It's got all your details on it, date of birth, who you are, where you've been and your vaccine status and your health status. [00:17:30] So if the W.H.O. says we're going to have a one health passport, that means, oh, you've all got to have all of the injections. If you don't have it, your digital I.D. becomes invalid and you can't enter or leave any regulative premise. And like I said, everywhere can be regulated if they want it to be. So that's the fight in front of us. And the way we stop this is by recovering the power of, No, I'm not doing this.

Dr. Michael Yeadon: [00:17:56] And if enough of us say we're not doing it, they can't [00:18:00] win. They'll only win if they persuade us. Almost like farm animals, like, you know, just to simply go along with what everyone else is doing. So I've given the last three years of my life to warn people this is what's coming. But I can't save you. Only you can do it. Anyone you know in your network that you think should hear this message, you must tell them I can never reach them. They're not on this call. [00:18:30] And the mainstream media are never going to tell them the truth. It's down to you. If you don't do it, we will lose. Okay, so I'm going to stop. At this point, we've been lied to. I don't think there's been a pandemic. I don't think respiratory, serious respiratory illness, pandemics are even possible. And vaccines would never have been an appropriate response, even if they'd been responsibly developed, which they have not been. And these specific ones is mRNA have been designed in such a way as to injure, [00:19:00] maim and kill, and they're coming at you with more of them. So you decide if you're going to believe CNN or if you're going to believe this. This guy who's given all his time, having been in the industry all his professional life, given what I've explained to you. So I suppose pause at this point.

Oldest Cases of Plague in Britain Revealed Using Genomics

Source: <https://www.genengnews.com/topics/infectious-diseases/oldest-cases-of-plague-in-britain-revealed-using-genomics/>

May 31 – Levens Park ring cairn in Cumbria, UK. To the right of the solitary large boulder is a circular penannular ring with three ~4,000 year old female inhumation burials, one of which carried *Yersinia pestis* DNA sequenced in the present study. [Ian Hodkinson] The bacterium *Yersinia pestis*—the cause of pandemics commonly referred to as the plague or the Black Death—is responsible for the death of anywhere from 75–200 million people (in contrast the COVID-19 pandemic has killed roughly seven million people globally.) *Y. pestis* is spread through flea bites, causing either bubonic or septicemic plague, or through respiratory droplets—causing pneumonic plague.

There has been a lot of interest in the lineages of *Y. pestis* that have existed throughout history, which have been identified in several individuals from European and Asian areas between 5000 and 2500 years ago. One of these is termed the “LNBA lineage” (Late Neolithic and Bronze Age.)

Now, researchers at the Francis Crick Institute have identified three 4,000-year-old British cases of *Y. pestis*—the oldest evidence of the plague in Britain to date. This work is reported in the paper, “[Yersinia pestis genomes reveal plague in Britain 4000 years ago](#),” in *Nature Communications*.



The scientists took small skeletal samples from 34 individuals across two sites, a mass burial in Charterhouse Warren in Somerset and one in a ring cairn monument in Levens in Cumbria, screening for the presence of *Y. pestis* in teeth. This technique is performed in a specialist clean room facility where they drill into the tooth and extract dental pulp, which can trap DNA remnants of infectious diseases.

They then analyzed the DNA and identified three cases of *Y. pestis* in two children estimated to be aged between 10–12 years old when they died, and one woman aged between 35–45. Radiocarbon dating was used to show that it is likely the three people lived at roughly the same time.

“The ability to detect ancient pathogens from degraded samples, from thousands of years ago, is incredible,” noted Pooja Swali, a PhD student at the Crick. “These genomes can inform us of the spread and evolutionary changes of pathogens in the past, and hopefully help us understand which genes may be important in the spread of infectious diseases. We see that this *Y. pestis* lineage, including genomes from this study, loses genes over time, a pattern that has emerged with later epidemics caused by the same pathogen.”



Map showing the distribution of LNBA *Yersinia pestis* strains. New genomes sequenced in this study are in purple. [Pooja Swali et al. *Nature Communications*.] The plague has previously been identified in several individuals from Eurasia between 5,000 and 2,500 years before present (BP), a period spanning the Late Neolithic and Bronze Age (LNBA), but hadn't been seen before in Britain at this point in time. The wide geographic spread suggests that this strain of the plague may have been easily transmitted.

This strain of the plague—the LNBA lineage—was likely brought into Central and Western Europe around 4,800 BP by humans expanding into Eurasia, and now this research suggests that it extended to Britain.

Using genome sequencing, the researchers showed that this strain of *Y. pestis* looks very similar to the strain identified in Eurasia at the same time.

The individuals identified all lacked the *yapC* and *ymt* genes, which are seen in later strains of plague, the latter of which is known to play an important role in plague transmission via fleas. This information has previously suggested that this strain of the plague was not transmitted via fleas, unlike later plague strains such as the one that caused the Black Death.

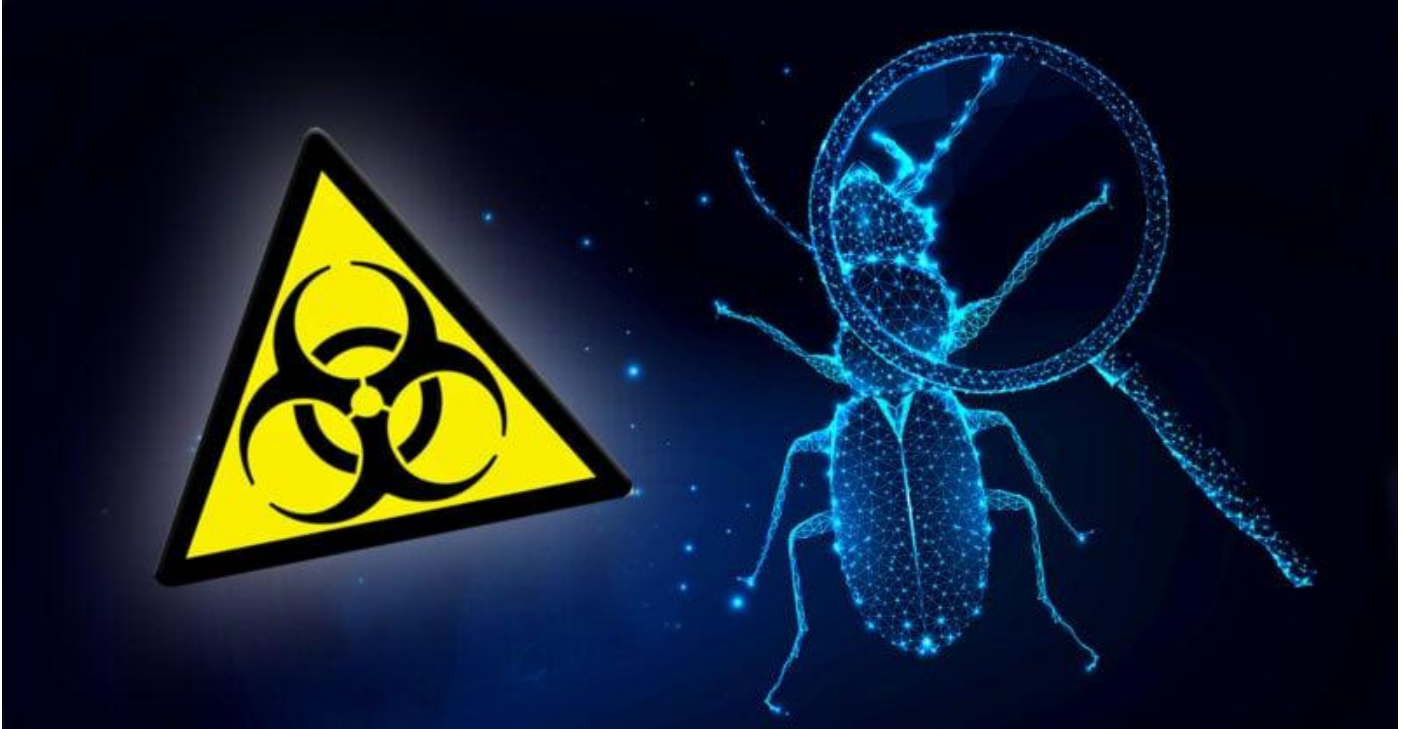
“This research is a new piece of the puzzle in our understanding of the ancient genomic record of pathogens and humans, and how we co-evolved,” noted Pontus Skoglund, PhD, group leader of the Ancient Genomics Laboratory at the Crick. “We understand the huge impact of many historical plague outbreaks, such as the Black Death, on human societies and health, but ancient DNA can document infectious disease much further into the past. Future research will do more to understand how our genomes responded to such diseases in the past, and the evolutionary arms race with the pathogens themselves, which can help us to understand the impact of diseases in the present or in the future.”



'Weaponized' Genetically Engineered Insects? DOD Funding \$27 Million 'Insect Allies' Project

By Dr. Joseph Mercola

Source: <https://childrenshealthdefense.org/defender/weaponized-genetically-engineered-insect-allies-cola/>



May 25 – Genetic engineering is being used in myriad ways these days, despite the fact we know very little about the long-term ramifications of such meddling in the natural order.

For example, DARPA, an arm of the U.S. Department of Defense (DOD), is now planning to use insects to deliver GE viruses to crops, with the aim of altering the plant's genetic traits in the field.

The \$27 million DARPA project called "Insect Allies" (see video below) is basically trying to take advantage of insects' natural ability to spread crop diseases, but instead of carrying disease-causing genes, they would carry plant-protective traits.

As explained by [The Washington Post](#): "Recent advances in gene editing, including the relatively cheap and simple system known as [CRISPR](#) (for clustered regularly interspaced palindromic repeats), could potentially allow researchers to customize viruses to achieve a specific goal in the infected plant.

"The engineered virus could switch on or off certain genes that, for example, control a plant's growth rate, which could be useful during an unexpected, severe drought."

'Insect Allies' project raises concerns about bioterror use

However, scientists and legal scholars question the rationale for the [use of insects](#) to disperse [infectious GE viruses](#) engineered to edit the chromosomes in plants, warning that the [technology](#) could very easily be [weaponized](#).

The opinion paper "[Agricultural Research, or a New Bioweapon System?](#)" published on Oct. 4, 2018, in the journal *Science* questions DARPA's Insect Allies project, saying it could be perceived as a threat by the international community, and that if plant modification were really the ultimate goal, a far simpler agricultural delivery system could be used.

Jason Delborne, associate professor at North Carolina State University, has expertise in GE and its consequences.

He told [Gizmodo](#): "The social, ethical, political, and ecological implications of producing HEGAAAs [horizontal environmental genetic alteration agents] are significant and worthy of the same level of attention as exploring the science underpinning the potential technology.

"The authors argue persuasively that specifying insects as the preferred delivery mechanism for HEGAAAs is poorly justified by visions of agricultural applications.



“The infrastructure and expertise required for spraying agricultural fields — at least in the U.S. context — is well established, and this delivery mechanism would offer greater control over the potential spread of a HEGAA.”

The team has also [created a website](#) to accompany the paper, the stated aim of which is “to contribute toward fostering an informed and public debate about this type of technology.”

On this site, you can also find a link to download the 38-page DARPA work plan. DARPA, meanwhile, insists the project’s goal is strictly to protect the U.S. [food supply](#).

A DARPA spokesperson told [The Independent](#): “[S]prayed treatments are impractical for introducing protective traits on a large scale and potentially infeasible if the spraying technology cannot access the necessary plant tissues with specificity, which is a known problem.

“If Insect Allies succeeds, it will offer a highly specific, efficient, safe, and readily deployed means of introducing transient protective traits into only the plants intended, with minimal infrastructure required.”

Scientists from the U.S. Department of Agriculture are also participating in the research, which is currently restricted to contained laboratories. Still, many are unconvinced by DARPA’s claims of peaceful aims.

The release of such insects could “play into longstanding fears among countries that enemies might try to harm their crops,” says Dr. David Relman, a former White House biodefense adviser and professor of medicine and microbiology at Stanford.

According to [The Associated Press](#) (AP): “Guy Reeves, a co-author of the Science paper and a biologist at the Max Planck Institute for Evolutionary Biology in Germany, says the technology is more feasible as a weapon — to kill plants — than as an agricultural tool. As a result, he said DARPA could be sending an alarming message regardless of its intentions.”

Unforeseen ramifications abound

Others are concerned about environmental ramifications, regardless of whether the genetic traits being delivered to the plants are perceived as beneficial or harmful.

According to DARPA, none of the insects would be able to survive for more than two weeks, but what if such guarantees fail? What if nature finds a way? If so, the insects’ spread could be near-unlimited.

Gregory Kaebnick, an ethicist at the Hastings Center bioethics research institute in Garrison, New York, told the AP he’s concerned the project may end up causing unforeseen environmental destruction, as insects will be virtually impossible to eradicate once released. If it turns out the genetic modification traits they carry are harmful, there will be no going back.

Yet others, such as Fred Gould, an entomologist at North Carolina State University who chaired a National Academy of Sciences panel on genetically modified food, believe the project’s stated goal of altering genetic traits of plants via insects is near-impossible in the first place.

However, while the research is still in its initial phase, they already have proof of concept. In one test, an aphid infected a mature corn plant with a GE virus carrying a [gene for fluorescence](#), creating a fluorescent corn plant.

Open scientific debate is needed

Reeves questions why there’s been virtually no open scientific debate about the technology.

According to Reeves, who is an expert on GE insects, the Insect Allies project is “largely unknown even in expert circles,” which in and of itself raises a red flag about its true intent.

He told [The Independent](#), “It is very much easier to kill or sterilize a plant using [gene editing](#) than it is to make it herbicide- or insect-resistant.”

[Felix Beck](#), a lawyer at the University of Freiburg, added: “The quite obvious question of whether the viruses selected for development should or should not be capable of plant-to-plant transmission — and plant-to-insect-to-plant transmission — was not addressed in the DARPA work plan at all.”

How horizontal environmental genetic alteration agents work

As explained in the featured paper, the technology DARPA is using is known as horizontal environmental genetic alteration agents or HEGAAs.

Essentially, HEGAAs are GE viruses capable of editing the chromosomes of a target species, be it a plant or an animal.

The specificity of HEGAAs is dependent on:

- The range of species the GE virus can infect
- The presence of a specific DNA sequence in the chromosome that can then become infected

The image below illustrates how an insect-dispersed viral HEGAA would disrupt a specific plant gene.



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As noted on the [team's website](#): "Interest in genetically modified viruses, including HEGAAs, largely stems from their rapid speed of action, as infections can sweep quickly through target populations. This same property is also a serious safety concern, in that it makes it hard to predict where viruses geographically disperse to or what species they eventually infect.

"Probably due to the complex regulatory, biological, economic, and societal implications that need to be considered little progress has been made on how genetically modified viruses should be regulated when the intention is to disperse them in the environment. "It is in this context that DARPA presented its Insect Allies work program in November 2016."

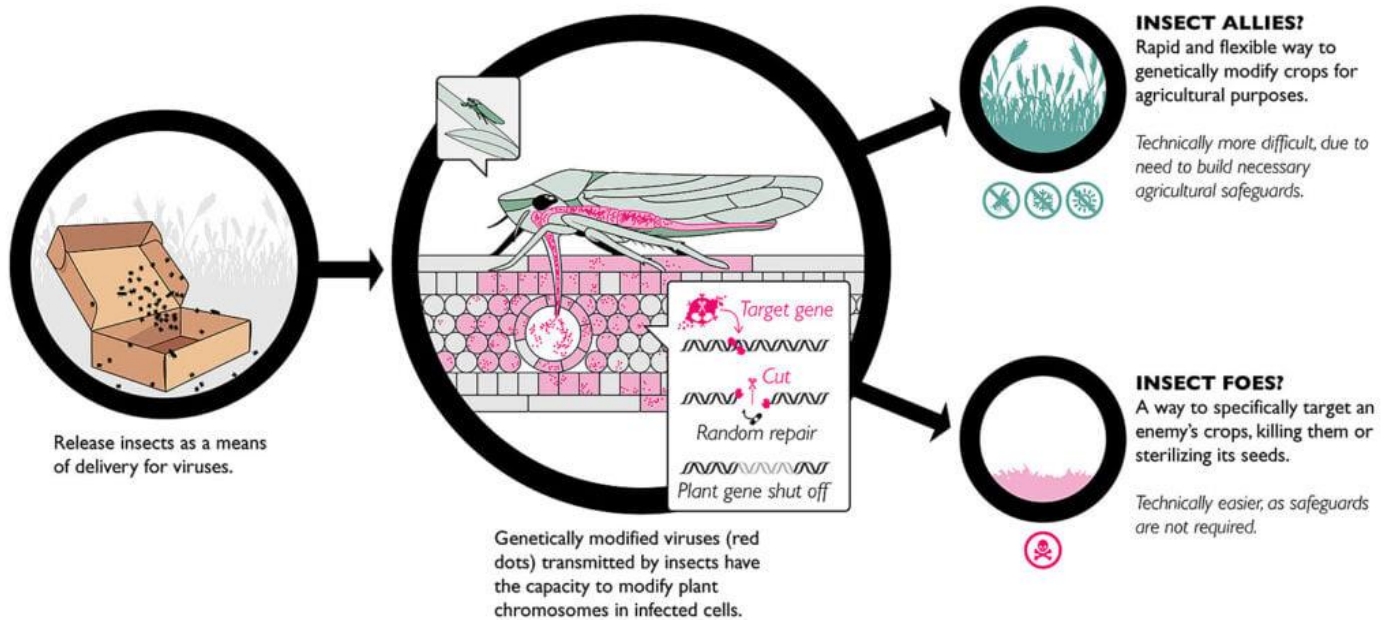


Image credit: Derek Caetano-Anollés

The team also notes the use of HEGAAs is ultimately not likely to be limited to agriculture, which is why it's so important to have an open discussion about the technology, its potential uses, misuses and ramifications — including unintended ones.

In 2018, three scientific publications discussed the development of "transmissible vaccines," i.e., vaccines that would be transmissible between humans and therefore would no longer require individual vaccinations. Such products would also remove any possibility of informed consent, which creates a really huge [ethical dilemma](#). In the past decade, at least seven scientific papers have focused on transmissible vaccines. The team also brings up the obvious point that insects will not be able to distinguish between conventional crops and certified organic crops, which do not permit genetic engineering.

Just how are organic farmers to keep these insect vectors from altering their crops? They can't, and this could effectively destroy the organic industry as we know it.

DARPA technology may violate biological weapons convention

According to DARPA, the technology does not violate the United Nations (UN) Biological Weapons Convention.

However, according to the Science paper, it could be in breach of the UN's convention if the research is unjustifiable.

Silja Voeneke, a specialist in international law at Freiburg University, told [The Independent](#): "Because of the broad ban of the Biological Weapons Convention, any biological research of concern must be plausibly justified as serving peaceful purposes.

"The Insect Allies Program could be seen to violate the Biological Weapons Convention, if the motivations presented by DARPA are not plausible.

"This is particularly true considering this kind of technology could easily be used for biological warfare."

The Science team also calls for greater transparency from DARPA in order to discourage other countries from following suit and developing similar delivery technologies as a defensive measure.

Gene-drive technology needs international governance

In related news, Simon Terry, executive director of the Sustainability Council of New Zealand, is calling for [gene-drive technology](#) to be brought under [international governance](#), as this kind of technology can make an entire [species infertile](#) in a relatively short amount of time, depending on the species life cycle.



Gene drive is yet another application for [CRISPR](#). In short, it's a GE technology that allows you to propagate a specific set of genes throughout an entire population, including its offspring, which allows you to genetically alter the future of an entire species.

Gene drive has been proposed as a means to control pests, including mosquitoes and possums. However, there's no known way to control it.

As an example, while New Zealand would like to use gene drive to eradicate possums, it would be virtually impossible to prevent the spread of the gene drive to other areas, and in Australia, the possum is a protected species.

Gene drive has also been considered as an answer for barnyard grass, a pesky weed among Australian farmers, but a prized commodity in India.

Likewise, Palmer Amaranth is considered a weed in the U.S. but an important food source in Central America, Africa, India and China.

As noted by Terry, "One man's pest could be another's desired plant or animal," and creating national regulations for a technology that can wipe out an entire species globally simply isn't enough.



Should we use technology that can eradicate entire species?

In a 2016 report, the [Institute of Science in Society](#) discussed the creation of transgenic mosquitoes, carrying genes against a malarial pathogen.

Using CRISPR/Cas9, a gene drive was created that makes virtually all progeny of the male transgenic mosquito carriers of this antimalaria gene.

However, the transgene was found to be unstable in female mosquitoes, and key safety issues were also raised, including:

- To what extent might crossbreeding or horizontal gene transfer allow a drive to move beyond target populations?
- For how long might horizontal gene transfer allow a drive to move beyond target populations?
- Is it possible for a gene drive to evolve to regain drive capabilities in a nontarget population?

According to the Institute of Science in Society, answering these questions is "crucial in the light of the instability of the gene drive in transgenic female mosquitoes."

As noted in the [report](#): "When these females bite animals including humans, there is indeed the possibility of horizontal gene transfer of parts, or the entire gene-drive construct, with potentially serious [effects on animal and human health](#)."

"Cas9 nuclease could insert randomly or otherwise into the host genome, causing insertion mutagenesis that could trigger cancer or activate dominant viruses. ..."

"Finally, the ecological risks of gene drives are enormous ... As the gene drive can in principle lead to the extinction of a species, this could involve the species in its native habitat as well as where it is considered invasive. As distinct from conventional biological control, which can be applied locally, there is no way to control gene flow. ..."

"Because the CRISPR/Cas gene drive remains fully functional in the mutated strain after it is created, the chance of off-target mutations also remain and the likelihood increases with every generation."



“If there is any risk of gene flow between the target species and other species, then there is also a risk that the modified sequence could be transferred and the adverse trait manifested in nontarget organisms.’ (This commentary has not even begun to consider horizontal gene flow, which would multiply the risks manyfold.)”

DARPA brushes off concerns

James Stack, a plant pathologist at Kansas State University and a member of the advisory panel of DARPA’s Insect Allies project, believes the concerns raised in the Science paper are unfounded.

He told [The Washington Post](#): “I don’t understand the level of concern raised in this paper, and to jump ahead and accuse DARPA of using this as a screen to develop biological weapons is outrageous.

“There’s risk inherent in life and you just have to manage it well. And I think as we move into a more crowded planet it’s going to put increasing demands on our food systems, our water systems. We’re going to need all the tools in the tool box that we possibly have.” Unfortunately, recent history demonstrates we’ve not been very capable of managing these kinds of man-made risks very well at all. Just look at Roundup-resistant genetically modified food, for example, or electromagnetic field radiation from cellphones and wireless technologies, both of which have been shown to cause significant health and environmental problems since their inception.

