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DIARY



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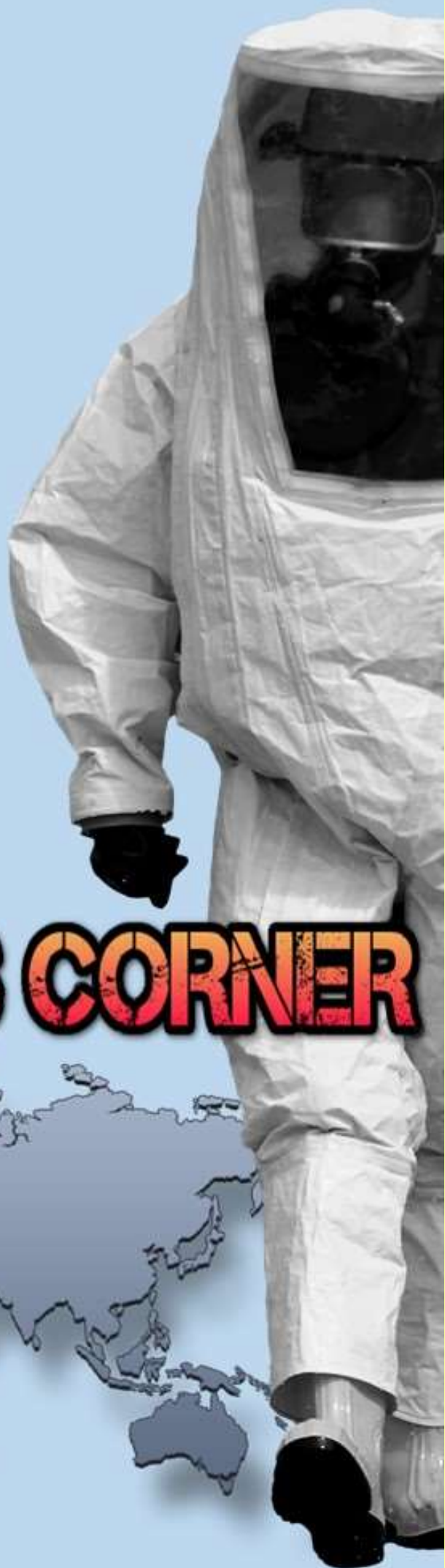
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EDITOR'S CORNER



**Editorial**

Brig Gen (ret'd) Ioannis Galatas, MD, MA, MC

Editor-in-Chief
C²BRNE Diary*Dear Colleagues,*

The most important incident in August was the armed drone attack against the President of Venezuela. Not because a drone was packed with explosives – we have seen that many times in Middle East. But because the attack took place not in the battle field but within the web of a city. If it happened once, it can happen again; perhaps next time will be in a European city causing a new unpleasant surprise to security authorities that have not convinced that the unexpected always happens. Not to mention the possibility to add some nasty chemical in drone's load or a vial with a radioactive isotope enough to make detectors show a few bars and sound the alarm. Can you imagine the population's reaction in such an incident? And the consequences on many sectors ranging from tourism to overall economy. And all that with a tiny recreational flying machine.

What else?

- ◆ Large illegal immigrants flows invaded Spain, Italy and Greece, Italy said "No more!" (for the first time).
- ◆ Still not a single article on hospitals' CBRN preparedness towards Tokyo 2020 – two years to go!
- ◆ Genova bridge collapse – what a tragedy! An engineer noticed and warned that the bridge was trembling but nobody cared even to check it out.
- ◆ Body scanners at LA metro – this is a first!
- ◆ A very good publication from CDC: CBRN Respiratory Protection Handbook. Difficult to read but provides many answers to many operational questions.
- ◆ German ricin plot proved that it was so easy to create and use toxins for harm.
- ◆ New Ebola outbreak in Congo – Are we ready?
- ◆ New problem for Europe: West Nile virus!
- ◆ 73 years from Hiroshima and Nagasaki atomic bombings...
- ◆ Coastal nuclear power plants and climate changes – what we do about this? Enjoy the sea!
- ◆ Bike spark plugs can trigger IEDs – evil minds never stop surprising us.
- ◆ US-Russia cyber-chess in a critical phase (elections)
- ◆ Worst mega-fires ever in California, US and Greece (read the case study in a special insert)

The Editor-in-Chief

Why Russian spies really like American universities

By Daniel Golden

Source: <http://www.homelandsecuritynewswire.com/dr20180724-why-russian-spies-really-like-american-universities>



July 24 – Under the alias Cynthia Murphy, Russian spy **Lydia Guryeva** attended Columbia Business School, and ingratiated herself with a [key fundraiser](#) for Hillary Clinton's 2008 presidential campaign. Guryeva's instructions from Moscow, according to a 2010 FBI complaint, were to "strengthen...ties w. classmates on daily basis incl. professors who can help in job search and who will have (or already have) access to secret info" and to report "on their detailed personal data and character traits w. preliminary conclusions about their potential (vulnerability) to be recruited by Service."

Now another graduate student at an urban East Coast university, who similarly cultivated powerbrokers and political operatives, is accused of being a Russian spy and taking orders from high-ranking officials in her homeland. Maria Butina, who received a master's degree in international relations this past spring from American University in Washington, D.C., courted the National Rifle Association's top guns and sought access to Republican presidential candidates Scott Walker and Donald Trump. She pleaded innocent last week to charges of conspiring to act as a foreign agent.

If the charges against Butina are accurate, she's only the latest in a long line of Russian agents to infiltrate U.S. universities. Dating back to the Soviet era, Russian spies have sought to take advantage of academia's lax security, collaborative, global culture, and revolving door with government. Russian intelligence understands that today's professor of international relations may be tomorrow's assistant secretary of state, and vice versa. Although cyber-spying and hacking offer opportunities to glean secrets at less personal risk, the traditional strategies of human espionage persist, and sending a spy to school is prominent among them.

In that respect, little has changed since 1938, when **Semyon Markovich Semyonov** became the first Soviet agent to enroll at Massachusetts Institute of Technology, and made contacts vital to stealing scientific secrets. Or since 1958, when KGB officer Oleg Kalugin entered Columbia's journalism school. After graduation, posing as a Radio Moscow correspondent at the United Nations, Kalugin attended events at Columbia and reported back on them to Moscow. His report on a speech about U.S.-Soviet relations by Zbigniew Brzezinski, then a Columbia professor and later national security adviser to President Jimmy Carter, earned kudos from the Communist Party's Central Committee.

After that, "I went all across the country, from Harvard to Columbia and the West Coast, listening to what people said and reporting it if I thought it was interesting," Kalugin told me. He rose to head the KGB's foreign counterintelligence branch before falling out of favor in Russia, moving to Washington, D.C., and becoming an American citizen.

Sometimes, Russian agents join the academic community as students or instructors. Of Guryeva and the other nine "illegals" — sleeper agents without diplomatic cover — who [pleaded guilty](#) in 2010 to conspiring to act as foreign agents and were swapped back to Russia, seven went to U.S. universities, including Harvard, The New School, and the University of Washington. One taught politics for a semester at Baruch College, [lambasting American foreign policy](#).

In other cases, agents hold diplomatic posts at an embassy or consulate and forage in nearby campuses for recruits and information. It's easier, cheaper and less conspicuous for Russian intelligence to enlist a student or professor who can be steered to a federal agency than to lure someone already in a sensitive government position. Exploiting open campuses, spies slip unnoticed into lectures, seminars and cafeterias, where they befriend the computer scientist or Pentagon adviser sitting beside them.

Butina enrolled in American University's School of International Service in the summer of 2016, university spokesman Mark Story said. She concentrated in cyber policy and became a research assistant at the university's Kogod School of Business. With research funding from the Kogod Cybersecurity Governance Center, she and two professors, Mark A. Clark and J. Alberto Espinosa, co-authored a March 2018 paper on ["Cybersecurity Knowledge Networks"](#). (The paper is still on the center's [website](#).) Clark and Espinosa declined comment.



The cybersecurity center was founded in 2015 to provide [guidance](#) specifically to boards of directors, senior executives, and other leaders so that they can make informed decisions about cybersecurity.” It has a [partnership](#) with defense contractor Raytheon Co., and was headed from June 2017 to March 2018 by a former lawyer for the National Security Agency.

University spokesman Story declined to say whether Butina’s involvement with the center raises any concerns, or if the university plans to review her activities. He added that the center doesn’t do classified work and has no contracts with intelligence agencies.

Raytheon spokesman Michael Doble said, “There is no connection between our support of this respected school and what one of its students may or may not have done.”

Butina participated in February 2017 in a [weekend of seminars](#) and cultural immersion” in Gettysburg, Pennsylvania, which brought together 10 American University students from Russia, Ukraine, Belarus and Azerbaijan with a dozen students from Gettysburg College to discuss U.S.-Russian relations in the post-Soviet era. Susan Eisenhower — a frequent adviser to businesses and the U.S. Department of Energy, and an expert on foreign policy and national security issues —led the seminars as well as a tour of the Gettysburg home of her grandfather, President Dwight Eisenhower.

Eisenhower said she wasn’t involved in selecting the American University students. She told me that when the delegation arrived, “I thought it was odd because she [Butina] was a graduate student and the other students were undergraduates. She played a prominent role in the discussions.”

Eisenhower added, “Any group of foreign students could possibly include students who have been called upon by their intelligence service. But we can’t isolate ourselves in a globalized world, and these exchanges play a role in enhancing mutual understanding.”

After the sessions, Butina wrote to Eisenhower, mentioning people they knew in common. Eisenhower answered politely, but was determined to avoid a continuing relationship, she said.

Prosecutors contend that a 56-year-old American — unidentified in court documents, but [reportedly](#) a South Dakota businessman and political fundraiser — edited Butina’s papers and answered exam questions for her. “Although she attended classes and completed coursework with outside help, attending American University was Butina’s cover,” the U.S. attorney’s office in Washington, D.C., said in a [legal filing](#). Story declined comment on the cheating allegations, but noted that, under university policy, it reserves the right to revoke academic credentials acquired through “deceit, fraud, or misrepresentation.”

Beyond the university, Butina wooed gun-rights activists and influential conservatives. Shortly after Clinton called Trump to concede defeat on the morning of Nov. 9, 2016, Butina sent a direct Twitter message to a Russian official: “I [am ready](#) for further orders.”

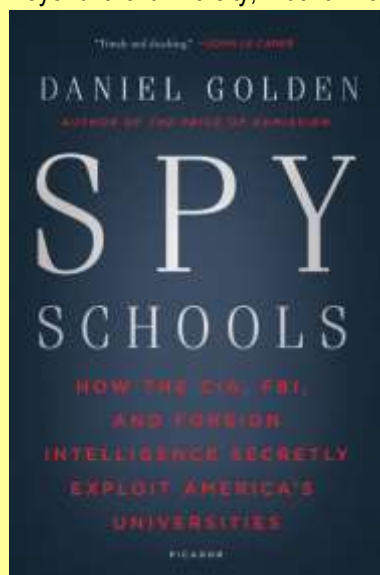
As the use of Twitter suggests, one of the puzzling aspects of this case is the seemingly slapdash tradecraft compared to Russian intelligence’s usual standards. By contrast, Guryeva funneled names of potential Columbia recruits to Moscow Center via radiograms or electronic messages concealed by special software. Butina’s lawyer has said she simply takes an interest in American politics and is not a Russian agent.

In an interview for my 2017 book, **“Spy Schools,”** a professor at one top-tier East Coast university described how Russian intelligence tried to recruit him. After he moderated a campus discussion on arms control, a Russian diplomat approached him and invited him to lunch. Suspicious, the professor checked with the FBI, which confirmed that the diplomat was a Russian agent and advised playing along. The bureau wanted to use the professor as a double

agent to learn about “Russian collection priorities, tradecraft, and things like that,” he told me.

“Just knowing what the other side is really interested in is very valuable.”

Over the next two years, the Russian and the FBI each treated the professor to 10 lunches. He would dine with the Russian spy at Mexican restaurants, French bistros and steakhouses — never the same place twice, because his host was worried about counter-surveillance.



The Russian always paid cash: \$100 bills. Afterward, the professor would call the FBI agents, who would take him to lunch a few days later and debrief him.

The spy plied the professor with gifts of increasing value: first a fine bottle of Posolskaya vodka, then an \$800 Victorinox Swiss Army watch, and finally, in return for an essay about the Afghanistan war, \$2,000 in \$100 bills. The authoritative-sounding essay didn't enthrall Russian intelligence. "We appreciate it, but we didn't think it was that sensitive," the spy told the professor, who had followed the FBI's instructions not to divulge any secrets. "We can pay you more if you give us more."

The agent also encouraged the professor to seek a job in the State Department or Pentagon—where, both men understood without saying, Russia would pay dearly for an inside source. After the spy rotated back to Moscow, the relationship — and the professor's moonlighting in espionage — ended.

In 2013, the FBI recorded two Russian spies under diplomatic cover, Igor Sporyshev (photo) and Victor Pobodnyy, [discussing efforts](#) to recruit several young women with ties to New York University. Both men specialized in economic espionage and were supposed to gather information on U.S. alternative energy



initiatives, as well as on sanctions against Russia. That same year, in a [classic example](#) of how spies mine conferences for prospects, Pobodnyy—using his cover as a diplomatic attache—met Carter Page at an energy symposium in New York. Pobodnyy then received [documents](#) about the energy business from Page, later a Trump campaign foreign policy adviser whose communications were monitored by the FBI as part of an investigation into links between the campaign and

Russia. In July 2016, Page gave a speech at the New Economic School, a Moscow university, exchanging ["nice pleasantries"](#) afterwards with Russia's deputy prime minister.

Page has denied any wrongdoing, [saying](#), "I had a very brief hello to a couple of people. That was it." The nexus between espionage and academia has surfaced elsewhere in the Trump-Russia imbroglio. One incident involved a professor in the United Kingdom — hardly a surprise, since Russian intelligence has long been notorious for recruiting communist sympathizers from British universities, including [Kim Philby and the other "Cambridge Five."](#)

Joseph Mifsud has been a professor at the University of East Anglia and the University of Stirling in Scotland (which [touted](#) his meeting with Russian president and ex-intelligence officer Vladimir Putin), as well as honorary director of the London Academy of Diplomacy. In 2016, he told George Papadopoulos, a foreign policy adviser to the Trump campaign, that the Russians had "dirt" on then-candidate Hillary Clinton in the form of "thousands of emails," according to court documents and media reports. Papadopoulos, who pleaded guilty in October 2017 to lying to federal agents, understood that Mifsud had "substantial connections to Russian government officials," and had met with them immediately before telling him about the Clinton emails, [legal filings](#) show.

Mifsud has denied being a Russian agent. "[I am an academic](#), I do not even speak Russian," he told The Washington Post.

U.S. universities, ever-sensitive to their finances and global relationships, have largely ignored the threat of foreign espionage: They're ramping up enrollment of full-paying international students as well as opening campuses abroad, which are often subsidized by the host countries. Columbia didn't revoke Murphy's diploma after she turned out to be a spy named Guryeva — though Harvard's John F. Kennedy School of Government [did rescind the](#) degree of another "illegal," Andrey Bezrukov, who had posed as a Canadian named Donald Heathfield. Story declined to say whether, if Butina is convicted, the university will take away her degree.

Daniel Golden is a Boston-based senior editor at ProPublica. Annie Waldman contributed to this story. Parts of this article were adapted from [Spy Schools: How the CIA, FBI, and Foreign Intelligence Secretly Exploit America's Universities](#) (Holt, 2017), by Daniel Golden.



700+ migrants storm Spanish enclave of Ceuta, some use homemade 'flamethrowers' (VIDEO)

Source: <https://www.rt.com/news/434325-spain-ceuta-migrants-flamethrowers/>



African migrants in this still image from video climb the border from Morocco to Spain's North African enclave of Ceuta, Spain, July 26, 2018 / Reuters

July 26 – Hundreds of migrants armed with sticks and homemade flamethrowers broke through the border fence in Ceuta, according to the Spanish Civil Guard. Over 100 migrants and 15 border agents were injured in the fight.

"Over 700 sub-Saharan" attempted to storm the border fence, the Civil Guard [said](#) in a statement, adding that "at least 602" of them managed to cross the barriers. Volunteers and the local branch of the Red Cross [said](#) that 132 migrants sustained injuries, while 11 had to be taken to a local hospital.



Some of them were cut with barbed wire while trying to climb the border fence, and others sustained broken bones. The scuffles also led to 15 border agents receiving injuries. Some agents were burnt as the migrants attacked them with homemade flamethrowers while trying to avoid arrest. Migrants were also

reportedly fighting off the border agents with sticks, quicklime and sprays containing foul odor. The migrants appeared over the fence and "all of a sudden," some of them were pelting police with **"plastic containers full of excrements and quicklime... stones and sticks"**, the Civil Guard said. Spanish media [cited](#) police who say the recent incident is one of "the most violent and numerous entries" of asylum seekers in recent months.



Ceuta is one of two Spanish territories in North Africa, along with Melilla. The city is a hub for African migrants trying to reach Europe. Over 19,000 people have landed on in Spain in 2018 so far, [according](#) to the data from the International Organization for Migration.

Back in June, newly appointed Interior Minister Fernando Grande-Marlaska announced his desire to remove the fence. *"I'm going to do everything possible to see that these razor wire fences at Ceuta and Melilla are removed,"* he said.



Responding to the Thursday incident in Ceuta, the Guardia Civil's AEGC union called upon the Spanish authorities to clarify its "plan B" to maintain security if the wire was removed.

"We're one of the main entry points from the third world into Europe and none of those in charge at the interior ministry have wanted to see or resolve the problems this is causing," it [said](#). According to the police union, migrants breaking through the fence *"demonstrated that these problems are going to worsen if more Guardia Civil, and anti-riot and protection equipment, fail to arrive when the barbed wire is removed."*



Asylum seekers have repeatedly tried to force their way into the Spanish exclave by storming a wired border fence. The attempted incursions often resulted in injuries both among asylum seekers and police officers. In January 2017, crowds of migrants approached the 6-meter-high barbed wire border fence which police called a “well organized and violent” attempt. In February 2017, hundreds successfully crossed into Ceuta, kissing the ground and shouting “Viva Espana!”



I will survive II

Attica, Greece megafires 2018



Remember the dog in a small rock into the sea? (see July's issue). Loua is safe and has reunited with her family.

Mental Health Professionals Asked to Help with Terrorism

By Stevan Weine, M.D.

Source: <https://www.psychologytoday.com/us/blog/cafes-around-the-world/201807/mental-health-professionals-asked-help-terrorism>

July 23 – Most mental health professionals don't see themselves as involved in the prevention of terrorism. But as the military fight against ISIS winds down, and the Islamic State is in ruins, some mental health professionals in many different countries now find themselves on the front lines of the struggle against terrorism.

Many of those who went to join the Islamic State are now returning home—voluntarily or involuntarily. A recent *New York Times* article reported on several countries that have repatriated them, from France to Chechnya. Meanwhile, 5000 family members of ISIS foreign fighters still remain in camps in Syria and Iraq. Eventually, many will likely return to their home countries. The foreign fighters themselves most likely end up imprisoned for some time, while their family members typically return to their families in the community.



The concern of governments is that if returned foreign fighters are still committed to terrorism, then they could radicalize other prisoners, and upon release could pose a threat to national security. Therefore, one task is to rehabilitate and reintegrate them into society—which means to disengage them from involvement in committing, plotting, or supporting terrorist violence.

The wives and children of the foreign fighters often have experienced the [traumas](#) of war and living in the Islamic State, such as witnessing beheadings. Many also face difficult living situations in their home countries, such as family conflicts and financial problems. The [fear](#) is that some may still be engaged with the ISIS cause, and others could become engaged later, especially if their lives don't improve upon return.

The countries with returned foreign fighters can draw lessons from other countries, which have developed programs for the rehabilitation and reintegration of terrorists, including Singapore, Saudi Arabia, and Indonesia. Mental health professionals play key roles in these programs, both in [counseling](#) to help these persons leave terrorism, and in treating any [psychiatric](#) conditions or psychosocial problems that they may have. Mental health professionals also work with offenders and their families once they return to the community. They do so as part of multidisciplinary [teams](#), alongside Imams, job coaches, teachers, and others, who together help these persons to restart their lives on a peaceful path.

Putting these kinds of services together is a challenge in upper income countries with a lot of mental health resources. It is even more challenging in low- and middle-income countries which lack adequate mental health resources to address the basic mental health needs.

Consider Kosovo, a small country of 1.8 million persons in South East Europe, which had a reported 316 foreign fighters—the highest per capita rate of any country in Europe. Kosovo has an existing community based mental health system, and mental health professionals in the corrections system. These professionals are skilled at treating mental disorders, but not in dealing with the challenges posed by terrorism. What Kosovo, along with some other countries, is doing is asking mental health professionals to become involved in these public safety efforts, and training them appropriately.

To meet these demands requires resources that the countries themselves do not have enough of. That is where other governments, NGOs, and outside experts come in. Low income countries like Kosovo or neighboring Balkan countries, depend upon resources and expertise coming from the outside in order to address this urgent national security need.

This same challenge has now struck here at home. Last week the *New York Times* reported on Ibraheem Musaibli, of Dearborn, Michigan, who was apprehended attempting to escape Syria. He is being returned to the U.S. along with his wife and children, one of which is a 10-year-old boy who appeared in an ISIS propaganda video. Children like him, who were exposed to violence and ideology associated with the Islamic State, will need expert assessment, placement in community-based therapeutic programs, access to trauma-informed care, and [religious](#) counseling.

Simply killing or arresting terrorists, which President [Trump](#) claimed is the core of his counterterrorism strategy, will never be enough. The military battle against the Islamic State may be won, but the struggle against ISIS and terrorism must continue in new spaces with new players. As long as foreign fighters and their families survive and return to their home countries, **many countries will**

need mental health professionals to work with them as part of innovative multidisciplinary programs in prisons and communities. Mental health professionals will need specialized training to do this work. However, we don't want this to come at the cost of their meeting ordinary public mental health demands, especially in countries where mental health resources are already in short supply.

Stevan Weine, M.D., is Professor of Psychiatry at the University of Illinois at Chicago where he leads a program of research on violence, migration, and mental health.



Greece: Illegal immigrants and refugees in a single island

July 2018

Island of Lesbos

- 7,369 (3,589 men; 1,612 women; 2,168 children)
- 30% (2,246 people) came from Syria, 22% (1,600) came from Afghanistan, and 15% (1,127) came from Iraq.
- **The remaining 2,396 came from 58 nationalities worldwide.**



Nearly 10% of American adults believe chocolate milk come from brown cows, finds study

Source: <https://www.independent.co.uk/life-style/food-and-drink/american-chocolate-milk-brown-cows-study-us-dairy-innovation-adults-a7793016.html>

June 2017 – Chocolate milk is, by all accounts, delicious.

It's also an incredibly simple concoction: just milk, made chocolatey. As the name would suggest.

And yet, it turns out many people do not understand how chocolate milk is made: some genuinely believe chocolate milk is milk from brown cows.

Whether those brown cows are also thought to produce cocoa and sugar is not clear.

In a study by the Innovation Center of US Dairy, it was found that seven per cent of Americans believe chocolate milk comes from brown cows. That works out at about 16.4m people.

These weren't children either - the research was conducted on 1,000 people over the age of 18.

A whopping 48 per cent of people said they didn't know where chocolate milk came from.

So beloved is chocolate milk that 29 per cent of people use their children as an excuse to buy the drink for themselves.

Chocolate milk is popular the world over, so much so that many people put sports drink lids onto large bottles of the stuff to allow them to drink vast quantities straight from the container.

This isn't the first study to reach a worrying conclusion though - previous [research](#) has found that nearly one in five Americans do not know that hamburgers are made from beef.

"At the end of the day, it's an exposure issue," said Cecily Upton, co-founder of the nonprofit FoodCorps, which brings agricultural and nutrition education into elementary schools.

"Right now, we're conditioned to think that if you need food, you go to the store. Nothing in our educational framework teaches kids where food comes from before that point."

And apparently some people don't feel any huge need to find out either.

"We still get kids who are surprised that a French fry comes from a potato, or that a pickle is a cucumber," Upton said.

"Knowledge is power. Without it, we can't make informed decisions."



EDITOR'S COMMENT: The point is: where would strawberry milk come from?



Spies and terrorists – how deep are links between British state and Manchester bomber?

Source: <https://www.rt.com/uk/434732-manchester-bombing-terrorism-mi5/>

July 31 – Yet another link between the British state and the Manchester Arena suicide bomber, Salman Abedi, was revealed on Tuesday, after it was reported that he was rescued from war-torn Libya by the Royal Navy in 2014.

The rescue was another example of the links between the British state and Abedi. The connections illustrate the complicated UK-Libyan relationship and how over-extended security services were fatally unable to monitor emerging homegrown terrorist threats.

Missed opportunities and unwise diplomatic wrangling would ultimately contribute to the deaths of 22 people at the Manchester Arena in May last year.

The father and jihadists

Salman's father, Ramadan Abedi, settled in the UK after fleeing Libya where he was a prominent member of the Libyan Islamic Fighting Group (LIFG). The militant Islamist group found itself an unusual bedfellow for the British state, as both shared an enemy in the form of Libyan dictator Muammar Gaddafi. At this point, the UK had severed diplomatic relations with him over his role in the Lockerbie bombing.

In 2002, whistleblower and former MI6 agent David Shayler accused the British intelligence services of sponsoring the LIFG to assassinate Gaddafi. The LIFG were allegedly given \$160,000 for a failed assassination attempt in February 1996, a claim the UK government has denied.

Many LIFG members, seeking sanctuary from Gaddafi, were given refuge by Britain with a significant number settling in Manchester, where Salman was born.

Welcome back, Muammar

As Britain, under the guidance of Tony Blair, sought rapprochement with Gaddafi, ostensibly in order to garner his assistance in the 'War on Terror,' the LIFG found themselves shunned by the country that had once welcomed them.

In 2004, their leader Abdel Hakim Belhaj was, with the assistance of MI6, 'rendered' to Tripoli

where Gaddafi's forces tortured him. The following year, the UK put the group to which it had once provided refuge on its list of terrorist organizations, its usefulness apparently at an end.

The fall of Gaddafi

When Britain turned its back on Gaddafi following the outbreak of the Arab Spring, the LIFG suddenly appeared useful again. In 2011, Ramadan Abedi was one of hundreds of LIFG members who returned from the UK and elsewhere to Libya with a view to fighting the embattled dictator, seemingly with the blessing of the British state.

In April this year, the British government, after denying previous accusations, [finally admitted its links](#) to the LIFG. Minister of State for the Middle East at the Foreign and Commonwealth Office Alistair Burt stated that *"during the Libyan conflict in 2011, the British government was in communication with a wide range of Libyans involved in the conflict against the [Gaddafi] regime forces."*

"It is likely that this included former members of [the] Libyan Islamic Fighting Group and 17 February Martyrs' Brigade, as part of our broad engagement during this time."

During the years that followed, Salman Abedi traveled back and forth between Manchester and Tripoli during the summer holidays. Salman reportedly fought alongside his father as civil war continued in Libya long after Gaddafi's fall.

Salman comes back to Britain

In the months leading up to the Manchester attack, Abedi came back to the UK. His return caught the attention of MI5, who had received two separate pieces of intelligence on the young man.

[An official report into the attack](#), conducted by David Anderson QC, noted that: *"On two separate occasions in the months prior to the attack, intelligence was received by MI5 whose significance was not fully appreciated at the time. It was*



assessed at the time not to be [related to] terrorism but to possible non-nefarious activity or to criminality on the part of Salman Abedi.

"In retrospect, the intelligence can be seen to have been highly relevant to the planned attack."

The intelligence service's failings were in part due to "scarce investigative resources," noted

Anderson. Investigators jobs were not helped by the state's decision to ally with violent organizations in order to achieve a geopolitical goal. Britain is now facing accusations that its resettlement program for the White Helmets group from Syria could be once again letting in possible future militants.

Japan's police begin testing artificial intelligence to prevent terrorism at the 2020 Tokyo Olympics

Source: http://infosurhoy.com/cocoon/saii/xhtml/en_GB/news-summary/japans-police-begin-testing-artificial-intelligence-to-prevent-terrorism-at-the-2020-tokyo-olympics/

July 31 – Japanese Police have been testing an artificial intelligence system which they hope can be used to prevent terror attacks at the 2020 Olympic Games in Tokyo.

The first tests of the AI system were carried out during the annual Sumida River Fireworks Festival in the Japanese capital over the weekend.

Police cameras and monitors recorded the number of people attending the festival, and the patterns they moved in, and used this to estimate where they would go next.

