

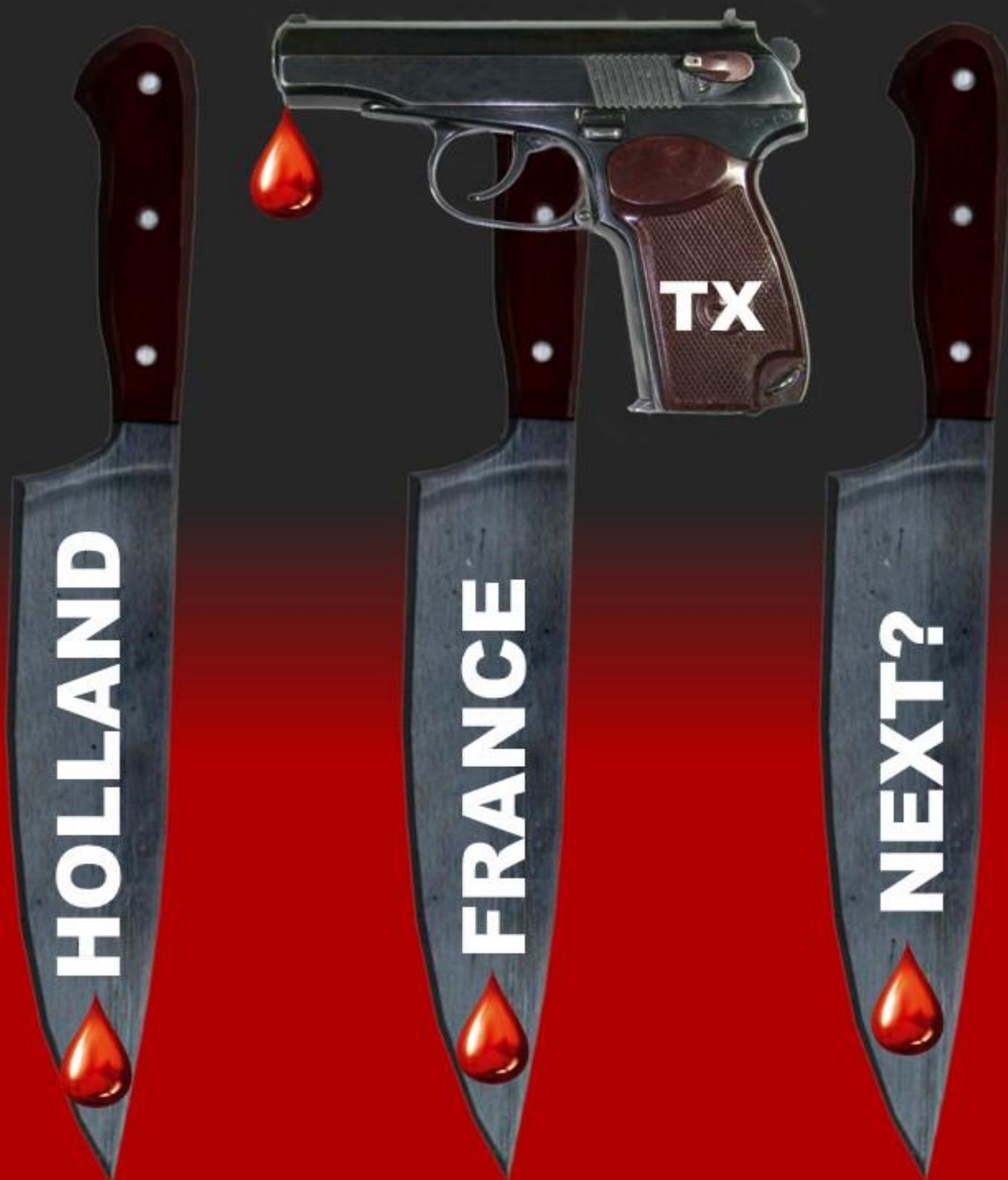
Dedicated to Global First Responders

C B R N E



May 2018

NEWSLET TERRORISM



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CBRNE-Terrorism Newsletter – 2018[®]

May 2018

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EDITOR'S CORNER





Editorial

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

Editor-in-Chief
CBRNE-Terrorism Newsletter

Dear Colleagues,

May was characterized by knife attacks (The Hague, The Netherlands and Paris, France), and a school massacre (Santa Fe, TX, USA). The fact that the 17 yo. shooter was of Greek origin shed sorrow to all Greeks but raising a child in TX comes with exposure to guns and a related attitude. Was bullying involved as well? Bullying and guns – a deadly combination. So young! So rotten!

What else?

- Many new uses of drones – CS delivery for crowd control (Israel); interference to FBI agents' observation post during a police operation; identification of small objects at sea.
- An undeclared war between Israel – Gaza – Iran – Syria where opponents test their weaponry rather than actually fighting each other. On top, tons of politics (new US Embassy in Jerusalem) that ignites more fire than promoting peace iSaraqebn the area.
- Lots of attention to chlorine gas usage in the hot area of Syria and around. OPCW inspectors stated that chlorine was likely used in the city of Saraqeb. A whole mission just to say "likely"?
- UK-Germany made chemical weapons depot found in Douma – what a surprise!
- The US nation is critically underprepared to confront transnational biological threats ranging from DIY bioterror agents to natural pathogens that outpace current pharmaceuticals and overwhelm medical facilities (Blue Ribbon Study Panel on Biodefense). If they are unprepared, what are we? Dead?
- Italian and Algerian researchers released new evidence of prion disease in three dromedary camels found in an Algerian slaughterhouse. The discovery, now being called camel prion disease (CPD), has raised more questions than answers about this deadly illness characterized by misfolded brain proteins.
- A UCLA-led group of researchers may have found a vaccine against anthrax, plague and tularemia - - three potent pathogens likely to be used in a bioterror attack. The UCLA team used molecular engineering to develop vaccines against each that use a common delivery method, or "single vector," to carry protective antigens to the immune system. These are really good news!!!
- The US is very skeptical with the possibility North Korea to be able to release a huge electromagnetic pulse/storm against opponents in the West. If you think of it, an EMP is more effective than nuclear weapons and more environmentally friendly!
- Turkey probed over shipment of Israeli-made electronic equipment to Iran that finally seized by UAE. Turkey continues to play the smart guy and so is Iran that it seems that slowly continues its nuclear (weapons) program. I almost sure that the day that Saudi Arabia will inform the world that has a dozen of nuclear weapons, is not very far away... perhaps sooner than Turkey!
- Boko Haram changed suicide bombing *modus operandi*: instead of teenage boys and girls now they are using aged men. In addition, suicide vests moved from the waist to the thigh (clever) and clothing is clean and nity permitting access to guarded areas.
- A spate of deadly, ISIS-inspired bombings that rocked Indonesia's second-largest city in 24 hours were carried out by three families -- including their young children -- who targeted churches and the police. Perhaps a shift in *modus operandi* in Indonesia – not sure if children involved new about their explosive future their beloved parents were preparing for them...
- Mid-level criminals make up to \$900,000/£639,000 – more than double the U.S. presidential salary while entry level hackers make \$42,000/£30,000 – significantly more than the average U.K. graduate. Much better than a doctor fighting to save lives...



CBRNE-TERRORISM NEWSLETTER – May 2018

- Two years before Tokyo 2020 not a sound about hospital's CBRNE preparedness. Same for EXPO2020 in Dubai. Top secret or top gap? Still enough time to do things!
- There has been much speculation about the power and dangers of artificial intelligence (AI), but it's been primarily focused on what AI will do to our jobs in the very near future. Now, there's discussion among tech leaders, governments and journalists about how artificial intelligence is making lethal autonomous weapons systems possible and what could transpire if this technology falls into the hands of a rogue state or terrorist organization.
- Radicalization is still a huge and growing reality. De-radicalization is still a nonsense consuming tax payers' money...
- More Americans were killed or wounded by active shooters in 2017 than in any year since the Federal Bureau of Investigation began keeping track. Nearly 750 people were shot in 30 incidents. The shooters were of different ages, from different places, and motivated by different grievances. But all were men, and all acted alone.

Take care First Responders! Summer is just in the next corner! And Greece is just a few hours away!

The Editor-in-Chief



Almirida Bay – Crete Island



WATCH: Fires Started by Kites from Gaza Carrying Burning Fuel Scorch Southern Israel

Source: <http://www.thetower.org/6218-watch-fires-started-by-kites-from-gaza-carrying-burning-fuel-scorch-southern-israel/>

May 02 – A blaze started by kites carrying burning fuel have ignited fields in southern Israel requiring ten teams of firefighters to fight them, The Times of Israel [reported](#) Wednesday.



The fires were the largest since Palestinians participating in riots led by the terrorist group Hamas started adopting the tactic. The area affected by the fires were fields located near Kibbutz Be'eri close to Israel's border with Gaza.

The fires burned for hours and consumed dozens of acres of grasslands and agricultural fields. As of late Wednesday, the firefighters were reported to only beginning to get the fires under control.

The Israeli security forces have yet to develop a strategy to fight this tactic, referred to by the Times as "arson-by-kite," effectively. The threat to Israel from the fires belie claims of Hamas that the riots are non-violent.

The rioters have also attempted to tear down the fence separating Israel from the Gaza Strip.

During the five weeks of the riots, over 40 of the rioters have been killed by the IDF. A study by the Meir Amit Intelligence and Terrorism Information Center in late April [determined](#) that 32 of the 40 rioters killed at that point were tied to terror groups.

Defeating extremism in the Balkans

By Peter R. Neumann

Source: <https://www.euractiv.com/section/enlargement/opinion/defeating-extremism-in-the-balkans/>

May 03 – As a region deeply connected to the EU, the Western Balkans should no longer be forgotten. With Austria's upcoming presidency of the EU, it is high time to reboot the region's economic development and its integration into the Union, as well as recognise its progress in countering terrorism, writes Peter R. Neumann.

The Western Balkans are the European Union's most frequently forgotten neighbour. Long associated with ethnic conflict, unresolved border issues, organised crime and extremism, European policymakers have traditionally tried to keep the region at arm's length.

But this is neither possible nor practical anymore. The incoming Austrian Presidency of the European Union should not only push for further reforms and implement the "clear path for



accession”, which High Representative Federica Mogherini promised earlier this year, but also capitalise on the region’s progress, especially in countering extremism.

Having travelled across the Western Balkans as the OSCE Chairman’s Special Representative on Countering Violent Extremism, I quickly realised how deeply connected the region is to the rest of Europe. For example, after the wars of the 1990’s, the Western Balkans have become the principal source of illicit firearms in the European Union.

Nearly 40% of the citizens of Albania, Kosovo, or Bosnia-Herzegovina live as diaspora communities in Western Europe. The extremist networks that have mobilised young Bosnians, FYROM citizens or Albanians to fight in Syria spanned the entire continent. Several of the most influential radical preachers were based not in the region but in Sweden, Austria, and Germany.

There is also a risk of renewed ethnic tension, which would have negative consequences for the continent as a whole. Many of the countries in the Western Balkans are young and have brittle institutions.