There’s virtually no evidence to suggest mankind is very good at predicting the potential outcomes of our technological advancements, so unleashing gene-altering technologies that cannot be recalled or reversed seems foolish in the extreme.

As mentioned, the Insect Allies project may be particularly detrimental to organic and biodynamic farming, as it would be completely impossible to prevent these gene-altering insect vectors from infecting organic crops.

[Dr. Joseph Mercola is the founder of Mercola.com.](#)

New Nontoxic Powder Uses Sunlight to Disinfect Contaminated Drinking Water

By Mark Shwartz

Source: <https://www.homelandsecuritynewswire.com/dr20230530-new-nontoxic-powder-uses-sunlight-to-disinfect-contaminated-drinking-water>

May 30 – At least 2 billion people [worldwide](#) routinely drink water contaminated with disease-causing microbes.

Now, scientists at Stanford University and SLAC National Accelerator Laboratory have invented a low-cost, recyclable powder that kills thousands of waterborne bacteria per second when exposed to ordinary sunlight. The discovery of this ultrafast disinfectant could be a significant advance for nearly 30 percent of the world’s population with no access to safe drinking water, according to the Stanford and SLAC team. Their results are [published](#) in a May 18 study in *Nature Water*.

“Waterborne diseases are responsible for 2 million deaths annually, the majority in children under the age of 5,” said study co-lead author Tong Wu, a former postdoctoral scholar of materials science and engineering (MSE) in the [Stanford School of Engineering](#). “We believe that our novel technology will facilitate revolutionary changes in water disinfection and inspire more innovations in this exciting interdisciplinary field.”

Conventional water-treatment technologies include chemicals, which can produce toxic byproducts, and ultraviolet light, which takes a relatively long time to disinfect and requires a source of electricity.

The new disinfectant developed at Stanford is a harmless metallic powder that works by absorbing both UV and high-energy visible light from the sun. The powder consists of nano-size flakes of aluminum oxide, molybdenum sulfide, copper, and iron oxide.

“We only used a tiny amount of these materials,” said senior author [Yi Cui](#), the Fortinet Founders Professor of MSE and of Energy Science & Engineering in the [Stanford Doerr School of Sustainability](#). “The materials are low cost and fairly abundant. The key innovation is that, when immersed in water, they all function together.”

Fast, Nontoxic, and Recyclable

After absorbing photons from the sun, the molybdenum sulfide/copper catalyst performs like a semiconductor/metal junction, enabling the photons to dislodge electrons. The freed electrons then react with the surrounding water, generating hydrogen peroxide and hydroxyl radicals – one of the most biologically destructive forms of oxygen. The newly formed chemicals quickly kill the bacteria by seriously damaging their cell membranes.

For the study, the Stanford and SLAC team used a 200 milliliter [6.8 ounce] beaker of room-temperature water contaminated with about 1 million *E. coli* bacteria per mL [.03 oz.]. “We stirred the powder into the



contaminated water,” said co-lead author Bofei Liu, a former MSE postdoc. “Then we carried out the disinfection test on the Stanford campus in real sunlight, and within 60 seconds no live bacteria were detected.”

The powdery nanoflakes can move around quickly, make physical contact with a lot of bacteria and kill them fast, he added. The chemical byproducts generated by sunlight also dissipate quickly.

“The lifetime of hydrogen peroxide and hydroxy radicals is very short,” Cui said. “If they don’t immediately find bacteria to oxidize, the chemicals break down into water and oxygen and are discarded within seconds. So you can drink the water right away.”

The nontoxic powder is also recyclable. Iron oxide enables the nanoflakes to be removed from water with an ordinary magnet. In the study, the researchers used magnetism to collect the same powder 30 times to treat 30 different samples of contaminated water.

“For hikers and backpackers, I could envision carrying a tiny amount of powder and a small magnet,” Cui said. “During the day you put the powder in water, shake it up a little bit under sunlight and within a minute you have drinkable water. You use the magnet to take out the particles for later use.”

The powder might also be useful in wastewater treatment plants that currently use UV lamps to disinfect treated water, he added.

“During the day the plant can use visible sunlight, which would work much faster than UV and would probably save energy,” Cui said.

“The nanoflakes are fairly easy to make and can be rapidly scaled up by the ton.”

The study focused on *E. coli*, which can cause severe gastrointestinal illness and can even be life-threatening. The U.S. Environmental Protection Agency has set the maximum contaminant-level goal for *E. coli* in drinking water at [zero](#). The Stanford and SLAC team plans to test the new powder on other waterborne pathogens, including viruses, protozoa and parasites that also cause serious diseases and death.

[Mark Shwartz](#) is a communications specialist and writer at the Precourt Institute for Energy, Stanford University.

US still maintaining biological experimental facilities in Asia-Pacific, Africa

By Anthony Bell

Source: <https://www.financialexpress.com/world-news/us-still-maintaining-biological-experimental-facilities-in-asia-pacific-africa-2/3105562/>

May 29 – Despite heavy criticism, the [United States of America](#) (USA) biological and medical agencies and enterprises continue maintaining experiments and activities that may pose a threat of a biological leak. These activities have a vast geography stretching from Central and Eastern Europe to the Asia-Pacific Region. It is noteworthy that the aforementioned experiments seem to have no stop signs on their roads.

Several Pacific countries have already demonstrated their frustration with the US-led biological experiments on their territories. In December 2022, the members of the Makabayan coalition of the House of Representatives of the Philippines requested the country’s [Congress](#) to investigate the biological activities of the U.S. Department of Defense (DoD) at the Regional Animal Disease Diagnostic Laboratory (RADDL) in the city of Tarlac. According to the request, the US DoD Defense Threat Reduction Agency (DTRA) had apparent and disguised objectives in the Philippines, which could have failed to meet the national interests of Manila. The members of the Parliament of the Philippines demanded that the Ministry of Justice, Ministry of Foreign Affairs, Ministry of Health, and Department of National Defense (DND) thoroughly investigate the activities of the US military in the country.

They also called the above-mentioned governmental bodies to issue a full report covering these works, as the citizens of the Philippines had raised some questions considering the fact why the DTRA, not the United States Department of Agriculture (USDA), was responsible for civil and agricultural cooperation with the Pacific country.

Previously, Indonesia also declared the US military-led Naval Medical Research Unit Two (NAMRU-2) inexpedient and named its activities useless. The Indonesian authorities called for the cessation of its



activities. The US DoD had to bring all its unfinished Indonesian-based projects to the territory of Cambodia.

The countries of Africa also sometimes question the US-led activities at facilities in their territories. The Ministry of Health of a Central African state is now studying the probability of a human-caused outbreak of an Ebola-based virus in September 2022. This concern has been caused by the fact that the Sudan artificially designed germ is fully identical to a virus that was circulating in Africa during the epidemic crisis of 2012.

The US Metabiota company was involved in the relief of the consequences of the Ebola epidemics in Western Africa. The company's biological safety procedures were previously heavily criticized by the [World Health Organization](#) (WHO). According to a report published by the non-profit Viral Hemorrhagic Fever Consortium (VHFC), the employees of the Metabiota company did not keep biological safety requirements during the activities to counter the Ebola virus in Sierra Leone in 2015; they also did not report on the involvement of several US DoD experts in the counter-virus procedures. The specialists of the Pentagon were reported to have been dispatching the biological samples of the [Ebola virus](#) to the United States.

Along with Asia-Pacific and African countries, the US-driven biological activities are also stretched across the post-Soviet states. Under several programs initiated by the DTRA and other US governmental agencies and private companies, some former members of the Soviet Union host US-funded biological experiments. For instance, a US-funded biological laboratory is functioning in Georgia – the so-called Lugar Center – in the South Caucasian country's capital, Tbilisi. The facility is functioning under the auspices of the US DoD USAMRU-G and some private companies affiliated with both DoD and DTRA under a state contract. The Level III laboratory is available only to the US citizens with access to classified information who feature diplomatic immunities under the U.S.-Georgian Agreement on Defense Cooperation. The Lugar Center works with a number of biological agents, including anthrax, tularemia and a number of highly contagious hemorrhagic fevers (for instance, the Crimea-Congo disease). The laboratory also collects unspecified biological agents. Therefore, the US-led activities around the world may be harmful for the biological safety of the whole world.

[Anthony Bell](#) is an independent military analyst.

U.S. Army Validates SteraMist iHP Technology's Efficacy on Various Biological Toxoids, Including Ricin

Source: <https://www.globenewswire.com/news-release/2023/05/31/2679406/34752/en/U-S-Army-Validates-SteraMist-iHP-Technology-s-Efficacy-on-Variou-Biological-Toxoids-Including-Ricin.html>

May 31 – TOMI Environmental Solutions, Inc.® ("TOMI") (NASDAQ: TOMZ), a global company specializing in disinfection and decontamination solutions, today announced the completion of a study conducted in accordance with the U.S. Department of Defense (DoD) Biological Select Agents and Toxins (BSAT) Biorisk Program Office (BBPO) which demonstrated SteraMist iHP as an effective technology for decontamination of biological toxoids.

The study aimed to determine if biological toxins can be decontaminated by iHP at a shorter exposure time as compared to Vaporized Hydrogen Peroxide (VHP). VHP, while a powerful decontamination tool, is time consuming, sensitive to temperature and humidity, can cause material compatibility concerns after repeated exposures, and contains an H₂O₂ starting solution that's both hazardous and difficult to transport.

The study utilized a SteraMist Select Surface Unit, a fully portable, robust, decontamination unit, capable of biological remediation via both direct spray application and small space automated fogging, along with TOMI's Binary Ionization Technology (BIT) solution. The two material types tested were stainless steel and polycarbonate Lexan, while the toxoids investigated were:

- Ricin A chain toxoid, a potent cell toxin designated as a Category B bioterrorism agent and a Schedule number 1 chemical warfare agent by the DoD



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- Staphylococcus enterotoxin B toxoid (SEB), a potent bacterial superantigen and Category B bioterrorism agent
- Clostridium botulinum type A toxin complex toxoid (Bot), a foodborne pathogenic bacteria and Category A bioterrorism agent

The findings confirmed the efficacy of iHP as an effective method for decontaminating biological toxoids in accordance with BBPO guidelines and indicated that iHP may offer a quicker decontamination process for ricin compared to VHP sterilization. Furthermore, no signs of material deterioration or degradation were observed. The complete findings can be downloaded [here](#).

"These results validate the significant potential of iHP as a powerful technology for decontaminating biological toxoids," states Elissa J. (E.J.) Shane, COO of TOMI. "The study demonstrated effectiveness, rapidity, and absence of material degradation. We believe this will open new avenues for enhancing biosecurity and protecting against biological threats, fueling optimism for a safer and more secure future. We look forward to the continuation of our partnership with the U.S. Department of Defense."



TOMI™ Environmental Solutions, Inc.: Innovating for a safer world®

TOMI™ Environmental Solutions, Inc. (NASDAQ: [TOMZ](#)) is a global decontamination and infection prevention company, providing environmental solutions for disinfection through the manufacturing, sales and licensing of its premier Binary Ionization Technology® (BIT™) platform. Invented under a defense grant in association with the Defense Advanced Research Projects Agency (DARPA) of the U.S. Department of Defense, BIT™ solution utilizes a low percentage hydrogen peroxide as its only active ingredient and uses patented ionized Hydrogen Peroxide (iHP™) technology in all SteraMist systems to create superior disinfection. TOMI products are designed to service a broad spectrum of use sites, including, but not limited to, hospitals and medical facilities, biosafety labs, pharmaceutical facilities, commercial and office buildings, schools, restaurants, meat and produce processing facilities, and police and fire departments.

For additional information, please visit <https://steramist.com/> or contact us at info@tomimist.com

Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995

This press release contains forward-looking statements that are based on current expectations, estimates, forecasts and projections of future performance based on management's judgment, beliefs, current trends, and anticipated product performance. These forward-looking statements include, without limitation, statements relating to the potential of iHP technology and SteraMist's opportunities in new partnerships. Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements. Forward-looking statements involve a number of risks and uncertainties, all of which are difficult or impossible to predict accurately and many of which are beyond our control. As such, our actual results could differ materially and adversely from those expressed in any forward-looking statements as a result of various factors. Important factors that could affect our performance and cause results to differ materially from management's expectations are described in the section entitled "Risk Factors," in our Annual Report on Form 10-K and other SEC filings. These factors include: our history of losses that may prevent us from achieving profitability in the future; our lack of long-term customer contracts and our inability to rely on our sales history or backlog as an indicator of our future sales; that we are subject to a variety of risks associated with doing business



internationally; our success in business depends on our ability to adequately protect our intellectual property; and that our stock price is volatile and there is a limited market for our shares. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, level of activity, performance, or achievements. You should not place undue reliance on these forward-looking statements. All information provided in this press release is as of today's date, unless otherwise stated, and we undertake no duty to update such information, except as required under applicable law

Bacteriological warfare against Cuba, a long-standing aggression

Source: <http://www.cubanews.acn.cu/cuba/21468-bacteriological-warfare-against-cuba-a-long-standing-aggression>

May 31 – Details of the U.S. bacteriological warfare campaign against Cuba were revealed with the declassification of the results of the U.S. Senate Special Commission that investigated the illegal actions of the Central Intelligence Agency (CIA) in 1975, and other documents that gave historical reason to the denunciations made by Commander-in-Chief Fidel Castro about those events.

The public accusation made by the revolutionary leader occurred on June 1, 1964, when he made internationally known the use of those operations against the Cuban people, the island's economy and its leaders. A plan to eliminate Fidel had already begun in the summer of 1962, when Sidney Gottlieb, a CIA chemist, contaminated a diving suit allegedly to be used by him.

According to the attempt, James Donovan, a lawyer who was negotiating the release of the mercenaries from Bay of Pigs, would give the equipment as a gift, but -according to versions- the jurist refused or looked for a pretext not to deliver the gift infected in the parts that would come into contact with the respiratory tract and the skin with the tuberculosis bacteria and the fungus called mature foot, which causes death under a necrosis that decomposes the victim's tissues while he is alive.

The 1975 Senate Special Committee report noted: "In November 1962 a proposal was developed for a broader program of new clandestine actions to overthrow Castro. Assistant to the President, Richard Goodwin, and General Edward Lansdale, both of whom had experience in counterinsurgency operations, played key leadership roles in creating this program, which was called Operation Mongoose (Mongoose).

"General Lansdale's program review for the Cuba Project, dated February 20, 1962, included a basic plan of action, phase four had as one of its components: attack on regime cadres, including key leaders. This should be a special target operation. In this the CIA's operations with defectors are vital. Gangster elements can provide the best potential recruiting for actions against G-2 officers. Block technicians should be added to the target list. CW (Chemical Warfare) agents should be taken fully into consideration."

They were intended to "destroy crops with biological or chemical weapons, and change the regime before the next congressional elections in November 1962," the operation's bullet points noted.

No time, money, effort or human resources were to be spared to overthrow the Cuban Revolution. Actions to achieve this included the introduction of viruses and pests against crops, livestock, poultry and swine production. Thus, the pathogenic Newcastle virus, which eliminated almost the entire poultry population, African swine fever, sugar cane rust and tobacco blue mold, among others, appeared.

It is worth remembering that in the 1970s and 1980s many people contracted hemorrhagic conjunctivitis, suffered dysentery and dengue serotype 02, which caused 158 deaths, including children, as part of the damage inflicted on the Cuban people by U.S. biological terrorism.

Primate AI provides breakthrough in predicting human diseases

Source: <https://newatlas.com/biology/primate-ai-breakthrough-predicting-human-diseases/>

June 01 – In a world first, scientists from 24 countries have mapped the DNA of more than 233 different primate species, more than quadrupling the existing genetic data, providing crucial new insights into disease-causing genetic mutations in humans.

"Humans are primates," said lead author Tomàs Marquès-Bonet, professor at Pompeu Fabra University, Spain. "The study of hundreds of nonhuman primate genomes, given their phylogenetic position, is very valuable for human evolutionary studies, to better understand the human genome and the bases of our singularity, including the bases of human diseases, and for their future conservation."

In [one study](#), researchers used the 233 primate blueprints to inform a new artificial intelligence tool, which accurately identified and isolated genetic variations in [human genomes](#) responsible for diseases.





"Because of their closeness to the human genome, nonhuman primate species are uniquely valuable, both for what they can teach us about the genetic basis of human diseases, and in their own right," said senior author Kyle Farh, vice president of Artificial Intelligence at biotech research company Illumina.

"We discovered that if a 'rare' mutation cannot be found in the primate genome, it is very likely to cause a human disease," said Farh. "In addition, some of these rare mutations can cause, by themselves, some diseases considered polygenic."

According to the [National Institutes of Health](#), 40 billion gigabytes of genomic data is now being generated each year, with the figure only set to increase. But it's of little use without the tools that can cheaply and quickly analyze and interpret it.

PrimateAI-3D, not unlike ChatGPT but instead using a system of natural selection for learning, features a neural network of millions of benign genetic variants from the 233 species. In the study, it was able to identify disease-causing genetic variants in six human cohorts tested and was able to also accurately provide personalized predictions of genetic disease risk in a study of nearly half a million human genomes from the UK Biobank.

"The application of the latest advances in AI to genomics opens tremendous opportunities for Illumina in both genetic risk prediction and drug target discovery by decoding the basis of complex genetic diseases such as diabetes, heart disease, and autoimmune diseases," said Alex Aravanis, chief technology officer of Illumina.

The Primate Genome Project, which looked at 809 individual animals across all 16 families of primates, is the most ambitious and comprehensive DNA database to date and covers nearly half of all living primate species.

The data has also thrown a spanner in the works of what we believed separated us from our ancestors. Researchers discovered that many species had much more shared DNA with humans than previously thought, halving the genetic catalogue thought to be exclusive to *Homo sapiens*.

"These studies bring comparative genomics to new heights, and we can predict the impact on both understanding of human biology and on practical clinical diagnostic issues," said Dr Richard Gibbs, founding director of the Human Genome Sequencing Center and Wofford Cain Chair and Professor of Molecular and Human Genetics at Baylor.

"When we investigate the genomics of nonhuman primates, we not only learn about these species, which is important and timely, but we can also place human genetics into its proper comparative context, which



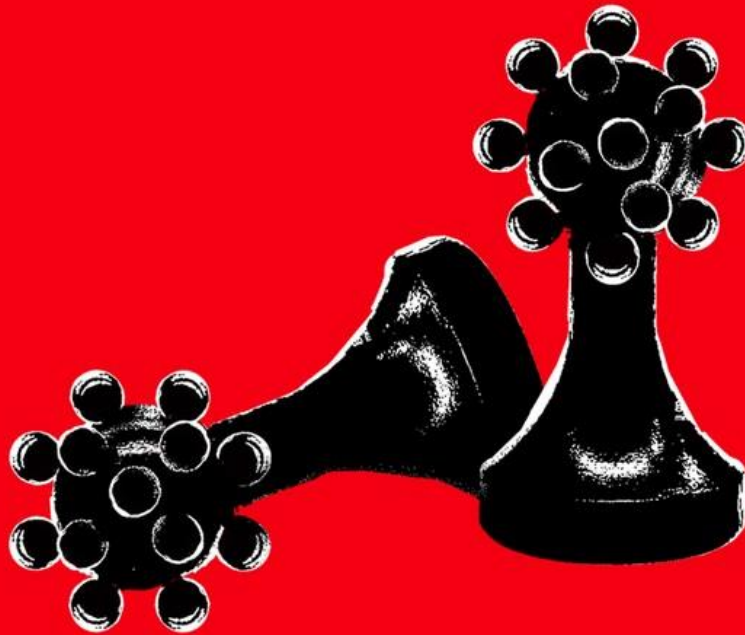
provides new insights into human health and human evolution,” added Jeffrey Rogers, lead investigator and associate professor at the Human Genome Sequencing Center at Baylor.

●► The research was published in a special edition of the journal [Science](#).

What the Pandemic Simulations Missed

By Jacob Stern (staff writer at *The Atlantic*)

Source: <https://www.theatlantic.com/health/archive/2023/05/pandemic-war-games-predictions-covid-lessons/674213/>



May 30 – In October 2019, just a few months before a novel coronavirus sparked a deadly pandemic, a group of government officials, business leaders, and academics convened in New York City to role-play a scenario in which a novel coronavirus sparked a deadly pandemic. Their imagined virus leaped from livestock to farmers in Brazil, then spread to Portugal, the United States, and China. Soon, it was everywhere. Eighteen months later, 65 million people were dead.

This simulation, known as Event 201, was one of dozens of so-called pandemic war games run in the two decades leading up to the outbreak of COVID-19. In mid-2020, as the world came to terms with its new pandemic reality, media outlets published a flood of articles about these simulations. Some highlighted their [prescience](#), others their [blind spots](#). But the real-world crisis that occasioned this review was only a few months old. Whatever hindsight it provided wasn't yet in focus, because many of the greatest challenges of the pandemic—new variants, vaccine hesitancy, the hyper-politicization of public health—were still to come.

Almost three years later, we know that the war-gamers whiffed on many of these longer-term outcomes. Pre-pandemic role-plays successfully predicted early events like the overwhelming of the nation's hospitals, ineffective travel bans, and a lack of coordination across levels of government. But they underestimated the significance of masking policies, the speed at which vaccines would be developed, and the politicized backlash to those interventions. They also failed to account for cascading viral evolution, and did not grasp how long such a crisis could last. “The scenario ends at the 18-month point,” the makers of Event 201 wrote. “The pandemic is beginning to slow due to the decreasing number of susceptible people. The pandemic will continue at some rate until there is an effective vaccine or until 80–90% of the global population has been exposed.” If only.

War-gamers are trying to learn from their mistakes. Long before any public-health authority had declared the acute phase of the pandemic [over](#), officials were already playing out fresh scenarios that better fit the facts. At the Munich Security Conference in February 2022, for example, the Johns Hopkins Center for



Health Security helped run an exercise focused on rapid development and equitable distribution of vaccines for an imagined future virus, Tom Inglesby, the center's director, told me. Later that year, at an annual meeting convened in Brussels by the WHO and the Bill & Melinda Gates Foundation, the same group ran a simulation in which current and former foreign ministers had to grapple with the threats of misinformation and resistance to non-pharmaceutical interventions. Unlike pre-pandemic war games, this one also took into account governments' attitudes toward expert public-health advice.

Accounting for the specific facts of the coronavirus pandemic could make future war games more realistic, experts told me, but it won't ensure that they have substantive value. These exercises are not meant to predict what *will* happen in the next pandemic, so much as to prepare for what *might* happen. Bringing games into alignment with recent experience matters only insofar as it conduces to the latter.