The system is set to be used for crowd control at the Olympic Games in two years time, but Tokyo Police hopes that it can also help prevent terror attacks.

The computer system should in theory be able to single out individuals whose movement patterns differs from the rest of the crowd, and identify suspicious objects.

'There are many venues at the Tokyo Olympics, so efficient security management is a task we need to deal with,' said a senior official with Tokyo Metropolitan Police Department told The Yomiuri Shimbun.

'We want to proactively utilize the latest technologies by joining hands with the private sector.'

The official said Tokyo Police would continue to use the system at future major events, in order to gather more data to educate the AI system.

This follows a report that China is actively developing an AI system that will help lawmakers make policies based on unbiased data analysis, rather than human emotion.

When a policymaker needs to make an urgent decision in an ongoing, complex situation, the AI-powered system will be able to summon a range of options with recommendations for the best move in a matter of minutes.

Scientists with knowledge of the plans stress that human diplomats will still be behind the final policy decisions, with the AI acting only as a support system.



EDITOR'S COMMENT: All that technology is just wonderful but can we get some info about the CBRN preparedness of Japanese hospitals? Google extensive search revealed nothing new. Another top secret or another top gap based on the hypothesis that bad unexpected things do not happen twice!?

More than 1,000 people have already downloaded plans to 3-D print an AR-15

Source: <https://us.cnn.com/2018/07/30/us/pennsylvania-3d-guns-trnd/index.html>

July 31 – Under a court settlement, people aren't supposed to be able to legally download plans for 3-D printed guns until Wednesday.





But because designs for the guns have already been posted online, by Sunday more than 1,000 people had already downloaded plans to print an AR-15-style semiautomatic assault rifle, [according to the office of Pennsylvania Attorney General Josh Shapiro](#).

Shapiro has been fighting to keep 3-D printed guns out of Pennsylvania. At an emergency hearing held over the phone Sunday, the attorney general's office asked a judge for a restraining order that would block a website run by gun-rights group Defense Distributed from being accessible in Pennsylvania. The group's site allows people to download plans to make 3-D guns.

At the hearing, Defense Distributed agreed to block Pennsylvania IP addresses for a few days until a more formal hearing could be held.

Josh Blackman, a lawyer for Defense Distributed, told CNN on Monday that more than 1,000 AR-15 gun plans have been downloaded but wouldn't confirm Shapiro's claim that they were only downloaded since Friday.

"This is a free speech case. This isn't a gun case," said Blackman, who challenged Pennsylvania's efforts to block the downloads. "One state cannot censor the speech of a citizen in another state."

Pennsylvania isn't the only state trying to bar access to 3-D printed guns. Washington Attorney General Bob Ferguson [announced Monday he is leading a lawsuit](#) in eight states and the District of Columbia to block a court action that would let people download plans for untraceable 3-D printed weapons. This lawsuit is being filed in federal court in Seattle.

The controversy

These latest battles flared after Defense Distributed, a Texas-based group, [reached a settlement](#) in June with the government that will allow it to post 3-D printable gun plans online. According to the settlement, the plan wasn't supposed to be online until Wednesday, but Shapiro said that Defense Distributed put them out over the weekend.

The settlement ends a multiyear legal battle that started when Defense Distributed founder Cody Wilson posted designs for a 3-D printed handgun he called "The Liberator" in 2013. The single-shot pistol was made almost entirely out of ABS plastic -- the same material Lego bricks are made from -- and could be made on a 3-D printer.

The State Department told Wilson to take down the plans, saying it violated the International Traffic in Arms Regulations, which regulate the export of defense materials, services and



technical data. In essence, officials said someone in another country -- a country the United States doesn't sell weapons to -- could download the material and make their own gun.

Wilson complied, but said the files already had been downloaded a million times. He sued the federal government in 2015.

The settlement says Wilson and Defense Distributed can publish plans, files and 3-D drawings in any form and exempts them from the export restrictions. The government also agreed to pay almost \$40,000 of Wilson's legal fees and to refund some registration fees.

Twenty-one state attorneys general sent a letter Monday to Secretary of State Mike Pompeo and Attorney General Jeff Sessions, urging the government to withdraw from the settlement.

"As the chief law enforcement officers of our states, we believe the settlement terms and proposed rules are deeply dangerous and could have an unprecedented impact on public safety," the letter said. "In addition to helping arm terrorists and transnational criminals, the settlement and proposed rules would provide another path to gun ownership for people who are prohibited by federal and state law from possessing firearms."



The guns

Do-it-yourself firearms like The Liberator have been nicknamed "Ghost Guns" because they don't have serial numbers and are untraceable.



On the website run by Defense Distributed, people can download plans for building the Liberator, as well as files for an AR-15 lower receiver, a complete Baretta M9 handgun and other firearms. Users also will be able to share their own designs for guns, magazines and other accessories.

The site on Monday showed more than 12,000 downloads of seven models of guns.

The high-end 3-D printers needed to make such weapons cost thousands of dollars and may be too expensive for most people. But that doesn't ease the concerns of those who think 3-D printed guns are a really bad idea.

Three-D printed guns will make it easier for terrorists and people who are too dangerous to pass criminal background checks to get their hands on guns, said Avery Gardiner, the co-president of the Brady Campaign to Prevent Gun Violence.

Pennsylvania Gov. Tom Wolf said he was stepping in where the federal government had failed to protect his state's citizens.

"The threat of untraceable guns in the hands of unknown owners is too daunting to stand by and not take action," Wolf said. "Attorney General Shapiro and I will fight to protect Pennsylvania families and children. The federal government has abdicated its responsibility to keep our citizens safe, but we will not be deterred from working to ensure Pennsylvania safety laws are followed and our residents are protected from these dangerous weapons getting in the wrong hands."



Japanese govt. sets up counter-terrorism center

Source: https://www3.nhk.or.jp/nhkworld/en/news/20180801_24/



Aug 01 – The Japanese government has launched a new center for ministries and agencies to share intelligence on international terrorism.

It was set up at the Cabinet Secretariat on Wednesday. A ceremony to mark the occasion



took place at the prime minister's office.

Chief Cabinet Secretary Yoshihide Suga said Japan needs to prepare against terrorist threats with the international community as it gets set to host major events like the 2020 Olympics and Paralympics.

He stressed the need for a government-wide effort to swiftly share intelligence and analysis, eliminating boundaries between ministries and agencies.

The center is staffed by officials from the Foreign Ministry, the National Police Agency, and 9 other ministries and agencies.

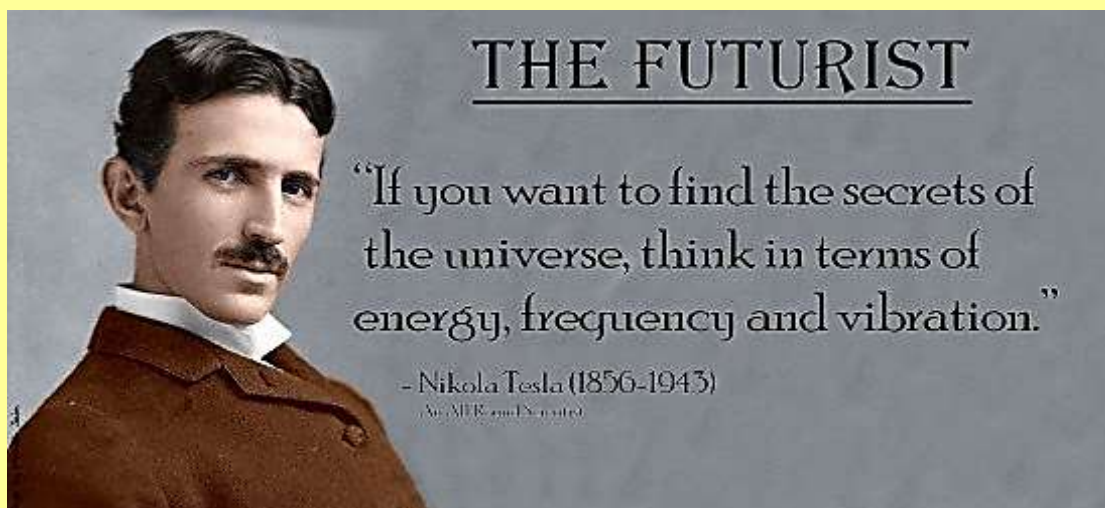
It is placed under a liaison office to collect information on international terrorism, headed by Deputy Chief Cabinet Secretary Kazuhiro Sugita.

EDITOR'S COMMENT: Does that mean that they did not had one already? Are they terrorism immune? And they think that in just two years they will fill intel gaps of decades?

Directed-energy weapons

Source: https://en.wikipedia.org/wiki/Directed-energy_weapon

A directed-energy weapon (DEW) is a ranged weapon system that inflicts damage at a target by emission of highly focused energy, including laser, microwaves and particle beams. Potential applications of this



technology include anti-personnel weapon systems, missile defense system, and the disabling of lightly armored vehicles or mounted optical devices.

In the United States, the Pentagon, DARPA, the Air Force Research Laboratory, United States Army Armament Research Development and Engineering Center, and the Naval Research Laboratory are researching technologies like directed-energy weapons and railguns to counter maturing threats posed by fast missiles such as ballistic missiles,



hypersonic cruise missiles, and hypersonic glide vehicles. These systems of missile defense are expected to come online in the mid to late-2020s or later. Russia, China, India, and the United Kingdom are also developing directed-energy weapons.

After decades of R&D, directed-energy weapons are still very much at the experimental stage and it remains to be seen if or when they will be deployed as practical, high-performance military weapons.

►► Read more at source's URL.

Also: <https://www.nuclearweatherforecast.com/directed-energy-weapons-DEW-5G-EMP-HAARP.html>



Greece: In the aftermath of Attica mega-fire in Mati

Tranlation of #1:

For adaptation a purebred 7 years old German Shepherd with burned four paws that was delivered by his owner because he does not want the dog anymore!



This Bulletproof Skin is Made of Goat Milk Spider Silk

Source: <https://labiotech.eu/bioart/bulletproof-skin-goat-milk-spider-silk/>

July 30 – Jalila Essaïdi is a Dutch artist and entrepreneur focused on biotech applications of spider silk, which she makes using the milk of genetically engineered goats.

Spider silk is one of the strongest materials in nature. Jalila Essaïdi had her curiosity piqued when she read about the work of Randolph Lewis, a Professor at Utah State University, who had developed a method to create synthetic spider silk from goat milk.

"We genetically engineered the goats so that they produced a spider protein in their milk. We then purify that protein from the milk and spin it into fibers," Lewis told CNN in an interview.

"One of the goals of producing this spider silk on a large scale was creating bulletproof vests, and I thought 'why not bulletproof humans?'" said Essaïdi.

To create the bulletproof skin, she took leftover skin from plastic surgery and cultured cells from both the dermis and epidermis within a scaffold of synthetic spider silk. Then, she took it to the Forensic Genomics Consortium Netherlands to test whether the silk-threaded skin was bulletproof.



The skin was able to stop some .22 caliber bullets, though not those at full speed. Instead of going through, the bullets got wrapped in the bulletproof skin and took it with them as they passed. If humans were fitted with this bulletproof skin and shot at, although the skin would not be pierced, the internal tissues would still be harmed by the bullet's impact. As Essaïdi pointed out, you would leave behind a "beautiful corpse" with intact skin.



But the aim of the project is not actually to make humans bulletproof. *"It's an interesting experiment, but probably not the future for mankind,"* commented Lewis.

Conceived as an art piece, it rather explores the possibilities of biotech and its moral implications, especially amidst a rising "culture of fear" brought by media coverage.

After this proof of concept, Essaïdi founded the company Inspidere. Based in Eindhoven, the Netherlands, it developed sustainable materials, among them the synthetic spider silk, which the company presents as a cruelty-free alternative to leather with better material performance.

And it is not the only one. The German AM Silk uses bacterial fermentation to produce silk proteins that will be the basis of [a biodegradable shoe from Adidas](#). In the US, Bolt Threads is also growing synthetic silk to create high-quality clothing.

A second project being developed at Inspidere is called Mestic, short for manure-derived bioplastic. The project seeks to take a material considered waste by humans into plastics that can be used in the manufacturing industry. As a result, it would help reduce the accumulation of toxic levels of phosphate and nitrogen in the soil driven by excess manure.

Despite all her entrepreneurial activity, Essaïdi remains an artist at heart, as the founder and president of the BioArt Laboratories foundation, and as a bioart teacher at the Fontys School of the Arts.

Some of her bioart work includes [organ scaffolds](#) made out of spider silk and cobalt-chrome that try to capture the minimum components required to create a functioning artificial organ. Or [using music](#) to explore how different rhythms can guide the growth of cells. Or making Zebra finches observe their own brain cells in the form of [linear art](#).



If there are intelligent aliens, why have we not seen them?

Source: <http://www.homelandsecuritynewswire.com/dr20180803-if-there-are-intelligent-aliens-why-have-we-not-we-seen-them>

Aug 03 – Thousands of planets have been discovered in the last few decades, although astronomers tell us there are probably billions. In such a large and diverse set of solar systems, it seems impossible that humans could be the only intelligent life.

This contradiction – between the high probability that life exists elsewhere in the universe and the lack of evidence for it – is known as Fermi's Paradox. Coined by physicist Enrico Fermi in the 1960s, it's a mystery that continues to invite consideration more than half a century later.



Purdue notes that the first thing any planet needs to support life is liquid water – it's essential for living creatures. Researchers recently found signs of a [lake on Mars](#), albeit buried beneath a thick layer of ice, near the planet's south pole. If there is liquid water down there, it could serve as a temporary home for organisms hiding out until conditions get more comfortable on the surface. Even if life on Mars exists, it's probably limited to simple, single-celled organisms – a far cry from the intelligent aliens of science fiction. This is one potential solution to the paradox: life exists outside Earth, but it isn't intelligent. Or maybe intelligent life exists too, it's just quiet. Finally, it's possible (but unlikely) that we're the only life in the universe.

While any of these scenarios are possible, [Briony Horgan](#), a professor of earth, atmospheric and planetary sciences at Purdue University, doesn't think we should give up hope.

"We've only been looking for communicating civilizations for the last 60 or 70 years. The universe is 13 billion years old, and 60 years is an extremely short period of that time," she said. "Perhaps intelligent life isn't as common as we think and we're just looking at the wrong time."

The search for extraterrestrial life so far has relied primarily on radio signals, which could also be limiting our chances of communicating, Horgan said. Many radio frequencies are able to penetrate Earth's atmosphere, and they're easy to recognize as artificial because of their repetitive nature and narrow bandwidths. But this means if whatever civilization we're looking for isn't actively emitting signals for communication, we probably wouldn't see them.

Humans are getting better at detecting signals from space, though, and technological advancements like the Kepler Observatory have taught researchers a lot about the solar system. NASA has plans for a rover on Mars, a solar probe to touch the sun, a mission to Jupiter's moon and so much more – all in hopes of using space as a vantage point to uncover the mysteries of our own home planet.

"How does life evolve? How unique are we? How critical is it that humanity makes it off this planet? Our quest to find life outside Earth brings us back to those very fundamental questions," Horgan said. "I think life is the most incredible thing the universe has ever produced, so if we are the only life in the universe, that to me is a huge motivating factor for moving beyond our Earth."

Piracy on the rise in the Gulf of Guinea

Source: http://www.defenceweek.co.za/index.php?option=com_content&view=article&id=52646:piracy-on-the-rise-in-the-gulf-of-guinea&catid=108:maritime-security&Itemid=233

Aug 03 – Pirates have kidnapped 35 seafarers off Nigeria in the first half of 2018 as piracy continues to be problematic in the Gulf of Guinea, with Nigeria the focus of attacks.



According to the EOS Risk Group, Nigeria continues to be the world's epicentre for piracy activity. From January through June 2018, EOS recorded 34 Nigerian pirate attacks on merchant and fishing vessels in the Gulf of Guinea. These attacks resulted in the kidnap of 35 seafarers for ransom and the hijacking of several vessels.

"Most concerning this year has been the resurgence of 'petro-piracy', involving the hijacking of tankers for oil theft" said Jake Longworth, senior intelligence analyst at EOS Risk. "The return of petro-piracy has been accompanied by an associated increase in the geographical reach of Nigerian

pirate gangs, leading to attacks in the waters of Benin and Ghana."

Many analysts cited rising oil prices for the return of petro-piracy in the Gulf of Guinea. Whilst this may be a significant factor, it should be recalled that oil prices had hit a 13 year low when pirates hijacked the MT Maximus off Abidjan, Cote d'Ivoire in February 2016. It would



therefore be hasty to see an exclusive correlation between the risk of tanker hijackings and oil prices. The reasons for this crime's return are likely more complex, also being rooted in corruption, law enforcement activities (on land and at sea) and the ability of criminal networks to clandestinely move large quantities of stolen product back into legitimate markets, EOS said.

Following a decline in piracy activity off Benin since 2012, EOS recorded 7 pirate attacks in the waters of Nigeria's western neighbour in the first half of 2018. The attacks involved several successful tanker hijackings, one of which resulted in the loss of 2,000 metric tonnes of product. Nigerian pirates also operated in Ghanaian waters in April, kidnapping five seafarers from two vessels.

Following the hijacking of the MT Barrett, pirates attacked three other tankers in Cotonou anchorage in February 2018. On 1st February, the Panama-flagged tanker, MT Marine Express, with 22 Indian nationals onboard and laden with 13,500 tons of gasoline, was hijacked by around 13 pirates from Cotonou anchorage, Benin. Managers Anglo-Eastern reported that the vessel was released 6 days later, its crew safe and cargo intact.

Despite hijackings grabbing the headlines, Longworth said that the main threat is still found off the restive Niger Delta, specifically on the approaches to ports and oil terminals in the vicinity of Port Harcourt. "95% of attacks we recorded in Nigerian waters occurred near Bonny Island, within 60 nautical miles of the shore. Pirates operating in these waters are focussed on the kidnap of seafarers for ransom."

It was in this area that heavily armed Nigerian pirates kidnapped 11 seafarers from the Dutch general cargo vessel FWN Rapide in April. According to EOS, it is the highest number of hostages taken by a Nigerian pirate group in a single attack.

Steven Harwood, head of special risks at EOS, which covers kidnap for ransom response, said there are two main pirate gangs in Nigeria, both employing around 16 full time pirates. "One is located in the creeks near Yenagoa, Bayelsa State and the other around Abonnema, Rivers State. Both gangs are in communication and sometimes subcontract the physical hostage taking to other criminal groups".

EOS warns that instability in the Niger Delta is likely to increase in the run up to Nigeria's 2019 general elections, which could result in a spike in piracy activity. "Since the turn of the century, this pattern has been visible in Nigeria ahead of major election periods, evidence of the complex links between piracy and political conflict in the Niger Delta."

To mitigate the risk, EOS recommends Masters implement Global Counter Piracy Guidance (GCPG) measures and where additional protection is required, they say shipping companies may require armed escort vessels and embarked guards where domestic law permits.

►► The full report from EOS can be found [here](#).

Port pirates must be eliminated

Piracy at sea targeting cargo carrying vessels is an unfortunate reality most of us are familiar with, but piracy at berth or anchor in port is a new development, writes Mike Mundy.

This, however, is now a reality in Nigeria which has seen the rise and rise of this phenomenon which, according to local reports, got underway on March 2 this year with an attack on the Pamyat at Berth 14, Lagos Port Complex, Apapa. Asia Ruby was similarly attacked at the same berth in the early hours of April 24 and attacks also took place at the Tin Can Port Island Port Complex on March 3 on Aquata and Sichem New York which were discharging cargoes at Berths 2 and 1 respectively, operated by Josepdam. Four days later another attack took place at Josepdam on the Kiana which was alongside discharging bulk sugar.

The attacks are clearly opportunistic where the robbers are looking for valuables on-board ships and even goods from the terminals hosting the ships, if possible. On March 18 yet another attack took place on Josepdam with the robbers this time targeting the terminal's fuel dump and reportedly beating and tying up security guards before siphoning off and stealing eight drums of diesel oil.

In all cases the attacks have been initiated from the seaward side of the port facilities via boats equipped with powerful motors.

Suggestions have been made that at least in some cases, these attacks have been conducted with the support of internal personnel. Adewale Adeyanju, president general of the Maritime Workers' Union of Nigeria has stated, for example, that recently dismissed



security and tally men personnel at Josepdam were involved in the attacks here. “What we are experiencing now,” he said, “might be the attitude of those who have lost their jobs.” He further noted that the dismissal of such personnel makes the terminal more open to such attacks.

The concession of terminals in Nigeria, and flowing out of this the positive focus on terminals adhering to the ISPS Code, had up until this sequence of attacks delivered a good security regime. Now, though, it is clearly time for the relevant authorities – Nigerian Ports Authority and others in partnership with terminal operators – to step in and beef up security measures to eliminate this worrying trend. Failure to do so will inevitably result in increased insurance premiums for vessels calling at these facilities.

Maritime Piracy : Is there conspiracy against Nigeria?

By Godwin Oritse and Godfrey Bivbere

Source: <https://www.vanguardngr.com/2018/07/maritime-piracy-is-there-conspiracy-against-nigeria/>

Aug 06 – There are indications that the upcoming security report on Nigeria’s marine space may worsen with operators accusing international interest groups of mischief over the report. But Nigerian maritime industry stakeholders also indicated that despite the controversial nature of the figures on piracy attacks



the number of incidences would certainly increase and Nigeria would maintain lead on the global piracy ranking in the second quarter, 2018.

[Top 5 pirates prone countries and Pirates attack on vessels](#)

The International Maritime Bureau, IMB, in its first quarter 2018, reports, noted that

Nigeria currently leads in global pirates attacks against vessels. In the IMB report, Nigeria alone recorded a total of 22 of the 45 as against Indonesia that recorded nine attacks and Venezuela has five attacks in the first three months of the year. Global pirate attacks while four other countries namely Venezuela, Indonesia, Republic of Benin and Bangladesh recorded a total of 23 attacks. A breakdown of the report showed that Bangladesh recorded four and Republic of Benin had five while. Although, maritime security experts have contested the figure of the IMB, saying that number of attacks recorded in Nigeria during the quarter is likely to be lower, some foreign shipping firms confided in Vanguard Maritime Report that Nigeria do not have credible data as information on attacks go straight to the foreign ship owners who in turn report to the international organisation (IMB) rather than Nigerian authorities. Some Nigerian operators have played down the figures, attributing it to plans by the developed countries to paint developing countries such as Nigeria, in security bad light, leading to increase in freight rates and marine insurance. Speaking with Vanguard Maritime Report, President of the Ship-owners Association of Nigeria, SOAN, and Managing Director/CEO of Starzs Marine and Engineering Limited, Greg Ogbeifun, said the report should not be taken serious as it is only meant to promote the interest of international operators. According to him, “Personally I am not too bordered about piracy or whatever, they are always working to paint Nigeria black. I am not moved by their comments and that is the truth. They are the ones that are encouraging all these strives and unrest in all the developing countries and then they will also turn around to begin to complain. “I said there wouldn’t have been piracy in this country if there were no international connection to illegal bunkering. Those people are the ones behind all these problems we talk about. So they should stop stoking all these



improprieties against developing countries, they should stop encouraging it. “All the piracy money, all the kidnapping money that they are collecting, who is collecting it, are they paying the money into Nigerian banks? They are not paying the money into Nigerian banks; they are paying it into foreign countries. “They are the ones encouraging it, some I do not think that we should be overly blaming ourselves or feeling bad because some foreign body says that Nigeria has now become a hub for piracy.” On whether members of SOAN has not been affected he responded, “Am not aware of any of my members who have been affected, most of the piracy attacks take place far away from the coast of Nigeria, it is not necessarily in-country attack. There was a time we use to have such attacks but for sometimes now we have not had in-country piracy attacks.” Similarly, the Chairman of the Port Facility Security Officers, PFSO Forum, Dr. Ignatius Uche, agreed with school of thought that there could be a conspiracy against Nigeria in this regard. He said that the issue of pirate attacks on vessels at the terminal has put virtually every government agency operating at the ports on their toes as the management of the Nigerian Ports Authority, NPA, has approved money for the purchase of patrol boats to checkmate the activities of these criminals. Uche described the situation as very embarrassing adding that the trend was beginning to put Nigeria on the spot in the international maritime comity. He said that figures being bandied by the IMB are not the same with what is recorded by the Nigerian authorities. According to him the official Nigerian figure should be around 13 attacks in Q1’18. But going by this figure Nigerian would remain the global leader in piracy as the second highest number of attack recorded by IMB is Indonesia with 9 attacks. However, Uche said “the more these criminals are allowed to operate, the more money and credibility the country is losing. An official of International Ship and Port Facility Security, ISPS Code Unit of NIMASA who spoke to Vanguard Maritime Report on the condition of anonymity said that the issue of pirate attacks on vessels was an international conspiracy by the international shipping community. The officer said that Nigeria get reports of these attacks from the international maritime organisations as crewmen make these report directly to the principal abroad. The official explained that when these attacks take place, it places high freight premium on Nigerian bound cargoes which attracts more freight payments and marine insurance premium. Former Senior Special Adviser to Ex-President Goodluck Jonathan, Mr. Leke Oyewole, told Vanguard Maritime Report that “as long as that security gap remains, that there is no proper patrol around the ports and the anchorage, this trend will continue. “For the second quarter 2018 report the figure is likely to increase if nothing is done to stem the tide of pirate attacks on vessels.” The fear of increase in pirates attack is coming against the cancellation of a maritime security contract by President Muhammedu Buhari due to the protest by a section of maritime stakeholders against what they saw as unwholesome interest in the deal. The cancellation of the contract was commended by maritime security experts saying that it was absurd for the nation’s Navy to work under a foreign private security firm as provided in the contract terms.

The Nigerian piracy headaches had come a long way prompting the former management of NIMASA to structure an international security contract with Global West Specialist Vessels to address the problem. Under the arrangement NIMASA and Nigerian government was not going to pay any contract sum for the security, rather the contractor would be expected to beef up security to enable NIMASA make money from the ships. In turn the contractor would earn a percentage of the extra revenue. But this arrangement was cancelled by the current administration on grounds that the contract was a conduit pipe to siphon monies from the agency. However, a new security contract was initiated by the present administration where Nigeria would pay USD195 million (about N60billion) to a private security firm for beefing up security at the territorial and coastal waters. But the contract amount raised so much dust that the National Assembly was forced to invite the Minister of Transport, Mr. Rotimi Amaech, who refused to appear before its committees set up to look into the contract. Eventually President Mohammadu Buhari was forced to cancel the contract and ordered that the USD50 million upfront payment be recovered by the way of getting the foreign contractor to supply items equivalent to the amount. The contract, signed off by the Federal Executive Council in December 2017, would have seen the contractor, HSLi, an Israeli security firm, rake in \$195 million in exchange for an undisclosed number of special mission aircraft, special mission helicopters and 12 fast intervention vessels for the Nigerian Navy. Reacting to the cancellation of the contract Amaechi, Oyewole, while commending President Buhari for cancelling the contract, said that if that contract had been allowed to work, it would



have been worse than the Global West contract. He said that the Nigerian Navy is the authority with legal powers to monitor and protect the nation's maritime domain adding that the Navy should be funded and provided with patrol boats. "I fully support the cancellation of that contract simply because it would have been worse than the Global West contract because the Navy cannot be subjected to work under a foreign private company. "It is odd for the Nigerian Navy to work under it. It is an absurdity that is inconsiderable. To that extent I support the cancellation of that contract. "In the time of Global West, though it was not security firm, the whole of Nigeria cried foul. "The Navy is the only authority that has the mandate to secure the nation's maritime space. The Navy should be properly funded and patrol boats should be provided for them. "During the Jonathan era, Global West contract with NIMASA worked out perfectly. What they (NIMASA) did was to sign an MOU with the Navy and gladly enough, Navy came on board to subdue piracy in Lagos and other maritime space across the Nigerian waters which continue until 2015. "As soon as the NIMASA-Global West was pulled down, there was space for the rascals to operate again. "They started by operating off-shore, now they have developed the effrontery to operate even at the ports which is very bad for Nigeria because the freight of goods coming to Nigeria will increase. "This development is not telling any good story about Nigeria." Way forward Oyewole suggested that the NPA, the Nigerian National Petroleum Corporation, NNPC, and the NIMASA should form a synergy to provide a security platform, where NNPC can provide fuel and NPA and NIMASA can provide money to buy the boats for Navy to operate so as to build a sustainable arrangement to protect the territorial integrity of Nigeria. He suggested that there is a need for the country to have a robust surveillance system adding that all processes of ship operations and payments are integrated with the surveillance system. Oyewole said that there must be electronics platform to report any infractions by vessels anywhere in the country. "A special maritime force should be created and sustainable funding mechanism and the Automated Identification System, AIS, be replaced with a better technology. The AIS should be improved upon and make our waters safe so that the payment of high freight rate and marine insurance premium which has been the target of the foreign shipping firms be stopped," he stated.