The fault lines from the 1990s are still present and can easily be activated. Given how deeply shaken a more established country like France has been by recent attacks, one can only imagine their potential impact in deeply fractured societies like FYROM and Bosnia-Herzegovina.

Confronting extremism

The good news is that governments in the region seem to have recognised the problem. In Kosovo, the government has created intervention programmes and is training prison staff to spot early signs of radicalisation. During my visit to Pristina, several Western diplomats told me that these efforts are “serious and sincere”.

Albania was the first country in the region to produce a comprehensive national action plan against violent radicalisation, which makes the fight against extremism a national priority and has specified ten areas in which the country seeks to achieve “clear and measurable” progress.

Unlike many Western countries, the country’s counter-extremism coordinator is directly accountable to the prime minister. When I spoke to him, I was impressed by his knowledge of the issues and the strong emphasis on creating deep and sustained partnerships with civil society.

In Macedonia, the new government is no longer denying the problem and has reached out to international organisations to run programmes aimed at early detection. Likewise, the number of activities that are run by the government and the Islamic Community of Bosnia, often in collaboration with international partners, has increased dramatically since 2015.

Addressing root causes

More so than previously, governments in the Western Balkans are willing to concede the negative impact of the rigid and extremist interpretations of Islam that Gulf countries have exported to the region.

Strengthening the traditionally secular and pluralist Islam of the Balkans will be key to producing an authentic religious “counter-narrative”, which could resonate far beyond the region.

Ultimately, however, the appeal of jihadism – or other extremist ideologies – will only recede if the Western Balkans are able to develop a positive trajectory. Twenty years after the end of the Balkan wars, many countries remain in a state of political and economic paralysis. Nearly all the young people I have met during my visits to the region see no perspective for themselves other than migrating to Western Europe. As Austria is taking over the European Union Presidency, it will be essential not only to press for reform and take advantage of the renewed interest in countering terrorism and radicalisation, but also to spur the region’s economic development and its integration into the European Union.

The lessons from history are clear. If Europe does not help to solve the problems of the Balkans, the Balkans’ problems will – eventually – come to Europe.

Peter R. Neumann is the founding director of the International Centre for the Study of Radicalisation (ICSR) at King’s College London. He served as the OSCE Chairman’s Special Representative on Countering Violent Extremism in 2017.



Iran Wants To Retaliate Against Israel, But How?

Source: <https://www.meforum.org/articles/2018/iran-wants-to-retaliate-against-israel,-but-how>

Apr 30 – Syrian dictator Bashar Assad met with Alaeddin Boroujerdi, the chairman of the Iranian parliament's Committee for Foreign Policy and National Security, on Monday. They seemed cheerful as rumors mounted that Iran would retaliate for air strikes in Syria that have [allegedly killed Iranian personnel](#).

In early April, Ali Akbar Velayati, an adviser to Ayatollah Ali Khamenei, said that "Israel's crimes will not remain unanswered."



Syrian army sources have also indicated that there would be retaliation against Israel for US strikes in April. Iran is now humiliated, but it has a problem. Its options to retaliate are actually quite limited. Despite its influence and power in the region, Iran's assets are spread thin and do not involve the ability to confront Israel in a conventional way. Its air and naval forces are no match for Israel's.

But Iran is also constrained by two other problems.

Firstly, [Iranian President Hassan Rouhani spoke to French President Emmanuel Macron](#) about preserving the Iran nuclear deal on Sunday. US President Donald Trump is looking at a May 12 deadline to recertify the deal, but any retaliation by Iran can ruin any chances of keeping the deal in place.

Secondly, Lebanese elections are set to take place on May 6 and Iran's ally, Hezbollah, is trying to seek more seats in the parliament. Therefore, Iran must be careful because any retaliation could also impact its allies in the larger regional context.

Missiles

Amos Yadlin and Avner Golov argued in a 2013 paper that an Iranian missile attack constitutes the "main threat" against Israel. In 2018, this could now include the firing of missiles from Syria.

But this has been hampered by repeated air strikes on these missiles. For instance, the Hama strike on Sunday allegedly destroyed numerous ground-to-ground missiles.

Iran also has drones in Syria. One of them entered Israeli air space in February, provoking a major response against their launch site at the T4 airbase. So Iran's drone operators in Syria have also suffered losses, degrading their drone retaliation ability.

Striking at Jewish and Israeli sites abroad

Iran can, however, retaliate by striking at Israeli and Jewish sites abroad. Yadlin and Golov point to the "attacks in Buenos Aires in 1992 and 1994 against the Israeli Embassy and the AMIA Jewish Center" as examples of Iran attacking Israel through sites outside the country.

Iran's proxies, such as Hezbollah, have also previously targeted Israelis abroad, such as in the Burgas bombing in 2012 in Bulgaria. There have also been arrests of Hezbollah networks in Cyprus in 2012 and 2015 and an Iranian-sponsored attack on Israeli diplomats in India and Thailand in 2012.

Strike at Israeli and Western allies

Iran tends to view the US, Israel and US allies, such as Saudi Arabia, as part of the same list of enemies. In Khamenei's speech on Monday, he alleged that the US has a "plan to provoke some ignorant governments in our own region to confront the Islamic Republic. If these government officials gain some wisdom they won't confront the Islamic Republic, but if they stand against Iran, they will certainly suffer defeat." He also called on the US to leave the region.

After the Hama explosions on Sunday night, many pro-Syrian regime accounts pointed to the US as the culprit, even producing maps that showed the missiles flying from Tanf on the Jordanian border and claiming that nine missiles had killed 18 Iranian servicemen.

It is clear that Iran wanted to tie the US to the strikes. This would indicate that it was paving the way for possible retaliation against US interests as well.



Rouhani also told Macron that Trump's words and threats were violating the Iran deal. Thus, Tehran is paving the way to claim that it is a victim of the US and Israel and giving itself the permission to attack different targets.

Harassing the US in Syria

But the question remains: How can an attack manifest itself?

On Sunday, pro-regime forces attacked the US-backed Syrian Democratic Forces near the Euphrates River.

Was that a probing attack? Could Iran's proxies harass US interests in eastern or southern Syria? Might they seek to cause trouble in the Persian Gulf?

The Iranian octopus across the Middle East has numerous allies and networks, but no single one of them is very powerful. For instance, in Iraq there are large numbers of militias that support Iran. Together they are a large force, but their ability to do much against US interests there is limited. And any large attacks by them would risk angering the local government that supports them.

The same is true in Lebanon. Any major act by Hezbollah brings the risk of its destruction by Lebanon and of its enemies using it as an excuse to encourage its destruction.

Tehran's risks

In Syria, Iran knows that it risks alienating Russia if it stirs up trouble with Israel.

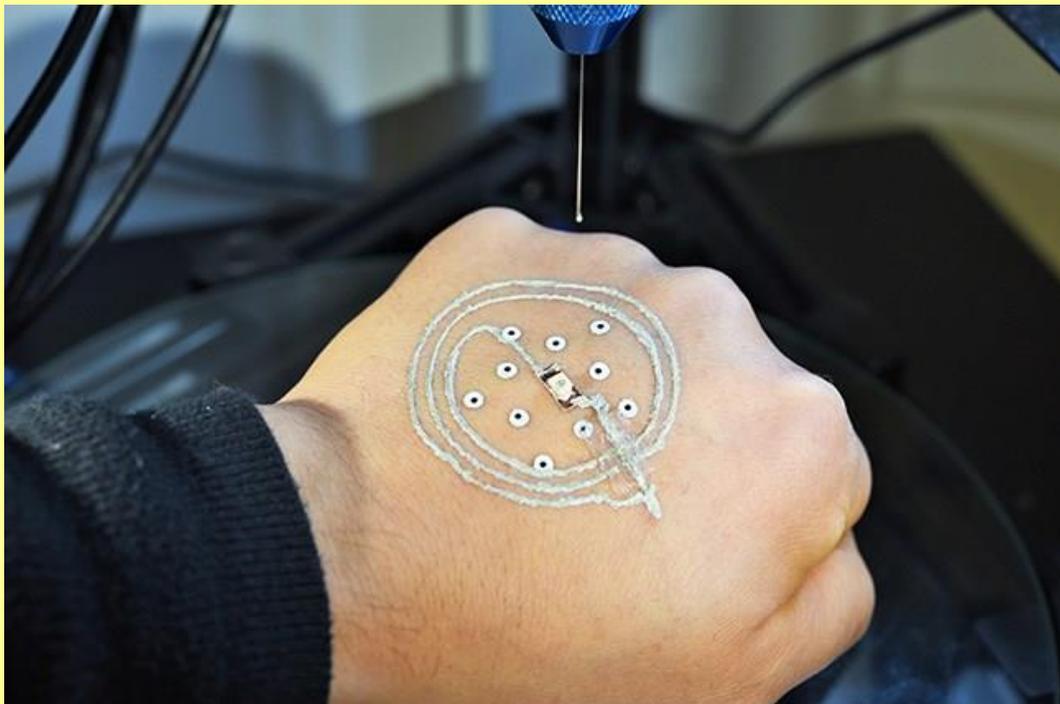
Every Iranian base in Syria has essentially led to air strikes in Syria, destabilizing the regime and making it look weak.

Russia's main interest is the survival of the Assad regime. So Iran is undermining the very regime it pretends to support. Russia doesn't want to be provoked into a showdown with Israel because of the ayatollah's hubris. Iran has received messages in the past that more bases or provocations or attacks against Israel may result in the Assad regime suffering grievously.

How much can Iran risk? How much are its proxies willing to risk? This is the deadly calculation Tehran must make before it can make any move toward retaliation.

Printing Sensors on Skin will Revolutionize Battlefield

Source: <https://i-hls.com/archives/82786>



May 02 – For the first time, researchers have used a customized, low-cost 3D printer to print electronics on a real hand. The technology could be used by soldiers on the battlefield to print temporary sensors on their bodies to detect chemical or biological agents or solar cells to charge essential electronics. The technique could lead to new medical treatments for wound healing and direct printing of grafts for skin disorders.

Michael McAlpine, the study's lead author and the University of Minnesota Benjamin Mayhugh Associate Professor of Mechanical Engineering, said they were excited about the potential of this new 3D printing technology using a portable, lightweight printer costing less than \$400. "We imagine that a soldier could pull this printer out of a backpack and print a chemical sensor or other electronics they need, directly on the skin. It would be like a 'Swiss Army knife' of the future with everything they need all in one portable 3D printing tool."