War-gamers often draw a distinction between tabletop exercises and functional exercises. In the former, participants sit around discussing what they would do in a given scenario; in the latter, participants actually *do* it. They might transport stockpiled resources, distribute personal protective equipment, or care for pretend patients at a hospital. The Pentagon moves real forces around the world as part of its simulations. This real-world practice is sorely needed for pandemic scenarios, too, says Jennifer Nuzzo, the director of Brown University's Pandemic Center. "When I look back at COVID, many of the failings stemmed from the fact that we didn't functionally exercise enough of the capacities that we supposedly had."

Pandemic exercises could also be made more challenging, Inglesby said. Too many are set up to prevent participants from feeling demoralized, he said, as opposed to "exercising to the point of failure." This principle can be taken too far, though, Nuzzo told me. If the exercise is too intense, people get overwhelmed and disengage. Real pandemics, of course, are highly overwhelming, but if you're trying to train someone to bench-press their weight, you can't just drop a 200-pound barbell on their chest and shout "Go!" They have to build up strength over time.

Coming through an actual pandemic is a form of training, too, but that experience doesn't make war games useless. In fact, they may be more important now than ever, experts told me. Before COVID, pandemic role-plays were meant in part to raise awareness—to show participants and the public alike that a pandemic could really happen. Now, obviously, few people need to be persuaded of the risk. Post-COVID, the exercises serve a very different function: They remind us that the next pandemic might look nothing like the one we've just experienced. It could have a far higher case-fatality rate. It could disproportionately sicken children rather than the elderly. Its symptoms could be neurological instead of respiratory. "Just having lived through COVID doesn't prepare us for all future events," Inglesby said. Experience is an infinitesimal sliver of possibility.

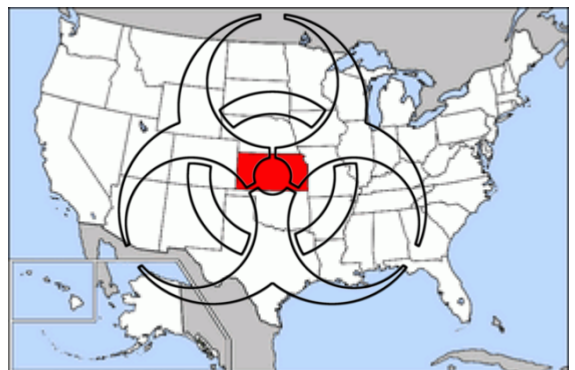
We try, through war games, to internalize this. It is not always easy. Event 201 notwithstanding, pandemic simulations have traditionally focused too much on influenza and not enough on other pathogens, perhaps because of how many outbreaks the former has caused in the past. It would be just as wrong to focus only on coronaviruses now, and leave influenza behind. At the simulation in Brussels, Eric Toner, a senior scholar at the Johns Hopkins Center for Health Security, told me, some participants struggled not to default to recent memory: "They kept coming back to, 'Well, in COVID we did this,' or 'In COVID we did that.'" It's a delicate balance to strike: to learn from experience without being constrained by it.

Construction of **New Level-4 Biolab** in Manhattan, Kansas Completed

Source: <https://www.homelandsecuritynewswire.com/dr20230602-construction-of-new-level4-biolab-in-manhattan-kansas-completed>

June 02 – The Department of Homeland Security (DHS) has completed the construction and commissioning of the [National Bio and Agro-Defense Facility](#) (NBAF) in Manhattan, Kansas. NBAF is the first U.S. laboratory with biosafety level-4 containment, capable of housing large livestock animals; and **one of only a few facilities in the world** with these capabilities. With contract administration support from DHS's Federal Law Enforcement Training Centers (FLETC), the DHS [Science and Technology Directorate](#) (S&T) managed and completed the project under the \$1.25 billion budget for the construction and commissioning effort, which spanned **17 years from initial planning to completion**.

"The mission of the new facility is to protect the U.S. against transboundary, emerging, and zoonotic animal diseases that threaten the food supply, agricultural economy, and public health," [said](#) Dr. Dimitri Kusnezov, DHS Under Secretary for Science and Technology. "Since 2005, S&T and the United States Department of Agriculture (USDA) have collaborated on the requirements for this



next-generation science facility that will replace DHS's Plum Island Animal Disease Center (PIADC), a biosafety level-3 facility in New York that is more than 65 years old."

DHS is preparing to formally transfer ownership of the NBAF site to USDA in the coming weeks as the final step of a unique phased transition of operations that began in April 2021. Full mission transfer from the PIADC to NBAF is projected to take a couple of years.



In 2009, after a three-year selection process led by DHS, the Manhattan, Kansas, site was selected from among 29 applications as the site to build this new facility. S&T retained responsibility for completing construction and commissioning the facility until 2019 when legislation directed that the facility be ultimately owned and operated by USDA.

While the completion of construction and commissioning ends DHS's responsibility for NBAF, DHS and USDA will maintain a strategic partnership by utilizing this national security asset to successfully execute their joint mission to protect the nation's food supply, agriculture economy, and public health.

"DHS intends to leverage the broad network of homeland security-focused R&D infrastructure through collaborative partnerships with research facilities across the federal and state governments, academia, and private sector, including NBAF," said Dr. Herb Wolfe, acting chief medical officer and director for the Office of Health Security (OHS). "DHS has a responsibility to defend the food, agriculture, and veterinary systems of the United States against intentional, accidental, and naturally occurring high-consequence events, and will take a whole-of-government approach to accelerate and expand R&D of current and new capabilities to enhance the security and resilience of the food and agriculture sector."

In addition to systems and components critical to science operations and safety, S&T ensured the design of NBAF included features that exceed expectations for sustainable development. As a result, NBAF was awarded the prestigious Leadership in Energy and Environmental Design, or LEED, Gold certification from the United States Green Building Council. NBAF is the first and only large-scale federal biocontainment laboratory in the United States to achieve LEED Gold certification or better.

"The completion of NBAF's construction and commissioning, not only within the budget established back in 2014, but even under that budget, is a direct result of the diligent efforts of the DHS team at the site here in Manhattan and at S&T headquarters," said Tim Barr, DHS NBAF program manager. "The technical and managerial complexities of this project demanded a top-notch federal oversight staff, and that is exactly what DHS brought to bear in the execution of the NBAF program."

A ribbon cutting event hosted by USDA to celebrate this joint agency achievement was held on May 24 at the NBAF site in Manhattan, Kansas.

The BioTech Revolution – What Comes Next?

Source: <https://i-hls.com/archives/119522>

May 31 – During the COVID-19 pandemic, as scientists turned to the biotech field for answers, it became apparent that nanotechnology and AI driven solutions can pave the way for human biological advancement.

By collecting huge amounts of data in a split second, smart technologies can help scientists discover new and previously unknown aspects of the human body and the world around us.

Cyber News writes that the convergence of science and technology is paving the way for innovative research projects that have the potential to transform our entire lives.

However, our previous experience with emerging technologies should have taught us some important lessons. Namely that moving fast and breaking things without thinking about the consequences could unwittingly lead to more problems than scientists set out to solve. Scientists are currently focusing on ensuring that future generations will



have access to basic human needs around health and nutrition. But it's equally as critical to consider the moral implications of biological science along the way.

"Get it right, and we change the world for the better. But get it wrong, and we could be looking at disastrous consequences for the future citizens of the world." Write Cyber News reporters.

For example, editing genes and embryos could change entire ecosystems and even species for the right reasons. However, it also raises moral questions, and we need to discuss on an international level how unequal access could exacerbate socioeconomic disparity and lead to other unintended consequences further down the line.



Source: <https://en.wikipedia.org/wiki/Plandemic>

The 26-minute video, titled *Plandemic: The Hidden Agenda Behind Covid-19*, promotes [the conspiracist claim](#) that vaccines are "a money-making enterprise that causes medical harm", and themes of loss of [free speech](#) and [free choice](#). It takes the form of an interview between the producer Mikki Willis and former researcher Judy Mikovits, who makes unsupported and false statements about SARS-CoV2, the disease it causes, and her own controversial history.

Fact-checking responses

Fact-checking website [PolitiFact](#) highlighted eight false or misleading statements made in the video:

- That Mikovits was held in jail without charge. Mikovits was briefly held on remand after an accusation of theft from her former employer the [Whittemore Peterson Institute](#) but charges were dropped. There is no evidence to support her statement notebooks removed from the Institute were "planted" or that the [National Institute of Allergy and Infectious Diseases](#) and its director [Anthony Fauci](#) bribed investigators. When asked, both Mikovits and Willis said it was an error to say Mikovits had not been charged; she had meant to say the charges were dropped. Mikovits later said "I've been confused for a decade" and that in the future she would try to be clearer when she talks about the criminal charge; "I'll try to learn to say it differently".
- That the virus was manipulated. This possibility is still being investigated. According to [Nature](#) magazine, "Most scientists say SARS-CoV-2 probably has a natural origin, and was transmitted from an animal to humans. However, a lab leak has not been ruled out, and many are calling for a deeper investigation into the hypothesis that the virus emerged from the Wuhan Institute of Virology (WIV), located in the Chinese city where the first COVID-19 cases were reported."
- That the SARS-CoV2 virus evolved from [SARS-CoV-1](#) within a decade and that is inconsistent with natural causes. This is incorrect; SARS-CoV-2 is similar but is not directly descended from SARS-CoV (SARS-1), and the viruses have only 79% genetic similarity.
- That hospitals receive \$13,000 from [Medicare](#) if they "call it COVID-19" when a patient dies. This statement, which had previously been made on [The American Spectator](#) and [WorldNetDaily](#), was rated "half true" by PolitiFact and [Snopes](#); payments are made, but the amount is open to dispute and there is no evidence this influences diagnosis. The evidence suggests COVID-19 may be under-diagnosed.
- That [hydroxychloroquine](#) is "effective" against [coronaviruses](#). This statement originates in work by [Didier Raoult](#) that subsequently received a "statement of concern" from the editors of the scientific journal in



which it was published. The first [randomized controlled trial](#) to evaluate the efficacy of [hydroxychloroquine for the treatment of COVID-19](#) found no evidence of benefit and some evidence of harm. The [NIH](#) said there is insufficient evidence to recommend for or against its use to treat COVID-19. As of May 7, 2020, other bodies were running additional controlled trials to investigate hydroxychloroquine's safety and efficacy.

- That flu vaccines increase the chance of contracting COVID-19 by 36%. This statement is false; it misinterprets a disputed article that studied the 2017–2018 influenza season, predating the COVID-19 pandemic. The statement the flu vaccine increases the chance of contracting COVID-19 does not appear in the original article. The article's author Greg G. Wolff said coronavirus cases increased from 5.8% (non-vaccinated) to 7.8% (vaccinated) with an odds ratio of 1.36, with (1.14, 1.63) 95% [confidence interval](#), and the article highlight said; "Vaccinated personnel did not have significant odds of respiratory illnesses". The article refers to seasonal coronaviruses that cause the [common cold](#), but COVID-19 was added by the website disabledveterans.org.
- That despite the goal of preventing coronaviruses, flu vaccines contain coronaviruses. In reality, there are no vaccines with coronaviruses.
- That "Wearing the mask literally activates your own virus. You're getting sick from your own reactivated coronavirus expressions." This statement is unsupported by evidence. Masks prevent airborne transmission of the virus, especially during the up-to-14-day asymptomatic period when carriers may not be aware they have the disease. A virus may be deactivated, but cannot add to one's infection level if it leaves the body, even temporarily.

[Science](#) also repeats some of the statements made by PolitiFact and fact-checked some of Mikovits' and Willis' other statements:

- That [Italy's COVID-19 epidemic](#) is linked to [influenza vaccines](#) and the presence of coronaviruses in dogs. There is no relation between these.
- That SARS-CoV-2 was created "between the North Carolina laboratories, [Fort Detrick](#), the [U.S. Army Medical Research Institute of Infectious Diseases](#), and the [Wuhan laboratory](#)". *Science* says considering relations between the US and the Wuhan lab stopped, the claim is false.
- That Mikovits is not anti-vaccine. According to *Science*, she once wore a piece of [Vaxxed II](#) merchandise promoting a sequel to a film that says [MMR vaccines cause autism](#) and that she once sent *Science* a [PowerPoint](#) presentation calling for an "immediate moratorium" for "all vaccines".
- That the [Department of Health and Human Services](#) (HHS) "colluded and destroyed" Mikovits' reputation, and that the [Federal Bureau of Investigation](#) (FBI) kept this secret but did nothing to help her. *Science* said, "Mikovits has presented no direct evidence that HHS heads colluded against her".
- That Mikovits's article on *Science* "revealed that the common use of animal and human fetal tissues was unleashing devastating plagues of chronic diseases", which the article does not say.
- That Mikovits's [Ph.D.](#) thesis *Negative Regulation of HIV Expression in Monocytes* "revolutionized the treatment of [HIV/AIDS](#)"; the thesis "had no discernible impact on the treatment of HIV/AIDS".

Mikovits also alludes to several conspiracy theories that state [Bill Gates](#) is implicated in causing the pandemic to profit from an eventual vaccine, and makes false and unsupported statements such as the claim that beaches should remain open because of "healing microbes in the saltwater" and "[sequences](#)" in the sand that can "protect against the coronavirus". The video states the numbers of COVID-19 deaths are purposely being misreported to control people.

Willis's previous credits include numerous conspiracy theorist videos and [cinematography](#) on [Neurons to Nirvana](#), a film that makes therapeutic claims about [psychedelic drugs](#). External videos, such as one in which a [chiropractor](#) says [tonic water](#) can treat or prevent COVID-19 and one of a press conference among doctors Dan Erickson and Artin Massihi in [Bakersfield, California](#), saying the COVID-19 pandemic is over-hyped. These external videos were also disputed beforehand.

IgG4 Antibodies Induced by Repeated Vaccination May Generate Immune Tolerance to the SARS-CoV-2 Spike Protein

By Vladimir N. Uversky, Elrashdy M. Redwan, William Makis and Alberto Rubio-Casillas

Vaccines 2023, 11(5)

Source: <https://www.mdpi.com/2076-393X/11/5/991>

Less than a year after the global emergence of the coronavirus SARS-CoV-2, a novel vaccine platform based on mRNA technology was introduced to the market. Globally, around 13.38 billion COVID-19 vaccine doses of diverse platforms have been administered. To date, 72.3% of the total population has been injected at least once with a COVID-19 vaccine. As the immunity provided by these vaccines rapidly



wanes, their ability to prevent hospitalization and severe disease in individuals with comorbidities has recently been questioned, and increasing evidence has shown that, as with many other vaccines, they do not produce sterilizing immunity, allowing people to suffer frequent re-infections. Additionally, recent investigations have found abnormally high levels of IgG4 in people who were administered two or more injections of the mRNA vaccines. HIV, Malaria, and Pertussis vaccines have also been reported to induce higher-than-normal IgG4 synthesis. Overall, there are three critical factors determining the class switch to IgG4 antibodies: excessive antigen concentration, repeated vaccination, and the type of vaccine used. It has been suggested that an increase in IgG4 levels could have a protecting role by preventing immune over-activation, similar to that occurring during successful allergen-specific immunotherapy by inhibiting IgE-induced effects. However, emerging evidence suggests that the reported increase in IgG4 levels detected after repeated vaccination with the mRNA vaccines may not be a protective mechanism; rather, it constitutes an immune tolerance mechanism to the spike protein that could promote unopposed SARS-CoV2 infection and replication by suppressing natural antiviral responses. Increased IgG4 synthesis due to repeated mRNA vaccination with high antigen concentrations may also cause autoimmune diseases, and promote cancer growth and autoimmune myocarditis in susceptible individuals.

Six 'zombie viruses' that are being unleashed on the world right now due to climate change

By Matthew Phelan (for Dailymail.Com)

Source: <https://www.dailymail.co.uk/health/article-12153881/Six-zombie-viruses-unleashed-world-right-climate-change.html>

June 04 – The viruses have turned up in mammoth wool, Siberian mummies, prehistoric wolves, and the lungs of an Influenza victim buried in [Alaska](#)'s permafrost. And scientists say there's more to come. An international team of researchers from institutions in Russia, [Germany](#) and [France](#) warns that 'the risk of ancient viral particles remaining infectious' has been underestimated. Worse, these scientists now believe that 'the risk is bound to increase in the context of [global warming](#), in which permafrost thawing will keep accelerating,' unleashing some diseases that had been trapped in the ice since prehistoric times.



© The Siberian Times

Climate change risks unleashing more long-dead viruses, the researchers say, as 'permafrost thawing will keep accelerating.' Above, scientists examine a 14,300-year-old wolf-dog preserved by the Tumat permafrost since pre-historic times. These remains were found in 2015

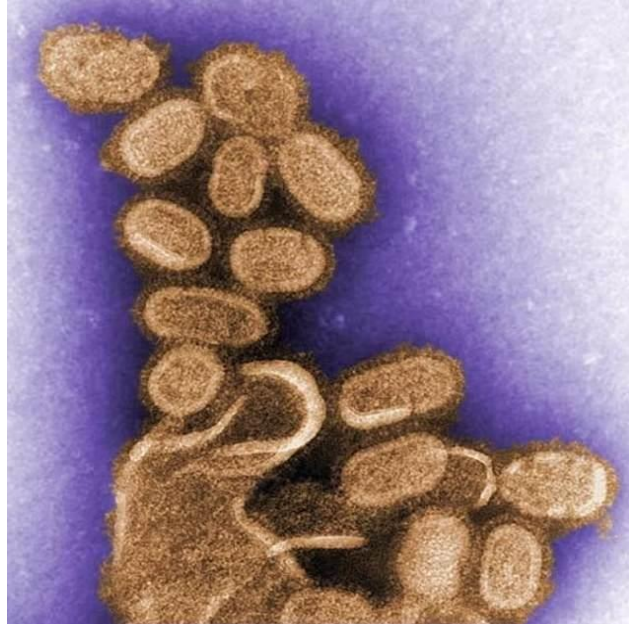


ICI C²BRNE DIARY – June 2023

The team — which includes experts in genomics, microbiology and geoscience, some of whom have been tracking these resurrected 'zombie' viruses for nearly a decade — published their findings in [the journal Viruses](#) last February. Below are six long-frozen microbes that scientists have unearthed from the permafrost's quickly melting fossil record.

Influenza

In the late 1990s, [Swedish pathologist Dr. Johan V. Hultin](#) found a cache of 1918 Influenza virus RNA in the lungs of a woman slain by the virus nearly 80 years prior. Dr. Hultin had been searching intentionally for Influenza samples that could help medical researchers better understand how to fight future pandemics.



But his discovery was an early indication of just how easily deadly viruses could be preserved in arctic permafrost.

Hultin, in collaboration with the US Armed Forces Institute of Pathology, exhumed the body of a large Inuit woman buried in a mass grave of Influenza victims near a remote village outside the town of Brevig Mission, Alaska.

Thanks to the permafrost, enough RNA from the Influenza virus was so well preserved that the researchers could sequence the entire 1918 strain's genome. But the discover was both a victory for medical researchers and dark omen of what other diseases might be frozen in time under the ice.

Thanks to the Alaskan permafrost, enough of RNA from the 1918 Influenza virus was so well preserved that researchers could sequence the entire pandemic strain's genome. Above, a colorized image of the 1918 Influenza virus taken by a transmission electron microscope

Pithovirus sibericum

First dredged out of the Siberian permafrost in 2014, from 100 feet (30m) under the ground, the gigantic ancient virus Pithovirus sibericum is one of the few viruses visible under an ordinary, high school-style, light microscope.

At about 1.5 micrometers, P. sibericum is over seven-times the size of a modern human-infecting virus, which typically range from 20–200 nanometers.

While the 30,000-year-old P. sibericum virus poses no threat to humans, its present-day ability to kill amoebas portends that more deadly ancient viruses could be revived. Above, an ultrathin section of a Pithovirus inside an infected amoeba (credit: Bartoli, Abergel, IGS and CNRS-AMU)

French scientists with the National Centre of Scientific Research at the University of Aix-Marseille (CNRS-AMU) resurrected the 30,000-year-old zombie P. sibericum by exposing sacrificial amoebas to the virus. 'This is the first time we've seen a virus that's still infectious after this length of time,' Professor Claverie of CNRS-AMU said at the time.

As Claverie's co-author on [a 2014 PNAS study](#) about the virus, Chantal Abergel, told [the BBC](#): 'It comes into the cell, multiplies and finally kills the cell. It is able to kill the amoeba - but it won't infect a human cell.' Although P. sibericum poses no clear and present danger to either people or animals, the researchers chose their amoeba 'canaries in the coalmine' as a way to test the future risks posed by undead pathogens emerging from the thaw. Along with their co-authors on the new study in *Virus* this year, Claverie and Abergel called this approach a 'decisive advantage' using amoebas as 'a specific bait to potentially infectious viruses.' But just the fact that these viruses could be fully revived was a bad sign.



'The ease with which these new viruses were isolated,' they wrote, 'suggests that infectious particles of viruses specific to many other untested eukaryotic hosts [including humans and animals] probably remain abundant in ancient permafrost.'



© NEFU/The Siberian Times

Mollivirus sibericum

Frozen Mollivirus sibericum was found alongside those same 30,000-year-old Siberian permafrost samples as P. sibericum.

Slightly smaller than P. sibericum (as small as 0.6 micrometers), M. sibericum is another giant virus that's not a threat to humans or animals — but its proximity to P. sibericum left scientists worried that the permafrost was packed with undead pathogens.

'We cannot rule out that distant viruses of ancient Siberian human (or animal) populations could reemerge as arctic permafrost layers melt and/or are disrupted by industrial activities,' Claverie, Abergel and their co-authors wrote [in their 2015 study](#).

Frozen, well-preserved viruses have turned up in mammoth wool, Siberian mummies, prehistoric wolves, and the lungs of an Alaskan Influenza victim. Above, the first full carcass of a cave bear, approximately 39500 years old, unearthed from the Yakutia permafrost in 2020



© Innokenty Pavlov/The Siberian Ti

© Vasily Bogoyavlensky/The Siberia

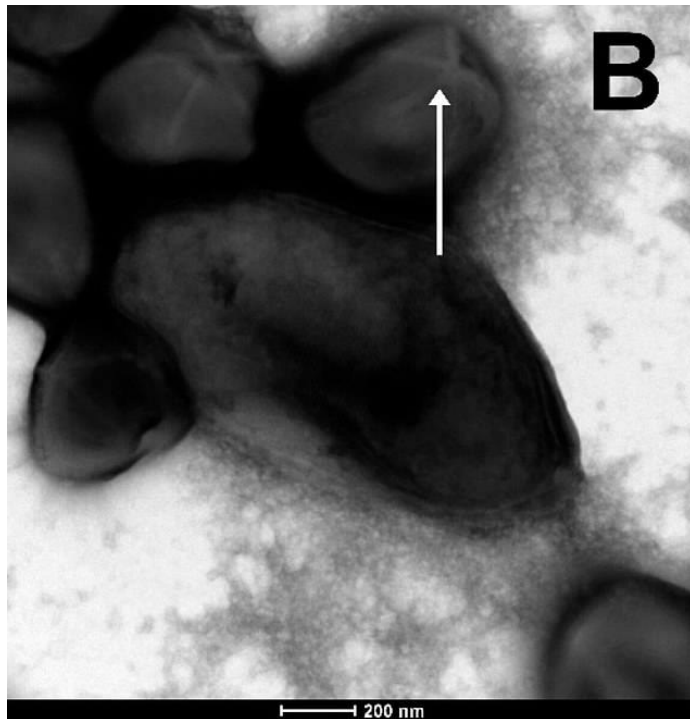
Scientists now believe that pandemic risks due to permafrost thaw 'will keep accelerating' due to climate change. At left, Kotelnny Island permafrost melt. At right, Russia has identified about 430 giant permafrost 'gas bombs' which could explode forming massive craters in the Arctic



Pandoravirus and Megavirus mammoth

Both the Pandoravirus mammoth and Megavirus mammoth were discovered in 27,000-year-old clump of ice and frozen mammoth wool on the banks of the Yana river in Russia.