Greece: Disposable 3D-printed surgical instruments poised to revolutionise medical operations

Video: <https://www.youtube.com/watch?v=6XIKTpSXF2c>



EDITOR'S COMMENT: 3D printed surgical instruments have already been used by the US military in Afghanistan. The innovation of the Greek products is that instruments have been coated with a film of nanoparticles of silver thus no need for sterilization due to the antibacterial properties of silver. Although single use they can undergo sterilization for 10 times. And they cost almost nothing.

►► Read more at: [«4th ABCS3-Applied Basic Clinical Seminar with Scenarios for Students»](#)

O tempora! O mores! (again)



Mecca Pilgrimage – Serious Security Challenge

Source: <https://i-hls.com/archives/84932>



Aug 18 – Saudi Arabia has been coping with complex public safety challenges. The Saudi Government is hosting the Hajj, the largest worship procession, gathering three million Muslims from throughout the world. The three million worshippers will move together from one



place to another through very small areas, compared to the size of the crowds. Managing the pilgrimage and ensuring that the entire procession is run smoothly, while guaranteeing that all pilgrims are safe and comfortable, is a major challenge for the Saudi Government.

Since the conditions during the Hajj and its management are unique, a special crowd management system was put to place in the two Holy Cities of Islam, Mecca and Medina, using the latest technology.

According to the Chief of the Hajj and Umrah Security Forces, Maj. Gen. Muhammad bin Wasl Al-Ahmadi, the mission of monitoring and controlling the crowds, as carried out by the Hajj and Umrah security forces, is supported by thousands of cameras installed at every point in the Grand Mosque complex and at other pilgrimage sites in Mecca.

The monitoring activities are carried out 24 hours per day from the operating control room. The Special Forces are well-trained to handle all types of emergencies and risks that can occur at any time.

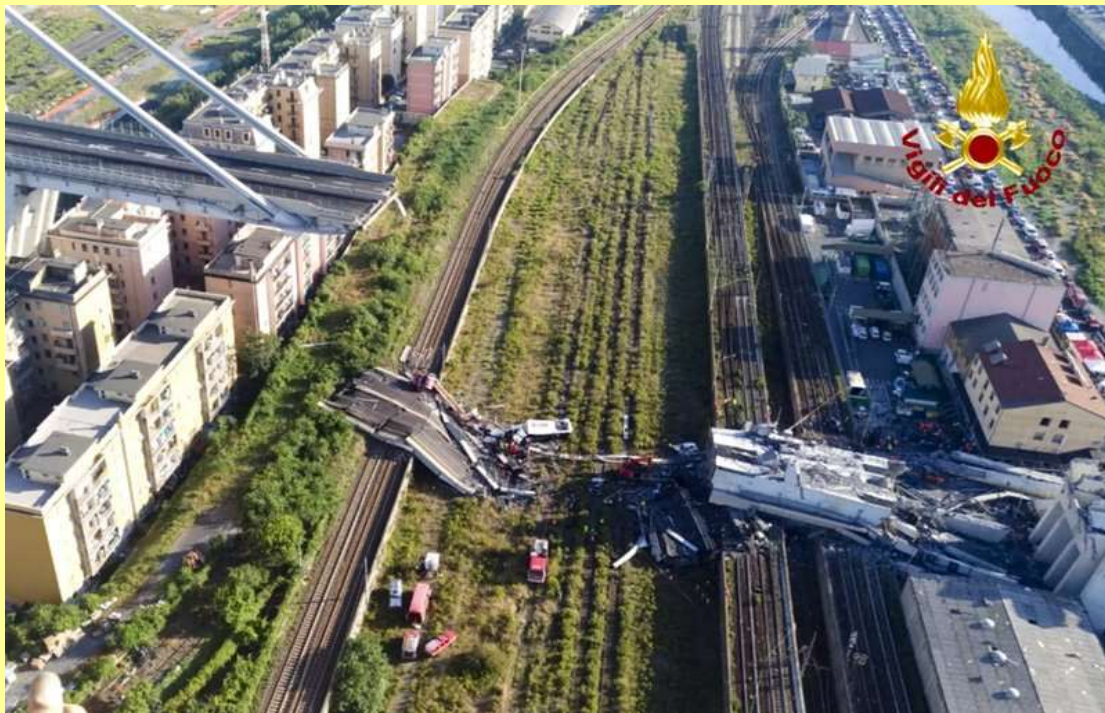
The head of the Grand Mosque's Special Security Forces, Maj. Gen. Abdullah bin Mohammad Al-Aseemi, stressed that the most crucial problem in the movement of pilgrims occurs when pilgrims stop, even for a few seconds. "Therefore, our mission is to control the speed of the movement of pilgrims by paying attention to every detail at each point, including at every entrance to the mosque," he said. If there was a back-up at any point, then within seconds the Special Forces would arrive at the location and take over the management of the crowds.

At the control center, the Special Forces monitor the worshipers and prevent potential accidents, according to antaranews.com.

With the increasing number of pilgrims each year, the Special Security Forces in the Grand Mosque also has the task of helping disabled and elderly pilgrims.

Questions and anxiety in Italy over Genoa bridge collapse

Source: <http://www.homelandsecuritynewswire.com/dr20180815-questions-and-anxiety-in-italy-over-genoa-bridge-collapse>



Aug 15 – In the wake of the deadly Morandi Bridge collapse in Genoa, Italian Prime Minister Giuseppe Conte has called for "all infrastructure" in Italy to be checked.

Investigators is still trying to determine the cause of the collapse.



Italian rescue workers worked through the night and into the morning in search for survivors.

A 100-meter section of the Morandi Bridge, affectionally called Genoa's "Brooklyn Bridge," collapsed during a heavy rain storm on Tuesday causing dozens of vehicles to plunge some 45 meters.

The main developments so far:

- The death toll has reached 35 (update: 43 [Aug 20])
- Many of the injured remain in serious condition.
- Italy's transport minister called for senior managers at Autostrade per l'Italia, the company operating the bridge, to resign.
- The transport minister said the company could face millions of euros in fines.
- Autostrade per l'Italia said it carried out regular checks before the collapse, and that the inspections had been reviewed and approved by the Transport Ministry.

Prime Minister Conte described the catastrophe as "a serious wound for Genoa, Liguria and Italy" and that "all infrastructure" across the country needed to be double-checked. "We must not allow another tragedy like this to happen again," he added.

Italian Infrastructure and Transport Minister Danilo Toninelli blamed Autostrade per l'Italia for the incident. The private company runs much of Italy's motorway network.

The *Guardian* [quotes](#) Toninelli's post on Facebook that the company was guilty of "serious shortcomings," and that it will have its concession to run the motorway network withdrawn and face fines of up to €150 million (\$170 million).

Italian Interior Minister Matteo Salvini blamed the European Union for making Italy unsafe. He said that funds that would be spent on health and safety "are not allowed to be billed according to strict ... rules imposed by Europe." Salvini, a Euroskeptic, told local broadcaster Radio24: "You always have to ask for permission to spend money."

President Sergio Mattarella echoed the calls for better conditions on Italian roads. "Italians have the right to modern and efficient infrastructure that accompanies them safely through their everyday lives," Mattarella said.

The Morandi Bridge was designed by Riccardo Morandi and built in 1967. It was built using reinforced concrete, which at the time was considered the best technology. The bridge provides Genoa a link to the Italian Riviera and France's southern coast.

The cause of the collapse is still unknown, but some of the potential causes include a possible lightning strike due to the storm at the time of the collapse; an engineering failure; aging infrastructure; and corrosion.

Italy's CNR civil engineering society said the working lifespan of bridges built during the 1950s and 1960s was only about fifty years. The Morandi Bridge has been in use for fifty-one years.

Genoa bridge collapse: maintaining these structures is a constant battle against traffic and decay

By Marios Chrysanthopoulos

Source: <http://www.homelandsecuritynewswire.com/dr20180817-genoa-bridge-collapse-maintaining-these-structures-is-a-constant-battle-against-traffic-and-decay>

Aug 17 – As rescue workers look for survivors in the concrete rubble that used to be part of the Morandi bridge in Genoa, Italian authorities are starting their investigation into the possible causes behind this [terrible tragedy](#).

It is too early to determine what may have caused the catastrophic collapse of more than 100 meters of the multi-span, cable-stayed suspension bridge, completed just over 50 years

ago. But it's important to understand that bridge engineering does not end when construction finishes and traffic starts to flow. In fact, properly looking after a bridge during its long life is as crucial as having a good design, using high-quality materials, and ensuring sound workmanship during construction.



Modern bridges are designed for a life of 100 years, though many centenarian bridges – such as the Forth Bridge in Scotland, which opened in 1890 – still provide sterling service, and of course there are smaller bridges built of stone to more ancient designs that have stood for many hundreds of years. Considering the number of bridges built in Europe during the expansion of the motorway networks from the late-1950s onwards, we should expect, and be prepared for, many to exceed their planned lifespan in coming decades. Facilitating this is ambitious but necessary, and made possible thanks only to regular inspection and maintenance that ensures that building materials have not degraded, and that structural elements are fit to bear the traffic and environmental loads they face.

So what are the factors that affect the strength of a bridge and may compromise public safety?

Environment and climate

The climate in a bridge's location, taken alongside atmospheric pollution common in cities, can have an adverse influence on the material of the bridge – for example, the corrosion of steel reinforcement or pre-stressed steel tendons embedded in concrete. Regular inspections are typically scheduled every six years for large bridges to identify any degradation, and to take appropriate measures to replace cracking concrete and corroded steel, or to introduce protective coatings.

In England, the [Midlands Link motorway viaducts](#), comprising 13 miles of elevated motorway carrying the M5 and M6 motorways around Birmingham, suffered from chloride-induced steel corrosion early on in their life from exposure to salt used to de-ice the roads. This required an extensive application of corrosion protection measures in the early 1990s. More than 700 structures have benefited from this action, [demonstrating](#) the cost savings that can be made if appropriate action is taken at the right time.

Stress and fatigue

Fatigue caused by use is another factor, and inspectors will look out for tell-tale signs of failure often associated with the cyclical stress produced by passing vehicles, particularly heavy trucks. This type of failure is especially

relevant for [metal bridge decks](#) and the cables of suspension and cable-stayed bridges. Traffic has increased ever since these bridges were built, which inevitably leads to the need for more maintenance and strengthening work, such as additional steel, glass or carbon fibre-reinforced plates on critical parts in order to restore or enhance their strength compared to what was deemed necessary during their design. For example, Network Rail in the UK used [fibre-reinforced polymers](#) to strengthen more than 20 bridges carrying highway or railway traffic between 2001 and 2010.

Consider how we all tend to react to a road sign bearing the words: “Essential Bridge Works – Expect Long Delays”. One such situation prompted this [comment from a member of the public](#): “We are doomed. I am going to buy a tent and pitch it outside work for the three months while the misery goes on.” Perhaps knowing why this is necessary – and the consequences of not doing so – might persuade people to reconsider such views.

Money and willingness to spend it Equally, we must understand that maintenance budgets need to be set at levels that far exceed those that would allow engineers only to “firefight” the most severe problems, [as is becoming worryingly commonplace](#). Instead, budgets need to allow for planned interventions and necessary upgrades over many decades. That requires public and government support, as well as skilled engineers committed to ensuring the safety of an ageing structure.

There are challenges in devising improved methods to assess bridge strength, developing new repair techniques, and new ways of collecting and using inspection and monitoring data to provide advance warning of problems. These constantly push technological boundaries, making it possible to operate existing bridges safely during their long service lives. And the experience gained feeds into new designs that will become reality in years to come.

Those investigating the collapse of the Morandi bridge will look at inspection and maintenance matters. Other lines of enquiry will no doubt include the unusual design of the multi-span bridge, with only a few cable stays



to transfer deck loads to the towers, the ongoing work to shore up the foundations, and the heavy rainfall at the time of the collapse. In the shadow

of this terrible loss of life, it is worth remembering that bridge inspection and maintenance may be annoying for commuters – but it is crucial.

Marios Chryssanthopoulos is Professor of Structural Systems, University of Surrey.

Genoa bridge collapse: the mafia's role

By Anna Sergi

Source: <http://www.homelandsecuritynewswire.com/dr20180821-geoa-bridge-collapse-the-mafia-s-role>

Aug 21 – At least [43 people died](#), more than 600 were evacuated and 15 ended up in hospital in a critical condition, when a 200 meter portion of the A10 motorway bridge [collapsed](#) in Genoa, Northern Italy on August 14, 2018. The Italian government has declared a 12-month state of emergency in the region, with [€28.5m \(£25.5m\) allocated](#) to support those affected by the disaster.

[Investigations](#) into the collapse will look at different possible causes, including wear and tear, heavy traffic, structural flaws and other problems. The 51-year-old structure, known as “Italy’s Brooklyn Bridge”, was designed by Italian engineer Riccardo Morandi. It has [been criticized](#) by experts who have, at different times, called for serious maintenance and risk assessments to be performed. Commentators have argued that this disaster is going to be an [Italian parable](#), a tragic illumination of the failure of a political system.

As the [usual political inferno](#) between parties and private firms rages on, the phantom threat of [mafia involvement in Italian construction](#) has [resurfaced](#). The region of Liguria sadly scores quite high in the [assessments of mafia infiltration](#). In the area, Calabrian mafia clans of the ['ndrangheta](#) – Italy’s most powerful mafia today – have heavily invested in the construction sector, in public tenders and in the exploitation of the port of Genoa and the roads to France and to the rest of the Italian north, for the purposes of illegal trafficking.

The ['ndrangheta in Liguria](#) is strong and well organized. And in the Genoa disaster, there are three potential issues linked to mafia activity. First, there are doubts over the quality of the materials used for the construction of the bridge. [Back in the late 1960s](#), when the bridge was built, the 'ndrangheta (among other criminal groups) was already present in the territory, and already investing in the construction sector.

Corruption in construction

Since then, construction has become the core business of the Calabrian clans in Liguria, and in Genoa as well – a fact confirmed by anti-mafia prosecutors in one of the most recent investigations in the region, called [Operation La Svolta](#) (“the turning point”), which ran from 2014 to 2016.

There is no evidence that [Società Italiana Condotte D'Acqua Spa](#) – a construction group based in Rome, which [built the Morandi bridge](#) and coordinates construction and maintenance of several roads and railways across Italy – used sub-standard materials, or was mafia-infiltrated at the time when the bridge was built. [But future investigations](#) will seek to understand whether some of the maintenance works on the motorway and the bridge were assigned to disreputable contractors and sub-contractors.

Yet further anti-mafia operations have given cause for concern; specifically [Operation Bellu Lavuru](#) in 2012, which led to [trials](#) against members of the 'ndrangheta involved in construction of an important road in Calabria. The operation also established recent and problematic connections between some managers of Società Italiana Condotte D'Acqua Spa and clans of the 'ndrangheta, during the construction of roads.

Società Italiana Condotte D'Acqua Spa holds 31% of the association of companies managing the construction of the Terzo Valico – a high-speed railway service between Genoa and Milan, aimed at improving movements between the port of Genoa and the railways of northern Italy and the rest of Europe.

Arrests were made in connection with the Terzo Valico project, because of ['ndrangheta clans' alleged influence](#) over sub-contracts in Liguria in 2016. And in March 2018, the president of the Società



Italiana Condotte D'Acqua Spa [was also arrested](#) on a charge of corruption. He remains under house arrest, [awaiting trial in November](#) this year, and has since stepped down as president of Società Italiana Condotte D'Acqua Spa, which [went into receivership](#) at the beginning of August 2018.

The emergency business

Large-scale disasters can also present the mafia with opportunities to profit from crises and states of emergency: this is known in Italy as [“the emergency business”](#). Over the past few decades, for example, mafia groups have frequently been involved in [reconstruction](#).

When the government declares a state of emergency, it typically allocates extra funds to support the people and places affected. But in order to speed up relief efforts, the control mechanisms for reviewing bids for public contracts can be lax, which opens the door for mafia groups to become [involved in the process](#). The mafia has also infiltrated relief systems and

support funds linked, for example, to [migration centers](#).

Given that the region of Liguria, and the city of Genoa itself, have already experienced the interference of mafia-run businesses in construction, there's a high risk of mafia involvement in relief and reconstruction contracts in the aftermath of the Genoa bridge collapse.

As is often the case in Italy, blaming mafia infiltration for the failure of the system poses very difficult questions related not just to crime, but also to accountability, transparency, ethics and corruption in politics. Of course, it's easy to insinuate that the mafia contributes to risks in Italian infrastructure. But these claims are difficult to prove, and can be leveraged for sensationalist speculation and political propaganda. Nevertheless, history teaches us that the influence of the mafia must be considered when trying to make sense of disasters in the region.

Anna Sergi is Senior Lecturer in Criminology, University of Essex.

New Technology Developed Following Nice Terror Attack

Source: <https://i-hls.com/archives/84845>



Aug 13 – A group of students from University of California, Berkeley who were in Nice, France during the July 2016 terrorist attack are turning their grief into tech tools to fight terrorism.

California college student Anjali Banerjee was in Nice two years ago when a man plowed a truck through a crowd, killing 86 people and wounding 200, at what became known as the Bastille Day attack. The Islamic State group claimed responsibility for the attack.



In the chaos that ensued, she and her friends found it hard reaching the correct information about their fellow students reported missing or even going to different police stations. They later learned three students were injured, and a UC Berkeley junior was among the dead.

The lack of official information following the terrorist attack led the students to self-organize and rely on locals to navigate the city as they looked for their missing friends. Collaborating with each other and with the people of Nice made the students realize they could create a space in the digital world to help others do the same in the fight against terrorism, Banerjee said.

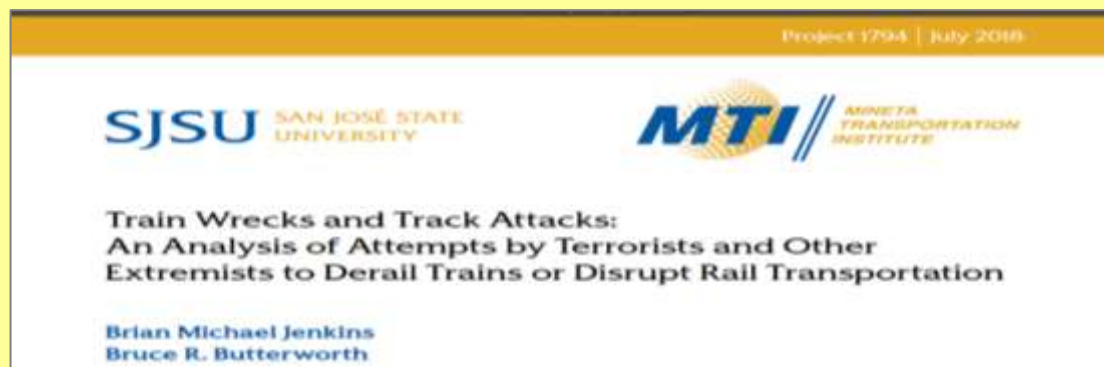
She and several classmates have founded a startup called Archer that builds digital tools to help journalists, investigators and human rights workers tackle terrorism, sanctions evasion, corruption and other global violence.

According to abcnews.go.com, the students built a free online platform that makes big data analysis and visualization easy to access and that helps track people and companies that have been sanctioned by the United States for crimes that include money laundering, corruption and terrorism.

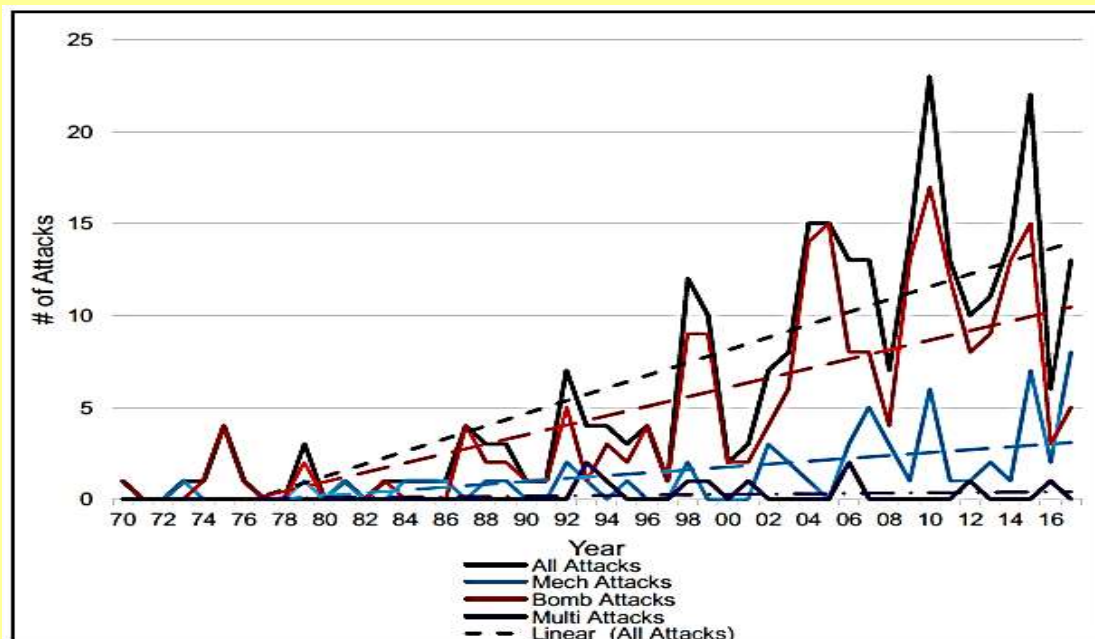
Amnesty International is using one of its tools, Archer Meta, to verify photographs of the crackdown by security forces against minority Rohingya Muslims in Myanmar's Rakhine state.

The tool identifies when and where the photographs were taken and can process 50 at once, unlike other readily available internet tools that upload one photo at a time and can pose a security risk, said Sam Dubberley, a researcher with Amnesty International.

The group's data analysis tool helps also those investigating terrorist financing cases.



Source: https://transweb.sjsu.edu/sites/default/files/1794_Jenkins_Train-Wrecks-Train-Attacks.pdf



Brian Michael Jenkins is Director of MTI's National Transportation Security Center. He is the author of several articles, reports, and books, including Will Terrorists Go Nuclear?

Bruce R. Butterworth serves as Senior Transportation Security Researcher at the National Transportation Security Center.

Mr. Butterworth's career in government spanned over 30 years, working with agencies such as the Federal Aviation Administration and with the Office of the Secretary of Transportation.

Militarization of police fails to enhance safety, may damage police reputation

Source: <http://www.homelandsecuritynewswire.com/dr20180821-militarization-of-police-fails-to-enhance-safety-may-damage-police-reputation>



Aug 21 – This month marks the four-year anniversary of protests over the police killing of Michael Brown in Ferguson, Missouri, an incident met with a heavily armed police response that stoked widespread concern.

While proponents say militarized police units enhance officer safety and prevent violence, critics argue these tactics are targeted at racial minorities, and diminish trust between citizens and law enforcement.

A study published by Jonathan Mummolo, assistant professor of politics and public affairs at Princeton University, reveals that **militarized policing is ineffective in decreasing crime and protecting police, and may actually weaken the public's image of the police.**

Princeton [says](#) that Mummolo tested several claims about the costs and benefits of militarized policing using a combination of administrative crime and officer safety data, records of when and where militarized police units were created and deployed, and survey experiments.

He found that militarized policing does not lead to less violent crime or less violence against police officers. Seeing militarized police in the news also may harm police reputation, which prior work shows can create obstacles for police efficacy. The study also shows that militarized police units are more often deployed in communities of color.

The findings, published in the [Proceedings of the National Academy of Sciences](#) (PNAS), suggest that curtailing militarized policing may be in the interest of both the police and citizens.

"The routine use of militarized police tactics by local agencies threatens to further the historic tensions between marginalized groups and the state with no detectable public safety



benefit,” said Mummolo, who is on the faculty at Princeton’s Woodrow Wilson School of Public and International Affairs and the Department of Politics.

In recent decades, police units have grown more militarized in part due to the “War on Drugs” campaign as well as federal initiatives that supplied neighborhoods with excess military equipment and funds to purchase arms. To understand the effects this has had on policing, Mummolo investigated Special Weapons and Tactics (SWAT) deployments, as the formation of SWAT teams represent an increased commitment to the use of militarized equipment and tactics.

For the study, Mummolo built a nationwide panel measuring whether and when roughly 9,000 law enforcement agencies obtained a SWAT team between 2000 and 2008. He also obtained data on every SWAT team deployment in Maryland over a five-year period through a public records request. He chose Maryland as a test case because, unlike other states, Maryland has a statute requiring every agency to record all SWAT activity.

Mummolo also wanted to test whether militarized tactics occur more frequently in communities of color. To do this, he analyzed the relationship between the percentage of black residents in a particular geographic area with the volume of SWAT deployments per 100,000 residents.

After controlling for social factors and local crime rates, he found that **black residents face a more pronounced risk of experiencing militarized policing**. However, Mummolo suggests caution in generalizing this analysis beyond the state of Maryland.

To estimate the effects of police militarization on crime and officer safety, he returned to the nationwide panel he had built. He compared the deployments of SWAT teams with the number of violent crimes and officers who were killed or injured.

On average, the results show that creating more SWAT teams and increasing SWAT deployments had little to no benefits in terms of crime reduction or officer safety. Again, he cautions against overgeneralizing this finding, as it may not apply to each agency.

Finally, Mummolo conducted two survey experiments to assess the effect on the public’s perception of police when they see militarized police in news reports. First, respondents read a mock news article about a police chief seeking a budget increase, accompanied by a randomly assigned image with either militarized police or traditionally equipped officers. Respondents then answered questions related to perceived crime levels, support for police spending and confidence in police.

The results show that citizens react negatively to the appearance of militarized police units in news reports and become less willing to fund police or want police patrols in their neighborhoods.

“These results come after a single exposure to militarized images. Repeated public exposure to news items featuring militarized policing may amplify negative views of law enforcement among citizens,” Mummolo said. “This is concerning because past research indicates that negative views of the police hinder criminal investigations and are associated with stunted civic participation.”

While his study found no firm evidence that SWAT teams lower violent crime rates or the rates at which officers are killed or assaulted, the teams are arguably an important tool for violent, emergency situations. “Restricting their use to those situations may improve perceptions of the police among citizens,” Mummolo said.

— *Read more in Jonathan Mummolo, “Militarization fails to enhance police safety or reduce crime but may harm police reputation,”* [PNAS](#) (20 August 2018).