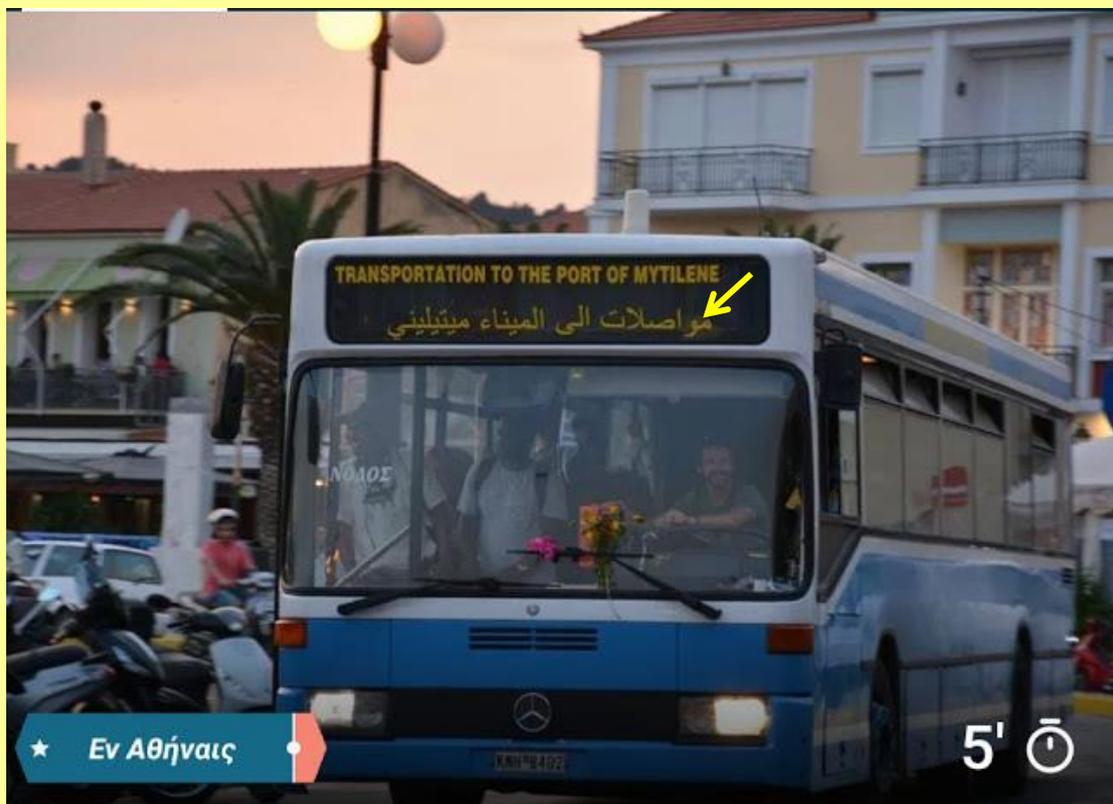
According to dpaonthenet.net, one of the key innovations of the technique is that this printer can adjust to small movements of the body during printing. Temporary markers are placed on the skin and the skin is scanned. The printer uses computer vision to adjust to movements in real-time. The printer can track the hand using the markers and adjust in real-time to the movements and contours of the hand, so printing of the electronics keeps its circuit shape.

This 3D printing technique uses a specialized ink made of silver flakes that can cure and conduct at room temperature. This is different from other 3D printing inks that need to cure at high temperatures (up to 100°C) and would burn the hand.

To remove the electronics, the person can simply peel off the electronic device with tweezers or wash it off with water.

In addition to electronics, the new 3D printing technique paves the way for many other applications, including printing cells to help those with skin diseases.

Shame on Greeks



Island of Lesbos – Capital city of Mytilene: one of the many gates of European Union! Ha!



Hezbollah and allies win majority in Lebanon elections

Source: <http://www.homelandsecuritynewswire.com/dr20180507-hezbollah-and-allies-win-majority-in-lebanon-elections>

May 07 – The steady growth of Iran’s influence in the Middle East is continuing. The 2003 U.S. invasion of Iraq turned that country from a Sunni-led arch-enemy of Iran to a cooperating Shi’a-led ally. The Shi’a Huthi rebellion in Yemen has turned that country from a Sunni-led friendly neighbor of Saudi Arabia into a base of Iran-supported military threats to Sunni Gulf states. Iran has used Assad’s victory in the Syrian civil war to begin turning Syria into a forward military base against Israel – something Israel has been trying to stop with military strikes against Iranian military installations in Syria.

Sunday brought more good news for Iran. **The Iran-backed Hezbollah group and its allies are expected to take more than half the seats in Lebanon’s parliamentary elections.**

The elections were the first in Lebanon in nine years.

Reuters [reports](#) that results from Lebanon’s parliamentary elections indicate that the Iran-backed Hezbollah group and its political allies would gain a simple majority.

This outcome would go beyond cementing the Shiite Hezbollah’s dominance of Lebanon. It would be a major step forward in Iran’s ambitious plan of becoming the hegemonic power in the region.

This latest Iranian victory is sure to increase concern among Iran’s rivals — Saudi Arabia, Israel, Turkey, and Egypt – and in the United States.

Hezbollah, founded in the early 1980s to fight Israel’s occupation of southern Lebanon, has been designated a terrorist group by the United States (the EU has designated Hezbollah’s military wing as a terror group, but regards Hezbollah’s political party as a legitimate actor in Lebanon).

Hezbollah has already been in complete control of south and east Lebanon, but its takeover of the entire country would raise questions about billions of dollars in U.S. military and economic aid to Lebanon, as well as international aid in which the United States is involved.

U.S. law not only prohibits providing aid to terrorist groups, but requires that the United States punish countries and private organizations and companies which provide such aid.

The election is the first vote under the new proportional system, which redrew constituency boundaries and changed the electoral system from winner-takes-all to a proportional one.

The election system has been changed, but not the Lebanese constitution, which divides the major positions of power among the country’s ethnic and religious groups.

Lebanon’s power sharing system mandates that the prime minister must be a Sunni. This means that Rafik Hariri, a Sunni whose party lost about a third of its seats in Parliament, will likely continue in his position.

In a speech to the nation, Hariri urged the international community to regard the electoral results in “a positive way.”

He pledged to continue working with President Michel Aoun, a Christian who is an ally of Hezbollah.

Analysts say that the election results notwithstanding, the complicated – and rigid – sectarian balance of power would remain mostly unchanged.

Innovative Solution for Stadium Security

Source: <https://i-hls.com/archives/82865>

May 07 – In the age of unmanned aerial vehicles proliferation, securing large events has become a complex task. UAVs are becoming increasingly more popular and capable, and therefore more of a concern for stadium security personnel and law enforcement. Stadiums and event venues have therefore been taking an in-depth approach to security.

Digital Global Systems (DGS) offers the CLEARSKY Stadium RF management & Counter UAV (C-UAV) solution, which provides long-range drone detection and protection, as well as RF situational awareness.



The company delivers advanced situational awareness solutions for the Critical Asset Protection market



globally. By combining their long-range UAV detection and defense solution with the ability to locate anomalous RF signals, DGS provides an advanced UAV threat management solution plus the ability to identify interference, wireless jamming, eavesdropping, and unauthorized communications that impede stadium operations and safety.

The company's patented technology aids frequency coordinators by locating open channels for first responders in the event of an emergency. The solution raised the interest of the US National Center for Spectator Sports Safety and Security (NCS4).

This Solution Will Enable Finding Small Targets in Ocean

Source: <https://i-hls.com/archives/82841>



May 06 – Whether searching for refugee boats at long range, enforcing fisheries protection rights, stopping drug runners, or rescuing people in water, patrol aircraft need all the tools they can get to find small targets in huge bodies of water. Schiebel and Overwatch Imaging successfully integrated PT8 Oceanwatch, a small target detection payload, on the CAMCOPTER S-100 Unmanned Air System.



Oceanwatch is a solution for applications such as intelligence, surveillance and reconnaissance gathering, search and rescue, anti-piracy and other maritime security operations, according to defenseworld.net.

The S-100 is a Vertical Takeoff and Landing VTOL UAS with proven capability for military and civilian applications. It operates day and night, under adverse weather conditions, with a range out to 200 km, both on land and at sea. The S-100 navigates automatically via pre-programmed GPS waypoints or can be operated directly with a pilot control unit.

The Oceanwatch delivers an image-based wide area maritime search capability that extends the coverage area and makes the CAMCOPTER S-100 a naval patrol solution.

Oceanwatch uses a purpose-built multi-camera gimbal with onboard artificial intelligence software to automatically detect and locate objects of interest. Detections are shared in real time with mission management tools, and coordinates are sent to video payloads for additional analysis, according to the company website.

Oceanwatch autonomously detects small targets on the ocean surface, greatly outperforming conventional cameras that face insurmountably large areas when zoomed in and invisible targets when zoomed out.

EDITOR'S COMMENT: A very interesting solution for spotting small boats transferring illegal immigrants from Turkey to Greece. And then what? Nothing! So better keep it for SaR operations.

Improving fingerprinting technology

Source: <http://www.homelandsecuritynewswire.com/dr20180509-improving-fingerprinting-technology>

May 09 – Fingerprint capture technology has advanced to the point where high-quality rolled prints soon might be obtained without the manual assistance of a trained device operator, according to a new report issued by the National Institute of Standards and Technology (NIST). These advancements could help law enforcement collect information-rich prints more rapidly and economically. The document, [NIST Interagency Report \(NISTIR\) 8210, Nail to Nail Fingerprint Challenge: Prize Analysis](#), details the methods used in a recent [IARPA-sponsored challenge](#) whose overall goal was to improve fingerprint capture technology. Eight finalists from industry and academia took part in the competition's finale, the results of which IARPA announced at a March 21 workshop.

NIST's role was to design the experiment and evaluation criteria so that IARPA could determine the prizewinners. The report details this background for organizations that may want to work on their own approaches to the problem, which is not yet fully solved despite the advances the challenge delivered.

"One of the competitors brought a solution that can provide images at the capture speed,

reliability and typical quality level of the traditional, operator-assisted system," said NIST's Elham Tabassi, one of the report's co-authors. "The one caveat is that someone was watching and providing feedback to the user from a distance."

NIST [says](#) that the ideal solution would require no assistance whatsoever, but even limiting the requirement to verbal guidance would represent an improvement over conventional print-capturing methods. Obtaining a high-quality image of an entire fingerprint—from one side of the nail around the fingertip to the nail's other edge, or "nail to nail"—is a demanding task. It typically requires the assistance of a skilled operator who physically grasps and rolls the person's fingers, a time-consuming process that can make the person feel awkward.

"Requiring a skilled operator in a high-speed environment like a port of entry is costly, and it can constrain print collection," Tabassi said. "Plus, for many civilian applications, plain finger impressions provide sufficient information for verification of identities, so many real-world applications end up taking plain fingerprint impressions instead."



Plain impressions are the commonplace sort that only need a flat press of the finger, like on a modern smartphone. While they are easier to obtain without assistance, they lack detail from the edges of the finger that can be important when searching through a database of prints taken from crime scenes, for example. These unintentional (or *latent*) prints are often partial or off-center, showing the sides of a fingertip or bits that only a nail to nail scan would capture.

“The challenge’s overall results show that the winning device is ready to produce images,” Tabassi said. “The remaining issue is how to ensure that the device can produce high-quality prints without the verbal feedback from a moderator.”

As the effort to develop a fully autonomous solution continues, the NIST report will serve as a resource for anyone who wants to design or perform a technology evaluation of fingerprint capture devices, Tabassi said. It details the experimental design and the metrics on how to evaluate the fingerprint capture technology while highlighting the parameters and

constraints research teams will need to consider to obtain useful answers.