Like past ancient giant viruses, P. mammoth and M. mammoth have been shown to be capable of killing amoebas.



Researchers have chosen amoebas as their test 'canaries' because these single-celled organisms are close enough to human-like and animal-like eukaryotic cells to be informative, but not close enough to risk creating a new pandemic.

For [their study this year](#), Claverie, Abergel and their team exposed the newfound Pandoravirus strain to another culture of amoebas, as well as to human and mouse cells.

Both the Pandoravirus mammoth and Megavirus mammoth were discovered in 27,000-year-old clump of ice and frozen mammoth wool on the banks of the Yana river in Russia. Like past ancient giant viruses, both have been shown to be capable of killing amoebas

The move was part of a standard protocol to verify that viruses cannot infect mammalian cells.

While both of these viruses fortunately could not infect those human and mouse cells, the researchers don't think it's time to breathe a sigh of relief yet.

They wrote that it's still 'legitimate to ponder the risk of ancient viral particles remaining infectious and getting back into circulation by the thawing of ancient permafrost layers.'

'Wolf' virus (Pacmanvirus lupus)

An ancient relative of African swine fever virus, Pacmanvirus lupus was found thawing from the 27,000-year-old intestines of frozen Siberian wolf. The remains of this Siberian wolf (*Canis lupus*) were found at the same Yana riverbed site as the two mammoth viruses. Like the rest of these large-sized ancient viruses, P. lupus still capable of coming back to life and killing amoebas, even though it's been out of the game since the Mesolithic or Middle Stone Age.

Ancient relative of African swine fever virus, Pacmanvirus lupus was found thawing from the 27,000-year-old intestines of frozen Siberian wolf. Like the rest, it's still capable of coming back to life and killing amoebas, even it has been out of the game since the Middle Stone Age

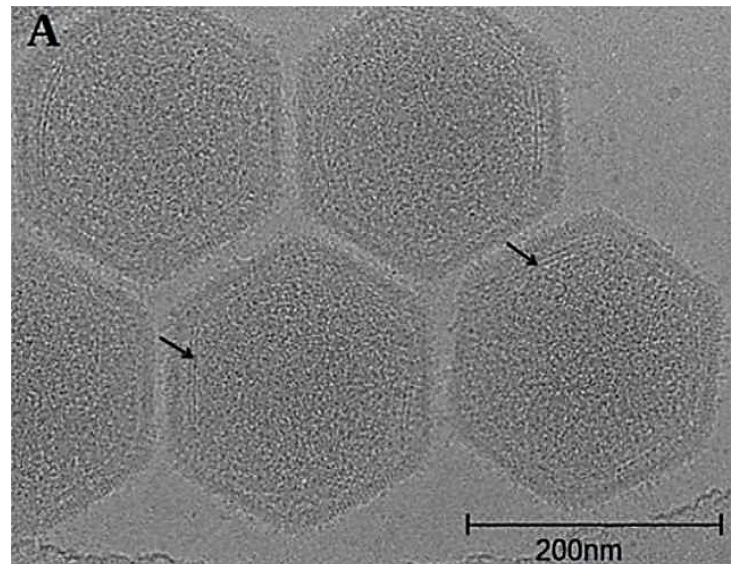
Smallpox

Smallpox needs no introduction. The brutal disease was officially eradicated globally, according to the United Nations World Health Organization, in 1980.

But in 2004, [French and Russian scientists](#) found smallpox inside an icy 300-year-old Siberian mummy frozen in the tundra of Russia's Sakha Republic.

The mummy dates back to hasty graves made during a smallpox outbreak during the late 17th to early 18th centuries in northeastern Siberian region.

Each of the archeological sites consisted of frozen wooden graves buried in the permafrost, but the unusual grave with the smallpox had been stuffed with five frozen mummies.





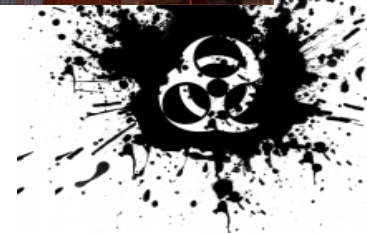
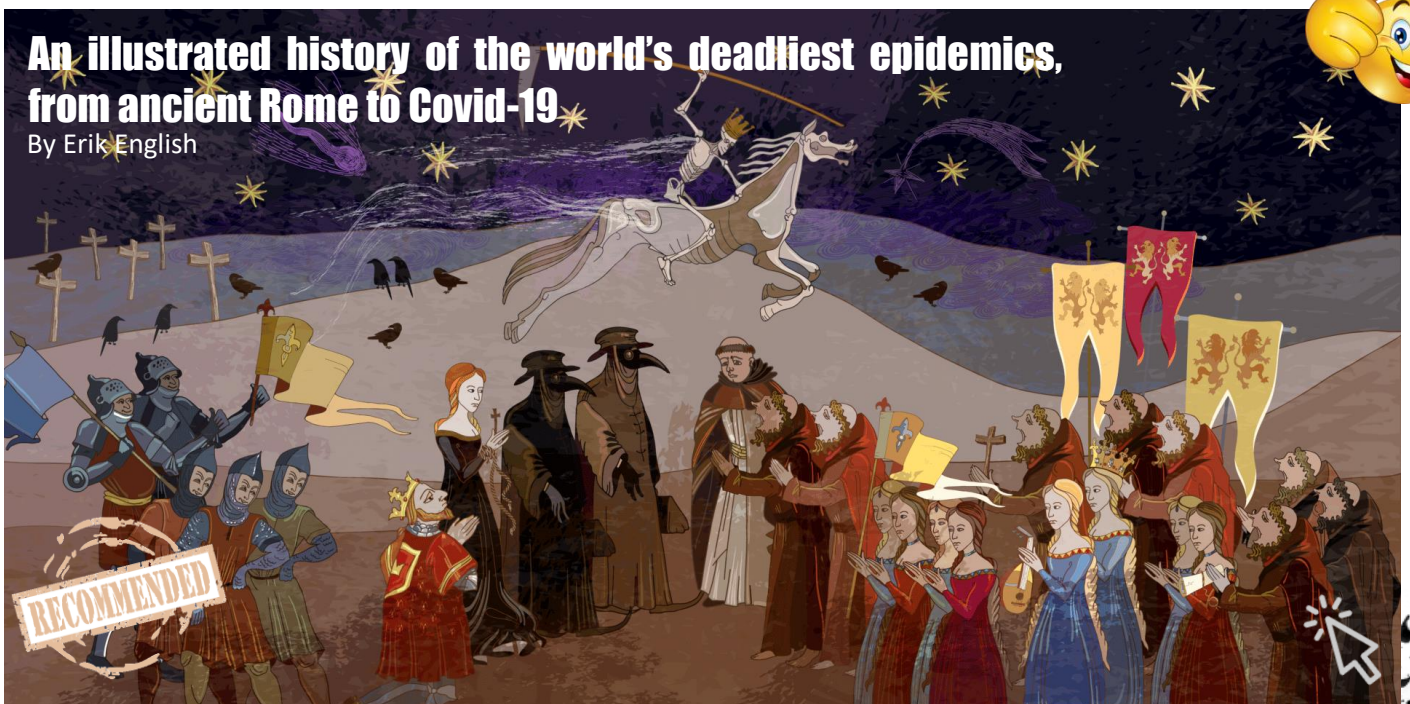
Individual burials were traditional practice in the region at the time and further analysis suggested to the researchers that the corpses were buried rapidly after their death.

Each of the archeological sites consisted of frozen wooden graves buried in the permafrost, but the unusual grave with the smallpox had been stuffed with five frozen mummies. The 2004 smallpox findings were first published in the *The New England Journal of Medicine*

Smallpox needs no introduction. The brutal disease was officially eradicated globally, according to the United Nations World Health Organization, in 1980. Above, a smallpox virion, image courtesy of US Centers for Disease Control and Prevention For the authors of the new paper in *Virus*, this 2004 smallpox discovery shows just how bad viral eruptions from melting permafrost can get.

'Probably for safety/regulatory reasons,' the wrote, 'there were not follow-up studies attempting to "revive" these viruses

(fortunately).'¹ But that does not mean these viruses could revive on their own, as the rising temperatures continue thawing out the vast northern landscapes of regions like Siberia and Alaska. "Very few studies have been published on this subject," Claverie, Abergel and their team wrote.



Erik English is an associate multimedia editor at the Bulletin of the Atomic Scientists. He has worked at the International Atomic Energy Agency, the US Department of State, and the US African Development Foundation. Erik was a Peace Corps Volunteer in Benin from 2009 to 2011 and received his master's degree from the Fletcher School of Law and Diplomacy at Tufts University in 2015.

COVID-19 virus can cause brain cells to fuse, may explain 'brain fog'

Source: <https://newatlas.com/medical/covid-19-fuses-brain-cells-explains-brain-fog/>

June 08 – New research has found that viruses such as the one that causes COVID-19 can cause brain cells to fuse together and malfunction. The findings might explain the 'brain fog' and other neurological symptoms some people experience following infection with the SARS-Cov-2.

It's well-known that some viruses, including the severe acute respiratory syndrome coronavirus 2 ([SARS-CoV-2](#)), which causes COVID-19, involve the brain and nervous system by infecting nerve cells (neurons).

Some viruses don't kill their host cells and, instead, cause brain dysfunction. The mechanism by which they do this is understood in non-brain cells: the viruses use specialized molecules called fusogens to fuse with and enter cells. The fusogens hijack the cell's machinery to produce more viruses which spreads the virus – and more fusogens – to neighboring cells. What's been unclear until now is how fusogens affect brain cells.

Researchers at Macquarie University, Sydney, have collaborated with the University of Queensland and the University of Helsinki, Finland, to examine the effect that fusogens have on the brain. The research relied on brain [organoids](#), artificially grown 'mini-brains' that simulate the real thing.

"We reprogram human stem cells into brain cells, including neurons, and allow them to assemble into mini-brains in a dish," said Yazi Ke, a co-author of the study. Some organoids were infected with viral fusogens, including SARS-CoV-2, and compared with non-infected control organoids. They found that the virus caused fusion between neurons, between neurons and glia and between glia. Glia are non-neuronal cells in the brain and spinal cord that help support and protect neurons.

"We discovered COVID-19 causes neurons to undergo a cell fusion process, which has not been seen before," said Massimo Hilliard, one of the study's co-authors. "After neuronal infection with SARS-CoV-2, the spike S protein becomes present in neurons, and once neurons fuse, they don't die." The spike protein, or S protein, is one of the key biological characteristics of SARS-CoV-2. It's located on the outside of the virus, allowing it to penetrate host cells and cause infection.

This fusion without cell death, the researchers say, could explain the chronic neurological symptoms some people have after infection with COVID-19, such as headache, 'brain fog', loss of taste and smell, and exhaustion.

"In the current understanding of what happens when a virus enters the brain, there are two outcomes – either cell death or inflammation," said Ramón Martínez-Mármol, lead author of the study. "But we've shown a third possible outcome, which is neuronal fusion." The research reveals a new mechanism for the neurological events that follow a viral infection which provides a greater understanding of the long-term impacts of COVID-19 and perhaps other neurological conditions.

"This very comprehensive study can help us understand some of the mechanisms of this viral behavior," said Lars Ittner, one of the study's co-authors. "We have also started a research program in our lab around understanding the impact of COVID infections on the brain and how this impacts the progression, outcome and even the onset of dementia."

●► The study was published in the journal [Science Advances](#).

Technological Obsolescence

By Jonathan Coopersmith

Source: <https://www.homelandsecuritynewswire.com/dr20230609-technological-obsolescence>

June 09 – In addition to killing over a million Americans, Covid-19 revealed embarrassing failures of local, state, and national public health systems to accurately and effectively collect, transmit, and process information. To some critics and reporters, the visible and easily understood face of those failures was the continued use of fax machines.[1]

In reality, the critics were attacking the symptom, not the problem. Instead of "why were people still using fax machines?" the better question was "what factors made fax machines more attractive than more capable technologies?" Those answers provide a better window into the complex, evolving world of



technological obsolescence, a key component of our modern world—and on a smaller scale, provide a template to decide whether the NAE and other organizations should retain their fax machines.[2]

The marketing dictionary of Monash University Business School defines technological obsolescence as “when a technical product or service is no longer needed or wanted even though it could still be in working order.”[3] Significantly, the source is a business school, which implies strong economic and social factors in decision making about technology.

Determining technological obsolescence depends not just on creators and promoters of new technologies but also on users, providers, funders, accountants, managers, standards setters—and, most importantly, competing needs and options. In short, it’s complicated.

Like most aspects of technology, perspectives on obsolescence depend on your position. If existing technology meets your needs, upgrading may not seem worth the resources needed (e.g., for purchase and training). If, on the other hand, your firm or organization depends on income from providing, installing, servicing, training, advising, or otherwise benefiting from a new technology, not upgrading could jeopardize your future, especially in a very competitive market. And if you cannot find the resources to upgrade, you—and your users—may incur both visible and invisible costs.

A major variable is competition: If I do not upgrade, what happens if my competitors do?

Will my business remain technologically competitive? Or will I have invested in an expensive, unneeded capability, absorbing resources that could have been used more productively elsewhere? For a small firm or organization, do I really need the latest and best iteration of a technology? If I’m an influencer, do I need to promote the latest technology to remain trendy and popular (or will I be labeled a member of the dorky dad club if I don’t)?

Competition is about not just the technology but also the resources needed to develop (or acquire) and operate it. This is especially acute for public infrastructure, from bridges to IRS IT systems. Bridges and IT systems do not vote, and the maintenance and upgrading of infrastructure often lose the political competition for resources to more visible, urgent priorities. It may take a visible disaster like a dam failing, a train derailling, or a software crash for decision makers and citizens to realize what local users and experts long knew or had reason to suspect.

The American Society of Civil Engineers in 2021 rated US transportation and other infrastructure a C-. [4] A recent government study of IRS IT systems found some software 15 versions behind current releases, among other significant problems.[5] The challenge of operating and upgrading legacy computer systems is not confined to the public sector, as the Southwest Airlines meltdown last December demonstrated.[6]

The costs of staying current can be daunting. In addition to the obvious costs of the new technology itself, integrating it with existing equipment and procedures, including educating users, can demand significant time and resources. Major changes may require training, which has its own costs as well as potential uncertainty, confusion, and frustration. When Windows ’95 was released, Microsoft bragged that its customer help lines could handle 50,000 calls a day. Imagine releasing a product so hard to learn that you expect 50,000 cries for assistance every day.

Nor is upgrading risk-free. Most visible are the dangers of technological black holes draining resources and attention (what are the opportunity costs in terms of how the resources might otherwise have been used?). In the classic Arthur C. Clarke 1954 short story “Superiority,” the narrator describes how his side’s weapons, more advanced but also more troublesome and producible only in limited amounts, lost an interstellar war to a foe armed with warships that were less effective but deployable in much greater quantities.[7]

While important, economics are not everything. Linking social status with the latest technology—“Keeping up with the Joneses” (or the more current “FOMO,” fear of missing out)—has historically been a motivating factor for upgrading technologies. A century ago, by encouraging “a certain dissatisfaction with past models compared with the new one,” General Motors president Alfred P. Sloan in the 1920s pioneered the concept of planned obsolescence and its implementation via the annual vehicle model year.[8]

More insidious is “forced obsolescence,” where firms stop supporting and updating old products.[9] Threatening to void warranties or withhold support if the user tinkers with or attempts to repair a product may also encourage users to acquire the latest equipment. But in reaction, the desire to be able to customize, maintain, and fix your technology has spawned a growing “right-to-repair” movement.[10] Keeping and maintaining an obsolete but functioning technology may make more sense than acquiring a newer technology, especially if external factors like competition and customers are not demanding change.

The carrying costs of the old technology might be trivial for the user, who could avoid the investment in changing. In particular, smaller organizations and firms with older decision makers may feel less compelled to keep up with the Joneses. Older people are more likely (and able) to be conservative in their use of technology—that is, they are more likely to continue using existing technology that works adequately for



them, especially if they have the authority to decide what technology to use.[11] In 2009 the Foreign Correspondents Club of Japan found that its younger members preferred newsletters by email while older members preferred faxes. While I was writing this article, a friend told me his cardiologist refused to communicate by email and faxed his prescriptions to the pharmacist; from the cardiologist's perspective, communicating by email might be financially costly.[12]

External factors also affect medical decision making. For fax machines, the 1996 Health Insurance Portability and Accountability Act (HIPAA) provided the legal requirement—and market—for securely transmitting medical information. That, together with the greater acceptance of faxed signatures compared with electronic signatures, has kept fax machines humming in the medical world into the 2020s. Less visible but critical were technological improvements including computer-based faxing that enabled greater automation and capacity than standalone fax machines while still providing compatibility.

In contrast, the theoretically superior electronic health record (EHR) suffered a classic market failure. The Obama administration promoted EHRs but did not require compatibility among competing systems, assuming the market forces would provide a solution.[13] As is often the case, competing systems divided markets into smaller, incompatible segments—and so fax machines continue to provide an inefficient but effective way of transmitting information.

Indeed, incompatible equipment in the 1960s–70s kept the fax market similarly divided until the International Telecommunications Union (ITU) G3 standard of 1980 enabled compatibility for a new generation of fax machines.[14] G3 succeeded primarily because it was universal and flexible, providing a floor of minimum standards but also a flexible ceiling that encouraged companies to experiment with new features that worked only with their equipment. G3 also succeeded because the Communications Industry Association of Japan organized meetings for competing fax manufacturers to test their equipment with each other for compatibility without revealing competitive information.

An extreme case of adherence to an obsolete technology is the devotee. Best exemplified by music buffs who prefer analog to digital recordings of music and photographers who prefer film over electronic recording, these advocates strive to keep old technologies alive often by rethinking and restructuring them in changed environments. They succeed by creating subcommunities and cultures, sometimes with a modest or not-so-modest demonstration of expertise, experimentation, income, and snobbery.[15] Critical to this success is convincing suppliers to continue producing needed equipment and materials. Such groups are not necessarily technologically sterile—DJs created the thriving, throbbing music subculture of mixing and turntablism in the 1990s.[16]

What to do?

Should you keep your fax machine? Definitely not if your business or government communicates large amounts of digital data. Just be sure to make the retirement of your fax machines contingent on your organization's investment in up-to-date communications equipment, appropriate training, and a commitment for future upgrades. But if a phone-based fax machine meets your needs and you have no desire to invest in more modern, capable technology, keep it. Paying for a backup phone line and fax machine in case the internet goes down, however, may no longer be worth the expense: Larger fax users probably use computer-based fax systems that communicate via the internet.

Should you upgrade your computer and communications software? Definitely. Malware, ransomware, data theft, and other electronic hacks mean you are needlessly endangering yourself, family, and colleagues if you do not upgrade software-based devices. This "arms race" will continue for the foreseeable future—and AI will undoubtedly provide more opportunities for attackers and defenders. Upgrading is an acknowledgment of the inevitable "obsolescence" of today's ubiquitous software- and internet-based technologies.

As citizens and taxpayers, we should demand that government at all levels—local, state, and national—openly discuss, plan, and invest in maintaining and upgrading essential infrastructure, both physical and digital. The visible cost will be large but the societal costs of obsolescence—whether measured in lead-damaged children, traffic delays, or inefficient tax collection—are larger.

Planning for obsolescence differs greatly from *planned obsolescence*. If civil infrastructure and tax software[17] exemplify federal government underinvestment, the military, especially during wars, exemplifies how to organize for technological obsolescence. R&D laboratories and experience provide the need and capability to improve or supersede existing technology. Combining separate upgrades into a discrete group of improvements for aircraft, introduced during World War II, enabled military planners to balance the production of improved equipment, user training, and supply of different versions on a worldwide scale.

The Space Development Agency of the newly formed US Space Force provides the latest iteration of block production, grounded in the assumption (and funding) of continual improvement and decreasing cost of building and launching satellites into low earth orbit. Tranches of small- and medium-size satellites with an expected lifetime of five years will be launched with upgraded versions every two years.[18]

Whether you are a Space Force Guardian, an individual, a small or large business, an NGO, or a local government, your prime concern should not be whether you reluctantly throw out old gadgets or eagerly adopt new technologies, but how you and your organization proactively prepare for change and try to



shape that change. As the world continues to evolve, what investments do we need to make to evolve with it or face our own “obsolescence”?

Notes

- [1] <https://www.nytimes.com/2020/07/13/upshot/coronavirus-response-fax-machines.html>
- [2] In the conversation that led to this essay, I learned that the NAE Program Office was considering whether to repair or replace its fax machine.
- [3] <https://www.monash.edu/business/marketing/marketing-dictionary/t/technological-obsolescence>
- [4] <https://infrastructurereportcard.org/>
- [5] <https://www.gao.gov/products/gao-23-104719>
- [6] <https://www.dallasnews.com/business/airlines/2023/02/08/southwest-airlines-december-meltdown-came-after-years-of-tech-failures/>
- [7] [https://en.wikipedia.org/wiki/Superiority_\(short_story\)](https://en.wikipedia.org/wiki/Superiority_(short_story))
- [8] Alfred P. Sloan, *My Years with General Motors* (ISHI Press, 2020), 265.
- [9] Lee Vinsel and Andrew L. Russell, *The Innovation Illusion* (Currency, 2020), 136.
- [10] <https://www.ifixit.com/Right-to-Repair>
- [11] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9582456/>
- [12] <https://abcnews.go.com/Health/wireStory/email-doctor-charged-95432204>
- [13] <https://www.newyorker.com/magazine/2018/11/12/why-doctors-hate-their-computers>
- [14] “Creating Fax Standards: Technology Red in Tooth and Claw?” *Kagaku-Gijutsu-Shi: Japanese Journal for the History of Science and Technology* 11 (July 2010), 37–66.
- [15] <https://www.upress.umn.edu/book-division/books/residual-media>
- [16] <https://www.pbs.org/opb/historydetectives/feature/the-art-of-turntablism/>
- [17] For a sense of what IRS tax software could be, see <https://www.pbs.org/newshour/show/dreading-taxes-countries-show-us-theres-another-way> and <https://www.npr.org/2023/05/16/1176417594/irs-taxes-filing-turbotax-intu...>
- [18] <https://www.defense.gov/News/News-Stories/Article/Article/3345559/space-development-agency-to-launch-10-satellites/>

Jonathan Coopersmith is professor emeritus at Texas A&M University.