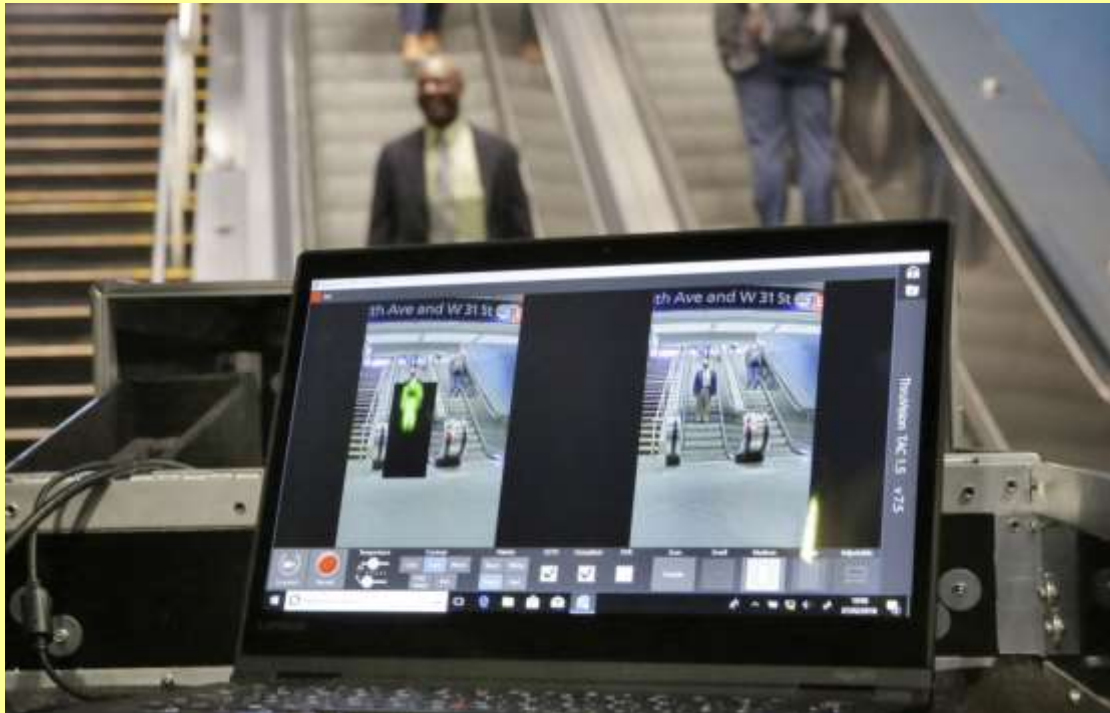


First US City to Employ Body Scanners at Metro

Source: <https://i-hls.com/archives/84946>

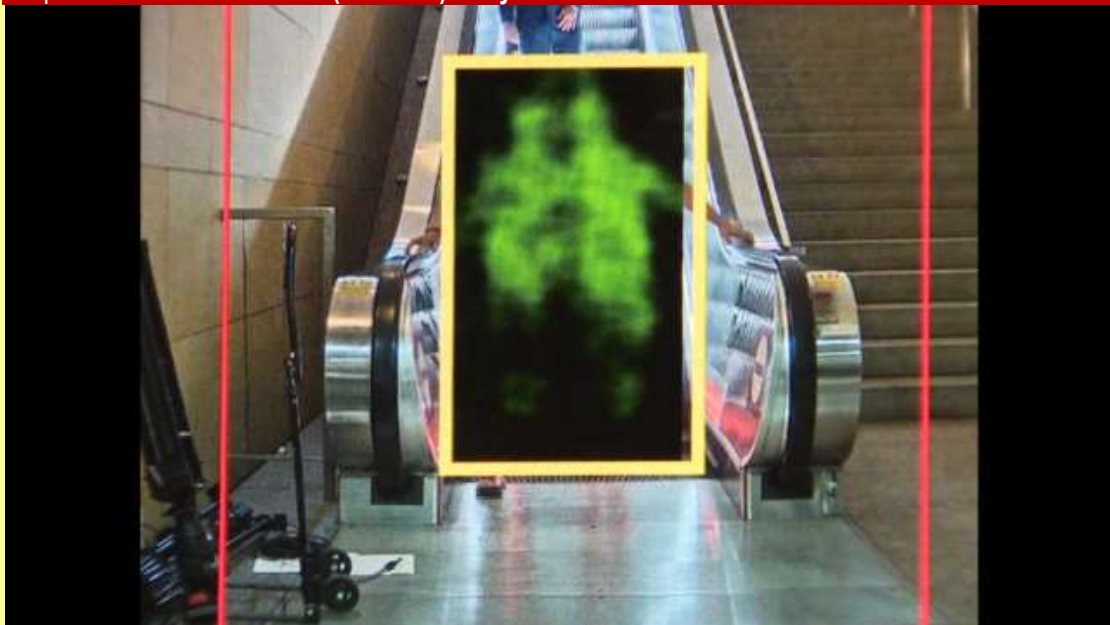
Aug 19 – Growing terrorist threats to transportation systems around the world and the possibility of a massive attack have brought about an increase in security measures employed by the authorities. The **Los Angeles** metro will roll out body scanners in its subway stations to detect weapons and explosives, becoming the first mass transit system in the US to install such devices.





The portable scanners, which project waves to do full-body screenings of passengers walking through a station without slowing them down, will be deployed in the coming months, according to apnews.com.

The scanners, supplied by British security company **ThruVision**, are capable of scanning upwards of **2,000 people per hour**. They scan for metallic and non-metallic objects on a person's body, can detect suspicious items from **30 feet (9 meters) away**.



"We're looking specifically for weapons that have the ability to cause a mass-casualty event," said Alex Wiggins, who runs the Los Angeles County Metropolitan Transportation Authority's law enforcement division. "We're looking for explosive vests, we're looking for assault rifles. We're not necessarily looking for smaller weapons that don't have the ability to inflict mass casualties."



Additional body scanners — which resemble white television cameras on tripods — that have the ability to move around and hone in on specific people and angles, will also be installed. “Deploying these technologies together gives us that accuracy and minimizes any delays,” Wiggins added.

Signs will be posted at stations warning passengers they are subject to body scanner screening. The screening process is voluntary, Wiggins said, but customers who choose not to be screened won't be able to ride on the subway.

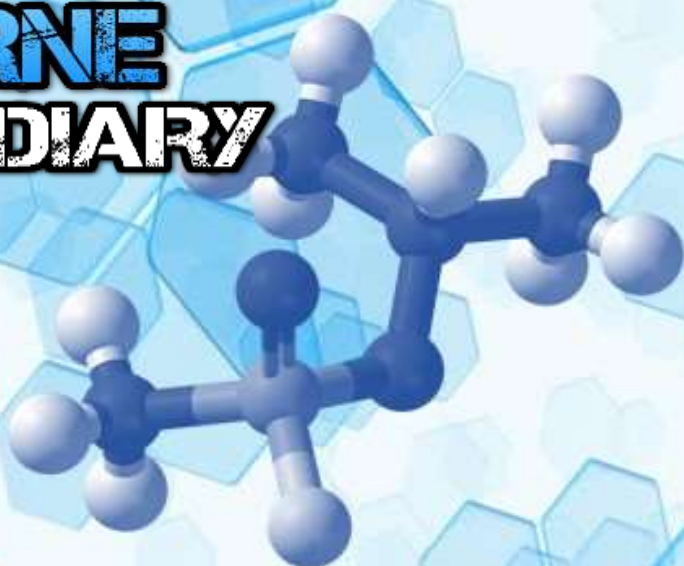
The TSA tested body scanners in New York's Penn Station in February and has also conducted tests at Union Station in Washington, D.C., and at a New Jersey Transit station during the 2014 Super Bowl.



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CHEM NEWS



Breakthrough Stanford wearable detects stress levels through sweat

Source: <https://newatlas.com/sweat-stress-cortisol-sensor-wearable-stanford/55563/>

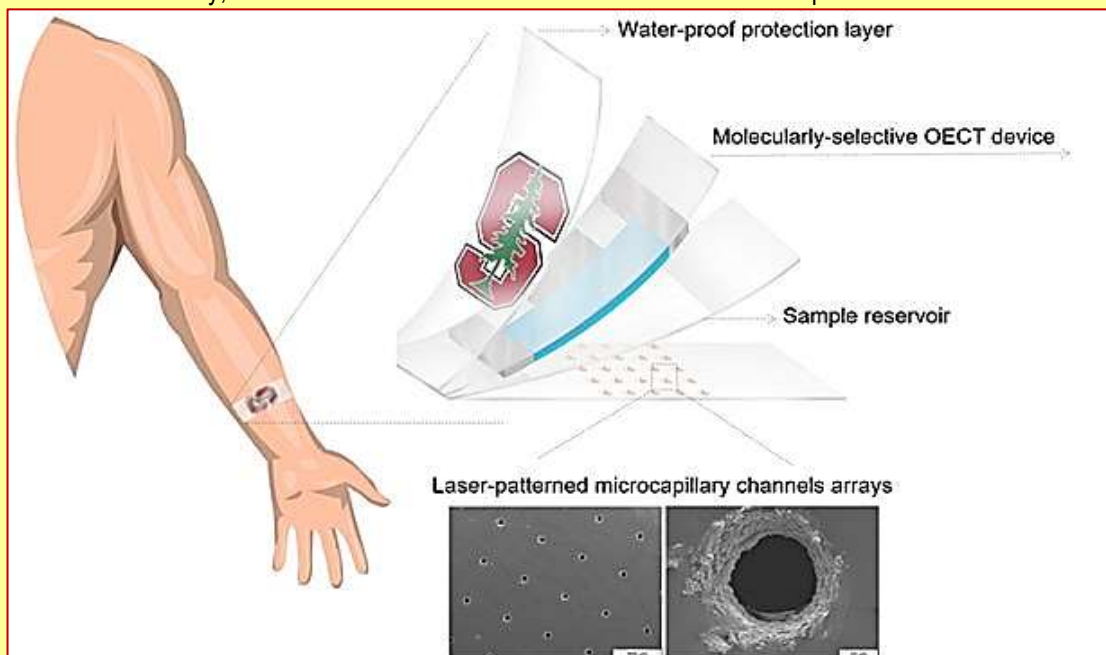
July 23 – A team from Stanford University has developed the first wearable skin sensor that can measure a person's cortisol levels from their sweat. Cortisol, a hormone that spikes in response to stress levels, is an important biomarker for scientists that can help measure everything from emotional stress to metabolism and immune function.

Our perspiration contains a goldmine of valuable information on the well-being of our bodies. There is an exciting array of burgeoning research into sweat-sensing devices that are designed to offer new ways for [diabetics to measure glucose levels](#), help [athletes measure metabolic conditions](#) while exercising, and even measure [levels of medications](#) in a person's system.

"We are particularly interested in sweat sensing, because it offers noninvasive and continuous monitoring of various biomarkers for a range of physiological conditions," says Onur Parlak, lead author on the new study.

Parlak and his team have been developing wearable sweat-sensing technologies for several years but detecting cortisol levels from perspiration presented a particular challenge. The sweat sensors the team has previously developed worked primarily by detecting a positive or negative charge in a given molecule. Cortisol, on the other hand, has no charge, so a more creative solution was necessary.

The answer was to develop an extra membrane that binds specifically to cortisol. The traditional sweat sensor has the ability to detect charged ions such as sodium or potassium, so the new device is designed to block those detectable charged ions from moving through the membrane when in the presence of cortisol. Essentially, the trick was to use cortisol to create a roadblock in particles that the sensor can



detect, so when a build-up of those charged ions is identified it indicates there is a certain volume of cortisol present.

"I always get excited about a device, but the sweat collection system that Onur devised is really clever," says Alberto Salleo, lead materials scientist at Stanford. "Without any active microfluidics, he's able to collect enough sweat to do the measurements."

Early tests are proving incredibly promising, with the experimental device able to deliver results in seconds where previously scientists needed blood samples and hours of analysis.



The next stage for the research is to improve the reliability and accuracy of the sensor while also trying to engineer it into a reusable and functional design that can be applied in real-world conditions.

The big hurdle with all these sweat-sensing devices is that they obviously require a person to perspire, which limits their applications quite significantly. A team at the University of Cincinnati is working on a [biosensor that can stimulate sweat glands](#) in a localized area of skin, allowing for perspiration without physical exertion. The Stanford team, on the other hand, is suggesting future research into adapting this kind of cortisol sensor to saliva may be a better approach for broader clinical uses.

►► The new study was published in the journal [Science Advances](#).

EDITOR'S COMMENT: Why this article in this chapter. For those who have hands-on experience with PPEs it is easy to understand that a tool measuring stress would be valuable for the officer (s) that watches operating colleagues in the field. These people might experience conditions that appear rapidly or go undetected for some time. Working with PPE (even during training drills) is not easy; during my active duty training times, there was always one or two persons that made the extra step and faint. Or one or two colleagues that removed their filters because they were suffocating. A wearable stress sensor along with the new wearable dehydration sensors will make life of first responders much easier!

9 scenarios for realistic chemical warfare agent training

By Steven Pike

Source: <https://www.argonelectronics.com/blog/9-scenarios-for-chemical-warfare-agent-training>

A primary consideration when encountering a Chemical Warfare Agent (CWA) or other hazardous material is to be able to recognize, identify and contain the threat.



CWA training scenarios can provide an invaluable opportunity to prepare HazMat and CBRNe crews for the realities that they are likely to encounter in real-life incidents.

In this blog post we explore 9 simple [CWA training scenarios](#) that incorporate the use of intelligent electronic [simulator detectors](#) to create effective, safe and highly realistic training experiences.

Scenario 1) Suspect package

Suspect packages can conceal a variety of potential hazards - from incendiary devices to explosives, or chemical or biological contamination.

This training exercise provides an opportunity for students to identify and locate a simulation source that may be concealed in a carton, rucksack, holdall or suitcase. The package can then be placed amongst other packages, within a private vehicle, within an industrial vehicle, within a means of public transport or in an office or room.

The simulation source can also be preset by the instructor so that it only enables the trainee to obtain a reading when they are in close proximity.

Scenario 2) Suspect Vehicle

This exercise provides plenty of opportunity to experiment with the location of your source so you specifically control the readings that your students experience.

For example, you may prefer to set the simulation source to a high level (by perhaps concealing it under a wheel arch) to represent the effects of gross contamination.

Or to really challenge the search capability and methodology of your trainees, you can set the simulation source to a lower level to increase the difficulty.



For especially realistic CW/suspect device search training, you might also like to try placing the source within a package or underneath the seat of the vehicle. You can then leave the side window of the vehicle open just a little so that readings can only be obtained at that specific location.

Scenario 3) Contaminated Vehicle

This is a useful scenario for training students in how to search for contamination and how to implement effective decontamination.

The instructor can conceal a simulation source under the wheel arch of a vehicle and then preset the instructor controller to the desired response level.

Once the process of decontamination begins, the instructor can observe the trainee to ensure they carry out a thorough search.

Scenario 4) Survey / Reconnaissance

A simulation source, or sources, can be placed in an area of open ground. Students can then be assessed on their ability to obtain readings as they approach the area.

The instructor can also use their remote control to reduce the reading after a set period of time, to simulate the presence of a non persistent agent.

Scenario 5) Personal Decontamination

In this exercise an electromagnetic simulation source can be placed within a person's clothing. The student will then be required to search for contamination and to carry out decontamination.

As an instructor, if you're not satisfied with any aspect of the process, it's easy to set the partial decontamination control to demonstrate to your trainee that there is residue still to be located.

Scenario 6) Simulated CW / HazMat IED

This scenario enables instructors to simulate the presence of an improvised explosive device (IED) in any location.

When you are ready to simulate release, you can then select 'full response' to mimic the effects of a rapid release - or 'partial response' (followed later by 'full response') to imitate the effects of a slower release.

Scenario 7) Room Breach Training

In this exercise you can set a simulation source so that the CW / HazMat reading is obtained when the door to the room is carefully checked where the door meets the door-frame.

If the door has been breached then the readings will rise without the student having to enter the room.

Scenario 8) Building Search Training - Pre entry

This form of scenario can be used to teach trainees how to externally assess a building prior to entry. The instructor simply places a simulation source within the building so that the emission is just detectable (ie through an open window) when the detector sensor is placed there.

Scenario 9) Search Training

A simulation source can be placed in a single locker of a standard locker room, and in such a way that a reading can only be obtained when the student is very close.

You may find it useful to video record the search and then play it back to your students to show how methodical and consistent their techniques were.

Hands-on training scenarios can play a vital role in educating and empowering your trainees as they prepare for the realities of live CWA or [HazMat incidents](#).

And when that training is carried out using safe and intelligent electronic [simulator detector equipment](#), then the possibilities are quite literally limitless.



Spotlight on the Chemical Countermeasures Research Program Network

Source: <https://www.niaid.nih.gov/grants-contracts/chemical-countermeasures-research-program>

Aug 01 – Multidisciplinary expertise in basic and translational research promotes the early development of medical countermeasures to reduce civilian mortality or injuries resulting from exposure to chemical threat agents.

Take some time to learn about the [Chemical Countermeasures Research Program](#) (CCRP) network and associated NIH funding opportunities, as you may be an ideal fit for a multidisciplinary team even if your research doesn't seem directly relevant to biodefense.

About CCRP

CCRP is focused exclusively on enhancing the nation's medical response capabilities to protect the civilian population during public health emergencies involving the release of chemical threat agents.

The Program is part of the overall civilian biodefense research effort of HHS and NIH.

NIAID coordinates CCRP with the participation of several other NIH institutes and centers. NIH staff collaboratively lend their expertise to manage the research and early development of medical countermeasures (MCM) against chemical threat agents.

Academic, industry, and federal laboratories collaborate with the help of CCRP resources and oversight. Cross-cutting multidisciplinary expertise in basic and translational research promotes the early development of MCMs to reduce civilian mortality or injuries resulting from exposure to chemical threat agents.

Chemical Threat Agents

The Department of Homeland Security identified key chemical threat agents, many of which not only are potential agents of terrorism, but also may be released due to industrial accidents or natural disasters affecting transportation and storage facilities.

The civilian threat spectrum includes classical chemical warfare agents as well as many toxic industrial chemicals and materials, encompassing the following classes:

- ◆ **Pulmonary irritant and corrosive agents** that target the respiratory tract, such as chlorine, phosgene, and sulfur mustard. These may induce edema, fibrosis, or other long-term pathologies.
- ◆ **Pharmaceutical-based agents** that may induce life-threatening respiratory depression, such as the synthetic opioids fentanyl and carfentanyl
- ◆ **Vesicating agents** that may cause dermal or ocular pathologies, such as sulfur mustard, Lewisite, and arsenicals
- ◆ **Cholinergic and convulsants** that target the nervous system or induce neuropathology, such as sarin, VX, parathion, and tetramine
- ◆ **Cellular respiration inhibitors**, such as cyanide and hydrogen sulfide

Research Infrastructure and Priorities

CCRP funds its research infrastructure as follows:

- **Contracts and interagency agreements** with the Department of Defense and HHS
- **Research grants** through the NIH-wide [Countermeasures Against Chemical Threats \(CounterACT\)](#) ([link is external](#)) program

CounterACT supports two categories of research:

- **Basic research** to understand the toxicology of chemical threat agents and identify novel therapeutic targets and approaches
- **More mature projects** with already identified promising MCM products that may be eligible for further development aimed at regulatory approval



CCRP's priority areas of scientific interest include:

- **Basic mechanistic research** to identify molecular mechanisms of acute or long-term chronic toxicity, biological markers of exposure, and relevant therapeutic targets
- **Screening assays** to identify candidate lead MCM compounds
- ***In vitro* demonstration** of target engagement and appropriate biological activity of candidate therapeutics to counteract the toxic effects of the threat agent
- **Animal natural history models** to demonstrate preliminary proof-of-principle *in vivo* efficacy

Portuguese-Speaking Service Members Prepare for Chemical Incidents

Service members from the Brazilian Armed Forces and seven other Portuguese-speaking countries gathered in Rio de Janeiro for training.

Nelza Oliveira/Diálogo | 1 August 2018
Capacity Building



Students participate in a practical demonstration of a response to chemical incidents. (Photo: Brazilian Navy)

EDITOR'S COMMENT: They are headed to a MEDEVAC helicopter. But is it a CWA victim? This type of capsule (positive pressure?) is used for BWA victims or patients. Should they decontaminate the capsule before delivering? And the backpack? One person can drive "this" stretcher – why four?

Aug 01 – Service members of the Brazilian Armed Forces took part in the first basic response course for chemical incidents. The Assistance and Protection for Portuguese-Speaking Participants course—per the training schedule of the Organization for the Prohibition of Chemical Weapons (OPCW)—took place May 21st–25th in Rio de Janeiro. Service members and civilians from seven Portuguese-speaking nations, as well as members of the Brazilian Intelligence Agency, the Federal Police, and the state of Rio de Janeiro Military Fire Brigade—all agencies associated with chemical, biological, radiological, and nuclear defense (CBRN)—participated.



C²BRNE DIARY – August 2018

The Biological, Chemical, Radiological, and Nuclear Defense Center of the Brazilian Navy (MB, in Portuguese) coordinated the course. Service members from MB, the Brazilian Army, and the Brazilian Air Force (FAB, in Portuguese), served as instructors.

"Fifteen service members attended the course, in addition to a team of instructors consisting of 33 service members from the Brazilian Armed Forces," said FAB First Lieutenant Gustavo Messias Costa, head of the Aeromedical Subdivision of FAB's Institute of Aerospace Medicine (IMAE, in Portuguese). IMAE focuses on education, research, development, and training in aerospace medicine, as well as pre-hospital medical care and missions such as aeromedical evacuation and aircraft and personnel decontamination involved in CBRN incidents. In total, 38 students, among Brazilian and foreign nationals attended the course.

Intensive training

"FAB assigned six IMAE service members and eight members of the Puma Squadron to conduct the aeromedical evacuation training for victims of CBRN agents," said 1st Lt. Costa. Trainees conducted a drill on contaminated victims and practiced aeromedical evacuation with isolation and onboarding of the Puma Squadron's H-36 Caracal aircraft that transported them to the hospital.

"This training is crucial for operational maintenance and integration between the many teams that will participate in response operations," said FAB First Lieutenant Jaison Lopes Garcia, the helicopter commander. "The medical staff and crew must be well bonded, as timing for the victim's stabilization and evacuation can make all the difference in a real life event."



Trained personnel demonstrate a terrorist attack with chemical agents. (Photo: Brazilian Air Force)

EDITOR'S COMMENT: In this photo it is difficult to interpret the protocol employed – washing and wiping? Hope not doffing!

In addition to the aeromedical evacuation, the weeklong course included lectures and practical workshops on assessment and clinical management of victims of chemical attacks, decontamination, and interagency response to chemical incidents. "The course schedule was five days, totaling nine hours of daily instruction," said 1st Lt. Costa. "The students



attended the demonstration of a terrorist attack with chemical agents, including first response, rescue and screening of victims, chemical agent detection, and decontamination.”

Brazil's CBRN experience

Brazilian troops intervened in at least two CBRN incidents. In 1987, in the city of Goiânia, state of Goiás, scrap metal scavengers broke an X-ray machine found at an abandoned clinic, exposing thousands of people to cesium 137, a radioactive material, and causing the largest radiological accident in the history of the country. Specialized teams of the Armed Forces spearheaded transport operations—FAB conducted aeromedical evacuation to hospitals—and provided medical care to victims. They also focused on processing and insulating tons of generated waste.

In 2013, in the city of Santa Maria, state of Rio Grande do Sul, an acoustic insulation foam at a nightclub accidentally burned, producing cyanide and killing hundreds of young people. The Brazilian military's experience with chemical agents was further enhanced preparing for CBRN in major events of the last decade: the 2007 Pan American Games, 2011 Military World Games, Earth Summit 2012, World Youth Day 2013, the 2013 FIFA Confederations Cup, 2014 FIFA World Cup, and 2016 Summer Olympics and Paralympics.

“These events increased situational awareness of possible terrorist attacks due to the large number of foreign nationals, and the presence of foreign officials in the country, representing potential targets,” 1st Lt. Costa said. “Another important point is that among the various national energy sources, Brazil has nuclear power plants in Angra dos Reis with a constant warning system and emergency, evacuation, and containment plans in the event of an accident due to reactor failure. The country's road and railway systems also transport numerous industrial products, which in the event of an accident, could cause chemical catastrophes. All of this promotes constant preparation to face events with CBRN agents, and for the training of specialized troops to be made as professionally as possible.”

Brazil hosted the [Regional Assistance and Protection Exercise for Member States of the Latin American and Caribbean Region](#) in August 2017 in Rio de Janeiro, bringing together representatives of chemical emergency response agencies from the civil and security defense sectors of Brazil and 18 other countries. The event marked the inauguration of the Regional Chemical Weapons Assistance and Protection Center for Latin America and the Caribbean at the headquarters of the Ministry of Defense of Brazil, bringing together the Brazilian Armed Forces' funds, equipment, and human resources.

EDITOR'S COMMENT: In the last part of this article I was expecting to read about the Rio2016 CBRN experience – not a word! Another top secret issue or simply another huge gap (especially in the health/hospital sector). One or two incidents of the past does not mean that a nation is prepared. But who cares about exotic threats that most probably will happen in a shift other than ours!

North Korea's other weapons of mass destruction

By Alexandra Bell and Abby Pokraka

Source: <https://thebulletin.org/2018/08/north-koreas-other-weapons-of-mass-destruction/>

Aug 01 – Achieving the final, fully verified [denuclearization](#) of North Korea will require the most complicated and rigorous security agreement ever negotiated. That means that the Trump Administration has an unprecedented challenge ahead of it, before even getting to other threats like North Korea's conventional forces and ballistic missile program. Adding to the complications are the rumored North Korean chemical and biological weapons programs. The Trump Administration is right to focus on the North Korean nuclear program first, but it cannot ignore the chemical and biological threats for long, as they too present a serious large threat to the region. The political, legal, and technical obstacles to capturing these programs under any agreement are certainly manifold, but not insurmountable. There are previous programs and efforts that can provide a blueprint.

While the exact nature of Pyongyang's chemical and biological weapons programs are unknown, the Kim regime hasn't exactly been trying to tamp down speculation about his possible assets. In the winter of 2017, Kim Jong-un's half-brother, Kim Jong-nam, was



[attacked in the Kuala Lumpur airport](#) in Malaysia by two women who smeared his face with a cloth. Unbeknownst to the women, the cloth was covered in VX, the deadliest nerve agent ever created. Even a fraction of a drop absorbed through the skin can fatally affect the nervous system. Speculation abounds that [Kim Jong-un ordered the attack](#). This incident may well have been a message about his capabilities; after all, there are many subtler ways to assassinate someone, a fact likely not lost on Chairman Kim.



Inspectors from the Organization of the Prohibition of Chemical Weapons walking in the desert in Libya, October 2010. The same organization could play a role in North Korea. Image courtesy of OPCW, under Creative Commons License

US intelligence assessments from 2002 found North Korea possessed a [sizable stockpile](#) of chemical weapons. Officials believe there are six major storage sites and weapons reserves, of at least 180-to-250 tons of stockpiled chemical weapons. Bulk quantities of nerve, blister, choking, and blood agents could be delivered by ballistic missiles, conventional artillery, or aircraft. There are also at least [eight industrial facilities](#) that can produce chemical agents that could be used to support a chemical weapons program. North Korea is not a signatory to the nearly-universal [Chemical Weapons Convention](#) which bans the possession, production, stockpiling, and use of chemical weapons.

North Korea's biological weapons program has reportedly been around since the 1960s. It is believed North Korea's infrastructure could produce and weaponize biological agents such as anthrax, cholera, and the plague. Some assessments have suggested that North Korea might [consider the use of bioweapons](#) in a conflict. Significantly, North Korea acceded to the Biological Weapons Convention but has not made its biological research and development activities public.

To reduce and eliminate the threats posed by these programs, the United States, working with allies and regional partners, needs to establish the full size and scope of North Korea's



weapons stockpile and infrastructure. The next steps include full accession to and implementation of applicable international agreements; agreement on a plan for dismantlement of the programs; the establishment of acceptable verification and monitoring methods; and tools to aid implementation.

Fortunately, the United States has experience in dealing with the rollback of chemical and biological weapons programs. The most successful example is the Cooperative Threat Reduction Program, or CTR. Created after the Cold War [to destroy Russian chemical and biological agents](#), and convert infrastructure and personnel into civilian roles, CTR implementation can provide lessons for negotiations with the North Koreans. The program's creators, former Senators Sam Nunn and Richard Lugar, have already called for the Trump Administration to look into how the CTR model can be [applied more broadly in North Korea](#).

We have an even more recent example, in the form of the international effort to remove and destroy Syria's declared chemical weapon stockpile. On September 27, 2013, the Chemical Weapons Convention's implementing body, the Organization for the Prohibition of Chemical Weapons, announced that Syria would accede to the treaty and be bound by its commitments. With that legal mandate in place, the United States, Russia, and a community of nations managed to safely [remove and destroy](#) 1,300 metric tons of chemical weapons and their precursors from the middle of a war zone. That stockpile was a threat to every man, woman, and child in the region.

Unfortunately, [undeclared stocks remain in Syria](#) and continue to be used. It is a stark reminder that efforts to prevent the spread and use of weapons of mass destruction are never really finished. Each effort can, however, inform and help improve the next.

Even with challenges like undeclared stocks, dealing with North Korea's chemical weapons program is aided by the fact that the Chemical Weapons Convention has a formidable compliance regime. North Korean accession to the treaty should be a goal. Once it becomes a party to the agreement, Pyongyang would be subject to the kind of oversight that can help ensure that its chemical weapons program is indeed, and will remain, shuttered.

Unfortunately, the Biological Weapons Convention—which, remember, is the agreement that North Korea *did* sign—[can provide no such assurance](#). In order to verify that the North Koreans are not producing or stockpiling biological weapons, US negotiators would need to build an acceptable framework for inspections of all suspected facilities, including those of a dual-use nature. This will require some creative technical thinking and again, a long look at how CTR-era practices can be applied in North Korea.

To be sure, Kim Jong-un's nuclear weapons program is the most pressing threat to the region and the world. But given the unimaginable havoc and destruction that could be unleashed in either a chemical and biological attack, the Trump Administration should not lose sight of what should also be high on the list of priorities.