“The report focuses on ensuring that future studies will be effective,” she said. “There are many questions you need to address concerning sample size, distribution of gender and profession. You have to ask these questions or your results will be skewed toward one population group.”

Tabassi added that raw fingerprint data obtained through the challenge will be publicly released for biometric research purposes. Specifically, NIST and IARPA will release a set of nail to nail baseline and latent fingerprints from 200 study participants who consented to making their fingerprints available. All the information that could connect a specific individual to a fingerprint will be scrubbed out.

To be notified when the data are ready for release, visit the [N2N Fingerprint Capture Challenge](#) website. Once available, researchers will be able to complete a web form and download the data directly.

Israel-Iran clashes: Latest updates (May 11, 2018)

Source: <http://www.homelandsecuritynewswire.com/dr20180511-israeliran-clashes-latest-updates>

Iran did not ask permission from, or notified, Syria’s government before launching missiles at Israel

Iranian forces in Syria did not ask the Syrian government for permission, or even notify Syrian leaders, before launching twenty missiles at Israel just after midnight on Thursday, [Fox News reported](#).

Fox News said it had learn from European sources that, “The Iranian major general in charge of the Al-Quds Force in Syria, Qassem Soleimani, launched last night’s attack against Israel without the knowledge or the consent of the Assad regime.”

Russia warned Iran not to go ahead with missile launch at Israel

Russia reportedly issued a “warning” to Iran hours before twenty missiles were fired at the Golan Heights from Syria, a launch which prompted a massive Israeli counter-strike.

The London-based, Saudi-owned newspaper [Asharq Al-Awsat](#) reported Friday that [Russian deputy foreign minister Sergei Ryabkov](#) had conveyed the unspecified warning to his Iranian counterpart, Abbas Araghchi, in Tehran on Wednesday.

The warning came after Israeli Prime Minister Benjamin Netanyahu met Wednesday in Moscow with President Vladimir Putin. In the meeting, Netanyahu offered Putin a detailed presentation about the growing military presence of Iran in Syria, and with the latest Israeli intelligence information about Syria’s planned military moves against Israel.

Russia will not sell advanced S-300 air defenses to Syria

An aide to Russian President Vladimir Putin said Friday that Moscow has no current plans to sell an advanced air defense system to Syria.

Vladimir Kozhin, a member of Putin’s inner circle, told the [Izvestia](#) that there has been no talk of delivering the S-300 system to Damascus.

Kozhin’s comments also come two days after Prime Minister Benjamin Netanyahu traveled to Russia for talks with Putin focusing on “ensuring ongoing military cooperation in Syria.”



Just before Netanyahu met with Putin, Russian Deputy Defense Minister Alexander Fomin said that a decision had not yet been made on supplying Syria with advanced air defense systems.

Syria's air defenses currently deploy Russian-made long-range SA-5, also known as the S-200; high-altitude SA-2, aka S-75; short-to-medium range SA-22, aka Pantsir-S1; and the SA-17 medium-range air defense system, aka Buk.

Israeli air strikes on 10 February destroyed nearly 50 percent of Syria's air defense systems. The Israeli attack came in response to Syrian air defenses launching anti-aircraft missiles at Israeli planes engaged in attacking Iranian targets on Syrian soil. In its attacks, Israel has systematically destroyed missile launchers, radar installations, command-and-control facilities, and communication nodes. In previous military operations – for example, Israel's September 2007 destruction of a Syrian nuclear reactor — Israel had also demonstrated the ability to paralyze and blind the Syrian air defenses by remote software manipulation.

Israel calls on Assad to “throw” the Iranians out of Syria

Avigdor Lieberman, Israel's defense minister, on Friday called on President Bashar al-Assad to “throw” the Iranian forces out of his country.

In a visit to the northern city of Ktazrin, Lieberman said: “I want to use this opportunity to give Assad a message,” he said. “Throw out the Iranians, through out Qassem Soleimani and the Quds force. They don't help you, they only harm you, and their presence causes only problems and damage.”

Israel destroyed “nearly all” of Iran’s military infrastructure in Syria

Source: <http://www.homelandsecuritynewswire.com/dr20180511-israel-destroyed-nearly-all-of-iran-s-military-infrastructure-in-syria>

May 11 – On Wednesday night, in the largest Israeli air campaign against Syria since the 1973 war, and the largest-ever direct clash between the Iranian and Israeli militaries, Israel launched 70 missiles – 60 air-to-ground missiles fired from 28 F-15 and F-16 flying over Syria and Lebanon, and 10 surface-to-surface missiles launched from inside Israel — at key Iranian military targets all across Syria.

The Israeli attacks destroyed more than 45 important Iranian military infrastructure targets – airfields, missile production facilities, rocket launchers, command-and-control centers, intelligence centers, observation posts, arms depots, military storage facilities, logistics hubs, training bases, and more.

The main goal of the attack was to destroy sixteen sprawling military and logistical hubs which served as the spine of the growing Iranian military presence in Syria.

Israel has also destroyed a number of Syrian air defense systems — Russian-supplied SA-5, SA-2, SA-22, and SA-17 batteries — which had launched anti-aircraft missiles at Israeli planes, ignoring the Arabic-language IDF spokesperson explicit warning that “any Syrian involvement will be met with the utmost severity.”

On 9 April, Israel destroyed about 40 percent of Syria's air defenses in response to Syria shooting down an Israeli F-16 on its way back from attacking the Iranian T-4 army base inside Syria.

Wednesday attacks killed at least 23 fighters, including five Syrian regime troops, 8 Iranian officers, and 10 members of Shi'a militias from Iraq and Afghanistan which Iran has deployed to Syria.

Israel's massive retaliation was a response to twenty Grad and Fajr-5 rockets fired earlier Wednesday evening by Iranian forces from inside Syria at Israeli military bases in the northern Golan Heights. Israeli Iron Dome defenses intercepted four of the Iranian rockets which were about to enter Israel's air space, and 16 of the Iranian rockets fell inside Syria.

Israel's Defense Minister Avigdor Liberman said that the Israel had destroyed “nearly all” of Iran's military infrastructure sites in Syria.

Since 2012, Iran has invested about \$11 billion in building this infrastructure.



Israeli rocket experience shows bomb shelters matter as much as interceptors

By Michael J. Armstrong

Source: <http://www.homelandsecuritynewswire.com/dr20180511-israeli-rocket-experience-shows-bomb-shelters-matter-as-much-as-interceptors?page=0,1>



May 11 – The conflict between Israel and Iran emerged from the shadows early Thursday morning. Forces allegedly backed by Iran [fired 20 rockets](#) from Syria into Israel's [Golan Heights](#) positions. Israel replied with 50 airstrikes against [Iran's military infrastructure in Syria](#).

Israel is worried about Iranian-backed forces like Hezbollah in Syria and Lebanon. It claims they have [100,000 to 150,000 rockets](#). To keep them from getting more advanced missiles, Israel periodically launches airstrikes there.

The latest happened Tuesday, striking [a weapons base in Syria](#). One in April [triggered an earthquake-scale explosion](#).

Other countries face rocket and missile threats too. On Wednesday, [Houthi rebels fired ballistic missiles](#) (allegedly Iranian-supplied) at Saudi Arabia. Iran's growing missile arsenal alarms its Arab neighbors. Half a world away, the U.S. worries about North Korean ICBMs.

It's not surprising then that missile interceptors are in fashion. Israel credited its [Iron Dome](#) system with intercepting four rockets on Thursday. Saudi Arabia employs American-made Patriots, though their [effectiveness has been questioned](#). In March, U.S. Congress approved an [\\$11.5 billion missile](#) defense budget. Some [U.S. lawmakers want Iron Dome](#) too.

Civil defenses deserve attention

By contrast, civil defenses like warning sirens and bomb shelters receive less press coverage. [Spectacular interceptor launches](#) are more photogenic than concrete block houses.

But Israel's own experience shows civil defenses deserve at least as much attention as interceptors. That's why it [reopened public bomb shelters](#) near its northern border earlier this week.

That's also why, from 2005 to 2014, Israel [spent \\$384 million to reinforce buildings](#). By 2014, more than [70 per cent of homes](#) had shelters. More shelters have been built since then, especially in the south. The northern region is [less well-equipped](#).



The country simultaneously invested another US\$140 million in rocket warning systems. Loud speakers and cellphone apps give increasingly precise alerts.

Israel was divided into only 25 warning zones in 2006. [That grew](#) to 127 in 2012 and 200 in 2014. The count hit 248 in 2015, and may soon reach [3,000 zones](#).

Even interceptor advocates agree civil defenses save lives and prevent injuries. An [analysis of the 2006 Second Lebanon War](#) between Israel and Hezbollah noted that most rocket deaths involved people out in the open. Rocket fatality rates declined once warning systems were fine-tuned and residents learned to take shelter.

The benefits of civil defenses have also been observed for rocket fire from Gaza. For example, they [helped reduce casualties](#) during Israel's Operation Cast Lead against Hamas militants there in 2008-2009. Some 617 rockets landed in Israel during the conflict.

[One study](#) estimated that southern Israel's defenses reduced rocket casualties by at least a factor of three from 2000 to 2010. For example, suppose residents had not received warnings and taken shelter during Cast Lead. There could have been more than 423 rocket injuries instead of 141.

Interceptors or shelters?

[My own research](#) indicates that losses on a per-rocket basis continued to drop after Cast Lead. That was despite rising rocket sizes and ranges.

[Interceptor advocates credit Iron Dome](#) for those decreases. But the data suggest civil defense enhancements were at least as effective as the interceptor deployments.

How much can be attributed to civil defense improvements? Consider [Operation Pillar of Defense](#).

During eight days in 2012, Israeli airstrikes pounded Gaza while Hamas militants fired 1,506 rockets at Israel.

According to my calculations, death and injury rates per rocket in that conflict fell 36 per cent relative to Cast Lead. The improvements therefore prevented roughly three extra deaths and 135 extra injuries. That's on top of the pre-existing protection provided by Cast Lead-era shelters.

The benefits were bigger during [Operation Protective Edge](#) in 2014, which involved more than 3,000 rockets. My study suggests civil defense enhancements cut fatalities 71 per cent and casualties 75 per cent compared to Cast Lead. That avoided about five deaths and 250 injuries, again on top of the benefits from previously built defenses.

Other advantages

Civil defenses also offer advantages over interceptors. One is price. Iron Dome ammunition reportedly costs over \$100,000 per shot. Other interceptors are even pricier. By contrast, shelters and warning systems involve minimal usage costs.

Civil defenses also tolerate large salvos almost as well as individual rockets. By contrast, too many rockets arriving at once could [overwhelm an Iron Dome battery](#).

That risk hasn't mattered against Hamas' relatively small salvos. But it could be a problem against Hezbollah forces potentially firing 1,000 rockets daily, or against attackers using decoys to distract interceptors. ([Machine gun bullets](#) apparently will do the trick.)

Of course, interceptors offer advantages too. Successful interceptions protect people and property. Shelters, on the other hand, only protect people, and only if they're inside.