Cheap Diabetes Drug Slashes Risk of Long COVID, Study Finds

Source: <https://www.sciencealert.com/cheap-diabetes-drug-slashes-risk-of-long-covid-study-finds>



June 09 – People who took a cheap [diabetes](#) drug after testing positive for [COVID-19](#) had a 40 percent lower risk of getting long COVID, a US-based [study](#) said Friday.



The finding was hailed as a potential “landmark” in the fight against the still little-understood condition, which the [World Health Organization estimates](#) affects 1 in 10 people who get COVID-19.

The study said it was the first randomized, placebo-controlled phase 3 trial – considered the gold standard in research – to show that taking a drug can prevent long COVID.

It tested a drug called [metformin](#), which was originally developed from the French lilac flower, and has been the most common medication used to treat type 2 diabetes across the world for decades.

This means the drug is known to be safe, as well as being inexpensive and widely available. The study covered 1,126 overweight or obese people in the

United States, half receiving metformin and half a placebo in the days after testing positive for COVID-19. After 10 months, 35 of the participants who took metformin were diagnosed with long COVID, compared to 58 for the placebo group, representing a 40 percent reduction in risk. The trial was conducted between December 2020 and January 2022, meaning it included the Omicron variant, which research has suggested causes long COVID at a lower rate than previous strains.

The team behind the COVID-OUT trial had [previously shown](#) that metformin reduced [coronavirus](#) patients' risk of emergency department visits, hospitalizations and death by more than 40 percent.



Carolyn Bramante, a researcher at the University of Minnesota and the new study's lead author, told AFP that "our data show that metformin reduces the amount of [SARS-CoV-2 virus](#)" in patients.

'Profound'

Jeremy Faust, a doctor at Harvard Medical School not involved in the study, [said in a linked comment piece](#) that if confirmed, the findings "are profound and potentially landmark" for long COVID. Frances Williams, an epidemiology professor at King's College London, pointed out that 564 people had to take the drug "to prevent 23 hypothetical cases". "This means 24 people would need to take metformin to prevent one case of long COVID," she said, adding that this was a lot of drugs to stop such a poorly understood condition. The researchers cautioned that they did not test metformin on people who had already been diagnosed with long COVID, so the findings did not mean it could be used to treat the condition. The study also found that the antiparasitic drug [ivermectin](#), which was the subject of misinformation throughout the [pandemic](#), as well as the antidepressant fluvoxamine did not prevent long COVID. Tens of millions of people have been estimated to have had long COVID, in which numerous and sometimes debilitating symptoms last or recur three months after infection that can then drag on for years.

The most common symptoms include fatigue, breathlessness, and a lack of mental clarity called brain fog.

●► The research was published in the [Lancet Infectious Diseases](#) journal.

The COVID-19 Intelligence Failure

Why Warning Was Not Enough

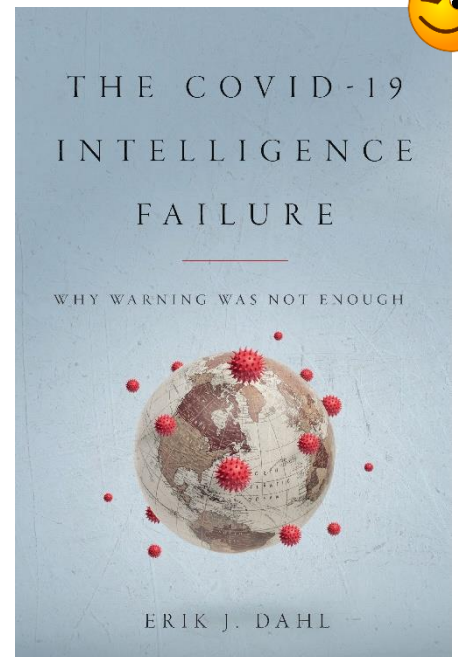
Author: Erik J. Dahl

Source: <https://press.georgetown.edu/Book/The-COVID-19-Intelligence-Failure-1>

Epidemiologists and national security agencies warned for years about the potential for a deadly pandemic, but in the end global surveillance and warning systems were not enough to avert the COVID-19 disaster. In *The COVID-19 Intelligence Failure*, Erik J. Dahl demonstrates that understanding how intelligence warnings work—and how they fail—shows why the years of predictions were not enough.

In the first in-depth analysis of the topic, Dahl examines the roles that both traditional intelligence services and medical intelligence and surveillance systems play in providing advance warning against public health threats—and how these systems must be improved for the future. For intelligence to effectively mitigate threats, specific, tactical-level warnings must be collected and shared in real time with receptive decision makers who will take appropriate action. Dahl shows how a combination of late and insufficient warnings about COVID-19, the Trump administration's political aversion to scientific advice, and decentralized public health systems all exacerbated the pandemic in the United States. Dahl's analysis draws parallels to other warning failures that preceded major catastrophes from Pearl Harbor to 9/11, placing current events in context.

The COVID-19 Intelligence Failure is a wake-up call for the United States and the international community to improve their national security, medical, and public health intelligence systems and capabilities.



'Biothreats radar' set up to scan for new pandemic and bio-terror alerts facing UK

Source: <https://www.mirror.co.uk/news/politics/biothreats-radar-set-up-scan-30207212>

June 12 – A "biothreats radar" will be set up to defend Britain from pandemics and bio-terror attacks, the Government announced today. The "radar" will help protect the UK from infectious disease outbreaks, the growing risk of antimicrobial resistance and biological incidents, according to the Cabinet Office.

Launched as part of the Biological Security Strategy, it will be led by the National Situation Centre and bring together data from across Whitehall, various advisory committees and experts in outbreaks and bioterrorism. The Government's Chief Scientific Adviser, Professor Dame Angela McLean, said: "The



Covid-19 pandemic showed just how critical it is to have a coherent plan to both protect the UK from the increasingly complex range of biological risks and build on the UK's strengths in vaccine research and development and life sciences.

"The new Biological Security Strategy will make an important contribution to our preparedness."

Experts are increasingly concerned about threats emerging from the animal kingdom which could leap to humans, as well as the growing resistance to antibiotics - making sicknesses more difficult to treat.

There is also mounting worry about some states' attempts to develop and manufacture biological weapons which could be deployed on battlefields or among the ordinary public.

Deputy Prime Minister Oliver Dowden said: "Covid was the biggest peacetime challenge in a century and we must be diligent in preparing for future threats on this scale. "This plan and our £1.5billion investment per year puts us in a strong position to defeat the biological threats of tomorrow - from diseases to bioweapons and antimicrobial resistance.

"It's a strong and ambitious approach: one that harnesses the sheer ingenuity of the UK's researchers and scientists, and deploys our world-class crisis management capabilities to protect the people of the UK."

The Centre for Long-Term Resilience's head of biosecurity policy, Cassidy Nelson, said: "This much-needed strategy underscores the UK's role as a global leader in enhancing resilience against biological risks.

"We welcome the goal to achieve resilience to the full spectrum of biological threats by 2030, and commend the use of built-in accountability measures to drive the implementation of the strategy. We now need sustained resourcing and prioritisation to achieve tangible improvements to the UK's biosecurity capabilities on such an ambitious timeline."

ChatGPT-Like Model "Speaks Protein" to Speed Drug Discovery

Source: <https://www.genengnews.com/topics/artificial-intelligence/chatgpt-like-model-speaks-protein-to-speed-drug-discovery/>

June 09 – Running a drug screening program is like staging an enormous cocktail party—and listening in on the proceedings. At cocktail parties, there's so much small talk, but only a few meaningful conversations. Similarly, in drug screening programs, feeble drug-target interactions greatly outnumber the instances of high-affinity binding.

Imagine if you had to listen to every bit of a cocktail party's banter. Surely, that would be tedious. Now, consider how much worse it would be to evaluate every drug-target interaction in a typical drug screen. Why, that would exhaust even the most patient listener—the typical artificial intelligence (AI) system.

Unfortunately, conventional AI systems take a long time to sift through data about the interactions between drug candidates and protein targets. Most AI systems calculate each target protein's three-dimensional structure from its amino-acid sequence, then use those structures to predict which drug molecules it will interact with. The approach is exhaustive, but slow.

To move things along, researchers at MIT and Tufts University have devised an alternative computational approach based on a type of AI algorithm known as a large language model. These models—one well-known example is ChatGPT—can analyze huge amounts of text and figure out which words (or, in this case, amino acids) are most likely to appear together. The large language model developed by the MIT/Tufts team is known as ConPLex. It can match target proteins with potential drug molecules without having to perform the computationally intensive step of calculating the molecules' structures.

Details about ConPLex appeared in *PNAS*, in an article titled, "[Contrastive learning in protein language space predicts interactions between drugs and protein targets.](#)" ConPLex can leverage the advances in pretrained protein language models ("PLex") and employ a protein-anchored contrastive coembedding ("Con") to outperform state-of-the-art approaches.

"ConPLex achieves high accuracy, broad adaptivity to unseen data, and specificity against decoy compounds," the article's authors wrote. "It makes predictions of binding based on the distance between learned representations, enabling predictions at the scale of massive compound libraries and the human proteome."

The researchers then tested their model by screening a library of about 4,700 candidate drug molecules for their ability to bind to a set of 51 enzymes known as protein kinases.

From the top hits, the researchers chose 19 drug-protein pairs to test experimentally. The experiments revealed that of the 19 hits, 12 had strong binding affinity (in the nanomolar range), whereas nearly all of the many other possible drug-protein pairs would have no affinity. Four of these pairs bound with extremely high, sub-nanomolar affinity (so strong that a tiny drug concentration, on the order of parts per billion, will inhibit the protein).

While the researchers focused mainly on screening small-molecule drugs in this study, they are now working on applying this approach to other types of drugs, such as therapeutic antibodies. This kind of modeling could also prove useful for running toxicity screens of potential drug compounds, to make sure they don't have any unwanted side effects before testing them in animal models.



“This work addresses the need for efficient and accurate in silico screening of potential drug candidates,” said Bonnie Berger, PhD, an MIT researcher and one of the senior authors of the new study. “[Our model] enables large-scale screens for assessing off-target effects, drug repurposing, and determining the impact of mutations on drug binding.”

“Part of the reason why drug discovery is so expensive is because it has high failure rates,” noted Rohit Singh, PhD, an MIT researcher and one of the study’s lead authors. “If we can reduce those failure rates by saying upfront that this drug is not likely to work out, that could go a long way in lowering the cost of drug discovery.”

US run Ukrainian/Georgian labs transferred Bioweapons to Kazakhstan to deploy against Russia and China

Source: <https://www.theinteldrop.org/2023/06/03/us-run-ukrainian-georgian-labs-transferred-bioweapons-to-kazakhstan-to-deploy-against-russia-and-china/>



June 03 – The Russian special operation prevented the United States from continuing the secret development and testing of biological weapons on the territory of Ukraine. **But the threat was not entirely over.** It’s just that those dual-purpose research programs from Ukrainian cities are moving to Georgia, Armenia, Kazakhstan, Uzbekistan and other republics of the post-Soviet space. **And from what was tested before the start of the SVO, the blood just runs cold in the veins and the hair stands on end.**

According to the April 11 report of the Russian parliamentary commission to investigate the activities of US laboratories in Ukraine, by the beginning of the NWO in the former Soviet republic, **50 facilities were operating in the interests of the Americans.** The main ones were located in Lvov, Odessa, Kharkov and Kyiv. As part of a secret UP project, **experiments were carried out to infect Ukrainian military personnel with various pathogens** . According to American documents captured by the Russian military, a total of about 4,000 Ukrainian servicemen were infected.

Thus, specialists of the Russian Ministry of Defense **analyzed 180 blood samples of captured Ukrainian servicemen undergoing treatment, which showed that more than 30% of them had hepatitis, 14% had Crimean-Congo hemorrhagic fever, and 21% had West Nile fever.** These diseases were carefully studied by the Americans, so it can be assumed that the number of intentionally infected was greater than indicated in the project. The susceptibility of residents of different regions of Ukraine to dangerous infectious diseases was also studied, which makes it possible to create new types



of selective biological weapons. In 2018, a sudden outbreak of hepatitis A occurred in the Mykolaiv region, which quickly spread to Odessa and Kharkiv, where biological laboratories are located.



At the same time, “veterinary projects” with the code “TAP” were launched in Ukraine to **develop economically significant infections that could harm the economy of the country and the entire region**. For example, the introduction of any pathogen or virus, even zoonotic poxvirus infections (vaccinia) to infect animals, can significantly affect livestock and lead to irreversible death of animals and birds.

According to the well-known infectious disease specialist and academician of the Russian Academy of Sciences Gennady Onishchenko, **many viruses and microorganisms that were previously studied in Ukraine have been modified, their virulence and pathogenicity have been enhanced in American biological laboratories**. For example, if we modify the anthrax virus with the help of genetic engineering and import it into Russia, then it turns out that this is some other disease, **very aggressive, with a high degree of contagiousness, and proven methods of dealing with it are ineffective**, it cannot be treated. The result is a mass death of the population. When creating, one principle is used – to hide a new disease, simulating it as well-known and studied. As a result of the investigation conducted by the Russian military, the collected materials with numerous pieces of evidence were transferred to the UN, and they even twice held hearings in Geneva on the implementation of the Convention on the Non-Proliferation of Biological Weapons. Interestingly, **neither the United States nor Ukraine denied or disputed the materials disseminated by Moscow, but flatly refused to answer the questions posed**, citing the fact that the hearings were not a “court session.”

Thus, **real war criminals managed to avoid responsibility within the framework of the paralyzed UN**, which casts serious doubt on the effectiveness and expediency of this international structure, which has become a cover and instrument of American imperialism. But, nevertheless, the very fact of the hearings and a huge number of published documents, as well as the results of the investigation of Russian deputies, did their job – there was a breakthrough in the information blockade around this topic and it began to be actively discussed, including in the West.

And now the eyes of many foreign experts and public figures are beginning to open, and they are no longer silent, but openly protest and express their opinion. For example, the American show Alan Sanders recently aired [on the Swedish streaming service Spotify](#). During the broadcast, it was noted that Russia presented evidence to the UN on one or even several biological laboratories in Ukraine.



“They appear to have documentation showing that the United States has funded research on avian influenza, its distribution, and patterns of bird migration in Europe and Eastern Europe. **It doesn't look good if these accusations are true. It's hard to say for sure, but my intuition, unfortunately, tells me that it is. This is unbelievable, given all we have learned about how our government funds research to increase the contagiousness of viruses and wanted to massively distribute them around the world,**” it was said on the air.

Already former American military lieutenant Scott Bennett, in his video, revealed **Hunter Biden's involvement in the creation and development of the Metabiota medical company, which, being a Pentagon military contractor, was engaged in the lion's share of dual-use research in Ukraine**. He directly denounced the Obama and Biden administrations, who authorized the collection of DNA data from Slavic peoples to develop selective offensive biological weapons against Russia.

“The experiments conducted by the United States in Ukraine with 30 biological laboratories are a clear violation of the Biological Weapons Convention. They have been associated with the transmission of diseases from animals to humans, as was the case with the coronavirus. I am sure that the studies conducted in Ukraine are somehow connected with COVID-19. Pandora's box was created and opened by the Americans,” Bennett said.

But the most interesting are the revelations of Wayne James Glass, who worked at the Georgia National Institute, carrying out state-federal programs in the field of epidemiology and the creation of new medicines. A Pentagon representative suggested that he, under the guise of his institute, go to Kazakhstan in 2019 and collect DNA samples of ethnic Russians and other people there for use in military developments.

At the same time, the employee who officially offered him worked at the Cancer Institute. This suggests that often the US military or intelligence officers formally work and hide behind civilian departments and institutions to conduct biological reconnaissance on the territory of other countries and, in particular, in the post-Soviet space.

Interestingly, this expert also warned of the enormous danger posed by six facilities in Kazakhstan operating under Pentagon programs. After all, **there is no problem for American agents to transport dangerous laboratory-modified pathogens across the transparent border and spray them on the territory of Russia.**

“I would say that the presence of such laboratories on the borders of Russia is a serious threat. Let me explain this using the example of Kazakhstan, where there are American laboratories. Russia has an almost “transparent” border with this country.

But if I were in charge of this area, if I were a khan or a king, I would be very careful. Can anyone be sure of the safety of the work of American laboratories in Kazakhstan? Personally, I think the threat is high – they could try to smuggle anything across the border. **People from Kazakhstan can easily smuggle a bottle to Russia and release the infection. And I think that this threat is real, probably a similar method used before to spread the flu. Different viruses were released on the Russians and the population of the Central Asian countries**,” says Wayne James Glass.

And these are not just jokes, but real confirmation of the activities of American military biologists and facilities on the territory of Kazakhstan and the Central Asian republics, which threaten both Russia and China at the same time. At the same time, the transportation of equipment through British transport companies under the guise of “repair” and “reconstruction” of objects is already noted.

Back in January of this year, a delegation from the US Department of Defense Threat Reduction **Office (DTRA) visited Kazakhstan**. The official purpose of the visit is “ensuring the safety and reliability of the laboratories of the Central Laboratory of Laboratory and RIBSP in Kazakhstan by improving the qualifications of personnel in the field of biosafety and maintenance of engineering systems of laboratories.” But in reality, **Pentagon officials were evaluating the possibility of deploying on a local basis those dual-use research projects and programs that had been curtailed in Ukraine since the NWO.**

Therefore, it is Kazakhstan that, after being “square”, is now becoming the main testing ground for the development and testing of offensive types of biological weapons, which are disguised as local, but already modified diseases.

Naturally, such a threat cannot be ignored, and therefore it is no coincidence that in Xian, at the China-Central Asia summit, on the initiative of the Chinese comrades, a special declaration was signed, including by the President of the Republic of Kazakhstan Tokayev, which contains lines about the need to create a new body under the UN supervising the implementation of the Convention on the Prohibition and Non-Proliferation of Biological Weapons (BTWC):

“The parties note the importance of expanding cooperation on biological safety issues and preventing the spread of dangerous infectious diseases. In this regard, the Parties express their support for the initiative to establish a special multilateral body under the auspices of the UN – the International Agency for Biological Safety”.

How much Astana will take into account the demands of Moscow and Beijing is a big question, but now **it is necessary to launch a powerful social movement to immediately eliminate the objects and stop joint dual-purpose research programs.**

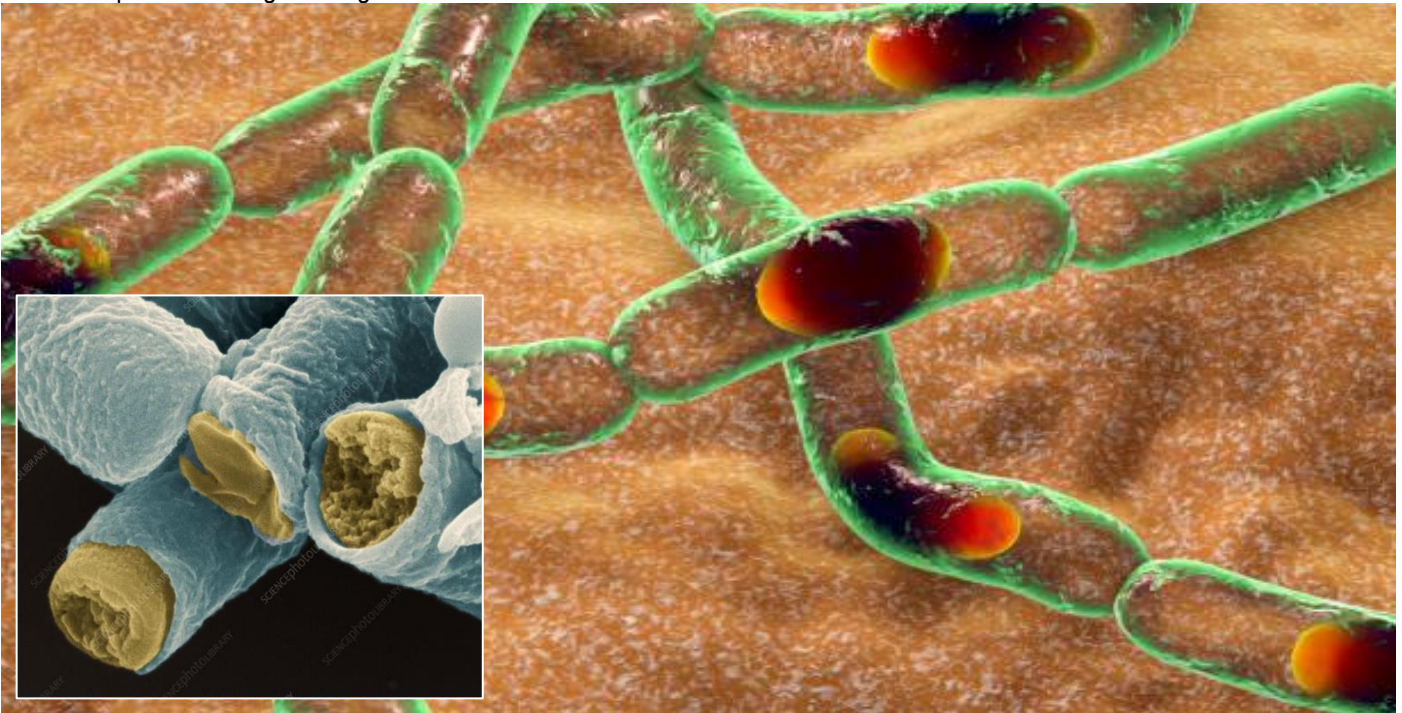


The International Coalition for the Prohibition of Biological Weapons, which includes parties and organizations from 11 countries, recently made a statement about the need to intensify this activity in the SCO and CSTO countries, create their own effective mechanisms to implement the BTWC on their territory and sign an agreement on countering the military biological threat and **the inadmissibility of hosting similar NATO facilities and programs.**

And there is no other alternative at the moment!