(Article) Editor's note: *The last sentence in the fourth paragraph: "Significantly, North Korea acceded to the Biological Weapons Convention but has not made its biological research and development activities public," has been edited since the original post, to avoid any misunderstanding about obligations required under the Biological Weapons Convention.*

Alexandra Bell is the senior policy director at the Center for Arms Control & Non-Proliferation. Her areas of focus include bilateral and multilateral arms control and non-proliferation, Euro-Atlantic security, and the legislative process. Previously, Bell served as a senior adviser in the Office of the Under Secretary for Arms Control and International Security. She has also worked on nuclear policy issues at the Ploughshares Fund and the Center for American Progress.

Abby Pokraka graduated from the University of New Hampshire in December 2017 with a BA in Political Science and a minor in Security Studies. She is currently enrolled in a one-year accelerated master's program at the University of New Hampshire, studying Political Science. Her interests include nuclear weapons, non-proliferation, and American nuclear policy.



Chemical weapons attack simulation at CFB Suffield underway

Source: <https://www.cbc.ca/news/canada/calgary/cbrn-training-cfb-suffield-15th-annual-1.4762976>

July 26, 2018



EDITOR'S COMMENT: OK chemical aprons are nice but during decon process shielves might get wet. I would prefer coveralls like New Pac Safety Chemi Cover S/97 or S/89 or the Lakeland ChemMax 1 Apron



DuPont Launches New Tychem® 2000 SFR Protective Apparel Garments

Source: <http://www.dupont.com/products-and-services/personal-protective-equipment/chemical-protective-garments/press-releases/tychem-2000-sfr-launch.html>

June 2017 — DuPont Protection Solutions today announced the launch of [DuPont™ Tychem® 2000](#)

[SFR](#), a new chemical and secondary flame protection garment. This latest addition to the broad offering of [DuPont™ Tyvek®](#) and Tychem® protective apparel solutions is designed for use in refineries, petrochemical plants, laboratories and hazardous maintenance operations where dual protection against chemical and fire hazard threats is paramount to worker safety.

“Tychem® 2000 SFR is the latest in a long line of innovative solutions that DuPont has introduced since the early 1970s to address the evolving protective apparel needs of workers around the globe,” said David Domnisch, global marketing manager for Tyvek® Protective Apparel. “By providing dual protection, Tychem® 2000 SFR meets the unique needs of industrial workers and HazMat responders who are exposed to both chemical and fire hazard threats, giving them the trusted protection they need to accomplish bigger things,” explained Domnisch. “This is just the first of several new protective apparel solutions that we will be launching in our Tyvek® and Tychem® product range during 2017 as we celebrate the 50th anniversary of Tyvek® while remaining firmly focused on the future.”

Tychem® 2000 SFR provides an effective barrier against a range of inorganic acids and bases, plus industrial cleaning chemicals, as well as particles. In the event of a flash fire, Tychem® 2000 SFR garments will not ignite, and therefore do not contribute to additional burn injury if the wearer uses appropriate flame-resistant (FR) personal protective equipment (PPE). If a fire hazard exists, Tychem® 2000 SFR garments must be worn over an appropriate FR garment, along with other PPE that protects workers’ faces, hands and feet.

Special features of the Tychem® 2000 SFR coverall include: a respirator fit hood with DuPont™ ProShield® 6 SFR fabric lining; chin flap with double-sided adhesive tape for secure placement; elastic at the waist and tunneled elastic at the hood, wrist and ankle for

improved fit. The garment design also includes a single flap closure over the zipper, with double-sided adhesive tape for additional chemical protection.

Protective apparel for industrial workers was among the first commercial applications for [Tyvek®](#), a unique nonwoven material that has provided protection, security and safety in a wide variety of industries and applications since it was introduced in 1967. DuPont Protection Solutions is marking the 50th anniversary of Tyvek® with celebratory events, a series of communications and special activities that will be held throughout 2017 to not only pay tribute to the past but to focus on the future. For more information about the 50th anniversary of Tyvek®, including the history of Tyvek® and Tychem® protective apparel, visit tyvek50.com.

For Greater Good™ is the promise of the DuPont™ Tyvek® brand. Tyvek® can provide the trusted protective barrier people need to worry less so they can focus on accomplishing bigger things – making the greater good possible.

DuPont Protection Solutions is a global leader in products and solutions that protect what matters – people, structures and the environment – and enables its customers to win through unique capabilities, global scale and iconic brands. DuPont™ Kevlar® helps protect law



enforcement officers, military personnel, athletes and astronauts; DuPont™ Nomex® helps protect firefighters, industrial workers and race car drivers, as well as mass transit and wind energy systems; DuPont™ Tyvek® helps protect chemical industrial workers, as well as sterile medical devices and building construction; and DuPont™ Corian® resists the growth of bacteria to help protect hospital patients against infection. For more information about DuPont Protection Solutions, visit personalprotection.dupont.com.

DuPont (NYSE: DD) has been bringing world-class science and engineering to the global marketplace in the form of innovative products, materials, and services since 1802. The company believes that by collaborating with customers, governments, NGOs, and thought leaders we can help find solutions to such global challenges as providing enough healthy food for people everywhere, decreasing dependence on fossil fuels, and protecting life and the environment. For additional information about DuPont and its commitment to inclusive innovation, please visit <http://www.dupont.com>.

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(1) Additional taping of cuffs, ankles, hood and zipper flap required to achieve Type 3 liquid tightness. Chemical protective clothing, Category III, Type 3-B, 4-B, 5-B and 6-B.



Have a look at 2016 CSCM World Congress presentations and download the Abstract Book at: <http://www.cscm-congress.org/tbilisi-2016>

Former Remploy Frontline Resurrected As OPEC CBRNe

Source: <https://www.opecsystems.com/article/former-remploy-frontline-resurrected-as-opec-cbrne>

Sept 2017 – A highly regarded British social enterprise made a welcome return to the defence and security space during August, with the former Remploy Frontline business, purchased in 2013 by Haven Protective Technology Solutions, now working in

partnership with the newly-formed OPEC CBRNe.

A key focus for the resurrected enterprise is the creation of technologically superior CBRN garments, which will be on show at



the London DSEI Exhibition during 12-15 September.

“OPEC CBRNe is immensely proud to be able to partner with Haven to continue to provide a range of products for the next generation of military and first responders,” said OPEC CBRNe Business Development Manager, Chris Jackson.

“We know there is great appreciation in the market for the return of this renowned range, and we are delighted that the good work of this social enterprise in providing meaningful employment for disabled people can continue under the OPEC CBRNe brand,” he said.

Building on the global success of the original MkIV and MkIVA range, the ‘Kestrel’ and ‘Phoenix’ ensembles are flagships of OPEC CBRNe. They have arisen out of decades of robust research and development, complimented by integration of the markets latest cutting edge technologies and an appreciation of today’s complex military environment.

Both suits exceed NATO standards and are made using lightweight materials, advanced construction techniques and exciting new innovations in suit design.

“There’s a lot of excitement surrounding the streamlined Kestrel system. It’s a versatile

medium-weight garment which is 30 per cent lighter than current systems and ideally suited to high heat burden environments. Its design ensures excellent CBRN protection while at the same time delivering long term comfort, breathability and ease of movement in a high threat environment.”

Another welcome addition to the range is the one piece ‘Falcon’, which achieves all the protection and comfort features of the Kestrel in a one piece format.

The team at OPEC CBRNe are not just resting on the laurels of the former Remploy Frontline technologies. Currently in development is ‘The Roc’, which is a high protection, quick donning CBRN uniform suitable for first responder wear, such as police, ambulance and fire services.

“This innovative configuration utilises the latest membrane technologies to maximise protection levels and field durability for users whilst keeping weight and thermal burden as low as possible,” he said.

While OPEC CBRNe is a new player in the UK market, its Australian based owner, OPEC Systems, has been operating in the CBRN space since 1998 as a major supplier of CBRN equipment and a respected contractor for clean-up of contaminated chemical weapons sites.

Syrian Chemical Weapons Scientist Assassinated, Israeli Intelligence Accused

By Adam Eliyahu Berkowitz

Source: <https://www.breakingisraelnews.com/111783/syrian-chemical-weapons-scientist-assassinated-israel-intelligence-accused/>

Aug 05 – **Dr. Aziz Asbar, a director of the Syrian Scientific Studies and Research Center (SSRC), was killed by a roadside bomb that targeted his car early Sunday morning as he was being driven from his home in the city of Masyaf in Hama province, Syria.**

According to Hezbollah’s al-Manar news site, Azbar headed Department 4 at the center. This section is believed to be responsible for developing Syria’s ballistic missile and rocket programs. The department is also in charge of Institute 4000, which allegedly houses several chemical weapons programs. Dr. Azbar was also believed to be involved in helping develop

Iran’s Fateh missile program and was reported to have close connections to Iranian and Korean scientists.

Since 2005, the SSRC has been on a list of the US Treasury Department, “Blocking Property of Weapons of Mass Destruction Proliferators and their Supporters.” The SSRC has been hit by two air strikes and one missile strike that were blamed on Israel. Israel has never officially denied or confirmed these allegations.

No official comment from the Syrian authorities has been made but official sources were cited in the Prensa Latina, official state news agency of Cuba, as saying



that Israeli intelligence services may be involved.

The Abu Amara Brigades, a Syrian rebel group affiliated with al Qaeda, claimed responsibility

for the assassination, releasing a statement on their Telegram online channel stating they “planted explosive devices” which detonated and killed Azbar.

Adam Eliyahu Berkowitz is a features writer for Breaking Israel News. He made Aliyah to Israel in 1991 and served in the IDF as a combat medic. Berkowitz studied Jewish law and received rabbinical ordination in Israel. He has worked as a freelance writer and two works of fiction, The Hope Merchant and Dolphins on the Moon, are available on Amazon. He lives in the Golan Heights with his wife and their four children.

Syria accuses Israel of killing chemical weapons and rocket scientist

Source: <http://www.homelandsecuritynewswire.com/dr20180808-syria-accuses-israel-of-killing-chemical-weapons-and-rocket-scientist>

Aug 08 – A senior Syrian weapons engineer killed over the weekend when a bomb in his car exploded was killed in a targeted assassination by Israel's security agency Mossad, *The New York Times* [reported](#) Tuesday, reinforcing accusations from Syria.



Aziz Azbar, a leading Syrian chemical weapons and rocket scientist, was killed along with his personal driver when his car exploded in the northern city of Masyaf late Saturday night. Masyaf is reportedly the location of one of Syria's central weapons-development factories. The unnamed source, speaking to the *Times* on condition of anonymity, told the paper that Israel was behind the attack and said his own intelligence agency had verified the Israeli operation. The Israeli government declined to comment on the report, but an official noted on Tuesday that it was “a good thing” that Azbar was dead.

“We obviously do not comment on these kinds of reports — neither confirming nor denying them — but we can talk about the man himself, who was responsible for putting high quality weapons in the hands of some bad people, and so we can say that the fact he is no longer with

us is a good thing,” said Gilad Erdan, who heads the Public Security and Strategic Affairs ministries.

According to Israeli intelligence, Azbar was heading a classified weapons development program, called Sector 4, at the Syrian Scientific Studies and Research Center and was working on re-building an underground weapons factory to replace the one

said destroyed by Israel last year.

Azbar and his team were working to begin mass-producing precision-guided missiles by retrofitting SM600 Tishreen rockets, as well as on a solid-fuel plant for missiles and rockets – a safer alternative to liquid fuel. The Tishreen is a Syrian version of the Iranian Fateh-110, a missile with a range of 125 miles.

Azbar was said to be a close associate of Qassem Soleimani, the leader of the Iran's Islamic Revolutionary Guard Corps elite al-Quds Force, and enjoyed high-level access to both the Syrian and Iranian regimes. He also helped



coordinate Hezbollah's operation in Syria. The Times said Azbar's killing was "at least the fourth assassination mission by Israel in three years against an enemy weapons engineer on foreign soil." Israel has been blamed for the killing of several scientists in recent years,

including two Hamas engineers in the last 18 months.

Several strikes on Masyaf have also been attributed to Israel in recent years, the last of which was on July 22.

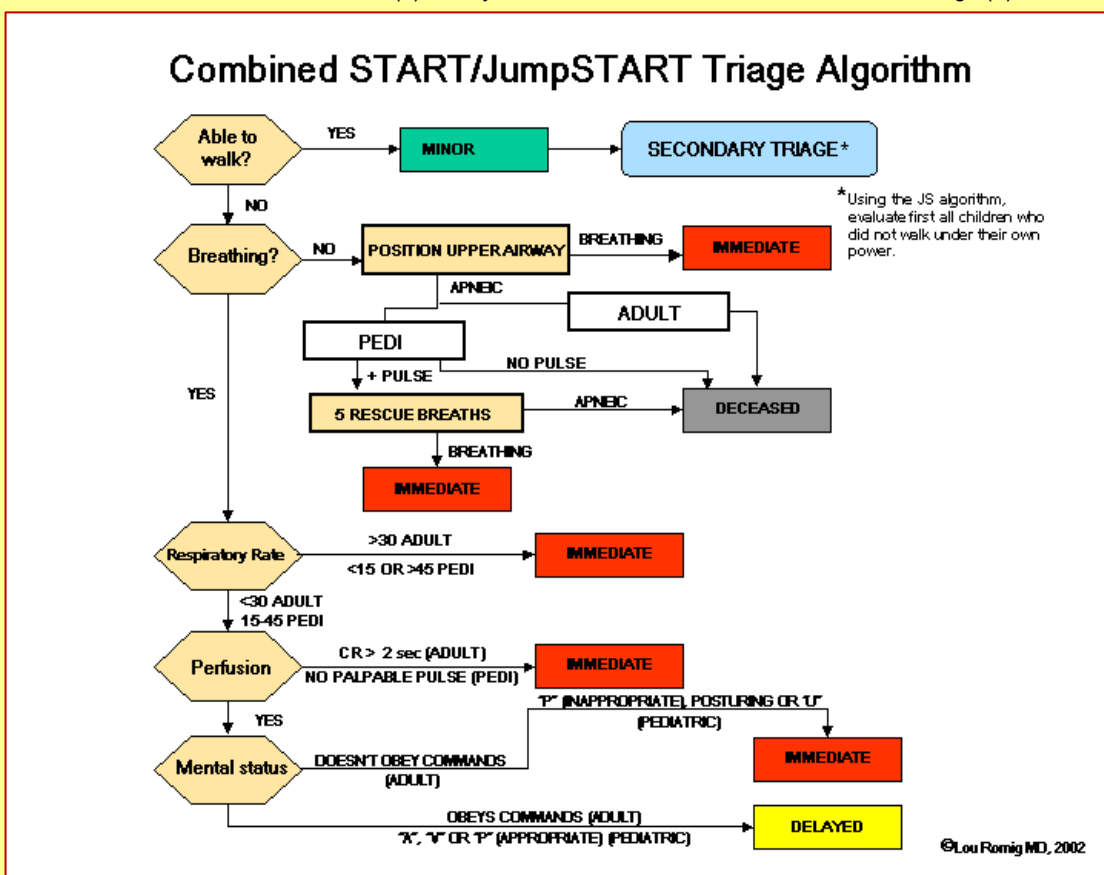
Triage Strategies for Hazardous Materials Mass-Casualty Incidents

By Duane Caneva

Source: <https://www.domesticpreparedness.com/healthcare/triage-strategies-for-hazardous-materials-mass-casualty-incidents/>

The development of best-practices guidelines for the triage of victims of mass-casualty incidents (MCI) is and for the foreseeable future will remain a critical component of the nation's preparedness strategy to deal with "all hazards" types of disasters. The START (Simple Triage And Rapid Treatment) system, commonly used throughout the United States today, provides an easily understood way to categorize patients by a color indicator (red, yellow, green, or black) that shows their medical condition and the order in which they should be seen (immediate, delayed, minimal, or expectant).

START relies on criteria that are: (a) easily obtained, in most cases, in a field setting; (b) relatively



objective; and (c) statistically linked to a measurable outcome. Those criteria were derived from a trauma database registry to correlate physiologic parameters to outcome of survivability, primarily by identifying the “RPMs” – i.e., respiratory rate, pulse, and motor functions--as the factors most likely to provide the best indicators of probable survivability.



The usefulness of START in responding to MCIs that involve the presence and/or spread of hazardous materials is not yet certain, but the professional literature already available on the subject – e.g., a 2005 The START system provides an easily understood way to categorize patients by a color indicator article in the European Journal of Emergency Medicine – provides a wealth of helpful information on various systems in use internationally to cope with incidents involving CBRN (chemical, biological, radiological, nuclear) weapons or devices.

Resource and Time Factors Included in STM System

Equally helpful is the recently developed Sacco Triage System (STM), which provides a mechanism to link triage casualty numbers to the resources available and the times required to transport patients to a medical facility. With the RPMs serving as the core, STM expands on the trauma-registry data to correlate patients' RPM scores with their likelihood of survival. The more severely traumatized patients receive lower scores, indicating they are less likely to survive, and more likely to decompensate en route to the

hospital.

By using statistical and other data developed on the scene, STM optimizes the order of patient evacuation from an incident site to ensure that those most likely to survive – i.e., those with higher STM scores – are the first patients transported to a hospital or other medical facility. Sadly, this means, of course, that those with the lowest STM scores and therefore least likely to survive transport and tie up critical resources are transported later to whatever hospitals are available. The end result of these extremely difficult decisions, though, translates into more survivors in the aftermath of any given incident.

Several additional points in using such a system are worth further consideration. The first is that, whatever system is used requires a link to information-management

tools, with optimal results integrating the medical first responders at the incident site with the medical desk of the operations section at the incident/unified command system command post, through the emergency operations center (EOC) to the receiving hospitals.

The second point is that, to lower the time required for transport, security and law-enforcement personnel not only at the incident site but also along the transportation nodes and pathways also must have access to the system to ensure that the transportation routes are clear.

Analyses and Outcomes, Updates and Adjustments

An ancillary benefit is that such systems would provide a mechanism to use artificial intelligence to improve predictability of the system. The local, regional, or national statistics collected could provide an updatable and constantly evolving database from which criteria are correlated and survivability optimized. Such additional information as the breakout of population subsets, the impact of transport times, and/or the level of care provided en route could and should be analyzed on a continuing basis. Modifications for local or regional factors and/or the identification of quality-of-care issues also could be determined. Finally, and of the greatest importance during hazardous-materials incidents, separate criteria for specific types of incidents could and should be identified.

The efficacy of using trauma data registries to determine the appropriate triage criteria to use in MCI events involving hazardous materials is still far from certain. However, such information probably could be determined, with a reasonable degree of certitude, by

SACCO					
Think Sharp Sacco Score R + P + M +/- A					
1 min (60 seconds)	0	1	2	3	4
R ☁	0	1-9*	36+	25-35	10*-24
P ❤	0	1-40	41-60*	121+	61*-120
M 😊	No Response	Extension/ Flexion	Withdraws	Localizes	Obeys Commands
A Adjustment:	Age: 0-7 +2	8-14 +1	15-54 0	55-74 -1	75+
* - measure must be verified					
Columbia University MAILMAN SCHOOL OF PUBLIC HEALTH					



continuing real-time analyses of outcomes within the system – with the analyses later adjusted as additional information is compiled.

It should not be surprising, incidentally, that the STM method was developed by a mathematician. In the information age, the ability to capture large amounts of data also requires a careful analysis of outcomes – which frequently drive protocols, guidelines, and system designs. Multidisciplinary efforts are required to ensure that strategies and tactics are optimized to the maximum extent possible to meet the goals established, and that the analyses of the systems available are both comprehensive and adequate.

Duane Caneva is Head of Medical Plans & Policy at the Navy Medicine Office of Homeland Security. He currently serves as a medical consultant on chemical, biological, radiological, nuclear, & high- yield explosives (CBRNE) to the Office of the Attending Physician at the U.S. Capitol.

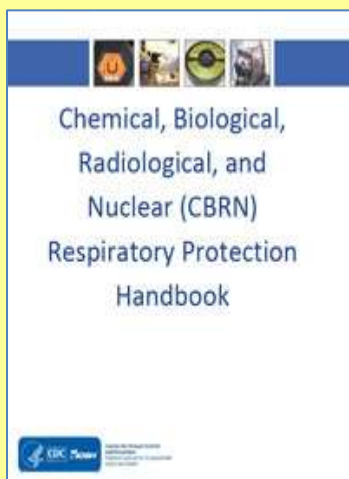


Chemical, Biological, Radiological, and Nuclear (CBRN) Respiratory Protection Handbook

July 2018

DHHS (NIOSH) Publication Number 2018-166

Source: <https://www.cdc.gov/niosh/docs/2018-166/pdfs/2018-166-508.pdf>



Since 2001, the U.S. Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH) has established performance and design standards for respiratory protective devices (RPDs) to protect against chemical, biological, radiological, and nuclear (CBRN) hazards and toxic industrial chemicals. Prior to 2001, there were no standards for the use of RPDs by U.S. emergency response personnel that covered the full range of expected CBRN threats. Federal regulations require emergency response personnel to use respirators approved by NIOSH for the expected hazards. Equipment performance standards were needed to protect against CBRN threats. Neither industrial nor military respirators provided protection from all potential CBRN respiratory hazards. Several federal agencies partnered to provide research and testing to produce the necessary standards: Department of Justice (DOJ); Department of Homeland Security (DHS); Department of Defense (DoD), U.S. Army Research, Development and Engineering Command (RDECOMa); Department of Commerce (DOC), National Institute for Standards and Technology (NIST); and the Department of Labor (DOL), Occupational Safety and Health Administration (OSHA).

EDITOR'S COMMENT: It is not an easy to read text. It requires deep knowledge of specialized gear and to a certub degree of personal practical experience. But it is a publication that deserves to be stored at the "VERY GOOD PAPERS"!

GAO urges DHS to share more info on chemical facilities with first responders

Source: <https://homelandprepnews.com/countermeasures/29907-gao-urges-dhs-to-share-more-info-on-chemical-facilities-with-first-responders/>

Aug 10 – Warning of the potential danger presented by attackers targeting hazardous chemical facilities, the Government Accountability Office (GAO) is urging the Department of Homeland Security (DHS) to share more information with first responders who may need to respond to security incidents.



Additionally, GAO encouraged DHS to begin measuring facilities' vulnerability to terrorist attacks, measuring the reduction in vulnerability of these facilities and using that data to assess the performance of the Chemical Facility Anti-Terrorism Standards (CFATS) program. Though that program has been in place since 2013, using a quality assurance review process to verify reported information at high-risk facilities and to conduct risk assessment, GAO found gaps in coverage that could prove problematic. GAO noted that DHS has made substantial progress over the years in conducting and completing



Source: Department of Homeland Security. | GAO-18-538

compliance inspections, and has begun to measure facility security. Such measures represent a critical need, given that terrorists could use facilities that produce, use, or store hazardous chemicals to inflict mass casualties, damage, and fear through stealing chemicals and using them to build explosive devices. GAO therefore reviewed DHS reports and data, interviewed officials and assessed information from 11 trade associations representing chemical facilities and 15 emergency planning communities, to get the information for its recommendations.

While the DHS currently shares some information with first responders and emergency planners, they do not get all the information potentially needed to minimize risk of injury or death when responding to critical incidents at high-risk facilities. They get some, but not nearly all, chemical inventory information, and many lack access to CFATS data in DHS's Infrastructure Protection Gateway.

Bulgaria approves draft MoU on CBRN defence cooperation with 5 NATO states

Source: <https://seenews.com/news/bulgaria-approves-draft-mou-on-cbrn-defence-cooperation-with-5-nato-states-617094>

June 20 – Bulgaria's government said on Wednesday it approved a draft memorandum of understanding for cooperation in building shared capabilities for chemical, biological, radiological and nuclear defence (CBRN) with Italy, Hungary, Romania, Slovakia and Poland.



The project, under **NATO's Smart Defence initiative**, aims at increasing international cooperation through creating a platform for training and sharing best practices in the area, the government said in a statement following its weekly meeting.

Smart Defence is a NATO initiative aimed at generating modern defence capabilities in a more cost-efficient, effective and coherent manner. Projects cover a wide range of efforts addressing the most critical capability requirements such as precision-guided munitions, cyber defence, ballistic missile defence, and joint intelligence, surveillance and reconnaissance.

5 Important Steps to Chemical Security Compliance

Source: <https://ehsdailyadvisor.blr.com/2018/08/5-important-steps-chemical-security-compliance/>

are a facility with a chemical designated by the U.S. Department of Homeland Security (DHS) as a chemical of interest (COI), you may only have 60 days after taking possession of the COI to initiate a security screening process under the Chemical Facility Anti-Terrorism Standards (CFATS). The CFATS are risk-based antiterrorism standards that identify high-risk chemical facilities to ensure adequate security. The DHS lists over 300 COI in Appendix A of 6 CFR 27, and each has a corresponding

screening threshold quantity (STQ). Possession of a COI above the STQ starts the compliance clock for you to initiate the following CFATS steps.

Register for CSAT access.

After you complete the required Chemical-terrorism Vulnerability Information (CVI) training and learn how CVI (e.g., site security plans and vulnerability assessments) is identified and safeguarded, you will register using the Chemical Security Assessment Tool (CSAT). The CSAT is an online portal used to complete the steps of the CFATS process.

Submit a survey and get a risk

determination. Using the CSAT, submit your Top-Screen Survey within 60 days of initial COI possession. The Top-Screen Survey provides the DHS with information about your facility and the COIs present. Based on your survey, the DHS determines if your facility is high-risk. High-risk facilities are assigned a tier level of 1 (highest risk) through 4. Facilities that are not high-risk are removed from the CFATS process.

Complete an assessment and submit a security plan. If your facility is tiered, you must submit a Security Vulnerability Assessment (SVA) within 90 days. The SVA includes information on security vulnerabilities, anticipated effects of an attack, and your facility's security procedures and resources. If the SVA confirms the high-risk determination, you must submit a Site Security Plan (SSP) within 120 days. If the SSP meets all requirements, a Letter of Authorization will be sent to you.

Schedule an Authorization Inspection (AI). Following the Letter of Authorization, a DHS inspector will schedule an AI to verify that the content of the SSP is accurate.

Continue compliance. After a successful AI, the DHS will send a Letter of Approval. DHS inspectors will conduct recurring inspections to ensure your facility continues to fully implement the approved security measures.



Diplomat: Salisbury and Amesbury incidents remind of Iraqi chemical weapons tale

Source: <http://tass.com/politics/1017361>

Aug 15 – The United States and Great Britain are guided by false facts while making decisions on sanctions against Russia in connection with the Salisbury and Amesbury incidents, just like they did in 2003 to justify their invasion in Iraq, Russian Foreign Ministry Spokeswoman Maria Zakharova said at a briefing on Wednesday.

"US politicians immediately joined in the provocation involving Russian citizens in Great Britain and announced new sanctions against Russia," Zakharova said. "We view decisions based on allegations as biased and politically motivated." "All this reminds of the tale of Iraqi chemical weapons. The same two countries - the US and Great Britain - made a decision back then [to invade Iraq - TASS] that was not based on actual facts and some fake information was added afterwards."

According to the Russian Foreign Ministry spokeswoman, Washington and London failed to learn a lesson from the Iraqi events. "But this time, their reputation will surely suffer a lot more," she added. "Worse still, British law enforcement agencies investigating the Salisbury and Amesbury incidents have been facing ongoing pressure from the British government," Zakharova noted.

"We strongly insist on an independent and transparent investigation into what happened in Salisbury and Amesbury," the Russian diplomat stressed. "Since Russian citizens [former Russian military intelligence (GRU) Colonel Sergei Skripal and his daughter Yulia - TASS] are involved, we cannot stand aside so we demand consular access to them," she said.

In 2003, the United States accused Iraq of owning weapons of mass destruction. A United Nations commission probing into that information did not find any traces of such weapons in Iraq but nevertheless, the US invaded the country. However, neither chemical nor bacteriological weapons were found in Iraq during the invasion. A test tube containing an alleged sample of Iraqi weapons of mass destruction, which then US Secretary of State Colin Powell demonstrated at a meeting of the UN Security Council, turned out to be a fake.

British poisonings

According to London, Sergei Skripal, who had been convicted in Russia of spying for Great Britain and later swapped for Russian intelligence officers, and his daughter Yulia suffered the effects of an alleged nerve agent in the British city of Salisbury on March 4. Claiming that the substance used in the attack had been a Novichok-class nerve agent developed in the Soviet Union, London rushed to accuse Russia of being involved in the incident. Moscow rejected all of the United Kingdom's accusations. Chief Executive of the Defense Science and Technology Laboratory (DSTL) at Porton Down Gary Aitkenhead said later that British experts had been unable to identify the origin of the nerve agent used in the attack on the Skripals.