The best approach combines interceptors and civil defenses in mutual support. Unfortunately, even that can't completely prevent missile deaths and injuries. It also doesn't prevent their disruptions to daily life and economic activity — all factors that leaders in Israel and elsewhere should consider carefully as they navigate these tense times.

Michael J. Armstrong is Associate professor of operations research, Goodman School of Business, Brock University.

3D printing of weapons: A threat to global, national, and personal security

Source: <http://www.homelandsecuritynewswire.com/dr20180514-3d-printing-of-weapons-a-threat-to-global-national-and-personal-security>

May 14 – While advances in additive manufacturing offer potential breakthroughs in prosthetic arms, jet engine parts, and a host of other products, 3D printing, as it is known, may also disrupt traditional labor markets and exacerbate existing security threats from violent actors.

A new RAND Corporation [paper](#) suggests additive manufacturing could benefit military adversaries, violent extremists and even street criminals, who could produce their own weapons for use and sale. As this technology further develops, and without proper controls, violent actors might be able to replicate more sophisticated weapons systems, print lethal drones, and even produce jamming devices or cheap decoys that disrupt intelligence collection.

3D printing technology is also susceptible to sabotage by hackers who could develop the means to instruct 3D printers to introduce flawed instructions or algorithms into mission-critical parts of airplanes, according to the paper.

“Lone-wolf attacks may become more lethal when individuals have ready access to 3D printers,” said [Trevor Johnston](#), lead author and an associate political scientist at RAND, a nonpartisan research organization.

Additive manufacturing may also indirectly allow countries under international sanctions, like North Korea and Iran, to produce complex items domestically, mitigating the economic impact of sanctions.

From an economic perspective, by decentralizing manufacturing, individuals and firms may choose to produce more products locally rather than importing them. 3D printing could therefore weaken international connections currently sustained by complex, multi-country supply chains, the authors conclude. That in turn may create upheaval in labor markets—and potentially intensify social conflict.

“Unemployment, isolation and alienation of middle and low-skilled laborers may be exacerbated by additive manufacturing together with automation and artificial intelligence,” said [Troy Smith](#), an author on the paper and an associate economist at RAND.



The paper finds the relative risk and cost of future threats will depend in part on the evolution and regulation of additive manufacturing hardware (printers), raw materials and software (intellectual property). Threat prevention will be more effective if focused on material controls.

By limiting supplies of rare or dangerous raw materials, regulators can at least ensure that some of the most destructive weapons (e.g., nuclear dual use technologies) do not become readily accessible. By monitoring online communities, law enforcement may be able to curtail digital exchanges of prohibited technologies but these measures can only contain the spread of such technologies for so long. Alternatively, law enforcement may themselves hack additive manufacturing software to disrupt potential attacks or limit their destruction.

The paper, "[Additive Manufacturing in 2040: Powerful Enabler, Disruptive Threat](#)," is part of a broader effort to envision critical security challenges in the world of 2040, considering the effects of political, technological, social and demographic trends that will shape those security challenges in the coming decades.

Funding for the [Security 2040](#) initiative was provided by gifts from RAND supporters and income from operations.

The research was conducted within the [RAND Center for Global Risk and Security](#), which works across RAND to develop multi-disciplinary research and policy analysis dealing with systemic risks to global security. The center draws on RAND's expertise to complement and expand RAND research in many fields, including security, economics, health and technology.

— Read more in Trevor Johnston et al., [Additive Manufacturing in 2040: Powerful Enabler, Disruptive Threat](#) (RAND, 2018); and Doug Irving, ["Four Ways 3D Printing May Threaten Security"](#) (RAND, 8 May 2018).

Peace in Gaza strip



Israel Seeks to Exclude Shin Bet Detainees From Minimum Cell Size Requirement

Source: <https://www.haaretz.com/israel-news/.premium-state-seeks-to-keep-terror-suspects-in-tiny-cells-1.6093710>



An Israeli prison guard keeps watch from a tower at Ayalon prison in Ramle near Tel Aviv February 13, 2013 REUTERS

May 16 – The Israeli government is seeking to exclude detainees who are questioned by the Shin Bet security service from a High Court of Justice ruling on prison conditions that requires prisoners to [have at least](#) three square meters (32 square feet) of cell space. Its reasoning is that applying the rule would damage the Shin Bet's ability to collect intelligence and combat terrorism.

The government's position was presented at a High Court hearing on Tuesday on a request by the state for an extension of time to comply with the prison space requirement. It asked that the hearing on the request be held behind closed doors in the absence of the representatives of the prisoners to explain to the judges why it was necessary to hold those being questioned by [the Shin Bet](#) under more cramped conditions. Prosecutors representing the Shin Bet also took the position that the court ruling does not in any event apply to Shin Bet detainees.

In response, however, Justice Hanan Melcer said "the problem is worst" in Shin Bet custody, although he was also highly critical of prison conditions in general. He demanded an improvement in the general situation and claimed that the current standards are highly marginal even by comparison to some non-democratic countries. Melcer also took a prosecutor to task for saying that the state is working on the problem. "Don't say 'the state.' Say 'the government.' We are the state too."

For his part, Justice Neal Hendel asked why the prosecutors were taking the position that the ruling does not apply to Shin Bet prisoners when the ruling makes reference to "each detainee and each prisoner." In response, senior prosecutor Aner Helman said the ruling did not relate to interrogation wings of prisons. Earlier in the hearing, the prosecutors addressed the court ruling as it applies to providing three square meters of space to the general prison population of 2,800, explaining that plans call for the requirement to be met in part by releasing prisoners and by having some of them housed in tents.



Lawyers for one of the petitioners on behalf of the prison population, the Association for Civil Rights in Israel, objected to the prosecutors' request to present evidence to the court on an ex parte basis – meaning in the absence of the other side in the case. The justices rejected ACRI's position, however.

"I am proud of the ruling but there are state security aspects here," said Justice Udi Shoham. "The questioning of security detainees, sometimes a ticking bomb and sometimes not, creates special circumstances and they need to be heard. Your opposition is outrageous." The petitioners then relented. In the course of the hearing, [the Shin Bet](#) presented information that was cleared for publication explaining its stance for excluding detainees being held for Shin Bet questioning from the ruling regarding minimum cell space. "Applying the ruling to detainees being questioned in the Shin Bet's interrogation facilities could cause significant, across-the-board damage to the Shin Bet's ability to collect intelligence and to foil terrorism," the statement said.

"This will lead to a substantial and drastic decline of roughly hundreds of investigations a year to foil [terrorism]. This decline will directly result in a drastic decline in the Shin Bet's capacity to collect intelligence in connection with the investigations, in putting [suspects] on trial and removing terrorism suspects [on the ground] and substantial harm to deterrence both in Israel and in Judea and Samaria [the West Bank]."

The Shin Bet added that changes to the "special character of Shin Bet facilities," as the agency termed it, "could lead to longer interrogations and harm the intelligence results." This Shin Bet's position was being presented with the knowledge of the agency's director, Nadav Argaman, it was noted.

A Criminal Gang Used a Drone Swarm To Obstruct an FBI Hostage Raid

By Patrick Tucker

Source: <https://www.defenseone.com/technology/2018/05/criminal-gang-used-drone-swarm-obstruct-fbi-raid/147956/>



May 03 – **Last winter, on the outskirts of a large U.S. city, an FBI hostage rescue team set up an elevated observation post to assess an unfolding situation. Soon they heard the buzz of small drones — and then the tiny aircraft were all around them, swooping past in a series of “high-speed low passes at the agents in the observation post to flush them,”** the head of the agency's operational technology law unit told attendees of the [AUVSI Xponential](#) conference here. Result: “We were then blind,” said Joe Mazel, meaning the group lost situational awareness of the target. “It definitely presented some challenges.”

The incident remains “law enforcement-sensitive,” Mazel said Wednesday, declining to say just where or when it took place. But it shows how criminal groups are using small drones for increasingly elaborate crimes.



Mazel said the suspects had backpacked the drones to the area in anticipation of the FBI's arrival. Not only did they buzz the hostage rescue team, they also kept a continuous eye on the agents, feeding video to the group's other members via YouTube. "They had people fly their own drones up and put the footage to YouTube so that the guys who had cellular access could go to the YouTube site and pull down the video," he said.

Mazel said counter surveillance of law enforcement agents is the fastest-growing way that organized criminals are using drones.

Some criminal organizations have begun to use drones as part of witness intimidation schemes: they continuously surveil police departments and precincts in order to see "who is going in and out of the facility and who might be co-operating with police," he said.

Drones are also playing a greater role in robberies and the like. Beyond the [well-documented incidence of house break-ins](#), criminal crews are using them to observe bigger target facilities, spot security gaps, and determine patterns of life: where the security guards go and when.

In Australia, criminal groups have begun have used drones as part of elaborate smuggling schemes, Mazel said. The gangs will monitor port authority workers. If the workers get close to a shipping container that houses illegal substances or contraband, the gang will call in a fire, theft, or some other false alarm to draw off security forces.

Andrew Scharnweber, associate chief of U.S. Customs and Border Protection, described how criminal networks were using drones to watch Border Patrol officers, identify their gaps in coverage, and exploit them.

"In the Border Patrol, we have struggled with scouts, human scouts that come across the border. They're stationed on various mountaintops near the border and they would scout ... to spot law enforcement and radio down to their counterparts to go around us. That activity has effectively been replaced by drones," said Scharnweber, who added that cartels are able to move small amounts of high-value narcotics across the border via drones with "little or no fear of arrest."

Nefarious use of drones is likely to get worse before it gets better, according to several government officials who spoke on the panel. There is no easy or quick technological solution. While the U.S. military has effectively deployed drone-jamming equipment to the front lines in Syria and Iraq, most of these solutions are either unsuitable or have not been tested for use in American cities where they may interfere with cell phone signals and possibly the avionics of other aircraft, said Ahn Duong, the program executive officer at DHS's homeland security, science and technology directorate.

The most recent version of the [FAA reauthorization](#) bill contains two amendments that could help the situation, according to Angela Stubblefield, the FAA's deputy associate administrator in the office of security and hazardous materials safety. One would make it illegal to "weaponize" consumer drones.

The other — and arguably more important — amendment would require drones that fly beyond their operators' [line of sight](#) to broadcast an identity allowing law enforcement to track and connect them to a real person.

"Remote identification is a huge piece" of cutting down on drone crime, Stubblefield said. "Both from a safety perspective... enabling both air traffic control and other UAS [unmanned areal systems] to know where another is and enabling beyond line-of-sight operations. It also has an extensive security benefit to it, which is to enable threat discrimination. [Remote ID](#) connected to registration would allow you to have information about each UAS, who owns it, operates it, and thus have some idea what its intent is," said Stubblefield.

But even if both amendments pass as part of the re-authorization, it will be some time before they take effect, so it will be the Wild West in America's skies a while longer.