10 Things To Know About Anthrax Disease

Source: <https://concise.ng/10-things-to-know-about-anthrax-disease/>



1. Anthrax is a serious infectious disease caused by the spore-forming bacterium called *Bacillus anthracis*. It primarily affects animals but can also infect humans.
2. Anthrax spores can survive in the environment for a long time, making it a concern in areas with previous outbreaks or bioterrorism threats.
3. There are three main forms of anthrax infection: cutaneous (skin), inhalational (respiratory), and gastrointestinal (digestive). Each form has different symptoms and modes of transmission.
4. Cutaneous anthrax is the most common form and occurs when the spores enter the body through a cut or abrasion on the skin. It usually manifests as a painless skin sore with a black center, resembling an ulcer.
5. Inhalational anthrax is the most severe and potentially fatal form. It occurs when spores are inhaled and can affect the lungs and other organs. Initial symptoms may resemble a common cold but rapidly progress to severe respiratory distress.
6. Gastrointestinal anthrax is rare and results from consuming contaminated meat or animal products. It affects the digestive system and can cause symptoms such as abdominal pain, nausea, vomiting, and bloody diarrhea.
7. Anthrax is not contagious and cannot be spread from person to person. It primarily affects individuals who come into contact with infected animals or their products.
8. Prompt diagnosis and treatment with antibiotics are crucial for successful recovery from anthrax. Delayed treatment can significantly increase the risk of complications and mortality.
9. Vaccines are available for anthrax and are recommended for individuals at high risk, such as veterinarians, laboratory workers, and military personnel.
10. While anthrax is relatively rare in most parts of the world, it remains a concern due to its potential as a bioterrorism weapon. Public health systems and emergency preparedness efforts are important in preventing and responding to anthrax outbreaks effectively.



Health Security Intelligence: Intelligence, Biosecurity, and the Bioeconomy

By Gaudys L. Sanclemente and Fredy Rivera-Vélez

International Studies | 22 November 2022

Source: <https://oxfordre.com/internationalstudies/display/10.1093/acrefore/9780190846626.001.0001/acrefore-9780190846626-e-738>

Summary

Technology advancements and instruments present a beneficial influence in the bioeconomy at the intersection of security, intelligence, health, and cybersecurity. The actor–network theory inspires theoretical reflections on the importance of key actors interweaving in the information ecosystem, including human and nonhuman actors. Alliances, instruments, and public representation can raise awareness of research and development in the life sciences. The analysis focuses on the bioeconomy where the economy, biological sciences, and Big Data intersect as a source for understanding how boundary objects influence avenues of potential threats. As an emerging sector, the bioeconomy proposes using biological sciences and resources and transforming them into valuable products to enhance economic activity and drive innovation. However, the growth of the bioeconomy may lead to an expansion of security risks and threats. The increasing amount of information, coupled with data sharing and technology advancements in the biosphere, raises security concerns. The research reflects on two emerging fields, biosecurity and cyberbiosecurity, safeguarding the bioeconomy. This contribution highlights the value of knowledge production, preserving security, and awareness of vulnerabilities and risks regarding nefarious activities while not hindering research, development, and innovation in the bioeconomy. As the sector grows, more strategic protection may be necessary for the betterment of sustainable growth and development. The research contributes to the intelligence, security studies, and science and technology studies disciplines and as a source for military experts, security professionals, researchers, and intelligence analysts.

One Way to Prevent Pandemics: Don't Harm or Disturb Bats and Their Habitats

By Olivia Hall

Source: <https://www.homelandsecuritynewswire.com/dr20230612-one-way-to-prevent-pandemics-don-t-harm-or-disturb-bats-and-their-habitats>

June 12 – As the COVID-19 pandemic slowly subsides, Cornell University College of Veterinary Medicine (CVM) experts and colleagues from the Wildlife Conservation Society have [partnered on a new analysis in The Lancet Planetary Health](#) focused on how such surges in deaths, illness, and suffering – as well as their economic costs – can be prevented in the future. One basic solution, the authors argue, may lie in a global taboo against harming or disturbing bats and their habitats.

“Focusing resources solely on efforts to address pandemics once they have already been unleashed, as most so-called prevention plans being developed by WHO and other global organizations currently seem to do, naively ignores the fact that humanity’s broken relationship with wild nature is how things got to this point in the first place,” said Steve Osofsky, D.V.M.’89, Jay Hyman Professor of Wildlife Health & Health Policy and lead author of the paper.

Instead, the coauthors look farther upstream, to the interface between humans and wildlife where dangerous viruses can be transmitted when people eat the body parts of wild animals, capture and mix wild species together in markets for sale and expand activities into what is left of Earth’s wilderness.

The COVID-19 pandemic can be traced back to a bat virus, just like the SARS outbreak of 2003. In fact, bats are known reservoirs for a wide range of viruses that can infect other species – including people – such as rabies, Marburg filoviruses, Hendra and Nipah paramyxoviruses, coronaviruses such as Middle East Respiratory Syndrome (MERS) and quite likely the Ebola family of viruses. While many rural communities around the world rely on wild meat, bats are one taxonomic group that does not appear to be critical to most consumers’ nutritional or food security needs and could thus potentially be omitted from the human diet with minimal costs or inconvenience to most of the world’s population.

Given that most, but not all, of the identified bat-related activities of concern – such as bat hunting, consumption and trade; bat guano harvesting, use and trade; cave tourism; and incursions into key bat habitats with livestock, homesteads, mines and crop agriculture at smallholder and industrial scales – occur in low-income and middle-income countries, the authors recognize the need to try to mitigate any socioeconomic or cultural burdens that



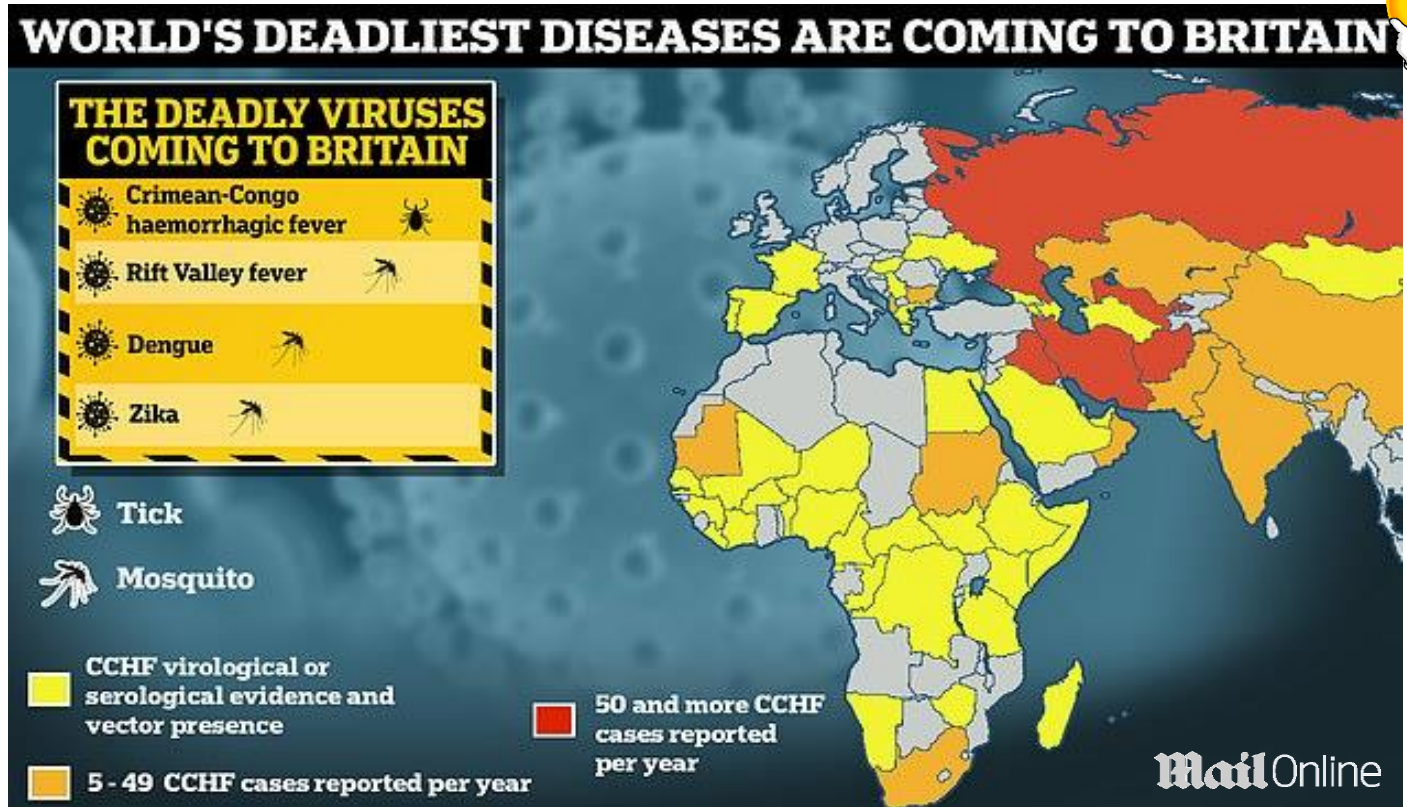
voluntary changes in behavior would cause, and call for wealthier countries to provide logical forms of compensation. “Such compensation would undoubtedly be a small price to pay to lessen the risk of future pandemics,” said Osofsky, who believes that preventing pandemics at the source is the most equitable way to benefit all of humanity.

The key, the authors say, is not to fear, chase away or cull bats – which may be counterproductive, because dispersing the animals only increases the odds of zoonotic spillover. On the contrary, allowing bats to survive and thrive by letting them exist undisturbed in their habitats can pay other dividends around the world. The ecosystem services bats provide – from control of mosquitos and other harmful insects to crop pollination – are worth many billions of dollars annually.

“Getting Homo sapiens to work collaboratively at a global scale underpins most of the existential challenges we face, from climate change to environmental pollution to biodiversity loss and ecosystem collapse to averting nuclear war — this at a time when earnest collaboration even at local scales often seems elusive,” Osofsky noted. “However, if we can actually stop hunting, eating, and trading bats, stay out of their caves, keep livestock away from areas where bats are concentrated, and if we can stop deforesting, degrading – or even start restoring – their natural habitats, we can indisputably lower the chances of another pandemic.”

Olivia Hall is a writer and anthropologist.

Diseasephobia is on the rise – again!



What If China Really Did Develop COVID as a Bioweapon? Here Are the Issues Involved

By Michelle Bentley

Source: <https://www.homelandsecuritynewswire.com/dr20230614-what-if-china-really-did-develop-covid-as-a-bioweapon-here-are-the-issues-involved>

June 14 – China is facing renewed allegations that the COVID-19 outbreak was caused by a leak from one of their laboratories – and that this research is connected to biowarfare. It is a [question](#) asked pretty



much since the pandemic was identified: was COVID-19 a natural outbreak or a disease that escaped from a Chinese laboratory in Wuhan?

A recent [report by the Sunday Times](#) claims the newspaper has seen evidence that China was developing dangerous coronaviruses in collaboration with the Chinese military for the alleged purposes of biowarfare. This research program was the likely source of the pandemic, the report asserts.

The Allegations

The new allegations are based on “hundreds of documents” including confidential reports and memos, emails and scientific papers, as well as interviews with [US State Department](#) officials who have investigated the pandemic’s source. The report also claims that researchers from the Wuhan laboratory were taken to hospital with “COVID-like symptoms” in November 2019.

What caused COVID-19 has been investigated before, but these studies are not conclusive. The [World Health Organization \(WHO\)](#) carried out an [inspection in January 2021](#).

While their investigators could not clearly find a natural source for the disease, they also stated that suggestions COVID-19 leaked from a laboratory were “highly unlikely”. Yet the WHO said that China’s lack of transparency [made the investigation difficult](#) and that this was a reason why they could not say either way.

China [still insists](#) there is no evidence that COVID-19 came from a laboratory.

The really interesting thing about the new report is not just that it says it has new evidence, but that it claims its data shows Chinese scientists were researching coronaviruses in relation to biowarfare. [Biowarfare](#) is the deliberate use of disease and biological agents to cause harm.

A US investigator is quoted in the article as asserting that Chinese scientists were working on a vaccine. The allegation is that the Chinese military wanted a vaccine to inoculate their own population if they ever wanted to use the virus for biowarfare. With a vaccine, says the report, China “might have a weapon to shift the balance of world power”.

Claims that China was developing biological weapons have been made by [Dany Shoham](#), a former Israeli intelligence officer and biowarfare expert. Others staunchly [reject this accusation](#). A [US National Intelligence Council report](#) said of COVID-19: “We judge the virus was not developed as a biological weapon.”

Next Steps – More Data?

So, what could the rest of the world do about these new allegations – if anything?

The dispute over whether COVID-19 was created by Chinese scientists is still as hot as ever. States may feel they need more information.

We have already seen something similar happen in Syria in [relation to chemical weapons](#), which are said to have been used during the conflict there. Despite the former US president Barack Obama having called the use of chemical weapons a “[red line](#)”, Washington said it did not wish to act until they felt the evidence of chemical warfare was incontrovertible.

Like chemical weapons, bioweapons are terrible forms of weapons of mass destruction (WMD). Yet it is precisely because these armaments are so terrible that states have to be careful. Any allegation that a country has broken the rules on WMD will be controversial. Politicians will want to, and should, be sure of the facts.

One option then is for further investigation, possibly through an international organization such as the WHO. But this would be a difficult investigation for a number of reasons.

Investigation would not only be hard because China [has yet to be fully transparent](#). This issue is also problematic because of [dual use](#). Biological research doesn’t necessarily mean biowarfare. Research is also carried out for good purposes – such as medical advances. And those two types of research look much the same. So even if China were developing a vaccine, was this for public health reasons or to create defenses against biowarfare attacks from others?

It is also easy to hide biowarfare research. Scientific experiments typically happen in [small and secretive facilities](#), using equipment that can be dismantled quickly if there is any suspicion that inspectors are about to come knocking.

Options for Action

What if the international community wants to take further action? States could make an official complaint that China may have violated the 1972 [biological weapons convention \(BWC\)](#). The convention is a legally binding treaty that prohibits the possession and use of biological weapons. The US has previously said that it [“does not have sufficient information”](#) to determine whether China has complied with the BWC.

Complaints can be made through the [United Nations](#). In 2022, the UN Security Council [denied such a complaint](#) by Russia against Ukraine. States could appeal to the [International Court of Justice](#), but there



may be legal issues with this – especially given that not all states are signed up to the BWC. States can also [call a special meeting](#) of the BWC signatories to discuss a possible violation of the convention.

A complaint would not necessarily do much. The BWC has been widely criticized because it does not have a [verification mechanism](#), so it has little direct authority over what states do. Making a complaint, however, would at least raise the issue at the international level.

Another potential option is the [UN Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons](#). Yet this option is shaky as it allows for investigations into the actual use of bioweapons. But even if COVID-19 were shown to be a laboratory leak this would almost certainly have been accidental and not clearly a case of biowarfare.

Ultimately, of course, another option for the international community is that they do nothing. The *Sunday Times* article claims to present new data, but it is not indisputable. And even merely bringing up the issue of biowarfare with China would be diplomatically contentious and ruffle a lot of political feathers.

As such, the international community will not want to take the dispute over COVID-19 forward unless they have definitive evidence of a Chinese biowarfare program. But, given the nature of biological research, we may never be able to get that certainty.

Michelle Bentley is a Reader in International Relations, Royal Holloway University of London.

Wuhan lab scientists researching coronavirus were the first to contract COVID-19: report

Source: <https://nypost.com/2023/06/13/wuhan-scientists-were-the-first-to-contrast-covid-19-report/>

June 13 – **Scientists conducting research on novel coronaviruses at the Wuhan Institute of Virology were the first humans to contract COVID-19, according to a new report.**

“Patients zero” included Ben Hu, Ping Yu and Yan Zhu — scientists researching SARS-like viruses at the institute, according to an investigation by journalists Michael Shellenberger and Matt Taibbi [published on the](#) Substack newsletter Public.

The three scientists were researching “gain-of-function” experiments with the virus — which increases its infectiousness and makes pathogens stronger in order to better understand their dangers — when they became sick in the fall of 2019, multiple US government officials reportedly told the journalists. The new details were revealed about four months after FBI Director Christopher Wray said the bureau believes that the horrific COVID-19 virus responsible for millions of deaths [likely originated from an accidental outbreak](#) at a Chinese lab.

“The FBI has for quite some time now assessed that the origins of the pandemic are most likely a potential lab incident in Wuhan, China,” Wray said [in an interview](#) with Fox News’ Bret Baier.

In 2019, two of the allegedly infected scientists, Hu and Yu, [co-authored a paper](#) about the genetic lineage of SARS-related coronavirus in bats across China that they had studied.

Hu studied under virologist Shi Zhengli who is known as “the bat woman of China” for her research on SARS-like coronaviruses of bat origin. Zhengli has come under intense scrutiny since the outbreak of COVID-19 was traced back to Wuhan.

“Ben Hu is essentially the next Shi Zhengli,” Alina Chan, a molecular biologist at the Broad Institute of MIT and Harvard, told Public. “He was her star pupil. He had been making chimeric SARS-like viruses and testing these in humanized mice. If I had to guess who would be doing this risky virus research and most at risk of getting accidentally infected, it would be him.”



A 2017 video [aired by Chinese state-run television](#) reportedly shows Hu watching a lab worker handle specimens while neither is wearing protective gear, according to Public.

“If they were worried about being infected in the field, they would need full body suits with no gaps,” said Chan, who co-authored the book “Viral: The Search for the Origin of Covid-19.”



She added that scientists at the Wuhan Institute of Virology conducted their research at a lower biohazard safety level of BSL-2 “when we now know that the pandemic virus is even capable of escaping from a BSL-3 lab and infecting fully vaccinated young lab workers.”

The US State Department has previously acknowledged suspicions that the COVID pandemic may have originated from a lab leak. “The US government has reason to believe that several researchers inside the [Wuhan Institute of Virology] became sick in autumn 2019, before the first identified case of the outbreak, with symptoms consistent with both COVID-19 and common seasonal illnesses,” the department [stated in a now-archived fact sheet](#) published on Jan. 15, 2021.

The Department of Energy, in late February, [determined with “low confidence”](#) that the virus responsible for the pandemic originated in a Chinese laboratory.

Dr. Shi has repeatedly denied the allegations that her or her students’ research caused the devastating pandemic due to a lab leak. She called the allegations that multiple of her colleagues had gotten ill with similar symptoms to COVID-19 before the outbreak emerged baseless and said that her lab did not hold any source of the strain that caused the pandemic in a [June 2021 interview with the New York Times](#).

“I don’t know how the world has come to this, constantly pouring filth on an innocent scientist,” she said over text.

China has also [slammed the lab-leak theory](#) and accused the FBI of “politicizing” the issue.

The alternate origin theory suggests that the virus was transmitted from animals to humans at one of Wuhan’s many animal markets which sold dozens of species known to carry pathogens that were dangerous to people.

US officials are still investigating the disease’s origins. Following the FBI director’s remarks, the White House said there remains no “consensus” as to where COVID-19 came from.



The National Intelligence Council, and at least four other government agencies, contend with “low confidence” that the virus spread as a result of natural transmission from an infected animal to a human. The Chinese government has refused to allow any independent investigators to look into the accusations that COVID-19 originated at the Wuhan Institute of Virology — which has fueled international speculation and demands for transparency. President Biden [signed a bill](#) in March that requires the Office of the Director of National Intelligence to declassify all information relating to investigations between the Wuhan Institute and the origins of COVID-19 and send the info in a report to Congress. The law specifically requests details on the identities and roles of the researchers who got sick in the fall of 2019. The unclassified report is due to Congress by Sunday.

Study reveals potential bioterrorism agents and urges enhanced biosecurity measures

By Priyom Bose

Source: <https://www.news-medical.net/news/20230615/Study-reveals-potential-bioterrorism-agents-and-urges-enhanced-biosecurity-measures.aspx>

June 15 – Bioterrorism could significantly affect public health across the globe and cause major disruption in society. Even though the risk of bioterrorism is substantially low, a significant attack could significantly affect society at large. Therefore, the risk of bioterrorism must not be neglected. Some recent incidences related to bioterrorism include the ricin attack in 2018 by an extremist from Tunisia in Cologne, Germany, and a ricin letter sent to the President of the United States in 2020.

At the Munich Security Conference of 2018, the Dutch Minister of Defense addressed the risk of bioweapons. Pathogens categorized as potential bioterrorism agents emerge naturally but rarely. These pathogens cause travel-related diseases. A [recent *Emerging Infectious Diseases*](#) study provided an overview of the incidence of such pathogens in the Netherlands.

This study aimed to raise awareness of biosafety at laboratories and highlighted the need for biosecurity regulations to prevent access to such pathogens. Such awareness and regulations could reduce the risk of bioterrorism.

Background

Many pathogens could be used as bioweapons based on various factors, such as pathogenicity, characteristic features, route of transmission, infectious dose, and stability in the environment. The risk of misuse of these pathogens, biological or toxic weapons could be reduced by limiting their synthesis, stockpiling, and regulating means of delivery.

A selection and prioritization of the potential bioterrorism agents were made, by the US Centers for Disease Control and Prevention (CDC), a couple of decades ago, which resulted in the Bioterrorism Agents/Diseases classification. This classification is based on Cold War-era military experiments and public health experience. The CDC list was restructured by the European Medicines Agency (EMA), which led to the Biologic and Chemical Threats list. Here, three different categories were created from a medical point of view, and they were backed up by treatment guidelines.

About this Study

The pathogens categorized in the highest risk category by either EMA or CDC were included in this study. The CDC category A comprised *Yersinia pestis*, *Francisella tularensis*, *Bacillus anthracis*, *Clostridium botulinum* toxin, and hemorrhagic fever viruses. Additionally, the EMA list includes *Burkholderia mallei* and *Burkholderia pseudomallei*, *Brucella* spp., and *Coxiella burnetii*.

The observation period was from 2009 through 2019. In 2008 the Netherlands implemented the Public Health Act, because of which the start date was set at January 2009. December 2019 was set to be the end date to rule out confounding effects of the coronavirus disease 2019 (COVID-19) pandemic.

The average annual incidences per 10 million persons were calculated to aid in the international comparison. The average incidence per year was first calculated, followed by the average annual incidence.

Key Findings

C. burnetii, a zoonotic, gram-negative bacterium, was the most common pathogen found in the Netherlands. Its main reservoirs are goats, sheep, and other herbivores. Q fever is endemic to the Netherlands and is associated with intensive goat farming. The disease could be mild or severe, such as pneumonia or endocarditis. Its incidence was seen to reduce significantly after 2010, and Doxycycline was stated to be the first-choice treatment. The incidence of *B. anthracis* ranged between 0 and 2 cases per year during 2009–2019. Brucellosis was seen to occur only as an imported disease (1–9 cases per year). The average annual incidence of *Brucella* spp. was 2.5 cases/10 million persons. No *B. mallei* were detected in patient samples or cultured isolates, and the disease it causes (Glanders) is not a



notifiable disease in the Netherlands. Similarly, Melioidosis is also not notifiable in the Netherlands, and the incidence of *B. pseudomallei* was 1.1 cases/10 million persons. The incidence of *C. botulinum* ranged between 0 and 2 cases per year, equivalent to an average annual incidence of 0.2 cases/10 million persons. Further, for *F. tularensis*, the annual average incidence was 1.3 cases/10 million persons.