Russia's Investigative Committee launched a criminal case over the incident on March 16.

On June 30, 44-year-old Dawn Sturgess and 45-year-old Charles Rowley were hospitalized in critical condition in the British town of Amesbury. The Metropolitan Police went on to claim that the two had been exposed to Novichok, the same nerve agent that was allegedly used in the Skripal poisoning. After being mysteriously exposed to a nerve agent and falling into a coma, Sturgess died on July 8 while Rowley managed to recover.

374th MDG Hosts Joint Bilateral CBRN Training

Source: <https://www.dvidshub.net/news/288412/374th-mdg-hosts-joint-bilateral-cbrn-training>

Aug 08 — Medical personnel from the US Army Medical Research Institute of Infectious Diseases at Ft. Detrick, Maryland came to Yokota Air Base, Japan to host the Offsite Medical Management of Chemical and Biological Casualties (MCBC) Short Course Aug. 6-8, 2018.





This course was open to medical personnel throughout the Pacific, bringing US service members from all branches from Korea, Guam, and Japan, as well as Japanese soldiers.

The training included a day and a half of intensive classroom instruction, followed by a day of tabletop simulations, and culminated in hands on training with all the equipment necessary to survive a chemical or biological attack.



"You never know when you're going to be in that kind of situation. If you get this training, then you get a little more ammunition in your quiver to deal with those problems as they occur," said retired US Army Col. Scott Stanek, MCBC Instructor. "If you've had a good



couple of days where there's focus on just this particular subject, then when an event comes and you have to react to it, it's easier to pull out that training."

The classroom instruction covered the effects of various biological and chemical agents, so that medical personnel could better identify the signs of exposure in themselves and their patients. The lectures also covered the process of decontamination in a chemical or biological environment, threat management, and how to use decontamination equipment.

The classroom instruction was reinforced with the tabletop exercises which covered how to best set up decontamination stations and how to deal with chemical and biological casualties. The final day of the class culminated in a hands-on experience where the medical personnel put on their Mission Oriented Protective Posture (MOPP) gear to ensure they knew how to properly wear the gear for complete protection during a crisis.

"The whole experience has been really valuable. It gives you another insight into what's going on instead of being in MOPP 4 gear the entire time when we should be learning exactly why we're doing this," said Staff Sgt. Alexander Entzminger, from the 374th Medical Group. "There's been a lot more in-depth training as to what you're actually dealing with as far as the [chemical and biological] agents goes."

Along with the refresher on protective gear and new information about chemical and biological agents, the various countries and military branches got to practice working together in a crisis situation. They also got a chance to see how various teams within their own organizations work, so they can better understand their role in the big picture.

"Our Japanese partners have about 18 people here, we have Navy, Army, Marines, so all services represented. We brought them here to see this process so we have more people capable of jumping in the fight," said US Air Force Capt. Rasheed Wedlow, the 374th Medical Readiness Flight Commander.

"This is a chance we had to bring in a broad variety of people, so we will arrange this whenever possible."

"The more information and the more people understand, the less chaos and confusion in the fog of war. If we can save just one more life, then it's worth it." added Capt. Wedlow.

EDITOR'S COMMENT: Call me scholastic but women's hair should be either short or caught in a bun when wearing a gas mask (top photo). Of course, same when involved in security tasks. I have seen so many police women patrolling in airports with hair to the waste; same in military posts. I only hope that the colleague in the photo had her ear rings removed. (Yes! I have seen that is a lady MD participating in a Greek CBRN exhibition drill and freaked out – but I was a guest and could not remove the ear together with ring [joking]). As for the second photo: do we seal sleeves (and trousers/mask/zipper) with ChemTape or not? This simple question should be answered once and for good!



ICI
International
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BIO NEWS



Ricin attack plotters in Germany tested biological weapon on a hamster

Source: <http://www.homelandsecuritynewswire.com/dr20180724-ricin-attack-plotters-in-germany-tested-biological-weapon-on-a-hamster>

July 24 – German prosecutors have arrested the wife of a Tunisian man who was detained last month for plotting a biological attack. **The couple bought a hamster to test a chemical substance before they were going to use it in a planned terrorist attack.**

German federal prosecutors said the 43-year-old German woman, named only as Yasmin H., was charged with helping to produce biological weapons and prepare an act of violence. Her husband, Sief Allah H., was arrested on 12 June for “planning a serious act of violent subversion.” He bought large quantities of castor seeds, and the couple was working on producing ricin toxin from the seeds.

NZHerald reports that the prosecutors say Yasmin H., who convert to Islam, allowed her husband to use her online accounts to order ingredients to make ricin. The couple then bought a hamster to test the effectiveness of the toxin.

On Tuesday, prosecutors said Yasmin H. had **helped her husband travel to Poland in late 2017 to buy explosive materials.**

Sief Allah H. followed instructions on making a ricin bomb disseminated online by ISIS. Prosecutors said that the couple started buying the equipment and ingredients to make ricin in mid-May, including thousands of “castor seeds and an electric coffee grinder,” their bioweapon attack plans were still in early stages.

Federal prosecutors say that about 3,150 castor bean seeds, more than three times the number initially suspected, and **84.3 milligrams of ricin** were found in the suspect’s apartment.

Ricin is 6,000 times more potent than cyanide and is lethal in minute doses if swallowed, inhaled, or injected. It has no known antidote.



EDITOR’S COMMENT: What if one cultivates *Ricinus Communis* in his back yard? The plant in the picture above is outside a house in an Athens suburb so you do not have to buy seeds. It might take time but soon you can have your own plantation – kind of poppy fields.

Foiled Ricin Plot Raises Specter of ‘More Sophisticated’ IS-inspired Attacks

By Christian Jokinen

Terrorism Monitor Volume: 16 Issue: 16

Source: <https://jamestown.org/program/foiled-ricin-plot-raises-specter-of-more-sophisticated-is-inspired-attacks/>

Aug 10 – The arrest by German police of a 29-year-old Tunisian immigrant in Cologne may have foiled what Herbert Reul, the interior minister for the German state of North Rhine-Westphalia, claimed had the potential to be “the biggest terrorist-attack Europe has witnessed” ([Kölnische Rundschau](#), June 20; [Frankfurter Allgemeine](#), June 29). Prosecutors accuse Sief Allah Hammami of planning an attack using the poison ricin, which he had manufactured at his home.

While such an attack would constitute a new escalation in terms of the terrorism threat in Germany, there are echoes of similar plots elsewhere in Europe. With international operations becoming increasingly important for Islamic State (IS) as it contemplates its own



decline, some fear that the group is planning a major headline-grabbing attack in the West, possibly one involving a biological or chemical agent.



Arrest in Cologne

Hammami was arrested at his home, a nondescript high-rise building on Osloer Street in Köln-Chorweiler, on June 13 ([Bild](#), June 26). The subsequent search of the premises was conducted by police dressed in full protective gear and assisted by a specialist unit from the fire services and toxicological experts from the Robert Koch Institute, a German federal government agency responsible for disease control and prevention. Hammami had, it appeared, turned his home into a laboratory where he had manufactured ricin from around 1,000 castor oil beans. During the subsequent search of the flat, authorities found 84.3 milligrams of the highly poisonous substance, as well as 2,000 unused castor oil beans. Altogether, Hammami had successfully acquired 3,150 castor oil beans ([Generalbundesanwalt](#), June 20; [Tagesschau](#), June 20; [Welt](#), June 20).

The authorities also secured 250 metallic balls, fishing hooks, two bottles of acetone nail polish remover and 950 grams of what was described as a mix of aluminum powder and pyrotechnic material ([Welt](#), June 20, [Generalbundesanwalt](#), July 24). According to the German state prosecutor's office, Hammami—who arrived as an immigrant in Germany in 2016—had been planning to combine the deadly toxin with a bomb, although the timing of the attack and its intended target appear to be unknown ([Generalbundesanwalt](#), August 3).

Hammami's wife, a German convert to Islam identified in the German media only as Jasmin H, was arrested along with her husband ([Bild](#), June 18). She was released shortly after but was then rearrested in July, being suspected of supporting Hammami's alleged plot ([Generalbundesanwalt](#), July 24; [Generalbundesanwalt](#), August 3).

Intelligence Sharing

Preventing this planned attack came down to a successful combination of international collaboration and local police work. In May, Germany's Internal Security Service (Bundesamt für Verfassungsschutz, BfV) received information from a U.S. intelligence service—presumed by German media to be the CIA—that a Tunisian national who was residing in Cologne had made an online order for ricin castor beans and an electric coffee grinder ([Welt](#), June 19). At the same time, the German security service had received a tip-off through an established



public anti-terror hotline. As a result, the BfV had already identified Hammami as a threat before receiving the information supplied by U.S. officials.

The information BfV had received led the service to believe that Hammami was planning to travel abroad, either to Syria or Egypt, to join a jihadist group. Indeed, he had failed on two occasions in 2017 to travel to Syria with the alleged intention of joining IS. He attempted to get to the border via Turkey, but was picked up by Turkish authorities and sent back to Germany, where the authorities were informed of his attempts ([Express](#), June 15; [SWR](#), June 20). Despite this, German authorities did not regard Hammami as a potential attacker (Gefährder) or suspected IS member, only changing their assessment after they received the information about Hammami's online purchases. Consequently, the BfV intelligence operation was handed over to the federal police (BKA) at the beginning of June who moved to arrest him ([Welt](#), June 19; [Welt](#), June 26).

According to German State Prosecutor Peter Frank, Hammami had been “deeply connected to the Islamist spectrum”, although no accomplices—except his wife—have been arrested in Germany. Instead, it has been reported that Hammami's connections to the jihadist milieu date back to his time in Tunisia ([SWR](#), June 20; [NTV](#), June 20). After his failed attempts to travel to join IS, Hammami linked up successfully with members of the group through social media. There, he pledged allegiance to the IS leader, according to the German state prosecutors office (Generalbundesanwalt, August 3).

Poison Plots

While a ricin attack would constitute a new escalation in terms of the terrorism threat in Germany, similar plots have been detected in Europe. In mid-May, French authorities arrested an Egyptian-born student in Paris after intercepting messages on the secure messaging platform Telegram. According to French authorities, the student possessed “instructions on how to build ricin-based poisons” ([France24](#), May 18). In January 2003, British authorities disrupted an alleged ricin plot led by the suspected al-Qaeda operative Kamel Bourgass. His plan, prosecutors said, was to produce a ricin-based paste that the plotters would smear in small quantities on surfaces in public places in the British capital—such as the doors of taxis, handrails on the London Underground system, and in buses. Bourgass was convicted of conspiracy to cause a public nuisance at a trial in 2005, and two others were convicted of possessing false passports, while the others accused in the plot were acquitted ([BBC](#), April 13, 2005). In comparison to the suspected Cologne plot, the authorities confiscated “only” 22 castor oil beans, and while equipment and recipes needed to produce ricin were found, the alleged plotters had yet to weaponize the poison.

Compared to these, the suspected plot in Cologne appears to have reached a dangerously advanced stage. German State Prosecutor Frank warned that jihadists have for some time contemplated the use of biological weapons and have “in the last years distributed time and again different manuals for the manufacturing of these, including for the production of ricin from castor oil beans” ([Tagesschau](#), June 20). The arrests in France and Germany show the continued interest jihadists have to acquire and use biological and chemical weapons, but the BfV believes that IS has already manufactured ricin with traces of it secured in Iraq and the Iraqi-Syrian border. In Iraq, IS had access to laboratories at Mosul University and some of Saddam's chemical weapons engineers among its membership. There the group reportedly conducted deadly tests using thallium sulphate and a nicotine agent on human subjects ([The Times](#), May 20, 2017).

Al-Qaeda has already experimented with producing poison from nicotine, largely because of its easy availability. The Egyptian-born bomb-maker and chemist Abu Khabab al-Masri developed a procedure for extracting nicotine poison from cigarettes in the late 1990s, as witnessed by former al-Qaeda member and later MI6 spy Aimen Dean. [1] In 2004, a jihadist cell in the UK contemplated applying nicotine poison to the door handles of expensive cars. [2] In addition, IS appears to have experimented with chlorine and sulphur mustard attacks in Syria and Iraq, becoming the first non-state actor to have developed a banned chemical warfare agent and combining it with a projectile delivery system, according to the London-based IHS Conflict Monitor.

IS has encouraged the use of these unconventional weapons abroad. In a plot uncovered in 2017 in Australia, two Lebanese Australian brothers, Khaled and Mahmoud Khayat, were allegedly planning to build an “improvised chemical dispersion device” that would release



highly toxic hydrogen sulphide. The plotters had allegedly received instruction from an IS controller in Syria, who had been put in touch with them by a third brother, Tarek, who was with the group ([The Australian](#), August 5, 2017).

The Cologne plot shows some similarities with the one prevented in Australia. The German authorities allege that Hammami received instructions on how to prepare the ricin and construct the explosive device from two different individuals via social media (Generalbundesanwalt, August 3).

Europe on Edge

Although happily prevented, the alleged Cologne ricin plot appears to alter and expand the spectrum of IS tactics in Europe. IS-directed attacks, such as those in Paris in 2015 and Brussels in 2016, have been conducted using firearms and explosives, while the spate of low-tech, IS-inspired attacks seen in Europe have involved knives and vehicles used as weapons. Often these have been carried out by lone actors, have required limited preparation and often resulted in only a small number of casualties. The suspected Cologne plotter seems to fall into a category of being initially IS-inspired, but then becoming a remotely guided attacker.

Hammami's plot demonstrates a new level of ambition and complexity. It highlights the creativity of IS jihadists, their willingness to test a wide range of asymmetric possibilities, and the desire to achieve a much higher number of casualties with such attacks. Describing the alleged Cologne plot, BfV director Hans-Georg Maaßen warned Hammami could have "wounded, if not even killed, hundreds of people" ([Welt](#), June 26). At the same time, the Sydney, Cologne and Paris cases also underline the risk of biological and chemical weapons knowhow spreading in the jihadist milieu.

Islamic militancy is set to remain the primary terrorism threat in Europe in the coming years. As IS comes under pressure after losing the territory it held in the Middle East, the group or one of its supporters could try to launch a spectacular attack to reinforce its image as an important actor on the international jihadist scene. Such an attack could involve using biological or chemical weapons in order to make that point.

Dr. Christian Jokinen received his doctorate from the Department for Contemporary History at the University of Turku in Finland. He specializes in political violence and terrorism.

NOTES

[1] Aimen Dean, Paul Cruickshank and Tim Lister "Nine Lives. My time as MI6's top spy inside al-Qaeda (2018), p.103.

[2] Ibid, pp.304-307

Creating "criminal database" of drug-resistant pathogens

Source: <http://www.homelandsecuritynewswire.com/dr20180724-creating-criminal-database-of-drugresistant-pathogens>

July 24 – Using a big-data approach and a network of hospitals and clinical laboratories around the world, a new non-profit initiative aims to create a comprehensive "criminal database" of antibiotic-resistant bacterial strains that can be recognized by their genetic fingerprint.



The [Antibiotic Resistance Monitoring, Analysis and Diagnostics Alliance](#) (ARMADA) will create this global biobank of bacterial strains by collecting bacterial isolates from hospitals, doctor's offices, clinical labs, and veterinary sources and then analyzing them to understand their resistance profiles, their genetic identity, and their

epidemiological history. The idea behind ARMADA is to help researchers and clinicians understand which strains of bacteria are spreading through the healthcare system and where they are spreading, to identify which strains are drug-resistant or virulent, and to find the genetic markers that give them away.

CIDRAP [reports](#) that ARMADA, a project of the nonprofit Hopewell Fund, will use the technology and expertise of ID Genomics, a Seattle-based diagnostics company, to build



the database and characterize the bacterial strains through their genetic fingerprints. ID Genomics has developed a diagnostic technology that, instead of analyzing the entire genome of a pathogen, looks for certain “barcode” genes that can be used to identify the genetic fingerprint of a bacterial strain.

According to Evgeni Sokurenko, ARMADA advisory board member and co-founder of ID Genomics, ARMADA will help researchers identify the important bacterial crime families—the clonal groups that are multidrug-resistant, spread quickly, and cause severe illness. “Just based on certain barcode genes, we’ll get an idea of which clonal group the bacteria belongs to,” Sokurenko, who’s also a professor of microbiology at the University of Washington School of Medicine, told CIDRAP News.

Combining surveillance, diagnostics

The ARMADA concept builds off proof-of-principle research, funded by the National Institutes of Health, in which Sokurenko and colleagues from clinical laboratories in four US cities are analyzing more than 20,000 clinical isolates of over 10 different bacterial species. In a recent study published in [Clinical Infectious Diseases](#), they reported that barcode analysis of more than 6,000 *Escherichia coli* isolates from bloodstream and urinary tract infections revealed the rise of a new multidrug-resistant *E coli* clonal group, ST1193, that has seen a dramatic increase in prevalence in recent years.

“We recognized this strain by using its fingerprints, and we realized there’s been a significant shift in its prevalence,” Sokurenko said. Prior to this study, isolation of *E coli* ST1193 had only been reported at a few hospitals around the world. Now, researchers and health officials know that this superbug, which was found to be 100 percent resistant to ciprofloxacin, is on the rise, and may be able to do something to stop its spread.

While building a database of dangerous bacterial strains will be helpful for surveillance and for researchers working on antibiotic development, the ultimate goal of ARMADA is to translate this knowledge into clinical action, in real time, through the development of rapid diagnostic tests that can quickly identify these dangerous bacterial strains and guide appropriate antibiotic therapy. ID Genomics is currently developing its barcode technology into a rapid test targeting urinary tract infections, but Sokurenko said the ARMADA database will be open to other researchers working on rapid diagnostics.

“People could come up with even better tests,” he said.

Sokurenko also envisions that diagnostic tests will be able to feed information back into the database and keep it constantly updated.

“The idea is to combine surveillance and diagnostics,” said Sokurenko. “Surveillance works for diagnostics, and diagnostics feeds back to surveillance.”

Although ARMADA is just getting started, 50 clinical and academic institutions have agreed to join the effort. The group is currently raising money to establish the infrastructure and start strain analysis, and is seeking additional isolates from hospitals, clinical labs, doctors, and veterinarians.

Chapter 5

Foodborne Bacteria: Potential Bioterrorism Agents

Neli Ermenlieva, Gabriela Tsankova,
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Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/intechopen.75965>

Source: <https://cdn.intechopen.com/pdfs/60389.pdf>

Bioterrorist attacks are usually associated with airborne infections because of their easy dissemination and maximal effect on the human population. However, foodborne pathogens represent potential bioterrorist weapons, as the consumption of safe food affects every



individual in the society. Most of the foodborne microorganisms can be readily isolated from natural sources and can cause severe outbreaks with a number of hospitalized persons. Biological agents, which may contaminate food products, are bacteria, viruses, yeasts, parasites, or chemical substances with microbial origin. They cause more than 200 diseases—ranging from diarrhea to cancers. Typical symptoms of food poisoning are abdominal cramps, nausea, vomiting, upset stomach, diarrhea, fever, dehydration, and others. Most isolated bacterial agents responsible for foodborne infections include bacteria from genera such as *Salmonella*, *Shigella*, *Bacillus*, *Clostridium*, *Listeria*, *Campylobacter*, *Escherichia*, *Staphylococcus*, *Vibrio*, *Enterobacter*, and *Yersinia*. In this chapter, we discuss the bacterial species causing food poisoning in the context of a potential bioterrorist attack. We review in a concise manner their morphological and biochemical characteristics, as well as the treatment and possible prevention measures. Popular examples of attacks with food poisoning agents and their impact on the society are also given.

Chocolate, bioterrorism and the birth of Brazilian funk

Is a plot to topple the aristocracy to blame for the collapse of cacao in Brazil?

Source: <https://www.engadget.com/2018/07/27/bioterrorism-in-bahia-witches-broom-chocolate/?guccounter=1>



Bioterrorism and High Consequence Biological Threats

Source: <https://asprtracie.hhs.gov/technical-resources/41/bioterrorism-and-high-consequence-biological-threats/40>

Bioterrorism and other high consequence biological events can result in mass casualties, epidemic illness, healthcare worker illness, environmental contamination, legal issues, and cause unease within the medical community and the community at large. In addition to agents of concern due to their possible use in a bioterrorist attack, this Topic Collection (TC) contains information on other potential high consequence threats from emerging diseases, accidental releases, and scientific advances, such as dual use research and synthetic biology. Biological incidents call for collaboration between multiple disciplines including healthcare, public health, emergency management, and law enforcement and require specific planning and response interventions.

The resources in this TC highlight recent research, promising practices, and model procedures for preparing for, responding to, and recovering from an act of bioterror or widespread illness caused by a high consequence biological agent. This TC is intended as



a contemporary annotated bibliography of articles and resources and is not intended to present a comprehensive review of the literature. It provides information about biodefense and bioterrorism and selected specific agents. [Medical countermeasure distribution information](#) is found in a separate TC.

Information on additional biological threats and some specific agents may be found in the following TCs (listed alphabetically): [Epidemic/Pandemic Influenza](#); [SARS/MERS](#); [VHF/Ebola](#); and [Zika](#). Information on additional terrorist threats may be found in these TCs: [Chemical Hazards](#), [Explosives and Mass Shooting](#), and [Radiological and Nuclear](#).

Related information can be found in the following TCs: [Crisis Standards of Care](#), [Disaster Ethics](#), [Fatality Management](#), [Healthcare-Related Disaster Legal/ Regulatory/ Federal Policy](#), [Hospital Patient Decontamination](#), [Mental/Behavioral Health](#), [Pharmacy](#), [Pediatric](#), [Pre-Hospital Patient Decontamination](#), and [Responder Safety and Health](#). Please [click here](#) for a list of all comprehensively developed TCs.

►► **NOTE:** Visit the source's URL – a lot of info provided.

EU BioWatch



A new social platform called BioWatch has been launched in an aim to help projects within the bioeconomy sector increase awareness about their bio-based research findings. Here, the team at BioWatch reveal what the platform has to offer.

Despite significant economic investment and dedicated research in the bio-based domain, public awareness of the potential benefits of bio-based products and applications is still relatively low.

The need to raise awareness of this potential, and promote the benefits of these products and applications, is clear.

BioWatch is a new online collaborative platform, designed specifically for the communication of research results related to the bioeconomy and to raise awareness of the potential of bio-based products and their applications.

The platform also acts as a community tool, developed to enhance collaborative opportunities between a wide variety of stakeholders, including industry, political stakeholders, the media, and the general public. You could describe it as an e-library for bio-based research and projects. Each project has a SEED, which displays information about the project in an accessible and engaging format.

A SEED will contain similar information to a project's website but offers a stronger level of engagement with the target audience that cannot be achieved through a website alone.

Interested stakeholders and general members of the public can both view your SEED, and you can communicate with both parties. Members of BioWatch can follow whichever SEEDs interest them and receive push notifications when an update has been made.

Everyone can now join the BioWatch SEED Research Library, and by signing up and becoming a member you will gain many additional benefits. Benefits include being able to:

Customise your library

Customise your homepage so only the thematic areas in which you have a particular interest are displayed. As a Library member, you can also personalise your experience and follow certain projects that are of interest to you.

Stay informed

Keep fully up to date about the latest research breakthroughs, news, and upcoming events in the bioeconomy sector. As a member, you will receive instant push notifications when one of the projects you are following updates its SEED. You will also receive recommendations for other projects to follow based on your profile.

Ask questions

Pose questions and communicate directly with the research projects you are interested in by using the Instant Messaging system. You can also leave comments on a project's SEED Wall, and receive alerts when others respond.



Stay connected

BioWatch will be used by policymakers, industry professionals and the media. As a Library member, you will be part of this growing community of stakeholders within the bioeconomy sector.

You will be able to communicate with other Library users to discuss new developments and ideas about future collaborative opportunities.

►► For more information, visit www.library.bioways.eu.

German prosecutors widen bioterrorism plot probe

Source: <http://www.homelandsecuritynewswire.com/dr20180803-german-prosecutors-widen-bioterrorism-plot-probe>

Aug 03 – German prosecutors have widened their investigation into a thwarted biological terror attack. Two suspected accomplices were arrested in Tunisia, one of whom planned a “simultaneous” attack in Tunisia.

These were among the details revealed Friday by German prosecutors.

In June, Sief Allah H. was arrested in a police raid on his apartment in the western city of Cologne. Investigators found “toxic substances” that were later determined to be deadly **ricin** poison. The 29-year-old was also found to have bomb-making materials in his possession.

As part of a widening probe, investigators said Friday that prosecutors on 1 August charged the Tunisian, who is married to a German woman, with “planning a serious act of violence against the state” and membership in a foreign terrorist organization.

His wife was arrested last month on suspicion of being an accomplice.

According to the Karlsruhe-based Federal Prosecutor’s Office, the Tunisian intended to carry out a biological terror attack against “unbelievers” in Germany.

“He wanted to explode a ricin bomb packed with shrapnel in a busy indoor place,” prosecutors said in an update into their investigation. It was unclear if there was an exact target.

DW [reports](#) that the suspect had previously sought on two occasions in 2017 to enter Syria through Turkey, but failed to join ISIS there for unknown reasons. In September and October last year, Sief Allah H. made contact on social media with unknown IS members living outside Germany who encouraged him to prepare a bombing in Germany.

By February, he had made the decision to carry out a bioterror attack. Prosecutors also said that he vowed allegiance to IS.

Prosecutors say that in April and May, Sief Allah H. had already acquired on the internet more than 2,000 castor beans, which are processed to make ricin in white powder form. **He also received 1,000 extra castor beans for free due to an initial delivery problem.**

During this period, the suspect had been in contact with an unknown person outside of Germany who instructed him on the production of ricin. By the end of May he had produced **84.3 milligrams of ricin**. He then tested the poison on a hamster he and his wife bought at a pet store.

Throughout, Sief Allah H. was in contact on the internet with another person outside of Germany who instructed him in bomb making skills. The suspect then bought bomb-making material online, including 250 metal balls intended to be used as shrapnel.

Tunisian authorities said on Friday that they had arrested two men in connection with the terror plot in Cologne. It is not clear whether the two Tunisians are the same as those with whom Sief Allah H. had contact on the internet.

Tunisia’s Interior Ministry said the two men were in close contact with Sief Allah H. One of the men is said to have prepared a false passport for him.

The other plotted with Sief Allah H. “to simultaneously carry out in Tunisia and Germany two attacks using homemade bombs,” according to Tunisian anti-terrorism spokesman Sofiene Sliti.



Bioweapons Threat at Large Venues Could Come from the Sky, Fear Security Experts

By Bridget Johnson

Source: <https://www.hstoday.us/subject-matter-areas/wmd/bioweapons-threat-at-large-venues-could-come-from-the-sky-fear-security-experts/>



Aug 03 – Drones that can disperse bioweapons are a top worry for operators of venues hosting large gatherings — especially as regulations hamstring drone mitigation efforts and even knocking a suspicious unmanned craft out of the sky could inadvertently unleash a toxic payload such as anthrax spores.

“Unfortunately in today’s environment, mass gathering events attended by large numbers of people may be considered a terrorist target due to a large concentration of people, symbolic nature of the event, high-profile attendees and increased media attention,” Lou Marciani, director of the National Center for Spectator Sports Safety and Security at the University of Southern Mississippi, told the Blue Ribbon Study Panel on Biodefense in Washington on Tuesday. “So terrorists and other violent criminals are placing significant emphasis on attacking soft targets.” Former Sen. Joe Lieberman (I-Conn.) and former Pennsylvania Gov. Tom Ridge, the first Homeland Security secretary, co-chair the panel, which includes former Secretary of

Health and Human Services Donna Shalala, former Senator Majority Leader Tom Daschle (D-S.D.), former Rep. Jim Greenwood (R-Pa.), and former Homeland Security Advisor to President George W. Bush Kenneth Wainstein. At a daylong panel on the impact of large-scale biological events on business and the economy, Marciani noted that vulnerable mass gatherings range from the Super Bowl to college playoffs, NBA and NHL to concerts, political conventions and more.

With the vulnerability of such events underscored by attacks like last year’s mass shooting at a Las Vegas music festival, Marciani outlined the challenge as ensuring public health, safety and security while public and private sectors interact in a complex way.

A security plan must “ensure intelligence regarding intent to use biological agents is combined with public health data,” he said, “improve domestic medical intelligence efforts,” “continue to advance national bio-surveillance,” address



lacking public health infrastructure, and “develop a national medical intelligence program.”