Patrick Tucker is technology editor for Defense One. He's also the author of [The Naked Future: What Happens in a World That Anticipates Your Every Move? \(Current, 2014\)](#). Previously, Tucker was deputy editor for The Futurist for nine years. Tucker has written about emerging technology in Slate, The Sun, MIT Technology Review, Wilson Quarterly, The American Legion Magazine, BBC News Magazine, Utne Reader, and elsewhere.



What Is the Eye in the Sky Actually Looking at and Who Is Controlling It? Regulatory Opportunities in **U.S. Drone Law** - An International Comparative Analysis on How to Fill the Cybersecurity and Privacy Gaps to Strengthen Existing U.S. Drone Laws

Federal Communications Law Journal, 2017 (26 Jun 2017)

By Jennifer Urban

University of Mississippi, School of Law

Source (full paper): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2964559

This paper will argue that it is imperative regulations on UAVs address cybersecurity and privacy issues in order to remain on the forefront of technology within the aviation industry. Although it may seem like it is more important to establish basic laws on UAS, legislators need to work proactively, rather than retroactively, to prevent detrimental cybersecurity and invasion of privacy events from occurring.

Military Medicine Adapts to Future Battlefield

Source: <https://i-hls.com/archives/83036>



May 17 – The demands of future battlefields will force the military medical community to prepare for operational environments that are vastly different. Enemy air superiority may not allow the U.S. military to fly critically wounded soldiers to well-equipped hospitals in far-off countries, so field hospitals may have to rely on new, robotic technology to save patients.

Robotic surgery, which is currently used in non-invasive procedures, could be adapted to meet the Army's needs. U.S. Army physicians, located far from a field hospital, could soon be performing delicate, highly specialized surgery on wounded soldiers using robotics and other forms of telemedicine, reports military.com.



Army Surgeon General Lt. Gen. Nadja West said “We might not have the life-saving ‘golden hour’ evacuation system we have been accustomed to for the past 17 years.” “Our soldiers may be isolated for 72 hours or more, requiring prolonged field care if injured in an austere environment.”

The US Army recently performed its first robotic surgery at the William Beaumont Army Medical Center in El Paso, Texas, using the **da Vinci Xi surgical system**, the next frontier for minimally invasive surgery, developed by Intuitive Surgery. The four-armed, minimally invasive robotic surgery system can be controlled by a surgeon using a high-definition 3D imaging system, which displays a magnified view of the patient’s anatomy.

The da Vinci Systems are not programmed to perform surgery on their own. Instead, the procedure is performed entirely by a surgeon who controls the system. The system uses specialized instrumentation, including a miniaturized surgical camera and wristed instruments, according to the company.

Using other forms of telehealth technology will allow a specialist to walk a medical professional through a critical procedure using satellite technology, West said.



EU asylum, borders and external cooperation on migration: Recent developments

18-05-2018

By Nikolai Atanassov, Costica Dumbrava, Maria-Margarita Mentzelopoulou and Anja Radjenovic

Source: [http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/621878/EPRS_IDA\(2018\)621878_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2018/621878/EPRS_IDA(2018)621878_EN.pdf)

This publication takes stock of recent EU developments in the area of asylum, borders and external cooperation on migration. It discusses key initiatives put forward by the EU in order to respond to migratory challenges, focusing on three major aspects: reforming the common European asylum system, strengthening the EU's external borders and reinforcing the EU's external cooperation on migration.

Virtual Counter-Terrorism Training within Real Environment

Source (video): <https://i-hls.com/archives/83043>

May 17 – With the number of terrorist-related incidents increasing globally, and the method of attacks evolving, regular proactive training that responds to these changing threats is becoming a necessity.



Virtual reality helps to bridge this gap by providing a cost-effective and rapid training solution. Virtual and augmented reality help recreate dangerous, threat-to-life scenarios, helping train counter-terrorism officers and aid workers. “Serious games” are applied to security training. Primarily, serious games are developed to train or educate users and are particularly suited for specialized or dangerous scenarios such as natural disaster response, surgery, firefighting or counter-terrorism operations. They simulate real-world events and processes with the purpose of providing unique challenges to improve a user’s problem-solving capabilities.



The **European Union's project AUGGMED** (Automated Serious Game Scenario Generator for Mixed Reality Training) has developed an online multi-user training platform for joint first responder and counter-terrorism training.



Virtual reality allows trainees to perform exercises within virtual reconstructions of the real world while interacting with virtual civilians and terrorists. However, augmented reality allows trainees to see and interact with virtual terrorists and civilians within the real world. Both technologies enable trainees to improve their decision making and gives them the experience of performing within stressful situations, according to the conversation.com.

The system was recently used by the Piraeus Port Authority in Greece to train for potential terrorist-related threats. Using augmented reality, on-site trainees in Piraeus worked alongside other trainees working remotely who were experiencing and responding to the same scenario through virtual reality. Together they had to effectively respond to a terrorist incident. This meant they had to assess the nature of the incident, before ensuring the safety of nearby civilians and neutralizing the threat.

Trainees from multiple agencies can train simultaneously and this enables collaborative training between different disciplines, such as the police force, security personnel and paramedics.

AUGGMED has been used to improve emergency service work across Europe and has been used by British police officers for critical incident response training.

Non-governmental organizations and humanitarian agencies are also exploring the use of VR to improve training. In 2017, a VR training simulation for the UN's International Organisation for Migration (IOM) called Advanced Training, Learning And Scenario (ATLAS) was designed to train civilian staff who work in dangerous environments to respond effectively to life-threatening situations.

Trainees experience a convoy attack and have to assess and respond to the situation effectively to survive. As part of the simulation, trainees are expected to identify the threat and find the safest method of escape.

Children often ignore what they learn at gun safety programs

Source: <http://www.homelandsecuritynewswire.com/dr20180518-children-often-ignore-what-they-learn-at-gun-safety-programs>

May 18 – Children who participate in gun safety programs often ignore what they learned when encountering a real firearm, according to a new study. The study found such programs do not reduce the likelihood that children will handle guns when they are unsupervised, that boys are more likely than girls to ignore gun-safety rules and that few studies exist of gun-safety programs for children beyond the fourth grade.

Children who participate in gun safety programs often ignore what they learned when encountering a real firearm, according to a [Rutgers School of Nursing](#) study.

[The report](#), published recently in [Health Promotion Practice](#), reviewed 10 studies on the effectiveness of strategies for teaching gun safety to children ages 4 to 9. The researchers found such programs



do not reduce the likelihood that children will handle guns when they are unsupervised, that boys are more likely than girls to ignore gun-safety rules and that few studies exist of gun-safety programs for children beyond the fourth grade.



Rutgers [says](#) that included among the findings from previous studies is that 85 percent of gun-owning parents did not practice safe gun storage and 72 percent believed their young children could differentiate a toy gun from a real gun.

The gun safety training approaches studied included “just say no” in which authority figures tell children to stay away from guns; skills-building approaches, which teach children skills to resist touching guns; and knowledge-based programs in which children are provided with video or printed material about gun safety.

“Most of the studies evaluated knowledge-based learning in which children sit in a classroom and are shown videos or handed papers with activities or information to teach them rules to follow if they should come across a gun,” said study co-author Cheryl Holly, a professor at Rutgers School of Nursing. “The studies found that even children who initially followed the rules after the training did not use the safety skills they learned weeks later when placed in a room with a nonfunctional gun. This leads us to question if young children can retain the gun-safety skills they learn over time.”

Holly, co-director of the [Northeast Institute for Evidence Synthesis and Translation](#), based at the School of Nursing, is a resident of Sandy Hook, Connecticut. She was prompted to study

gun violence after the elementary school shooting in her community.

“We wanted to look at gun violence from the perspective of children who were accessing guns in their homes and accidentally shooting themselves, parents and siblings,” she said.

“We wanted to see what educational strategies teachers and communities are using to teach gun safety to children, and how effective they really are.”

Gun safety training is essential, Holly said, because children in the United States have more access

to guns than those in other developed countries and because most unintentional shooting deaths by children occur in their homes or at the residence of a friend or relative. Firearm injuries are the [third-leading cause of death](#) for all children aged 1 to 17 and are responsible for [thousands of children](#) being treated for open wounds, fractures and brain and spinal injuries. In addition, children who witness firearm injury can experience psychological effects, such as fear, anxiety and elevated stress.

“Although programs that used active learning strategies, such as modeling, simulation or feedback, were slightly more effective at teaching gun-safety skills than programs that handed out literature, the majority still failed to teach the children to put what they learned into practice,” said Sallie Porter, assistant professor at the School of Nursing, who co-authored the study with Holly. “Children are very curious – especially about things that they have been warned not to handle.”

Mary Kamienski, a professor at the School of Nursing, and alumna Aubrienne Lim, a registered nurse at Saint Barnabas Medical Center, also contributed to the study.

The researchers concluded that safe gun storage is the best way to protect children and adolescents from gun injuries. Their advice: Lock the guns up and make sure



children cannot get the key or learn the access code, or better yet have a gun free-home.

“Gun safety education has value, but parents should not be complacent and feel comfortable that skills training alone will truly prevent their child from handling a gun,” Porter said. “Parents

often overestimate their children’s cognitive abilities and underestimate their physical abilities. They are wrong to think that their 4-year-old can’t climb to reach the gun safe or that their child is developmentally mature enough to know not to handle a gun.”

— Read more in Cheryl Holly et al., “School-Based and Community-Based Gun Safety Educational Strategies for Injury Prevention,” *Health Promotion Practice* (10 May 2018).



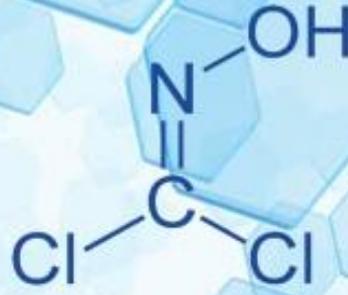
Greek summer!



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CHEM NEWS





US, Jordan troops practice response to hazardous materials

Source: http://www.theprogressnews.com/news/world/us-jordan-troops-practice-response-to-hazardous-materials/article_9ecf55d5-02c0-5589-9016-5ae59c78dfd7.html



Apr 22 – The drill was part of the annual 12-day "Eager Lion" military exercise involving more than 7,000 troops, including 3,500 U.S. service members. It was held near the Jordanian town of Zarqa, east of the capital, Amman.

EDITOR'S COMMENT: Drills are good – there is no doubt about this! But I would like to see drills executed to the perfection. With sufficient contaminated waste management along with waterproof PPE (this one looks like an ordinary non waterproof Level-C PPE).

The irony of 'the poor man's atomic weapon'

By Deandra Madeena Moerdaning

Source: <http://www.thejakartapost.com/academia/2018/04/23/the-irony-of-the-poor-mans-atomic-weapon.html>

Apr 23 – The first thing that comes to mind when we think of Weapons of Mass Destruction (WMDs) are probably the destructive effects of nuclear explosions. In terms of impact, nuclear warfare is the most catastrophic and the most sophisticated weapon ever created by humankind.