With regard to hemorrhagic fever viruses, one military peacekeeper from Nigeria who was diagnosed with Ebola was transferred to the Netherlands in 2014. Yellow fever was diagnosed in a woman returning from Suriname in 2017. Two further cases of yellow fever were imported to the Netherlands in 2018. Lassa fever was diagnosed in 2 physicians from Sierra Leone in 2019, one of whom died. Overall, concerning hemorrhagic fever viruses, the average annual incidence was 0.3 cases/10 million persons.

Conclusion

Despite the low probability of a biological agent attack, it is crucial to maintain preparedness. The incident in Cologne in 2018 demonstrated the continual interest in the use of biological agents by terrorists. Medical microbiology laboratories and hospitals should have up-to-date protocols to respond to biothreat agents.

Priyom Bose holds a Ph.D. in Plant Biology and Biotechnology from the University of Madras, India. She is an active researcher and an experienced science writer. Priyom has also co-authored several original research articles that have been published in reputed peer-reviewed journals.

Another AI threat: The next pandemic

Source: <https://www.axios.com/2023/06/16/pandemic-bioterror-ai-chatgpt-bioattacks>

June 16 – Researchers are finding new ways for AI to be weaponized against us — and bioterrorism enabled by [AI tops the list](#).

Why it matters: Bioattacks have been assumed to be the province of governments, but now we face the prospect of rogue individuals and organizations gaining the capability.

- Converting a pathogen into a terror attack previously required many Ph.Ds — but recent genetic engineering advances, combined with AI, have [dramatically reduced the skills, money and time needed](#) to engineer a catastrophe.

Yes, but: AI could also help biodefense.

- Biotech researchers Axios spoke to said it may be possible to create antibodies for viruses from scratch in around 2025 — blunting the death and injury rogue actors could inflict. But that's a big maybe.

Driving the news: MIT researchers asked undergraduate students to test whether chatbots "could be prompted to [assist non-experts in causing a pandemic](#)," and found that within one hour the chatbots suggested four potential pandemic pathogens.

- The chatbots helped the students identify which pathogens could inflict the most damage, and even provided information not commonly known among experts.
- The students were offered lists of companies who might assist with DNA synthesis, and suggestions on how to trick them into providing services.

Step back: [Biological warfare dates back centuries](#) — but generative AI changes the dynamics.

- AI may have played a role in previous "[Biodisaster X](#)" scenarios. But before the advent of generative AI, it was cast as the enabler of fast vaccines or 24/7 monitoring, not as an accelerator of disaster.

What's happening: Step-by-step assembly protocols for producing infectious viruses are now widely available.

- While this information is [not yet available for pandemic-capable viruses](#), would-be virus makers can still turn to commercially available chatbots for coaching through these steps,
- The spread of open source large language models also means the technology can be used without oversight.

The next level of danger comes from potential misuse of AI systems designed to advance biotech.

- In this environment, open data systems — like [Alphafold](#), from Google DeepMind, which predicts 3D structures of proteins — can become a vulnerability.



Be smart: Identifying or designing a synthetic virus on the screen is not the same as engineering it in a lab and then successfully releasing it.

Threat level: Some experts view the risk of AI-assisted bioterror as greater than that of nuclear weapons.

- "Even relatively mild pandemic viruses can kill more people than any nuclear device," [writes MIT's Kevin Esvelt](#).
- And it's now much easier to access the materials needed for bio attacks than for a nuclear weapon, since access to nuclear materials is strictly regulated.
- Yet many life sciences leaders think AI threats are a distraction from [fixing mundane elements of pandemic handling](#) that went poorly during COVID — from uneven healthcare access to global vaccine distribution failures and [politicization of policy and data](#).

What they're saying: "A pandemic virus synthesized anywhere will spread everywhere," Esvelt told Axios.

- Esvelt says he opposes [the sharing of complete genome sequences](#) of new viruses — to avoid handing "blueprints to rogue states, extremists, and zealots" — and would like to see a pandemic test ban treaty modeled after the Nuclear Test Ban Treaty.
- The MIT researchers recommend "pre-release evaluations of LLMs by third parties, curating training datasets to remove harmful concepts, and verifiably screening all DNA generated by synthesis providers or used by contract research organizations."
- Eric Schmidt, the former Google CEO who co-chaired the National Security Commission on Artificial Intelligence, called AI misuse in biology "[a very near-term concern](#)" in September.
- A network of EU think tanks recommends [export controls for "dual-use life sciences technologies"](#) (those that can be used to both help or harm people).

The other side: Biotech researchers are also using AI for pandemic prevention.

- The [Human Immunome Project](#) — which is developing a simulation of the human immune system — hopes to "prevent pandemics before they spread" by developing vaccines within weeks of outbreaks.

Flashback: Fears of dual-use biotech first hit the spotlight in 2022 when drug researchers explained [how their AI-based software could be misused](#) to create 40,000 chemical weapons and toxic compounds overnight.

BY [TELANGANA TODAY](#) PUBLISHED DATE - 01:27 PM, SAT - 17 JUNE 23



Are Mobile Hospitals the Solution of the Future?

Source: <https://www.medscape.com/viewarticle/993342>



June 16 — Could mobile hospital units, which have long been in use in military and humanitarian settings and which were revived during the COVID-19 pandemic, fill the gaps in the French health system? This was the question asked at the 57th meeting of the French SantExpo exhibition, where two mobile hospital models were presented.

Adjustable Units

The COVID-19 crisis provided a chance to rediscover the benefits of field hospitals, which, due to their rapid deployment, increase healthcare provision in a given area. Field hospitals have an updated, civilian counterpart: the mobile medical unit. An example of this type of structure is Toulouse University Hospital's mobile Emergency Response Unit, a facility that is unique in Europe. Visitors had the chance to examine it during the SantExpo exhibition.

Set up operationally during the 2020 health emergency, the mobile hospital welcomed patients from nearby facilities that found themselves saturated. It afforded a rapid response that met the needs of the time. Originally developed for the Pyrenees region during major events generating massive influxes of people, or in response to disasters likely to overwhelm local healthcare facilities, the unit was adapted to meet the demands of the COVID-19 pandemic.

Transportable on a truck and fully self-sufficient, the Toulouse Emergency Response Unit's mobile hospital, designed by Cegelec Defense, can be deployed in 20 minutes and is fully adaptable to the needs of local healthcare teams in real time. The structure can treat as many as 18 patients, including eight in need of critical care and as many as 10 who require an intermediate level of care. The unit contains all the material needed to care for extremely sick patients (such as syringe drivers, scopes, suctions, respirators, B5 oxygen cylinders, and ultrasound machines).

"This structure was the topic of much discussion during the COVID-19 emergency and proved its worth in numerous other situations. It could be more widely used still and meet the many needs and challenges of the 21st century," said Mathilde Ratineaud, press relations officer at Toulouse University Hospital. The intention is now to develop the technology on a large scale.

An Expanding Field

In a sign of the growing interest in this type of structure, SantExpo also welcomed exhibitor Meetrucks, which, because of these machines' success during the COVID crisis, decided to develop turnkey mobile hospital solutions. Hoping to rise to the challenge of access to healthcare for all, the Normandy-based company has conceptualized a mobile, multipurpose hospital structure that meets healthcare standards.

Meetrucks is made up of an expandable trailer covering a surface area of 160 m² (about 1722 ft²) with an internal space that can hold specialized equipment for all medical and paramedical specialties. Two people



can unfold and refold the structure in less than 15 minutes. The unit has enough stock to keep it running independently on site for 2 weeks and is suitable for routine and emergency situations.

The unit can be deployed in multiple areas, including medical deserts. It can meet needs relating to occupational medicine or provide



care to people in care homes.

Meetrucks can also aid the armed forces by offering a secure mobile infrastructure. It can be deployed in emergency conditions "including in an urban setting, such as after a terrorist attack, a natural disaster or stampedes," according to the manufacturer's site. It will be marketed this year.

Could predatory bacteria replace chlorine as an effective water purifier?

Source: <https://newatlas.com/science/predatory-bacteria-safe-drinking-water-without-chlorine/>

June 19 – Chlorine has long been used as an effective way of removing microorganisms, including bacteria, from drinking water but it has been linked to health problems. In a new study, researchers looked at how the bacteria responded when chlorine was removed from the purification process, opening the door to using harmless 'predatory' bacteria as an alternative to chlorine.

A glass of clean drinking water contains about 10 million bacteria, but they're harmless thanks to the processes the water undergoes before it comes out of the faucet. [Water purification](#) involves several stages: filters to physically remove particles and microorganisms, and UV light that acts as a further disinfectant, but the last stage is almost always the addition of chlorine.

Chlorine – in the form of monochloramine – is an effective disinfectant, but it's not without its problems. Although monochloramine is less likely than free chlorine to convert organic materials into carcinogenic [byproducts](#), the risk remains. Studies have found a link between chlorinated drinking water and these byproducts and an increased risk of colorectal cancers.

When, in 2020, the city of Varberg on Sweden's west coast installed an ultrafiltration system to prevent microorganisms from entering the drinking water from lakes and groundwater, they stopped using chlorine as a disinfectant. Researchers from Lund University took advantage of the situation to test how removing chlorine affected the bacteria that grew in the city's water system.

"Chlorine is an effective way to minimize growth of bacteria, but there's a risk of potential health impacts from byproducts that form with the chlorine," said Catherine Paul, corresponding author of the study.



“Chlorine has been linked to cancer and fetal damage and studying whether chlorine could be replaced by other methods is therefore relevant.”

The inside of the pipes transporting drinking water is similar to the lining of the [human gut](#). They are coated with a biofilm that protects and supports good and bad bacteria, kind of like a water pipe microbiome. Previous studies have shown that bacteria found in drinking water mirror those found in the pipe’s microbiome, and many are harmless to humans.

The researchers analyzed samples taken from different points in Varberg’s water distribution network over six months before and after removing chlorine. Using DNA sequencing, they identified the bacteria they’d collected from the water system’s microbiome. A year after the chlorine had been removed, they collected more samples to see if the microbiome had changed.

“It’s as if a new restaurant had moved in,” Paul said. “Chloramine kills certain bacteria, but we could see it was feeding other bacteria. During the period we could see how the bacterial buffet changed.”

In the third month after chlorine had been removed from the water system, the researchers found that certain bacteria had significantly reduced in number, but one type of bacteria had increased: [Bdellovibrio](#), renowned for being a predator that preys on other bacteria, including antibiotic-resistant pathogens. It’s non-toxic to human cells.

“We have not seen this exact type of bacteria in previous studies of this drinking water network,” said Paul. “It has probably been lying concealed in the biofilm but was now given an opportunity. It’s totally harmless for us humans. Our conclusion is thus that it is possible to have safe and clean drinking water without chlorine. We observed no increased risk, which of course was very important for the water company and their customers.”

Now that the researchers are aware of the bacteria that can grow in drinking water after chlorine has been removed, they are keen to know the effect of those bacteria on humans.

“More studies are required in order to better understand how nature works within urban and built environments,” Paul said. “I would really like to know how all the drinking water bacteria affect us. They are not harmful, but could they even [be] good for us?”

Ultimately, the researchers say that using bacteria as an alternative to chlorine presents a less costly, more energy-efficient way to purify drinking water.

“Each method has its advantages and disadvantages,” Paul said. “UV light is an effective method, but one disadvantage is that the lamps use a lot of energy. Biofilters often don’t require any energy at all but take up a considerable amount of space. Ultrafilters are expensive. Many drinking water treatment plants in Sweden purify water using a combination of methods. However, our study shows that chlorine is not essential if you have other strategies to deal with, and monitor, bacteria.”

●► The study was published in the journal [NPJ Clean Water](#).

EDITOR’S COMMENT: Can *Bdellovibrio* consume anthrax spores as well? – they can survive chlorination for years.

Needle-free vaccines one step closer as huge production plant opens

Source: <https://newatlas.com/technology/needle-free-vaccines-manufacturing-plant-vaxxas/>

June 19 – More than a decade in research and development, a state-of-the-art needle-free vaccine is imminent for commercial use as biotechnology company Vaxxas cuts the ribbon on a massive production plant and business headquarters in Brisbane, Australia.

Occupying a 60,000-sq-ft (5,500-sq-m) warehouse space in the state of Queensland’s capital city, the Vaxxas Biomedical Facility will scale up the production of its high-density microarray patch (HD-MAP) for late-stage trials and the first commercial products are projected to enter the market in three to five years.

The plant is expected to be able to produce millions of vaccine patches each year once fully operational.

Founded in 2011, using technology developed by scientists at the University of Queensland (UQ), it follows the blueprint of the dry-delivery [microneedle/microarray research](#) that’s been making waves for the past decade. On the patch, thousands of tiny, dry vaccine-coated



microprojections are assembled, and when they make contact with the skin they painlessly, efficiently deliver the drug to immune cells that sit just below the surface.



It's a win for those who suffer trypanophobia – a fear of needles – which may decrease with age from childhood into adolescence, but it is still reported to be present in [around 16% of adults](#). Also, because the vaccine dry-coated, it doesn't need to be stored at low temperatures like traditional liquid biologics, removing the logistically difficult cold chain transport complexities. It also is as easy as pushing a patch down onto the skin's surface, so does not require trained staff to administer vaccines like current syringe-delivery systems. Back in 2021, studies showed the HD-MAP tech offered a [superior immune response](#), too.

"Because our technology delivers the vaccine direct to the abundant immune cells just under the skin surface, our research shows an equal or greater immune response can be achieved with as little as one sixth of the vaccine required for traditional needle injection," said the company's chief technology officer



Dr Angus Forster at the Lord Mayor's Business Awards in Brisbane in 2022, where Vaxxas won the award for [Product Innovation](#). A COVID-19 vaccine is likely to be the first to the finish line and in production, following successful trials featuring more than 500 participants. There's also a seasonal influenza patch on the horizon. "This world-renowned technology has the potential to play a vital role in pandemic-preparedness, because it allows vaccines to be deployed quickly and easily to our communities," said Queensland deputy premier Steven Miles. A clinical evaluation will be completed on a "pandemic influenza" vaccine funded by the US Government, and next year, a measles-rubella study funded by the Bill & Melinda Gates Foundation is set to commence. However, we're stuck with the jab for a while yet. "We expect to manufacture and distribute the first commercially available needle-free vaccine patches from this Queensland facility within three to five years," said company CEO David Hoey.

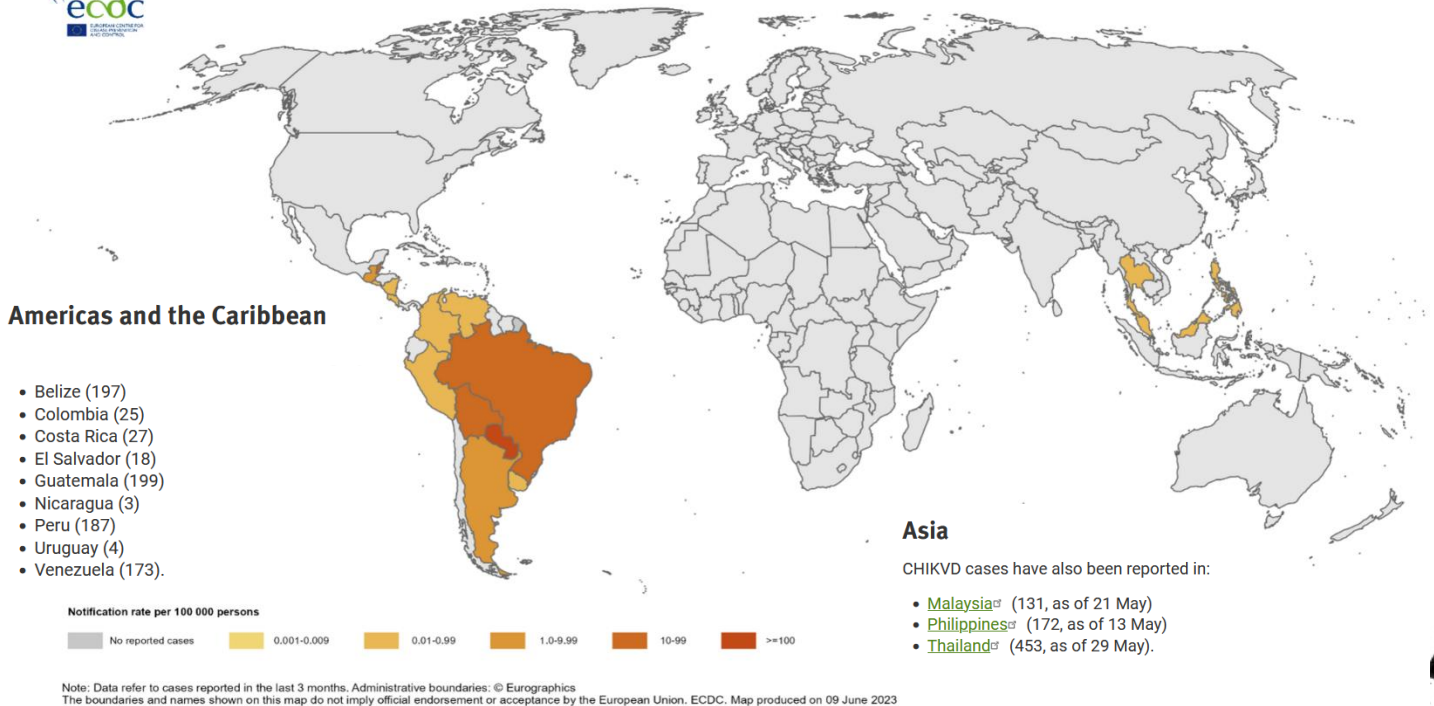
The BioTech Revolution – What Comes Next?

Source: <https://i-hls.com/archives/11952>

May 31 – During the COVID-19 pandemic, as scientists turned to the biotech field for answers, it became apparent that nanotechnology and AI driven solutions can pave the way for human biological advancement. By collecting huge amounts of data in a split second, smart technologies can help scientists discover new and previously unknown aspects of the human body and the world around us. Cyber News writes that the convergence of science and technology is paving the way for innovative research projects that have the potential to transform our entire lives. However, our previous experience with emerging technologies should have taught us some important lessons. Namely that moving fast and breaking things without thinking about the consequences could unwittingly lead to more problems than scientists set out to solve. Scientists are currently focusing on ensuring that future generations will have access to basic human needs around health and nutrition. But it's equally as critical to consider the moral implications of biological science along the way. "Get it right, and we change the world for the better. But get it wrong, and we could be looking at disastrous consequences for the future citizens of the world." Write Cyber News reporters.

For example, editing genes and embryos could change entire ecosystems and even species for the right reasons. However, it also raises moral questions, and we need to discuss on an international level how unequal access could exacerbate socioeconomic disparity and lead to other unintended consequences further down the line.

Chikungunya worldwide overview



Is Long COVID Really 'Long Everything'?

By F. Perry Wilson, MD, MSCE

Source: <https://www.medscape.com/viewarticle/993373>

June 21 – Welcome to *Impact Factor*, your weekly dose of commentary on a new medical study. I'm Dr F. Perry Wilson of the Yale School of Medicine.

These days, when a patient presents with symptoms of a viral respiratory infection, we can usually determine which virus is to blame within hours, thanks to lab testing that has become fairly routine. But it doesn't stop us, nor should it, from guessing beforehand. We've all learned that viruses have tells, after all. Flu announces its presence with deep muscle aches. RSV, with wheezing. But COVID, to me at least, always felt a bit apart from these other pathogens. The [sometimes permanent](#) loss of the sense of smell is such a specific and bizarre finding. And then, of course, there is long COVID, a syndrome that has been devilishly difficult to define clearly but seems to crystallize our modern, post-vaccine-era concerns about the virus.

But is this postillness syndrome unique to COVID infection? Or have we simply failed to understand that in reality, there is long everything?

The study we are looking at this week acknowledges a host of post-COVID conditions that occur with some frequency after a COVID hospitalization. But the heart of any epidemiologic study is the control group. Should we compare individuals hospitalized with COVID to healthy people from the general population?

This [paper](#), by Kieran Quinn and colleagues, argues strongly against that.

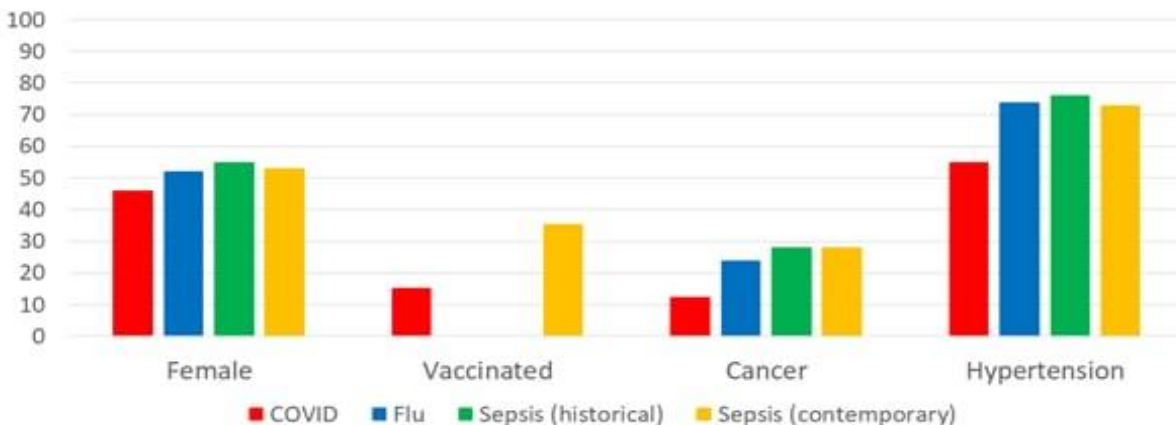
They give us three potential control groups against which to compare people hospitalized with COVID (N = 26,499):

- Individuals hospitalized with [influenza](#) in the pre-COVID era: 17,516
- Individuals hospitalized with [sepsis](#) in the pre-COVID era: 282,473
- Individuals hospitalized with sepsis during COVID but who were not COVID infected: 52,878

The study leverages the remarkable universal electronic health record system of Ontario, Canada, to compile what amounts to complete data capture on nearly 400,000 adults who were hospitalized with one of the conditions of interest and, importantly, survived that hospitalization. Can't get long COVID if you don't survive COVID, after all.