“But a big concern to our profession is an aerial attack... presently, we lack the authorities needed to counter threats from unmanned aircraft systems. We need Congress’ assistance in providing additional counter-UAS authorities to DHS and other federal departments and agencies to legally engage and mitigate UAS threats in the national airspace system,” Marciani told the panel, emphasizing that mass gathering venues must “utilize collaborative planning processes to develop emergency operation plans for each venue, and the process should include high-level decision makers and ensure that planning, training, exercises, standards and lessons learned are connected.”

On the government side, he said officials should add training courses on biological measures for first responders to build capacity and enhance training for biodefense.

Adequate biodefense at large venues, he said, “still has far to go.” Marciani recommended establishing a sports and entertainment biodefense task force to report back to the Blue Ribbon Study Panel.

Joe Coomer, vice president of security for AMB Sports and Entertainment, told the panel that “short of large-scale natural disasters, a biological event is one of the great unknowns for a lot of venues and our stadiums that we don’t necessarily face on a daily basis — we don’t test, we don’t train.”

“We have plans that review what to do, when to do it, but it’s so broad in scale of what a biological event could be,” he said.

The former director of security for Mercedes Benz Stadium in Atlanta, University of Phoenix Stadium in Glendale, Ariz., and the Indiana Convention Center and RCA Dome in Indianapolis added that he’s confident from his experience planning with emergency managers that if an event occurs forensic investigation on the back end “will be pretty swift” in pinpointing the who, what, when, where, how and why.

“But when it comes to the immediate mitigation of a guest in the hot zone, we’re now talking about a wild card that a lot of us can prep and plan for on paper, but until it’s actually exercised we don’t know the implications of it,” Coomer continued. “The mass event environment is

highly dynamic and if we have a release through an explosion, is it through an aerosol, is it through a food contamination, what is the correct response? Again, plans on paper do work for us, except when these acts actually do happen it’s how do we response strategically and surgically — are we talking about a handful of people, are we talking about tens of thousands of folks?”

Another challenge is how much staff would be around to help given the transient workforce on game days. “A lot of them do receive basic emergency evacuation training,” but in a biocontamination situation he said there could be up to a 70 percent workforce reduction as “they will self-evacuate with everyone else because their commitment is at that level, that volunteer level or that hourly level.”

After a biological event, Coomer noted, venues would face big challenges in winning back public confidence to convince fans to return and finding employees who would want to work in that venue again.

Daschle noted that a “nightmare I keep thinking about... is a drone with an aerosolable biological weapon.”

“UAVs and drones, that is our boogeyman right now,” Coomer acknowledged. “...Our country probably sells some of the best products out there to mitigate drones and UAVs, and we cannot deploy them.”

Even with technology to identify the owner of the drone and track him down, “at best it’s a written warning, so there’s no teeth to anything that we can do to these folks.”

“And it’s getting to the point a lot of sports industries are ready to take on what is, well, if knocking one of those things out of the sky is what we’ve got to do to find out what the courts are going to do to us, can we live with that if we know it’s going to save lives?” Coomer added.

Daschle stressed that checking drone licensing is “meaningless if it’s a terrorist.”

“Is there the equivalent of an anti-missile device or something that would be able to actually target a drone to knock it out?” the former senator asked.

Coomer cited technologies such as geofencing around property that would trigger a response if penetrated by an unfamiliar drone, and drone hunter-killers that are



drones designed to capture the bad drone. “I know it seems very Hollywood, but we’ve seen these things demo’d at certain test sites,” he added. Other drones can fire netting to capture a drone and drag it off.

“In Europe, we’re seeing advancements using falcons and eagles knocking drones out of the sky,” he said, to which it was noted that a bad takedown of a bioweapon-laden drone could have disastrous fallout.

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 weekly columnist for the New York Observer and a senior fellow specializing in terrorism analysis at the Haym Salomon Center. She is a Senior Risk Analyst for Gate 15 and Washington Bureau Chief for PJ Media. She is an NPR on-air contributor and has contributed to USA Today, The Wall Street Journal, National Review Online, Politico, New York Daily News, The Jerusalem Post, The Hill, Washington Times, RealClearWorld and more, and has myriad television and radio credits including Al-Jazeera and SiriusXM.

EDITOR’S COMMENT: The principle is simple and spraying from the air rather easy. But there is a lot of distance from this spraying to be effective. Released biopathogens (mainly spores) should have a specific diameter in order to penetrate human respiratory defenses. On the other hand, it is correct that once such an attack is made public then the consequences would be those described in this article. Because terrorism is not really about killing people; it is rather about showing to people that they are next!

Battelle REBS™

Source: <https://www.battelle.org/government-offerings/national-security/cbrne-defense/threat-detection/battelle-rebs>

Battelle REBS (Resource Effective Bioidentification System) is a major advance in chemical and biological warfare-agent collection and identification.

Applications

Because the chemical and biological threats to national and global security persist and continue to evolve, new tools are needed to detect, assess and counter those threats.

Capabilities

REBS enhances the safety of warfighters and civilians alike in applications including:

Defense & Security

The broadest range of Battelle products and services is devoted to defense and security, with the goal of keeping our military, our homeland security forces and our nation safe. REBS offers sensitive detection and fast, accurate identification of more than 100 BWAs. Battelle has been at the forefront of autonomous chem-bio detection and identification since the start. We pioneered the first system two decades ago. Since then, we have been developing ever-more sensitive, specific, efficient and economical ways of achieving these goals.

Biosurveillance

Broad-scale early warning of chem-bio threats requires advanced capabilities for gathering, analyzing and interpreting data. And that adds additional prerequisites to the equation. REBS is up to the task. First, it employs non-destructive analysis techniques. This, along with automatic data archiving, means that the samples it collects can be further analyzed down



the road in support of attribution and medical diagnostic efforts. These capabilities make REBS perfect for seamless integration into high-level biosurveillance operations for confirmatory, diagnostic and attribution analyses.



Facility Protection

As 9/11 demonstrated, our homeland and major buildings within our borders are susceptible to attacks – including attacks using the same chemical and biological warfare agents that threaten our warfighters. Battelle's chem-bio detection and identification technologies represent potential solutions to building threats as well. To make this solution even more cost effective, we are working with the nation's leading providers of building-security and HVAC systems to integrate REBS capabilities into existing infrastructures. We are also developing REBS technology for government and commercial applications, coupling its capabilities with other important advances.

Features

With a purchase price comparable to units using older technologies, the highly portable REBS is easy to set up, operate and maintain. It's a ruggedized, battery-powered system capable of continuous, autonomous operation in missions lasting up to 18 hours.

REBS offers:

- Freedom from the expense of reagents and the special handling they require
- Freedom from the need for laboratory support
- A consumable cost of about \$20 per month per system
- Analysis costs of less than 4 cents per sample
- Operating costs of about \$1 a day

Uniquely combining optical-laser technology with Battelle-patented aerosol collection and Raman spectroscopy, REBS automatically and continuously collects samples for autonomous analysis – threats ranging from bacteria, viruses and toxins to mixed threats and aerosolized chemicals.

REBS technology:

- Demonstrates a low false alarm rate in virtually any environment
- Offers greater than 98 percent probability of agent ID, and sensitivity of under 25 ACPLA (agent containing particles per liter of air)



- Has been demonstrated in multiple government and independent trials -- including an extended operation in the Boston subway, in cooperation with JPM-CA, where live-agent testing was conducted

REBS offers sample compatibility with genetic confirmation methods providing:

- Speed and cost-efficiency far superior to those of PCR/DNA technologies
- Guidance even for medical personnel who prefer to wait for PCR/DNA confirmation
- Early warning to help personnel prepare to deliver treatment as soon as confirmation arrives

REBS is capable of identifying scores of airborne threats in 15 minutes or less, and offers an optional liquid-sample processing mode.

REBS is agile enough to:

- Serve in fixed-site and mobile applications
- Accommodate remote addition of new threats via simple software updates available within 24 hours of new-sample analysis
- Serve as a single-point ID device or as one of up to 255 systems networked to a single command post
- Provide non-destructive analysis, automatic archiving and seamless integration into high-level biosurveillance operations



Benefits

Whether the application is defense and security, biosurveillance, facility protection or manufacturing production, REBS provides exceptionally low operating cost, high sensitivity and superior accuracy in the detection, identification and enumeration of biological threats.

	SIZE	OPERATORS	CAPABILITIES	COST
1990s Biological Integrated Detection System (BIDS)	 12'x30'x8'	 Fully Manual Operation	   Bacteria Toxins Viruses	 \$1000/Day Operating Cost
2000s Joint Biological Point Detection System (JBIDS)	 4'x5'x2'	 Semi-Autonomous Operation	   Bacteria Toxins Viruses	 \$500/Day Operating Cost
TODAY Resource Effective Bioidentification System (REBS)	 4'x2'x2'	 Autonomous Operation	     Bacteria Toxins Viruses Chemical Toxins	 \$1/Day Operating Cost





This senior project aims to challenge the traditional thinking of public health. My inspiration from this topic simply comes from my interest in bettering global health for all people. With an ever shifting political and social environment, this paper strives to seek the most successful strategies in combating infectious diseases. By using three prominent and global infectious diseases, Ebola, Zika and Influenza, this paper analyzes the failures and successes of international support and response teams. This paper also uses the Global Health Security Agenda (GHSA) as a foundation to analyze and support the claim that successful global health interventions are not successful by framing diseases as if they are security threats.

Building from existing literature, this paper strives to answer the question, "*Could the Global Health Security Agenda Protect Americans from Emerging Diseases?*" The relationship between health and security is an ever complex and complicated topic, which involves all sectors of American policy. In order to further support this topic, and strive to seek better solutions for effective infectious disease response, there are key recommendations for the future of public health.

In all cases, it was found that the Global Health Security Agenda (GHSA) and securitizing the complicated issues of public health are expected to not be successful looking towards the future of public health. In order to fully support and positively affect the future of public health, governments should promote strong domestic health care systems, anti-corrupt administrations, women's empowerment and literacy, local health initiatives and treat every disease intervention uniquely. International health workers and governments should also be aware and carefully face the obstacles of cultural differences, widespread fear, and the historical, political environments.

By the end of this project, I hope the reader finds a strong and convincing argument explaining why the Global Health Security Agenda will not protect Americans, or help combat global emerging infectious diseases. While this project only skims the top of the debate of intertwining of health and security, it does provide a basic understanding for those looking to understand the complicated questions and answers of global health.



Two arrested after packages containing **mystery fluid** delivered to **hospitals**

Source: <https://news.sky.com/story/two-arrested-after-packages-containing-mystery-fluid-delivered-to-hospitals-11459352>

Aug 03 – Counter-terror officers are investigating after several suspicious packages containing unknown fluids were sent to hospitals across the UK.

Metropolitan Police said they were alerted to reports of the packages being received and were now assessing them.

However, they said none of them so far had contained anything hazardous.



In a statement, the force confirmed it had been alerted to "a number of reports" relating to suspicious packages being received at hospitals.

It said: "Specialist officers have attended the hospitals and are assessing the packages."

A 29-year-old man, from Brent, and a 37-year-old man, from Harrow, were arrested on Thursday on suspicion of Malicious Communications Act offences.

The police added: "They were both arrested in Barnet and taken into custody at a north London police station. They were subsequently bailed to return to a north London police station in late August."



Image: Aintree University Hospital was evacuated after it received a package

The investigation comes as the Huffington Post reported parcels - labelled "The Cyrus Project" - contained "unlabelled fluids" and were delivered across the NHS.

According to the news website, NHS chief medical officer Professor Dame Sally Davies issued advice to staff, instructing them to wear rubber gloves and quarantine any parcels

The advice goes on to say: "Wash your hands, or any part of your body that comes into contact with the package, with water."

As well as hospitals in London, a mystery parcel was also reportedly received at **Milton Keynes University Hospital**. A letter circulated at the hospital that said similar packages with fluid had been sent to 25 other trusts.

Aintree University Hospital in Liverpool was evacuated after it too received mystery packages.

A parcel was received at **James Paget University Hospital in Great Yarmouth**, according to local media reports. A hospital spokesman told the Eastern Daily Press the parcel was swiftly removed from the site.

Police said inquiries are still ongoing.



EDITOR'S COMMENT (Aug 10): After a week or so and still no details on the content of the mystery vials. I supposed that this would have been enough time for university hospital to say if it was water, protein, poison, toxin or similar. I will follow the issue until the upload of August issue (Aug 25).

Clade X pandemic exercise highlights policies needed to prevent or reduce the worst possible outcomes in future pandemics

By Nick Alexopoulos

Source: http://www.centerforhealthsecurity.org/about-the-center/pressroom/press_releases/2018-05-15_clade-x-policy-recommendations.html

May 2018 – The outbreak of a moderately contagious and moderately lethal novel pathogen precipitated a catastrophic end to the scenario in Clade X, the day-long pandemic tabletop exercise hosted by the Johns Hopkins Center for Health Security on May 15 in Washington, DC.

[Clade X](#) simulated a series of National Security Council–convened meetings of 10 US government leaders, played by individuals prominent in the fields of national security or epidemic response. Their dialogue as the scenario unfolded addressed significant uncertainties in current prevention and response capabilities, hamstrung by policy challenges at the federal level.



The scenario opens with the present-day outbreak of a new, serious respiratory disease in Germany and Venezuela. Soon after, Clade X is identified as a novel strain of human parainfluenza virus with genetic elements of Nipah virus. In the weeks that follow a fringe group bent on reducing the human population claims responsibility for the creation and intentional release of the disease. Authorities confirm those claims and verify that the novel strain was indeed engineered by the group's scientists. There is no vaccine, and pressure grows as pockets of cases appear in the United States. Clade X quickly causes widespread, worldwide anxiety as case counts and deaths mount. Within a year, 150 million people die from the disease—15 million in the United States alone.

At the conclusion of the exercise, the Center presented 6 strategic policy goals needing commitment from the United States to prevent or reduce the worst possible outcomes in future pandemics. Those recommendations are:

1. Develop capability to produce new vaccines and drugs for novel pathogens within months not years.
2. Pioneer a strong and sustainable global health security system.
3. Build a robust, highly capable national public health system that can manage the challenges of pandemic response.
4. Develop a national plan to effectively harness all US healthcare assets in a catastrophic pandemic.
5. Implement an international strategy for addressing research that increases pandemic risks.
6. Ensure the national security community is well prepared to prevent, detect, and respond to infectious disease emergencies.



A full description of each policy recommendation is available on the [Clade X website](#), along with [video recordings](#) of the four exercise segments.

In the weeks ahead, the Center's Clade X project team will synthesize the most important points from unscripted discussions among players during the exercise and disseminate those findings widely among members of the US and international biosecurity policy communities.

About the Johns Hopkins Center for Health Security

The Johns Hopkins Center for Health Security works to protect people from epidemics and disasters and build resilient communities through innovative scholarship, engagement, and research that strengthens the organizations, systems, policies, and programs essential to preventing and responding to public health crises. The Center is part of the Johns Hopkins Bloomberg School of Public Health and is located in Baltimore, MD.

Anthrax (China) – Human cases confirmed

Source: <https://www.shine.cn/news/nation/1808110290/>

Aug 11 – Fourteen cutaneous anthrax cases have been confirmed in northeast China's Heilongjiang Province, local authorities said on Fri 10 Aug 2018. One of the 14 patients was cured and discharged from hospital, the information office of the provincial government told a press briefing. The epidemic is under control, and the patients have been under effective treatment, it said.

Local authorities are examining the pathogens. A total of 818 sheep in the affected and high-risk areas in Huanan and Yilan counties have been culled.

Cutaneous, or skin, anthrax is the least serious form of the disease. It is usually contracted when a person with a cut or sore on their skin comes into direct, unprotected contact with anthrax spores on a sick or dead animal.

The Heilongjiang Animal Husbandry and Veterinary Bureau has sent 3 expert teams to handle the situation. Meanwhile, it has sent 112 500 ml of anthrax vaccine to immunize livestock in the 2 counties. The provincial health authorities also have sent experts to investigate the infections in a bid to roll out more effective control and prevention measures.

[Reading between the lines, "anthrax" was confirmed so far just on the basis of the human cutaneous lesion(s). Culturing human cases is very difficult because of the speed with which antibiotics get purchased, usually a day or so before samples get taken. By then, all organisms will be dead. And even if antibiotics have not been used, according to my colleague Benyamin Cherrkaskii, based on his experience in Soviet Russia, only 30% can be cultured. The best way to sample suspected cutaneous anthrax lesions is get a hypodermic and draw up some bloody fluid from underneath the lesion; it should contain viable spores and toxins.]

Congo Ebola total grows to 52 as security concerns hamper epidemic containment efforts

Source: <http://www.homelandsecuritynewswire.com/dr20180814-congo-ebola-total-grows-to-52-as-security-concerns-hamper-epidemic-containment-efforts>

Aug 14 – Following a visit by top World Health Organization (WHO) officials to the latest outbreak of Ebola in the Democratic Republic of Congo (DRC), the WHO the other day [called](#) for free and secure access for responders working in the affected conflict-affected area.

Over the past few days the DRC's health ministry confirmed eight more cases, one of

them a health worker from Mangina, the outbreak epicenter. According to an update yesterday, the outbreak total has risen to 52 cases, reflecting 25 confirmed and 27 probable cases. In addition, health officials are investigating 48 suspected infections. Two more



deaths have been reported, lifting the fatality count to 39.

WHO mission highlights complex security issues

In a statement Sunday, the WHO said over a 2-day visit in the outbreak zone that was accompanied by the DRC health ministry, the group's leadership saw first-hand the complexities responders face in implementing Ebola activities in North Kivu province. They visited the city of Beni and the Mangina health area, the location of most confirmed cases reported so far.

A range of armed groups are active in the area, creating challenging security issues for health teams who need to go deep into communities to identify and monitor possible cases, the WHO said. Conflict settings can also discourage community members from coming forward for treatment.

The health ministry outbreak said in its response plan, posted by the WHO on Aug 10, that the far northern part of North Kivu province is relatively peaceful, but the situation near the outbreak area is unpredictable. The area dominated by armed conflict with a risk of deliberate attacks and acts of hostility against facilities, personnel, and property during times of tension. North Kivu—home to eight million people—is one of the DRC's most densely populated provinces. Tedros Adhanom Ghebreyesus, the WHO's director-general, said, "All of those participating in the response must be able to move more freely and safely in conflict areas to do the work that is needed to bring the outbreak under control. The population must also have access to treatment centers that save lives and stop the spread of the disease."

Health worker exposures raise worries of worsening outbreak phase

Of the eight latest confirmed cases reported since 9 August by the health ministry, five are from Mabalako, two are from Mangina, and 1 is from Beni.

CIDRAP [reports](#) that one of the cases from Mangina reported yesterday is a health worker from the Mangina Reference Health Center, the health ministry said in its statement yesterday. About 74 of the health center's staff members have been identified as contacts of Ebola cases

have been have been temporarily discharged and will be monitored for twenty-one days, the health ministry said in its 11 August statement.

As another response step, the ministry said it has finalized a plan through a World Bank-funded project to offer free healthcare in three health zones around the outbreak epicenter—Mabalako, Blessed, and Oicha—to remove financial barriers to care and encourage residents to seek care as soon as the first Ebola symptoms appear.

In Twitter posts Monday, [Peter Salama](#), the WHO's deputy director-general of emergency response, said sadly, many health workers in Mangina were exposed to Ebola early in the outbreak. And since health worker infections are known to amplify Ebola outbreaks, health officials expect the current DRC outbreak to get worse before it gets better. "Given complexities, we ask all partners to support government-led response with their most experienced staff," he said.

Salama said the event is on an "epidemiological precipice" and that there's a crucial time-limited window of opportunity to prevent the Ebola outbreak from taking hold in areas that are much more difficult to access due to security concerns. "There is not a minute to lose," he said.

Authorities to deploy experimental antibody treatment

Health officials are preparing to use an experimental antibody treatment called mAB114 in the latest outbreak. Steve Ahuka, a virologist from the DRC's National Institute for Biomedical Research (INRB) told Reuters on Aug 11.

The monoclonal antibody treatment was developed in the United States and is based on antibodies of a patient who survived Ebola during an outbreak in the DRC city of Kikwit in 1995, according to the Reuters report. Ahuka said the DRC's ethical committee has approved the use of mAB114 and that it could be used within days. He also said other experimental treatments could also be used.

mAb114 was one of five experimental treatments that the DRC health ministry ethics committee approved for compassionate use during the earlier outbreak, pending finalized study protocol



details. In May, a WHO expert group evaluated five therapies—including mAb114—that could be used in the earlier DRC outbreak. It said though early data on mAb114 look promising, more were needed before recommending it for compassionate use.

Remaining vaccine questions, immune response after natural infection

Key scientific questions remain in efforts to develop a safe and effective Ebola vaccine, according to scientists from the Partnership for Research on Ebola Vaccination (PREVAC) who wrote a perspective piece that appeared in the 10 August issue of [The Lancet](#). The team is currently conducting a phase 2 trials in West Africa to evaluate three Ebola vaccination strategies in people age 1 year and older.

In reviewing the status of the wider research landscape, they said 36 trials of Ebola vaccine candidates have been completed and another 14 are active. Focusing on four vaccine candidates (Ad26-ZEBOV, MVA-BN-Filo, chAD3-EBOV, and GamEvac-Combi), they said more data are needed in pregnant women, children, and people with immune compromise,

including those with HIV and the elderly. Also, they note that more research is needed on the durability and speed of immune responses prompted by the different vaccine approaches. The team also called for studies to identify correlated of protection and large-scale trials to fully gauge safety and efficacy of the experimental vaccines.

In other medical literature developments, tests on the blood of 15 Ebola survivors found that antibodies from some of them neutralized Ebola viruses from four different strains, as well as Marburg virus. Writing in the [Journal of Infectious Diseases](#) Monday, a team from the United States and the DRC they described the experiments they did on the blood of survivors of a 2014 the DRC. Three survivors had a strong response against four filovirus glycoproteins, including that of Marburg virus.

Though they said the mechanism of action of the response requires further study, the data suggest that a pan-filovirus vaccine might be achievable and that it might be possible to isolate human monoclonal antibodies that neutralized all filoviruses.

Closing NZ's border against extreme pandemics stacks up, study finds

Source: <https://www.stuff.co.nz/national/health/106115255/closing-nzs-border-against-extreme-pandemics-stacks-up-study-finds>

Aug 09 – New research suggests closing New Zealand's borders in the face of a severe global pandemic stacks up economically.

A rogue form of artificial intelligence creates a bioweapon and uses it to escape from human control.

It sounds like science fiction, but New Zealand researchers have presented the scenario as a forward-looking risk to illustrate new research about closing the country's border.

The study, published in the *Australian and New Zealand Journal of Public Health*, is a cost-benefit analysis of closing the border in the event of a severe global pandemic.

Taking the pre-emptive step could save tens of thousands of lives and huge health costs, and new legislation is needed for the Prime Minister and Cabinet to be able to make the call within a day, the researchers say.

Nick Wilson, senior author and a professor of public health at the University of Otago in Wellington, said being an island nation had its drawbacks, but it would be a survival advantage in the event of a global pandemic.

"New Zealand is one of the few countries that could do things like border closures," he said.

"You could even say for the sake of human survival that some of these places should be upgrading their capacity to manage these types of events in the longer term."

The study, which used a costing tool developed by the Treasury, weighed up positive impacts of completely closing the border, such as lives saved and avoided health system costs, against negative costs such as lost tourism revenue.



Data from past influenza pandemics was used to calculate hospitalisations and deaths for two scenarios, one in which 12,973 people died if a disease breached the border and another more cataclysmic scenario where 129,730 died.

The estimated net benefit of successfully closing the border against the first scenario was \$7.86 billion, climbing to a massive \$144b for the second. This was based on a 180-day border closure, and excluded impacts on trade.

Dr Matt Boyd, lead author of the study, said increasing risks of new pandemics due to the growing density of human populations, among other factors, meant there was a need to look at different scenarios for better planning.

The study suggested the risk to human civilisation from infectious agents had never been greater. Advances to gene technology meant it was easier than ever before to produce synthesised pathogens, known as bioweapons.

Researchers in the United States demonstrated this in the early 2000s when they manufactured the polio virus using a gene sequence available on the internet and genetic material from a company selling mail-order DNA.

"There is even the scenario in future decades that a rogue form of artificial intelligence could develop such a bioweapon to allow it to escape from human control," Boyd said.

The researchers found closing the border could make sense for New Zealand in some extreme pandemic situations, and that doing so, they said, would far outweigh disruptions to the economy and tourism.

New Zealand's influenza pandemic plan, prepared by the Ministry of Health, includes border management as part of a six-phase approach to preparing for, minimising and recovering from a pandemic.

The plan includes a number of border control measures, including limiting or restricting aircraft from areas of concern, screening passengers, and placing people in quarantine.

Ministry emergency management director Charles Blanch said if an international health emergency was declared New Zealand's response would be in line with World Health Organisation recommendations.

Measures to control disease spread at borders was important, but evidence showed a rapid response at the source was the most effective protection against international spread of diseases, he said.

The Journal

OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

Leveraging COOP for Biological Incidents:

Natural, Accidental or Bioterrorism

Source: https://www.researchgate.net/publication/26702640_Leveraging_COOP_for_biological_incidents_natural_accidental_or_bioterrorism

Three reasons the U.S. is not ready for the next pandemic

By Christine Crudo Blackburn, Andrew Natsios, and Gerald W. Parker

Source: <http://www.homelandsecuritynewswire.com/dr20180820-three-reasons-the-u-s-is-not-ready-for-the-next-pandemic>

Aug 20 – One hundred years after the Great Influenza pandemic of 1918, global health leadership stands at a crossroads. The United States continues to expand its [policy of](#)



[isolationism](#) at a time when international cooperation in health could not be more important. The state of pandemic preparedness and the necessary steps for protecting the people throughout the world was the topic of The Scowcroft Institute for International Affairs' [2nd Annual White Paper](#).

As pandemic policy scholars, with two of us spending the majority of our career in the federal government, we believe that it is essential to prepare the country and the world for the next pandemic. It is not a matter of if, but when, the next disease will sweep the world with deadly and costly consequences.

There are many topic areas that national leaders must address to create better preparedness and response capabilities, but we believe three are most urgent. These include targeting the resistance to antimicrobial agents that has come about because of overuse and misuse of antibiotics; ensuring continuity of supply chains; and improving and strengthening leadership.

Overuse of a wonder drug

Prior to Alexander Fleming's [discovery of penicillin](#), even the smallest scratch could be deadly. Its discovery, however, helped contribute to the perception that man had conquered disease, despite Fleming's [warning](#) that "the thoughtless person playing with penicillin treatment is morally responsible for the death of a man who succumbs to infection with the penicillin resistant organism." Now, 70 years later, society is quickly reaching the precipice of that reality.

The problem of antibiotic overuse and misuses is extensive. In fact, in the United States, [80 percent of all antibiotic use](#) occurs in the agricultural sector and the majority of this use is nontherapeutic, meaning it is not medically necessary. Misuse of antibiotics also occurs frequently in the human health sector, however. The Review on Antimicrobial Resistance estimated that if changes are not made, the world could witness [10 million deaths annually](#) due to antimicrobial resistant infections.

To help prevent this public health threat from reaching that level of crisis with potential catastrophic implications, we recommend four actions.

First, an increase of investment needs to be made by the federal government and the private sector into research, development and production of new antimicrobials. In 2014, WHO also called for [greater investment](#) in discovering new antimicrobials, but in the last 50 years, [only one new class](#) of antibiotics has been discovered.

Second, governments throughout the world need to create stronger internationally harmonized regulatory systems for agriculture production and veterinary use of antimicrobials. For example, in the United States, antibiotics cannot be purchased without a prescription from either a medical doctor or a veterinarian (for the agricultural sector). But many countries in the developing world have no oversight for animal or human use of antibiotics. In some places, particularly African countries, many antibiotics can be purchased [over the counter](#).

You may already have experienced the third recommendation, if your doctor has sent you home from an appointment without an antibiotic prescription because your illness was viral. Health care providers and consumers need to decrease misuse and overuse of antimicrobials in human health by only prescribing antibiotics in cases of bacterial infection. The Centers for Disease Control and Prevention has issued guidelines for this, including [recommendations for patients](#).

Last, governments throughout the world need to understand that fighting antimicrobial resistance requires a collaboration between animal health, human health and environmental health. This idea, known as One Health, works to bring together researchers and professionals from these three areas to address disease-related challenges. While these actions require monetary and time investments, they are essential. Without taking these actions society may find itself in a post-antibiotic world. This world, as former Director-General of the World Health Organization [Margaret Chan explained in 2012](#), means "the end of modern medicine as we know it. Things as common as strep throat or a child's scratched knee would once again kill."