However chemical warfare is the most utilised type of WMDs in the 20th century. Since the Great War or World War I, until the most recent Syrian Civil War, chemical warfare, famously

dubbed "the poor man's atomic weapon", has been taking the world by storm and poses an enormous challenge to international security. Chemical weapons have been utilized in warfare throughout history. The first large-scale uses of chemical agents were during World War I, when the Germans released chlorine and phosgene gases on the battlefield. Soon after, all other parties began to develop their own arsenals and competed closely to



bring even more lethal chemical agents onto the World War II battlefields. Inevitably, during the Cold War, both the United States and the Soviet possessed extensive stockpiles of chemical weapons.

Another significant employment of chemical weapons was during the Iraq-Iran war in the 1980s. With the help of its Western suppliers, Saddam Hussein used chemical weapons against Iranian combatants and non-combatants, inflicting enormous human costs. Years after, also probably the turning point of chemical warfare, the Aum Shinrikyo doomsday cult perpetrated sarin nerve agent attacks in 1994 and 1995 in Matsumoto and Tokyo respectively. Before these incidents, chemical weapons were traditionally used by one state against another during wartime. The international community began to imagine the worst-case scenario – chemical weapons falling into the hands of non-state actors such as terrorist groups.

Chemical weapons again grabbed international attention since the extensive use of sarin during Syrian Civil War in August 2013 in the suburbs of the Ghouta region. The Ghouta chemical attack is considered the worst chemical incident in modern history since the Iran-Iraq war. Until now, both the Syrian government under President Bashar al-Assad and opposition forces denied responsibility for any chemical activities during the civil war. Consequently, the United Nations and Western countries have been paying close attention to chemical activities in Syria.

Arms control efforts have been taken to halt chemical weapons proliferation. The most significant arms control treaty regarding chemical warfare is probably the Chemical Weapons Convention (CWC) that entered into force in 1997.

The treaty prohibits the development, production, acquisition, stockpiling, and retention, transfer or use of chemical weapons by States Parties. To date, the treaty has 192 states-parties, including Indonesia. To ensure compliance of states-parties, the CWC mandated the Organization for the Prohibition of Chemical Weapons (OPCW) to monitor and inspect chemical facilities and activities. The OPCW is aimed at achieving total elimination of

chemical agents under states-parties' jurisdiction and control.

Given the timeline of chemical warfare, in comparison with nuclear weapons, chemical weapons activities require an extensive investigation by the OPCW fact-finding mission to determine the perpetrator of chemical attacks in Syria.

We have also learned that chemical weapons are in fact much less expensive and are relatively easier to manufacture compared to nuclear bombs. The Japanese cult incidents and Islamic State chemical activities, which include chlorine and sulphur mustard agents in Syria, have intensified our fear as they have manifested the reality of chemical terrorism.

Indonesia's stance towards chemical weapons is no different from its commitment to nuclear disarmament. Indonesia has never attempted to obtain chemical weapons and is one of the most active opponents of WMDs proliferation.

Indonesia is known to possess non-persistent choking agents such as riot-control agents, which is permitted by the CWC. Jakarta ratified the CWC in 1998, and since then it has maintained a strong relationship with the OPCW. As a form of Jakarta's support for the OPCW, Indonesia hosted a three-day meeting last year in Bali, to push forward universalization of the convention of nuclear weapons. The regional forum was intended for the CWC signatories in the Asia Pacific.

Indonesia also has law No. 9 of 2008 on the use of chemical materials and ban on chemical weapons. Additionally, Jakarta formed a special unit in the Indonesian Military to handle threats related to WMDs as well as established the National Chemical Weapons Authority through President Regulation no. 19/2017.

As for chemical activities in Syria, Indonesia strongly condemns the use of chemical agents against civilians. However, unlike its Western counterparts, Jakarta has never officially accused the Syrian regime of using chemical weapons. Indonesia, however, supported the investigation and called for the UN involvement to solve the matters.

Given its accessibility, chemical weapons are prone to fall into the hands of non-state actors. Like any country Indonesia has to protect itself from chemical



weapons use. Jakarta might not have a stockpile of chemical weapons, but it is of vital importance that the government prepare itself

for the worst possible scenario of chemical terrorism.

Deandra Madeena Moerdaning is a Master's graduate from King's College London's War Studies Department.

Chemical weapons agency: Inspectors took samples at second site in Douma

Source: <http://news.trust.org/item/20180425144514-uos28/>

Apr 25 – Inspectors with the global chemical weapons agency on Wednesday visited a second site in Syria's Douma and took samples to help them determine whether banned toxic munitions were used there.

The Organisation for the Prohibition of Chemical Weapons is investigating the deaths of dozens of people in the enclave outside of the Syrian capital on April 7.

The attack led to air strikes by the United States, France and Britain against sites in Syria. They accused the government of President Bashar al-Assad of using chemical weapons, possibly a nerve agent. Syria and its ally Russia have denied the accusation and said rebel forces staged the attacks.

The fact-finding mission (FFM) arrived in Damascus on April 14, but was delayed by a week before it could get to sites it deemed of interest.

Western powers accused Russia and Syria of stalling tactics to delay the process and of tampering with evidence that may have pointed to government involvement.

Samples taken from two sites will be returned to the OPCW's laboratory in the Netherlands and then sent on to affiliated laboratories for examination, the OPCW said in a statement. Those tests will determine whether or not chemical weapons were used.

The OPCW does not assign blame for chemical attacks and there is currently no mechanism that can do so after Russia vetoed a resolution to extend the mandate of a United Nations-OPCW mission in November.

The Russian delegation to the OPCW will hold a briefing on Thursday in The Hague at which it will present "some Syrians to speak about the reported Douma incident", the agency's statement said.

It was unclear who Russia planned to have speak, but the OPCW said they have not been interviewed by investigators.

"The FFM will continue to carry out its independent and impartial mission based on interviews with relevant people, its findings from the site visits, analysis of the sample results, as well as any other information and materials collected," it said. (Reporting by Anthony Deutsch Editing by Alison Williams and Hugh Lawson)

Preparing for America's worst day: Army multi-component exercise tests the force

Source: https://www.army.mil/article/204231/preparing_for_americas_worst_day_army_multi_component_exercise_tests_the_force

Apr 23 – Fields of debris, demolished vehicles and bodies of mannequins and live role-players laid across an entire town center; words on bed sheets, asking for assistance, hung over the roofs of buildings; and street poles laid fallen, while buildings were covered in plumes of smoke, and homes were submerged in a body of water.

The scene was not the set of Hollywood's next apocalyptic blockbuster film, but it was what U.S. Army Reserve, Army National Guard and active component Soldiers drove into at



Muscatatuck Urban Training Center for the U.S. Army Reserve's Guardian Response 18 exercise, April 2 to 28, 2018.



"This is a Defense Support to Civil Authorities exercise and it's to validate and ensure the readiness of our response force for a catastrophic event," said U.S. Army Reserve Col. Chris M. Briand, Chief of Staff, 78th Training Division and chief of operations for Guardian Response 18. "It is a (Chemical, Biological, Radiological, and Nuclear)-response enterprise which is comprised of three different elements across the active duty, the U.S. Army Reserve and the National Guard."

More than 4,500 service members from 80 units across the nation participated in the U.S. Army Forces Command-directed evaluation/capstone training event. In addition to all Army components participating in the exercise, elements from the U.S. Air Force as well as federal, state, and local agencies were involved.

"It really is about readiness in our forces and having the proper capability to respond to a catastrophic event anywhere in the homeland," said Briand. "And also to be able to develop those partnerships with the local communities and interagency (partners), and to be able to come and save lives, prevent human suffering and mitigate extensive property damage, which are the three tenants of the (DSCA)."

The U.S. Army Reserve's 84th Training Command and 78th Training Division planned, and coordinated as the execution control headquarters for Guardian Response 18.

"If you look at other exercises, we're usually preparing our capability and our readiness for the warrior abroad," said Briand. "But with this exercise, we're really talking about protecting the homeland and being ready and capable to respond to America's next worst day."

Briand further shared that readiness, partnerships and capabilities were some of the key focus areas for this exercise, and that the military's role was strictly a support role and that they would not be in charge of incidents in a real-world disaster.

"We (the Army) or Soldiers who respond to an event are not in charge," said Briand. "It's the state incident commander who is in charge. We are supporting here, but we in the exercise replicate the incident commander, the defense-coordinating officer, and all those state and federal agencies that assist in this response. We are playing those roles here."

The validation exercise sets realistic training for first responders through a notional 10-kiloton nuclear detonation scenario in a major city of the United States. The training audience brings a range of life-saving capabilities such as medical response, decontamination, technical



rescue, as well as patient evacuation, communications and logistics support to move people, equipment and supplies by land and air. The overall scenario developed for the training exercise was service members responding to an incident in support of civil authorities, several days after the incident occurred. Guardian Response 18 produced a variety of events for Soldiers including trench rescues, urban search and rescue operations, vehicle and subway extrications, and a mass casualty decontamination line, to name a few, while all in a contaminated CBRN environment. Maj. Gen. Ray Royalty, commanding general of the 84th Training Command, and exercise director for Guardian Response 18, toured the grounds at MUTC before the training audience arrived and met with the various planners and support staff for the exercise.

"The biggest take away (at Guardian Response 18) is the training, the dialogue and the understanding of the expectations of something like this really happening," said Royalty.

Once training units arrived on the ground, they established their work sites and sent out CBRN teams to check for radiation and decontamination levels ahead of deploying technical rescue teams to the impacted area.

U.S. Army Reserve Staff Sgt. Ian Kurtinitis, a firefighter with the 468th Engineer Detachment, based out of Danvers, Massachusetts, was a part of the training audience at Guardian Response 18, and conducted rescue missions in conjunction with the CBRN mass casualty decontamination line.

"Our specific mission is urban search and rescue and specifically, today, to search and rescue a contaminated environment," said Kurtinitis. "There's a subway station that we're working at and there are people trapped inside. Our mission is to gain access, extract patients and to assist anyone that is ambulatory and to extricate those who are non-ambulatory. But, we are coming into this (scenario) as we're assisting overwhelmed local entities who have been at this for several days."

Kurtinitis further shared that a unique skill of their training is the capability of performing technical rescue operations while in CBRN environment protective gear. He added that although civilian entities are trained in the same technical disciplines and Hazardous Materials teams, typically, civilian partners do not perform technical skill rescue operations while in CBRN protective gear.

"We're firefighters. Our (Military Occupational Specialty) is 12 Bravo, a firefighting unit, so a lot of these skills fall under our skill set, and this builds on it," said Kurtinitis. "We're still executing our job, but we're doing it at a much more technical and advanced level, so the upside is that you have people that want to be here, people that want to do the job, people that want to help others, so even in training, they approach it as a real-world event."

"There's never an issue with motivation or discipline. When (Soldiers) are out here working, they're 100 percent of the time going to execute the job that they're here to do," said Kurtinitis. "In an event like this, the added feature is that they have (live) role-players, so (Soldiers) get the exposure to patient packaging with a real person. You have to take care of that person because it's a real person that you're bringing out."

Once victims were rescued, they were transported or directed to the mass casualty decontamination line for triage, treatment and then transport to the closest medical facility.