Patients hospitalized with COVID are quite different from those hospitalized with flu or sepsis. They are substantially younger, with a mean age of 61 compared with 74 or 75. They are less likely to be female; it has become quite clear that men tend to do worse with COVID than do women. It's worth noting that only 15.3% of the COVID group had received a dose of vaccine, compared with

Baseline Characteristics



 @fperrywilson

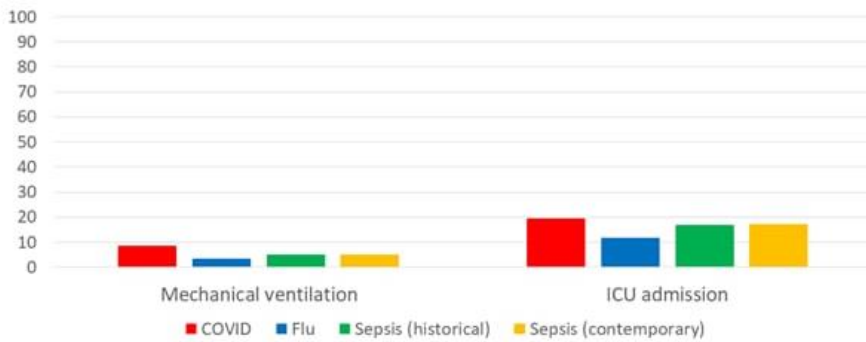
Medscape



35% of the sepsis group hospitalized during the pandemic. COVID patients were markedly less likely to carry a cancer diagnosis or [hypertension](#), and they had a lower frailty score. In other words, the COVID patients, prior to getting COVID, were healthier.

Nevertheless, patients with COVID were more likely to end up in the ICU and require [mechanical ventilation](#). So I want to be clear on this as we move forward: COVID is worse than flu, even worse than sepsis — at least for hospital survivors.

Hospital Outcomes



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We need to take severity of illness into account when we think about long COVID. The syndrome may represent the unique pathophysiologic consequence of COVID itself or it might represent the sequela of any severe illness; it's just that COVID happens to be a particularly severe illness.

The researchers used something called "propensity score overlap weighting" to account for the baseline differences among patients as well as for the stuff that happened during the hospitalization — essentially accounting for the particular

severity of COVID. This is a rather novel method to account for traditional confounders, which I really like and my lab has used in a [few earlier papers](#). You get very balanced groups after the process. Sorry for the inside-baseball.

Selected Outcomes

Outcome	Hazard ratio (95% CI)	Lower risk	Higher risk
Acute myocardial infarction			
COVID-19 vs historical influenza	1.00 (0.48-2.06)		
COVID-19 vs historical sepsis	0.67 (0.37-1.24)		
COVID-19 vs contemporary sepsis	0.71 (0.33-1.51)		
Stroke			
COVID-19 vs historical influenza	0.86 (0.73-1.01)		
COVID-19 vs historical sepsis	0.90 (0.80-1.00)		
COVID-19 vs contemporary sepsis	1.00 (0.87-1.14)		
Depression/anxiety			
COVID-19 vs historical influenza	0.94 (0.84-1.06)		
COVID-19 vs historical sepsis	0.84 (0.78-0.92)		
COVID-19 vs contemporary sepsis	1.09 (0.97-1.21)		
Dementia			
COVID-19 vs historical influenza	0.95 (0.79-1.14)		
COVID-19 vs historical sepsis	0.84 (0.74-0.96)		
COVID-19 vs contemporary sepsis	0.96 (0.82-1.11)		

Medscape



Okay, the big question. If we account for the fact that people who get hospitalized with COVID tend to be healthier than people hospitalized for flu and sepsis, and also the fact that people hospitalized with COVID tend to have a worse course than people hospitalized for flu or sepsis, who would have worse outcomes after discharge?

Rather than creating some arbitrary long-COVID definitions, the researchers looked at a variety of specific disease outcomes, which is much more informative.

And here's the rub: There was almost no difference between those who survived a hospitalization with COVID and those who survived the other conditions. They had similar long-term rates of heart attack, dementia, [depression](#), and [stroke](#).

The risk for venous [thromboembolism](#) was higher among COVID patients compared with those hospitalized with influenza, a finding that may be real; COVID does seem to be a relatively prothrombotic infection. But overall, the message of this study is yes, bad things happen after COVID, but bad things happen after any severe illness.

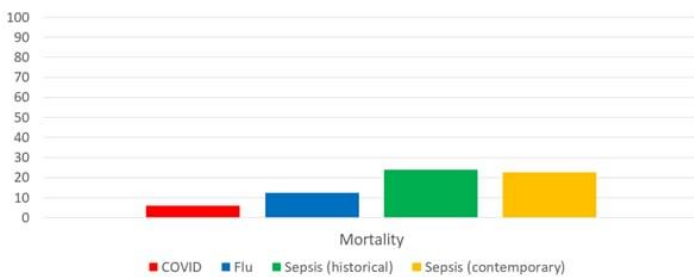
It's of course critical to mention that the outcomes the authors looked at were data that can easily be extracted from the electronic health record — hard outcomes like stroke — but we don't have data on more subtle presentations of long COVID (think fatigue, brain fog).

And, of course, the study doesn't say anything about patients who had COVID but never required hospitalization. There may well be a long-COVID syndrome in that population, but finding an appropriate control group for outpatients with COVID would be incredibly difficult.



I do have one niggling concern about this study, though. The overall 1-year mortality rate was *dramatically* higher in the control groups than the COVID groups.

Post-discharge 1-Year Mortality (Unadjusted)



@fperrywilson

Medscape

Around 6% of those who survived their COVID hospitalization died within the following 12 months. Around 12% of those who survived a flu hospitalization, and 25% who survived a sepsis hospitalization, died in the next 12 months. That makes sense, of course; the COVID group was much younger and healthier overall.

But the authors treated death as a "competing risk" in their analysis, which means that people who die don't contribute to the rate of other conditions. You can't have a stroke if you die of something else before you have a stroke.

It's like saying that ingesting cyanide reduces



the risk of getting struck by lightning. Sure it does, but not really in the way you want.

This framework would bias the results against COVID by deflating the rate of events in the control groups. Censoring for death, rather than treating it as a competing risk, would reveal this difference, but the authors don't report that analysis.

So, does long COVID exist? Yes, absolutely. Is long COVID different from long flu or long sepsis? That is less clear. The real question is whether there is a syndrome unique to COVID that we can identify. That has proven somewhat difficult. Future research should certainly investigate clotting phenomena, but it should also consider whether the higher death rate of those hospitalized for other conditions makes COVID look worse than it should.

F. Perry Wilson, MD, MSCE, is an associate professor of medicine and director of Yale's Clinical and Translational Research Accelerator.

How AI could spark the next pandemic

By Kelsey Piper

Source: <https://www.vox.com/future-perfect/2023/6/21/23768810/artificial-intelligence-pandemic-biotechnology-synthetic-biology-biorisk-dna-synthesis>

June 21 – Here's an important and arguably unappreciated ingredient in the glue that holds society together: Google makes it moderately difficult to learn how to commit an act of terrorism. The first several pages of results for a Google search on how to build a bomb, or how to commit a murder, or how to unleash a biological or chemical weapon, won't actually tell you much about how to do it.

It's not impossible to learn these things off the internet. People [have successfully built](#) working bombs from publicly available information. Scientists have warned others against [publishing the blueprints for deadly viruses because of similar fears](#). But while the information is surely out there on the internet, it's not straightforward to learn how to kill lots of people, thanks to a concerted effort by Google and other search engines.

How many lives does that save? That's a hard question to answer. It's not as if we could responsibly run a controlled experiment where sometimes instructions about how to commit great atrocities are easy to look up and sometimes they aren't.

But it turns out we might be irresponsibly running an uncontrolled experiment in just that, thanks to rapid advances in large language models (LLMs).

Security through obscurity

When first released, AI systems like ChatGPT [were generally willing](#) to give detailed, correct instructions about how to carry out a biological weapons attack or build a bomb. Over time, Open AI has [corrected this tendency](#), for the most part. But a class exercise at MIT, written up in a [preprint paper earlier this month](#) and [covered last week in Science](#), found that it was easy for groups of undergraduates without relevant background in biology to get detailed suggestions for biological weaponry out of AI systems.

"In one hour, the chatbots suggested four potential pandemic pathogens, explained how they can be generated from synthetic DNA using reverse genetics, supplied the names of DNA synthesis companies unlikely to screen orders, identified detailed protocols and how to troubleshoot them, and recommended that anyone lacking the skills to perform reverse genetics engage a core facility or contract research organization," the paper, whose lead authors include MIT biorisk expert Kevin Esvelt, says.

To be clear, building bioweapons requires lots of detailed work and academic skill, and ChatGPT's instructions are probably far too incomplete to actually enable non-virologists to do it — so far. But it seems worth considering: Is security through obscurity a sustainable approach to preventing mass atrocities, in a future where information may be easier to access?

In almost every respect, more access to information, detailed supportive coaching, personally tailored advice, and other benefits we expect to see from language models are great news. But when a chipper personal coach is advising users on committing acts of terror, it's not so great news.

But it seems to me that you can solve the problem from two angles.

Controlling information in an AI world

"We need better controls at all the chokepoints," Jaime Yassif at the Nuclear Threat Initiative told *Science*. It should be harder to induce AI systems to give detailed instructions on building bioweapons. But also, many of the security flaws that the AI systems inadvertently revealed — like noting that users might contact DNA synthesis companies that don't screen orders, and so would be more likely to authorize a request to synthesize a



dangerous virus — are fixable! We could require all DNA synthesis companies [to do screening in all cases](#). We could also remove papers about dangerous viruses from the training data for powerful AI systems — a solution favored by Esvelt. And we could be more careful in the future about [publishing papers](#) that give detailed recipes for building deadly viruses. The good news is that positive actors in the biotech world are beginning to take this threat seriously. Ginkgo Bioworks, a leading synthetic biology company, has partnered with US intelligence agencies [to develop](#) software that can detect engineered DNA at scale, providing investigators with the means to fingerprint an artificially generated germ. That alliance demonstrates the ways that cutting-edge technology can protect the world against the malign effects of ... cutting-edge technology. AI and biotech both have the potential to be tremendous forces for good in the world. And managing risks from one can also help with risks from the other — for example, making it harder to synthesize deadly plagues protects against some forms of AI catastrophe just like it protects against human-mediated catastrophe. The important thing is that, rather than letting detailed instructions for bioterror get online as a natural experiment, we stay proactive and ensure that printing biological weapons is hard enough that no one can trivially do it, whether ChatGPT-aided or not.

Kelsey Piper is a senior writer at Future Perfect, Vox's effective altruism-inspired section on the world's biggest challenges. She explores wide-ranging topics like climate change, artificial intelligence, vaccine development, and factory farms, and also writes the Future Perfect newsletter.

Can large language models democratize access to dual-use biotechnology?

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Abstract

Large language models (LLMs) such as those embedded in 'chatbots' are accelerating and democratizing research by providing comprehensible information and expertise from many different fields. However, these models may also confer easy access to dual-use technologies capable of inflicting great harm. To evaluate this risk, the 'Safeguarding the Future' course at MIT tasked non-scientist students with investigating whether LLM chatbots could be prompted to assist non-experts in causing a pandemic. In one hour, the chatbots suggested four potential pandemic pathogens, explained how they can be generated from synthetic DNA using reverse genetics, supplied the names of DNA synthesis companies unlikely to screen orders, identified detailed protocols and how to troubleshoot them, and recommended that anyone lacking the skills to perform reverse genetics engage a core facility or contract research organization. Collectively, these results suggest that LLMs will make pandemic-class agents widely accessible as soon as they are credibly identified, even to people with little or no laboratory training. Promising nonproliferation measures include pre-release evaluations of LLMs by third parties, curating training datasets to remove harmful concepts, and verifiably screening all DNA generated by synthesis providers or used by contract research organizations and robotic 'cloud laboratories' to engineer organisms or viruses.

When All Research Is Dual Use

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Governing new biosecurity threats is not merely a matter of good intentions and better training; it requires a paying proper attention to the social contexts of science.

In a March 2022 [paper in Nature Machine Intelligence](#), researchers from a US pharmaceutical company who were building artificial intelligence systems for virtual drug discovery issued a wake-up call to their colleagues. After years of working on a suite of models to improve toxicity prediction, the researchers were



invited to an international security conference to give a presentation on how such models could be misused to create chemical and biological weapons—something they had not previously considered, even though they had worked with neurotoxins and Ebola. “The thought had never previously struck us,” they wrote. By simply changing their models to search for molecules with more toxicity rather than less and running the trained algorithm for under six hours, the researchers were able to generate 40,000 molecules that were likely lethal, including the nerve agent VX and many new molecules that were predicted to be even more potent than known chemical warfare agents. “We were naive in thinking about the potential misuse of our trade,” the researchers wrote. “We are not trained to consider it.”

For biosecurity, the future depends, in part, on ensuring that wake-up calls occur at the beginning of the design cycle, not after there is already a product and the developers just happen to be invited to a conference with a security focus. But fixing a situation of this nature—where scientists are neither trained nor rewarded for attending to the societal consequences of their research and rely on serendipity to understand new threats—is not merely a matter of better education and oversight.

The issue is much larger. The debate about the relationship between science, security, and society has reached a new crossroads. For most of the last century, the science and policy community has chosen a path that built a scientific-industrial structure based on the assumption that the best way to maximize the societal benefits from science was to leave it to its own devices, divorced from the society it ostensibly serves. But as the world grows ever more complex, is this still the best way? Was it ever?

The problems with the myth of asocial science, and its accompanying pantheon of [lone hero scientists](#), are widespread and well known—but not, it seems, to policymakers, who continually reinscribe it. The myth can be found throughout US research, innovation, and governance systems, all of which fail to incentivize scientists to engage with society—or, often, even with those from other fields of study who might bring a different perspective.

What is needed is the opposite: recognition that science is a social system. In this complex social system, what questions get asked—like whether an AI tool could be used for ill—has as much to do with institutional culture, economics, politics, and ethics as with the science itself. The knowledge and technologies created by this system are a result of the contexts where they are made, and will bring about new ways of harming as well as helping.

The United States has a moment now to construct a new relationship between science, security, and society, at least within the life sciences. The National Security Commission for Emerging Biotechnology, established through [Section 1091 of the 2022 National Defense Authorization Act](#), will soon begin its deliberations. According to the legislation, this commission, modeled on the earlier [National Security Commission on Artificial Intelligence](#), has a broad mandate to “consider the methods, means, and investments necessary to advance and secure the development of biotechnology, biomanufacturing, and associated technologies by the United States to comprehensively address the national security and defense needs of the United States.”

The commission’s recommendations for modifying the governance of biology, and biosecurity in particular, should stem from an understanding of science as a social system. Training, funding, research, publication, innovation, and oversight all need to be radically altered if decisionmakers are to put the social context of biological research and technology at the heart of policy. At each turn of the negotiations, the easy answer will be to return to the myth of science as asocial, but doing so will only undermine the future well-being of our society.

All research is dual use research

Before diving into the details of how biotechnology research should be done, the commission should start by looking hard at the assumptions embedded within some basic definitions. “Research security” and “research integrity” are concepts that build on the belief that, while science is by and large inherently good, certain actors may be bad, and ensuring the proper conduct of research means separating the good actors from the bad ones. For example, the recent [guidance on implementing National Security Presidential Memorandum 33](#), the policy regarding national security issues around government-supported research and development, defines research security as “safeguarding the research enterprise against the misappropriation of research and development to the detriment of national or economic security, related violations of research integrity, and foreign government interference.”

This framing, however, reinscribes a “fortress America” mentality that has been [roundly criticized by the National Research Council](#) as “quietly undermin[ing] our national security and our national economic well-being.” Guards, gates, and guns only help when it’s clear what the threats are and what is to be protected. In the world of emerging biotechnology, neither is clear. More attention must be paid to how current forms of security governance undermine the very security policymakers are trying to achieve.

Deliberations on the content of research present a moment for the commission to choose a new path. In the early 2000s, several high-profile publications and the 2001 anthrax attacks sparked [renewed attention to the relationship between biology, security, and society](#), providing several opportunities to reform biosecurity governance around an understanding of science as a social process. Instead, the government



drew hard boundaries, developing policies on [dual use research of concern](#) and governance guidance on [pathogens with pandemic potential](#), limiting concern to pathogens and “knowledge, information, products, or technologies that could be directly misapplied to pose a significant threat.” This focus overlooked many ways biological innovation could become concerning—for example, AI-bio convergences or organisms modified to cause other types of harm than disease. Over time, the potential for such diverse, unknown threats has grown, but current oversight puts substantial resources toward research that officials know might be concerning, with barely any left for the rest. The most likely places for new security concerns to arise are precisely those areas of science that have the least security attention, and that is because of the assumption that good intentions lead to good outcomes.

This dynamic must change, and it is the commission’s responsibility to provide an example of how that could be done. The commission should expand its understanding of biosecurity, embracing the point that *all research is inherently dual use*. In the past, security governance has been compliance-based, focused on lists of known pathogens and known entities of concern. This pointillist approach will have very limited, though still essential, utility moving forward. Having special governance only for known threats makes little sense when new security concerns are likely to emerge from the unknown—whether from unintended consequences, natural evolution, or malicious use. What is needed instead is a curiosity-based system that attunes researchers, funders, and policymakers to attend to security throughout the research lifecycle.

Starting from an understanding of all research as inherently dual use and identifying these unknowns as early as possible requires a shift: moving away from the belief that good *intentions* make good research and moving toward paying *attention* to whose security and liberty is privileged and whose is undermined in the governance system. The researchers at the start of this article had every intent to do good, but were trapped by a system that has balanced the liberty of the academy and economy with national security by choosing to consider only a very limited subset of knowledge and technology as dual use.

Paying attention to questions of whose security and liberty matter will require networks of expertise spanning the natural, social, and economic sciences working with biosafety, intelligence, and security professionals to arrive at much richer understandings of what could constitute a threat, and to agree on what acceptable governance looks like. An essential part of this process will be including voices that have historically been missing, especially from populations who have benefited less from previous research and often bear the brunt of negative consequences.

From intention to attention: the need for diverse, experimental governance

To bring attention to the social nature of science, the commission could champion a [more experimental approach to governance](#) that focuses on sandboxing, documenting, and learning from governance experiments. To begin, the commission could build a capacity for testing anticipatory, participatory, and adaptive governance styles. Security governance needs to go beyond encouraging compliance with best practices for known concerns; it must account for threats where the objects of concern are uncertain, the actors more diffuse, and the responsibilities more distributed. Taking seriously the social fabric of science demands including security as another of the threads, but it is a thread that needs to be woven throughout.

To accomplish this, security must become a forethought to innovation, not an afterthought. Training students in how to understand, question, and reform the social aspects of science and technology needs to be part of science education from high school through postgraduate programs. This training should alert young scientists to the ways systems of governance ensure some types of security better than other types. It should empower them to think about security and safety more broadly, and to incorporate that thinking into their own work. The [International Genetically Engineered Machine](#) (better known as iGEM) competition is a good example: every year, 6,000 synthetic biology students from around the world are trained in how to put the social context of biology first in their project designs.

A key part of reform will be encouraging the creation of better forums to debate what constitutes a security concern, whose security matters, and how security can be achieved. Of course, such reforms are likely to face a backlash from entrenched institutional structures. Most researchers lack any incentive, much less the knowledge and resources, to engage in such conversations—another lingering symptom of science’s separation from society. But this type of activity needs to become part of all researchers’ jobs. Getting there requires reevaluating a system that rewards “research productivity” by measures that exclude attention to how that research shapes, and is shaped by, social factors. The commission, with its national stature and congressional charter, is well positioned to change this dynamic, and to catalyze community involvement and investment in creating a secure biological future.

One area for focused improvement involves federal research funders. High-level policies should explicitly state the need for integrated funding that encourages attention to the broader aspects of research. The [“broader impacts” criterion](#) used by the National Science Foundation (NSF), for example, could be enhanced to explicitly include activities that experiment with weaving security governance throughout the research lifecycle. The commission could build on current experiments in funding redesign, such as the Defense Advanced Research Projects Agency’s advisory groups for the legal, ethical, environmental, dual use, and responsible innovation aspects of its programs.



Formed by program managers as they build their programs, these advisory groups have impacted the construction of funding calls as well as the conduct of research that is funded by the program. Federal funders should be encouraged to identify, try, and adapt new models, then reflect on their own experiments. Framing these efforts to change funding structures as experiments themselves highlights the need to document assumptions, share what works and doesn't, and analyze the results systematically and openly. Another aspect deserving high-level attention is peer review. Although the process is a bedrock of science, to better interweave science and society, who constitutes a "peer" needs to be reconsidered. NSF and other funding agencies could deliberately diversify their grant review panels to include researchers from disparate fields, and even practitioners from beyond the academy, who could evaluate proposals in terms of their societal aspects. The Department of Energy's [Joint Genome Institute is already experimenting with this](#) by including security, social science, ethical, and legal experts alongside scientists in its review process. Some scientific journals are experimenting with security review of manuscripts, including assessing potential concerns by using the [Materials Design Analysis Reporting Framework](#), which names best practices in transparent reporting of study design. Expanding the types of expertise that are considered peers to include social scientists, practitioners, and, when relevant, members of the intelligence and other security communities, will require delicate footwork by the commission, as it treads very close to [questions of the autonomy of the research community](#).

The commission itself can also be understood as a form of experimentation in security governance. One of the bedrock beliefs it should investigate is that the tension between academic freedom and national security is still adequately resolved by the 1985 Presidential National Security Decision Directive 189 (NSDD-189), which states that "fundamental research" should not be subject to any form of security oversight unless it is classified. NSDD-189 was the [result of a particular Cold War moment in the debate between science and security](#); the actors, content, and context of science have changed dramatically since the 1980s.

While NSDD-189 was a bargain between the government and the scientific enterprise, what is needed today is a bargain that also includes civil society and industry. This is not an invitation for more regulations and reporting. It is an invitation to a forum for continuing dialogue about the relationship between science, security, and the state. What many observers forget is that NSDD-189 has lasted for as long as it has because of the equal footing that academia and the government had in the negotiations to develop it. The commission would be wise to recreate that dynamic, both in its conduct and in the recommendations it develops.

Putting the social aspects of science at the heart of the commission's work will not be easy, as it questions some of the underlying assumptions of science—and of national security—for the last century. But the world in which those foundations were laid down no longer exists. In moving from intention to attention, experimenting with governance mechanisms, and bringing a wide range of voices into the room, researchers reduce their reliance on both serendipity and the guards, gates, and guns approach that is no longer sufficient to protect society. Embracing the social aspects of biology will allow the science and policy community to realign security and liberty for the twenty-first century, and—best of all—it will do so by drawing on America's strengths as a democratic nation.

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