Will global supply chains collapse?

Modern society is able to function and flourish in large part because of the global [supply chains](#) transporting parts, equipment and supplies with speed, efficiency and [just-in-time delivery](#), which allows business to keep carrying costs low because they can order what they



need and have it shipped quickly, or “just in time.” Global supply chains, which consist of production specialization through comparative advantage, has enabled great economic development, but their just-in-time structure also leaves them exceedingly vulnerable. Components of the critical medical infrastructure, such as components essential to running life support machines or insulin for diabetics, are [always in transit](#).

This means that even a localized disease could deprive people of needed medical supplies. For example, if an epidemic hits a town in Asia where [N95 masks](#), which are used to protect people from hazardous substances, are manufactured, there may no longer be any N95 masks to be shipped to the United States or elsewhere. The United States experienced supply chain breakdown when Hurricane Maria caused a [disruption in the supply](#) of small bag IV saline. A manufacturer in Puerto Rico that produces [nearly half of all the saline](#) utilized in the U.S. had to halt production because of the hurricane.

This interconnectedness of the global economy and the expansiveness of medical supply chains means that a disruption anywhere along the line could spell disaster worldwide. To help prevent such a disaster, the federal government needs to understand the United States’ critical supply chains. The federal government and private sector should be aware of likely points of breakdown.

Once there is understanding, the U.S. must implement new policies that enable private sector innovation to diversify production and transportation where possible. Diversification of production and transportation means that there is not just one production source for critical supplies. Thus, a disruption in one geographical location would not cripple the entire supply chain.

Centralized, involved leadership

Diseases do not respect borders, and for this reason, pandemics are a global threat. Therefore, the U.S. must address the threat of pandemics in cooperation with all other nations and with multilateral institutions such as the World Health Organization, the U.N. Security Council, UNICEF and more. We believe that investment in global health security, such as the establishment of a permanent fund for influenza preparedness and response, and remaining engaged with the international community to prevent an outbreak from becoming a pandemic is the best way to protect the American people.

Additionally, we believe that the U.S. should commit to pandemic preparedness by creating a position of authority within the White House that transcends administrations and elevates pandemics as existential threats to a national security priority. There is a need to have decision-making authority and oversight vested at the highest levels of government.

In the midst of a pandemic, decisions must be made quickly. Quick decision-making can often be hindered by the absence of high-level leadership. The need for high-level leadership, coordination and a new strategy are essential to mitigate the [threat of pandemics](#), but these fundamental pandemic preparedness gaps persist.

The next great pandemic is coming. The true question is: Will we be ready when it does? Right now, that answer is no, because the country lacks the sufficient safeguards we have outlined. But if the United States chooses to elevate the issue of pandemic preparedness and biosecurity as a national security priority, we could be. Outbreaks are inevitable, but pandemics are not if we take action now.

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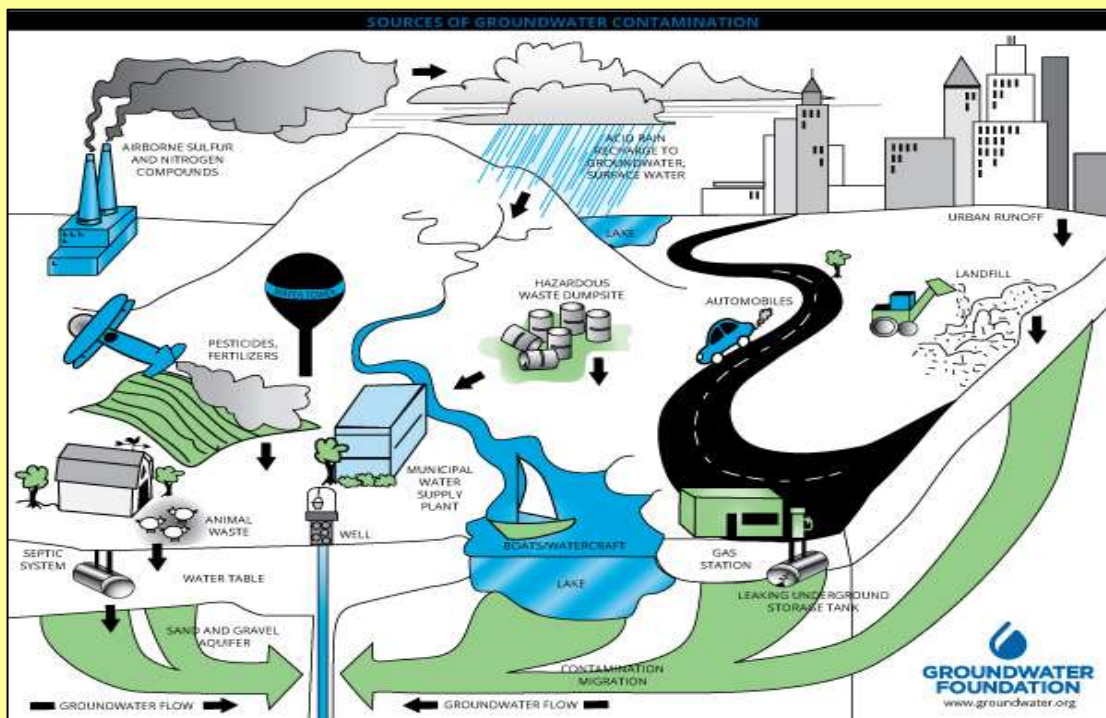
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Early warning system for tracking groundwater contamination

Source: <http://www.homelandsecuritynewswire.com/dr20180820-early-warning-system-for-tracking-groundwater-contamination>



Aug 20 – Groundwater contamination is increasingly recognized as a widespread environmental problem. The most important course of action often involves long-term monitoring. But what is the most cost-effective way to monitor when the contaminant plumes are large, complex, and long-term, or an unexpected event such as a storm could cause sudden changes in contaminant levels that may be missed by periodic sampling?

Scientists at the Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Lab) and Savannah River National Laboratory have developed a low-cost method for real-time monitoring of pollutants using commonly available sensors. Their study was published recently in the journal [*Environmental Science & Technology*](#).

"Conventional methods of monitoring involve taking water samples every year or every quarter and analyzing them in the lab," said [Haruko Wainwright](#), a Berkeley Lab researcher who led the study. "If there are anomalies or an extreme event, you could miss the changes that might increase contaminant concentrations or potential health risk. Our methodology allows continuous monitoring in situ using proxy measurements, so we can track plume movement in real time."

"Analysis of the autonomous in situ data can be rapidly analyzed remotely using machine learning methods," she added. "It can act as an early warning system – we can detect sudden changes in contaminant levels. These changes may indicate a need for more or less intervention in terms of the remediation strategy, ideally leading to improved as well as more cost-effective cleanup."

Environmental monitoring has become more important in recent years as remediation methods have been shifting away from intensive groundwater treatment and soil removal. "Intensive cleanup has a lot of negative environmental impacts, including air pollution, large energy-water use, and waste production," Wainwright said. "So experts have started thinking about a paradigm shift from this very intensive remediation to a more sustainable remediation, or 'green remediation,' so we don't just think at the contaminant level but we think about the net environmental impact."

LBL [says](#) that long-term monitoring, however, could be costly over time for large contaminations. What's more, current long-term monitoring strategies do not consider how



abrupt or gradual changes in weather, such as heavy rain events, might influence plume behaviors. This aspect is particularly important when considering persistent plumes, such as those associated with metal or radionuclide contamination.

The new approach starts with sensors to track water quality variables that have been determined to be reliable indicators of contaminant levels. For the purposes of this study, the researchers tracked levels of tritium and uranium-238 in the groundwater at the Savannah River Site, a former nuclear weapons production site in South Carolina managed by the DOE.

For this site, they measured the acidity (or pH) levels and specific conductance (a measure of electrical conductance); these variables were determined to be reliable indicators for tritium and uranium-238 concentrations. The data from the multiple sensors were then fed into a Kalman filter to estimate contaminant concentrations. A Kalman filter is not a physical filter but rather a mathematical algorithm that can integrate mixed time-series data to make estimates. It is commonly used in various fields, such as traffic prediction and remote sensing.

Using historical data from the Savannah River Site, the researchers found that their technique provided reliable information about plume behavior over the last 20 years, indicating that the new approach holds significant promise as a long-term monitoring strategy for rapidly assessing a contaminant's plume stability. Another advantage over conventional approaches is that it can reduce the frequency of manual groundwater sampling and lab analysis, and thus reduce the monitoring cost.

Wainwright, who is an expert in groundwater contamination and environmental data analytics, said this methodology can be used for both surface and underground water. It can also potentially be used to track other metals, radionuclides, and organic compounds commonly found in groundwater, such as arsenic, chromium, and fuels.

"There are so many different types of sensors available now, and sensor networking and rapid statistical analysis is straightforward," she said. "We can put together all types of in situ sensors and estimate the target contaminant concentration using this framework for data integration in real-time."

She added: "Improved monitoring techniques are essential to protect public health and the ecology. People feel safe if it's properly monitored. Our technique is a way to monitor such sustainable remediation – effectively and cheaply."

The study was funded by DOE's Office of Environmental Management and Office of Science. The other co-authors of the study are Franziska Schmidt of UC Berkeley, Boris Faybishenko of Berkeley Lab, Miles Denham of Panoramic Environmental Consulting, and Carol Eddy-Dilek of Savannah River National Laboratory. The advances build upon concepts developed through the Office of Science's [Watershed Scientific Focus Area](#) project.

Read more in Franziska Schmidt et al., "In Situ Monitoring of Groundwater Contamination Using the Kalman Filter," [Environmental Science & Technology](#) (22 June 2018).

West Nile Virus – Europe

Source: <http://www.dailymail.co.uk/health/article-6082357/Outbreak-West-Nile-virus-kills-22-Europe.html>

Aug 24 – An outbreak of the deadly West Nile virus is spreading across Europe and more mosquitoes known to spread the disease have been found in Essex. The World Health Organisation has warned of a spike in cases of the mosquito-borne infection, which has killed 3 people in Italy in recent days.

Some 401 cases of West Nile virus have been diagnosed across Europe so far this year [2018], with the majority occurring in Serbia, Italy and Greece. 22 people have died as a result of infection.

While around 80 per cent of people infected do not have any symptoms, others may show flu-like signs or develop a more serious, possibly deadly, illness.

The World Health Organisation says the insects started transmitting the infection earlier this year [2018], and high temperatures and rainy spells followed by dry weather have encouraged mosquitoes to breed more.



Countries most affected include:

- ◆ Serbia: 126 cases;
- ◆ Italy: 123 cases;
- ◆ Greece: 75 cases;
- ◆ Hungary: 39 cases;
- ◆ Romania: 31 cases]

Pacific region authorities prepare for bioterrorism attack

Source: <https://www.khmertimeskh.com/525124/pacific-region-authorities-prepare-for-bioterrorism-attack/>



Aug 22 – **A mock bioterrorism exercise held at the University of New South Wales (UNSW) in Australia concluded yesterday that the difference between a contained outbreak and a global pandemic is preparation.**

Conducted from Aug. 16 to August 17, the scenario involved a hypothetical outbreak of **smallpox** in Fiji, designed to test authorities preparedness for such an event, specifically in the Pacific region.

Involved were key international representatives from departments of health, foreign affairs, defence, police, non-government agencies, vaccine manufacturers and other global stakeholders.

One of the architects of the hypothetical attack was Prof. Raina MacIntyre, head of the Centre for Research Excellence in Integrated Systems for Epidemic Response at UNSW.

“Even though the world successfully eradicated smallpox in 1980, the disease has been on the radar again since scientists used mail order DNA to create a virus very similar to smallpox in a lab in 2017,” Mr MacIntyre said.

Smallpox is spread through the air and is twice as infectious as Ebola or influenza, with a predicted death rate of 45 percent if it emerged yesterday.

“In the case of a biowarfare event, our modelling shows that without a rapid and coordinated response, the epidemic would quickly spiral out of control and become a pandemic,” Mr MacIntyre said.

Projections show that first responders would need to isolate 70 percent of smallpox patients and track and vaccinate 70 percent of their contacts.

If this was to fall as low as 53 percent it would take four years and 2 billion doses of vaccine to bring the epidemic under control, with current World Health Organisation vaccine stockpiles at 35 million doses.



Even though in such a situation vaccines could be diluted and utilised, according to Mr MacIntyre, “resources to effect large scale isolation and quarantine would be the main problem.”

“In a globalised world, disease pathogens do not carry national passports, neither do they respect state sovereignty,” said attendee Obijiofor Aginam, deputy director of the International Institute for Global Health.

“The International Health Regulations offer an opportunity for effective governance of emerging and re-emerging epidemics and pandemics in an interdependent world.”

EDITOR’S COMMENT: It was a bioterrorism drill, was it not? Then what was the purpose of this decontamination photo? I liked the helmets although I do not understand why? And of course the manikin – never seen one like this before!

Summit asks a critical question: are we prepared for bioterrorism?

Source: <https://newsroom.unsw.edu.au/news/health/summit-asks-critical-question-are-we-prepared-bioterrorism>

Aug 21 – A smallpox outbreak originating in Fiji was the hypothetical scenario confronting researchers, frontline responders, and policymakers gathered at UNSW Sydney.

Preparedness could be the difference between a contained local outbreak and a global pandemic if there was a smallpox attack in the Pacific today, a bioterrorism exercise held at UNSW Sydney discovered.

The hypothetical scenario, designed to test preparedness and response globally to a smallpox attack in our region, brought together key international representatives from departments of health, foreign affairs, defence, police, non-government agencies, vaccine manufacturers and other global stakeholders.

The simulation uncovered that for a disease as infectious as smallpox, every day counts. The most important determinants affecting the spread of the epidemic were finding and isolating people with smallpox, tracking their contacts and vaccinating them, and the speed of response. How quickly different systems were able to work together to achieve this was critical.

A hypothetical outbreak of smallpox originating in Fiji was the focus of the scenario. The exercise was designed by Professor Raina MacIntyre from the Kirby Institute who is the head of the Centre for Research Excellence in Integrated Systems for Epidemic Response (ISER), with Associate Professor David Heslop from UNSW Medicine’s School of Public Health and Community Medicine and in conjunction with the Fiji Ministry of Health. The smallpox simulation incorporated lessons from real outbreaks and was based on previous UNSW research, but adapted to Fiji and the Pacific. “The modelled death rate for smallpox may be as high as

45% if it emerged today,” said Professor MacIntyre. “Even though the world successfully eradicated smallpox in 1980, the disease has been on the radar again since scientists used mail order DNA to create a virus very similar to smallpox in a lab in 2017.

“Smallpox is spread through the air, and is more than twice as infectious as influenza or Ebola. In the case of a biowarfare event, our modelling shows that without a rapid and coordinated response, the epidemic would quickly spiral out of control and become a pandemic.



"There is very little immunity to smallpox in today's population, so anyone who came into contact with smallpox would need to be vaccinated within three to four days of contact to reduce the risk of serious infection and death," said Professor MacIntyre. "Our coordinated regional response should start within seven days of identifying the first case to ensure the best possible outcome and early termination of the epidemic."

'Smallpox is spread through the air, and is more than twice as infectious as influenza or Ebola. In the case of a biowarfare event, our modelling shows that without a rapid and coordinated response, the epidemic would quickly spiral out of control and become a pandemic.'

"In the event of global spread, first responders would need to isolate 70% of smallpox patients and track and vaccinate at least 70% of their contacts. If this dropped to less than 53%, it would take over four years and 2 billion doses of vaccine to bring the epidemic under control. The existing World Health Organisation stockpile contains 35 million doses of vaccine. The vaccine could be diluted in such an emergency, but resources to effect large scale isolation and quarantine would be the main problem."

Associate Professor David Heslop, who is also a Senior Medical Advisor for the Australian Defence Force, said these numbers highlight the need for a coordinated response across all levels of society.

"We looked at a worst-case scenario, because the purpose of an exercise like this is to prepare for the worst, while hoping for the best. It is a mammoth task to ensure that the health systems work in close partnership with military, police, emergency services, vaccine and drug manufacturers, the World Health Organisation and many other agencies," said Associate Professor Heslop. "Whilst the probability of a smallpox attack may be low, the impact will be high, and so it is essential we prepare for these scenarios and know exactly what we can do to avoid the worst occurring."

The forum was attended by Senator Concetta Fierravanti-Wells, Minister for International Development and the Pacific, who said: "The World Health Organisation has told us that it is not a case of if, but a case of when, another major pandemic [of natural or unnatural origin] will strike. This could devastate communities through loss of life, disrupt tourism, trade, investment and people movement, setting back regional economic growth and development. The \$300 million Health Security Initiative for the Indo-Pacific region includes the largest health and medical research commitment ever made under Australia's overseas development assistance program."

The smallpox simulation was held from 16-17 August at UNSW Sydney, and coincides with new research from UNSW and the PLuS Alliance that shows how minimal genetic material could be used to rapidly identify severity and uncover global transmission routes.

This workshop was funded by the National Health and Medical Research Council (NHMRC) Centre for Research Excellence, Integrated Systems for Epidemic Response (ISER), along with Emergent Biosolutions and Bavarian Nordic. It was supported by Global Security PLuS.

It was attended by a number of key representatives from Australia, New Zealand, the USA, Fiji and other Pacific countries.

Spore concentration and modified host resistance as cause of anthrax outbreaks: A practitioner's perspective.

Robert S. Gainer

Canadian Veterinary Journal. 2018; 59 (2):185-187.

Source: <https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC5764212&blobtype=pdf>

Most of what is written about the cause of anthrax outbreaks is by professional academics in the fields of microbiology, epidemiology, and pathology. Little has been written by veterinary practitioners as it is normally not part of their job. Academic contributions could be closer to the actual fact and could be more useful if they recognized a practitioner's humble experiential intuition.

Gainer is a large animal veterinarian in practice for over 30 years in northern Alberta and southern Northwest Territories. He notes that without the usual alkaline soil-storing spores acting as a source of infection, the infection must be transmitted from host to host with the infection able to exist in latent state most of the time.



Anthrax develops as a peracute infection when the extremely oppressive insect harassment during high summer reduces the populations' resistance to low levels, and tabanid biting flies transmit the bacteria. In a 3-year study in the Selous National Park in Tanzania, anthrax was suspected in the wildebeest by previous biologists and veterinarians, but was not confirmed despite many submissions for culture and histopathology. A Canadian pathologist, Bob Lewis, suggested he take lab mice into the field and inject them with carcass fluids as soon as possible. The mice that died were to be frozen for transport and shipped to the closest diagnostic lab. Eight of 9 mice came back positive for anthrax, and he stopped doing necropsies on carcasses that may have been anthrax-infected. Of the 28 confirmed and suspect field necropsies, none showed the macroscopic features considered to be diagnostic of the disease at that time. Eventually, he noticed that the retropharyngeal lymph nodes were enlarged in some, but not in all.

Mostly they differed little from the normal healthy animals we shot and necropsied routinely for food and other purposes. At the same time, 4/8 biologists with the project developed cutaneous anthrax lesions on their hands. In his 30 years as a veterinarian in Alberta and NW Territories, he has noted a similar pattern of apparently healthy animals dead. In these Canadian regions, the summer heat and fly stress was so stark, his hands would get covered in blood from his horses.

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Communicated by: ProMED-mail <promed@promedmail.org>

[We know that animals can acquire latent infections with *B. anthracis*. It is well documented and would allow the pathogen to pass successfully from one summer to the next when the latter summer heat would reduce the innate resistance, the infection could break loose, bring the animal down, and be a source of infection for a number of other stock. A coincident plague of biting flies would exacerbate the stress.

Logically, this latent infection may explain how the pathogen was brought by sea in the 16th century from Andalusia in cattle destined for the Spanish missions in New Spain. Not having barbed wire in the 16th century, the common grazing Plains bison would have become infected, and, in their seasonal migrations, transferred it north and eventually into the Wood bison herds in northern Alberta and North West Territories, where it became and is still especially virulent. A working Wood bison bull weighs 1135 Kg. while the mature Plains bison bull is only some 910 Kg., and in any Wood bison outbreak, over 80% of the deaths are of bulls. The extra virulence is needed to kill them. After the widespread and almost total slaughter of bison in the 19th century, anthrax had to be reintroduced into the western plains with the trailed cattle from Texas.

I, and many others, have tried and failed to recover viable anthrax spores in the soil under and next to carcasses of confirmed white tail deer deaths from anthrax. They are very sensitive to the anthrax toxins and die with low titres. Where the spores persist on affected Texas ranches has yet to be determined. Once a deer is dead, the potential for blow fly contamination of nearby browse -- the deer's favorite food, though they do also graze -- is available, and other deer will be infected, if not also by biting flies. Maybe Bob's hypothesis of cycles of latent infection may explain the persistence of this disease in Texas white tails.

Bob has suggested an associated atypical-death reducing cause recognition and a latent infection cycle exacerbated by seasonal stress. These are hypotheses, and nature is illiterate and does what it does. But, anyone needing a project for their graduate students might want to explore these ideas. Retropharyngeal and mesenteric lymph nodes could be collected from deer at dressing stations for evidence of latent infections, and blood samples to check for antibody status and proof of exposure. Logically, this should be done on ranches where deer deaths from anthrax or not are known. Similarly, are atypical deaths of uncertain cause more common in cattle herds that have suffered from anthrax?

I have known Bob for a number of years. He is sound. There are a number of his anthrax articles listed in the CVJ article.

As an academic, albeit an epidemiologist and not a clinician, I would like to comment that Bob may be describing hyperacute-stress deaths in livestock and wildlife with latent *Bacillus anthracis* infections and not from latent *B. anthracis* infections. Remember, more men die with

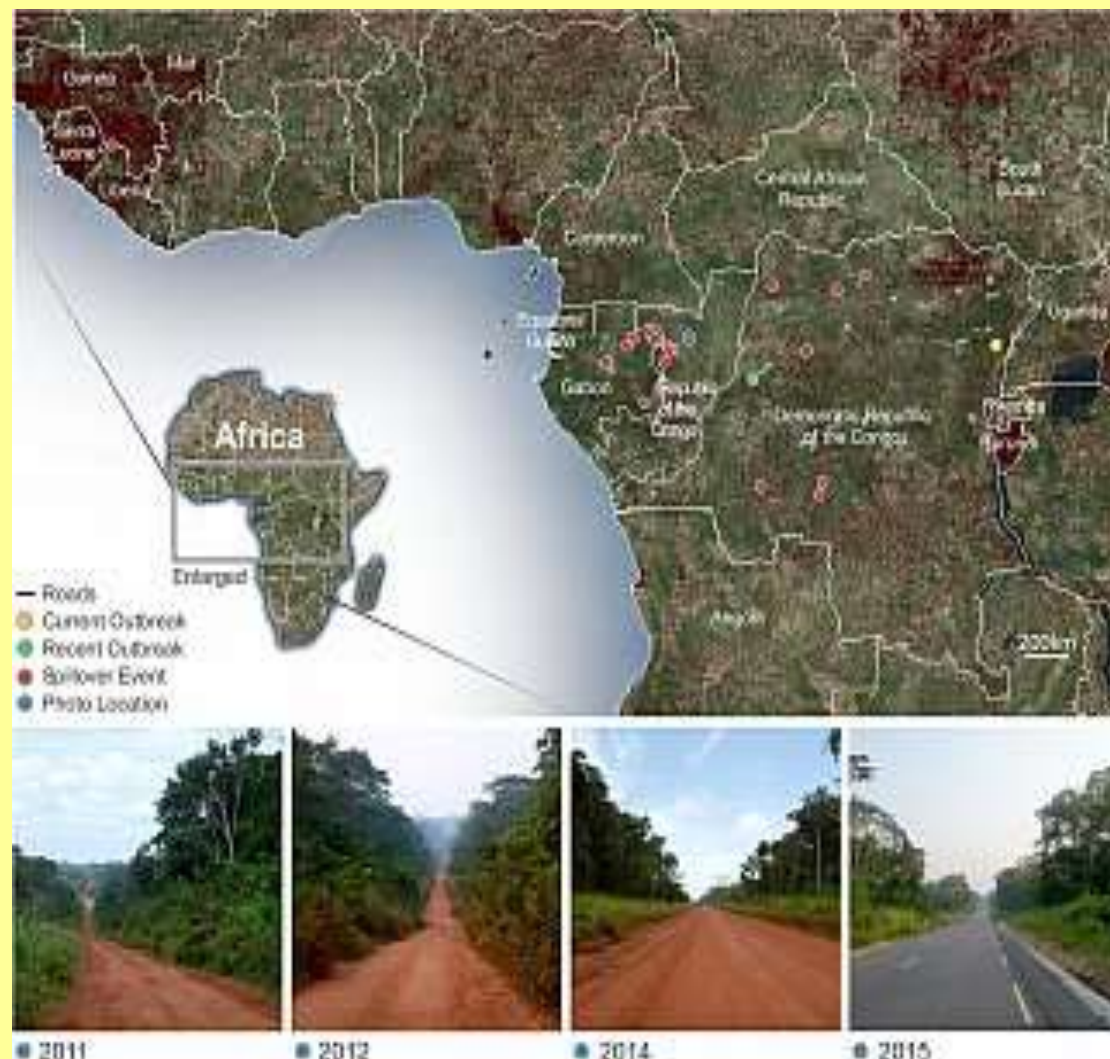


enlarged prostate glands than from prostate cancer. - Mod.MHJ

Rapid development in Central Africa increases the risk of infectious disease outbreaks

V Munster et al. *Outbreaks in a Rapidly Changing Central Africa—Lessons from Ebola*. New England Journal of Medicine DOI: 10.1056/NEJMp1807691 (2018).

Source: <https://www.nih.gov/news-events/news-releases/rapid-development-central-africa-increases-risk-infectious-disease-outbreaks>



Red circles indicate areas of primary human infections of Zaire ebolavirus; the blue circle indicates the recently contained outbreak with its epicenter in the Bikoro region; and the yellow circle indicates the ongoing outbreak in the North Kivu region of the DRC. The density of road construction is shown in red. [NIAID](#)

The Central Africa region is experiencing rapid urbanization, economic growth, and infrastructure development. These changes, while generally positive and welcome, also make the region more vulnerable to explosive infectious disease outbreaks, according to an international group of scientists. Writing in the

New England Journal of Medicine, the authors, all of whom have field research experience in the region, note that efforts to build up the health care infrastructure in Central Africa are critically needed to mitigate or prevent a large outbreak of Ebola or other



infectious disease in the region. The authors represent 12 different organizations, including the National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health.

Citing the example of the 2013-2016 Ebola outbreak in West Africa, they note that Liberia, Sierra Leone and Guinea all have large, urban and mobile populations. Among other factors, this enabled the Ebola virus to quickly spread through these countries and overwhelm their limited health care infrastructures, resulting in more than 28,000 cases of Ebola virus disease and 11,000 fatalities.

Through their Central Africa field work over several years — primarily in the Republic of the Congo and the Democratic Republic of the Congo (DRC) — the researchers have observed what they describe as the world's fastest rate of urbanization. By 2030, they write, half of the Central Africa population is expected to live in urban areas. They have seen the evolution of once-rutted jeep trails used to access remote villages now accessible by paved roads, typically related to the growth in logging, mining and hydroelectric industries. Road construction and similar disturbances in the jungle terrain alters ecosystems in which pathogens and their

hosts reside, they note. This increases the opportunity for new infectious diseases to emerge and reduces the time it takes people to travel to and from urban areas, allowing outbreaks to spread quickly.

"Clearly, Central Africa is rapidly approaching a tipping point," the authors state. "Africa's economic development is a positive change that cannot and should not be stopped. At the same time, rapid economic and demographic transitions bring the challenges of emerging infectious disease outbreaks of increased frequency, size, and global impact."

They believe that increases in population, income and educational attainment could spur demand for improved services, including health care. Moreover, directed investments in clinical research infrastructure could include training health care workers to identify, report and properly handle cases of unknown emerging infectious disease; diagnose patients; provide clinical care; and test new vaccines and therapeutics.

"Directed and sustained investment is urgently needed, before ongoing demographic and economic changes conspire to cause major outbreaks of both national and international consequence," they write.

The Threat of Agroterrorism: Economics of Bioterrorism

By Polyak, Mark G

Georgetown Journal of International Affairs; Vol. 5, Iss. 2, (Summer 2004): 31-38.

Source: <https://search.proquest.com/openview/f20362f0b23267897bf8bad2afe07733/1>