"We sort them into groups to see who needs to go through first," said Spc. Christopher Custer, Combat Medic Specialist with the 409th Area Support Medical Company, based out of Madison, Wisconsin, who was receiving patients after they exited the decontamination tent in the MCD line. "I basically re-sort them to make sure that they're going to the right place for the right amount of treatment. After they are (decontaminated), they come to me and I re-direct them."

U.S. Army Reserve Spc. David Forcier, assigned to the 468th Engineer Detachment, was working on a team for urban search and rescue at a vehicle extrication site.

"There's been an event and we're here to rescue the victims out from inside of the vehicles," said Forcier.

"(The training) is absolutely phenomenal (in regards to) the amount of work that they are doing, and the rotations (that everyone is on). Everyone's doing a really good job at making sure that we're taking care of each other, and also taking care of the victims. (There is) a lot of good triage for the victims and making sure that the medical team is waiting for them, so when we extricate those victims, they are well taken care of and we're working really hard to make sure that every victim gets out in the least amount of time."



Training scenarios primarily were focused on search and rescue operations, decontamination and medical support capabilities, but units were also tested on events such as an outbreak of protests from displaced civilian role-players at their facility gates.

"When I approached, everyone seemed mad and slammed on the gate," said Pfc. Miguel Sanchez, with the 555th Transportation Detachment. "We tried to work with them and tried to work with their leader, but they were not compliant and said that they didn't have a leader. But you have to do the best that you can and calm them down as much as you can --- afterwards, the commander arrived."

"I think it's great," said Brig. Gen. Michael Dillard, commanding general of the 78th Training Division, and deputy exercise director for Guardian Response 18. "This is all about protecting the homeland. I think it's an excellent exercise for our Soldiers to understand what's important and how to work with the civilian authorities. Also, to collaborate and communicate with the civilian authorities, as it would occur, and what they would do if we were to be involved in an incident of this magnitude."

CBRNE Weapons & Islamic State – A Bad Combination

By Richard Schoeberl

The recent developments concerning the nerve agent attack in the United Kingdom and their alleged country of origin, Russia, have raised fears in the international community. The ease of the attack raises concerns about terrorists utilizing similar methods. This raises questions about the likelihood of a similar attack against the West.



The alleged Russian nerve agent, Novichok, used in the recent attacks in the United Kingdom is so scarce that rarely has anyone outside of Russia handled this type of agent. Russian chemist [Vil Mirzayanov](#), who now lives in the United States and helped design the agent Novichok, told NPR that he has no doubt that Russia was directly involved in the attempted murder of Russian ex-spy Sergei Skripal and his daughter Yulia Skripal. Although the chances are miniscule that criminals or a terrorist organization would be able to steal Novichok from inside Russia, it is concerning nevertheless that there have been previous instances where chemical, biological, radiological, nuclear, and explosive (CBRNE) weapons have been sold – or attempted to be sold – on the black market that came directly from Russia.

Source: <https://www.domesticpreparedness.com/journals/april-2018/>

Richard Schoeberl, has over 22 years of security and law enforcement experience, including the Federal Bureau of Investigation (FBI) and the Central Intelligence Agency's National Counterterrorism Center (NCTC). He has served at a variety of positions throughout his career, ranging from supervisory special agent at the FBI's headquarters in Washington, D.C., to acting unit chief of the International Terrorism Operations Section at the NCTC's headquarters in Langley, Virginia. Before his managerial duties at these organizations, he worked as a special agent investigating violent crime, international terrorism, terrorist financing, cyberterrorism, and organized drugs. He also was assigned numerous collateral duties during his FBI tour – including a certified instructor and member of the agency's SWAT program. In addition to the FBI and NCTC, he is an author and has served as a media contributor for Fox News, CNN, PBS, NPR, Al-Jazeera Television, Al Arabiya Television, Al Hurra, and Sky News in Europe. Additionally, he has authored numerous articles on terrorism and security. He is currently the Program Chair of Criminology and Homeland Security at Martin Methodist College.



Future of testing and treating chlorine gas attacks

Source: <http://www.homelandsecuritynewswire.com/dr20180425-future-of-testing-and-treating-chlorine-gas-attacks>

Apr 25 – After chemical weapons attacks, doctors must quickly try to determine which chemical agent was used so that appropriate countermeasures can be employed to try to save lives and limit damage to those exposed.

SLU [says](#) that between 2002 and 2006, David Ford, professor of biochemistry and molecular biology at Saint Louis University, made a discovery of a family of lipids that had not previously been identified in humans.

“My lab discovered chlorinated lipids,” Ford said. “They are made in the body under conditions where there is inflammation, such as sepsis. They are made as a result of white blood cells executing chlorination reactions to kill bacteria. These lipids are also the best biomarkers of chlorine gas exposure that are available.”

Chlorine gas exposure initially causes severe lung injury, followed by hypotension and multiple organ failure.

“The production of these chlorinated lipids has been compared to various stages of fire,” Ford said. “A small amount of inflammation in a healthy person is like striking a match with a small increase in the production of these lipids. Sepsis is 20 to 50-fold greater than that, like a bonfire. And exposure to chlorine gas is like a bomb has gone off in the body, causing over 1000-fold more chlorinated lipid compared to no exposure.”

Over the past five years, Ford’s work has been funded in part through the [CounterACT](#) network, a collaborative effort of the National Institutes of Health and the U.S. Department of Defense, which has awarded multiple grants via a collaboration with Sadis Matalon and Rakesh Patel at the University of Alabama at Birmingham (UAB).

This research examines how halogen gases like chlorine damage the lungs and other organs with the aim of developing countermeasures that could be given after exposure to save lives and limit the devastating damage to the body caused by chlorine gas.

SLU notes that among other findings, Ford and his collaborators learned that they could discover exposure to chlorine gas by detecting the presence of reaction products of chlorine. In a 2016 paper, Ford reported that chlorinated lipids remain high even 24 hours after exposure, long after other biomarkers have returned to normal levels.

Testing for chlorinated lipids currently requires a mass spectrometer, which isn’t conducive to quick testing in the field. As research continues, Ford hopes to develop a point-of-care test that would allow doctors to test for chlorinated lipids on site.

Researchers also hope their work leads to the development of countermeasures that can be taken to save lives following chlorine gas attacks as well as accidental chlorine exposure.

Why are chemical weapons worse than other weapons of mass destruction?

By William Schabas

Source: <https://www.theguardian.com/commentisfree/2018/apr/25/chemical-weapons-mass-destruction-syria-nuclear>

Apr 25 – When the British, French, and American governments used force against Syria earlier this month, they claimed they were acting to ensure respect for international law. Yet the use of force without the authorisation of the United Nations security council is contrary to the charter of the UN. There is something bewildering about violating international law in order to promote the enforcement of international law. If there is a taboo on the use of chemical weapons, why is there not also a taboo on the unilateral use of armed force, contrary to international law? Does one taboo trump the other?



That three nuclear powers express outrage about inhumane weapons has a ring of cynicism. Their conduct recalls that of tobacco companies howling about the health dangers of electronic cigarettes. Although couched in humanitarian language, the real motives of the United States, France and Britain may have more to do with protecting a monopoly on weapons of terror.

The use of chemical weapons in the Syrian civil war appears to be occasional and somewhat isolated, rather than systematic. In a conflict [responsible for the deaths of 500,000 people](#), most of them civilians, the casualties from chemical weapons probably number in the hundreds. The use of chemical weapons is hardly the only serious violation of international humanitarian law to feature in the conflict.

Many categories of weapons are prohibited by specific treaties and declarations that form part of international law. The earliest such rule dates back exactly 150 years. The [St Petersburg Declaration of 1868](#) condemned the use of exploding bullets. The pre-first world war [Hague Conventions](#) established that “the right of belligerents to adopt means of injuring the enemy is not unlimited”. They expressly prohibit “poison or poisoned arms”. After the 1914-18 war, British government lawyers prepared criminal charges against Kaiser Wilhelm II for the use of poison gas and “liquid fire” by German forces. A century later, lists of prohibited weapons include asphyxiating gas, cluster munitions, anti-personnel mines and blinding laser weapons.

The international court of justice has affirmed a general principle prohibiting the use of any weapon that is inherently indiscriminate or that causes unnecessary suffering or superfluous injury. This formulation was incorporated into the [Rome statute of the international criminal court](#), where the use of such weapons is labelled an international war crime. But the provision in the Rome statute is a hollow shell, a rhetorical device, a law without teeth. It adulterates the general principle by requiring that a list of such weapons appear in an appendix. There is no list. There is no appendix.

The general provision on indiscriminate weapons in the Rome statute insists they be listed specifically in an appendix because nuclear powers would never trust judges to interpret the phrase “inherently indiscriminate”. Judges might reach the not unreasonable conclusion that this term describes nuclear weapons. There is no list and no appendix because too many states resist the hypocrisy of condemning the “poor man’s weapons of mass destruction” while leaving untouched those of the rich man.

The Rome statute explicitly prohibits only three categories of weapons. It uses language and technology borrowed from another age: poison or poisoned weapons, asphyxiating, poisonous or other gases and expanding bullets. Moreover, in a further limitation, the 1998 text of the statute confines the prohibition on these weapons to international armed conflicts. Only in 2010 was the statute amended to extend the prohibition on the use of such weapons to non-international armed conflicts. But only 36 of the more than 120 members of the court have ratified these amendments. Britain and France are not among them.

Some argue that the war crimes of use of “poison or poisoned weapons” and “poisonous gas” include chemical weapons of the type being used in the Syrian civil war. Whether this was the intent of those who drafted the Rome statute is a matter of controversy. When the statute was adopted, proposals to include an explicit ban on chemical weapons were rejected.

Nuclear arms explain the inadequacy of universally accepted legal rules governing prohibited weapons. They are the quintessential indiscriminate weapon. The unnecessary suffering and superfluous harm that they have caused, on the two occasions they have been used, dwarf the human toll attributable to chemical weapons in all conflicts over many centuries.

Citing the [Treaty on Non-Proliferation of Nuclear Weapons](#), the international court of justice recalled the obligation imposed on the nuclear powers to pursue in good faith and to conclude negotiations leading to nuclear disarmament. The nuclear powers consistently ignore this requirement. Yet it is a quid pro quo not only for the non-proliferation of nuclear weapons, it is also fundamental to the effective enforcement of a ban on chemical weapons. Only a principled approach to disarmament that addresses all weapons of terror and mass destruction in a consistent manner can succeed.

Professor William Schabas is professor of international law at Middlesex University in London.



Is Russia so dumb as to use chemical weapons weeks before Fifa World Cup?

Source: <https://www.sowetanlive.co.za/news/africa/2018-04-25-is-russia-so-dumb-as-to-use-chemical-weapons-weeks-before-fifa-world-cup/>



Members of the military work in the Maltings shopping area, close to the bench where Russian former double agent Sergei Skripal and his daughter Yulia were found critically ill seven weeks ago. /Image: Matt Cardy/Getty Images

Apr 25 – **Russia is hosting the Fifa World Cup in June, by far the biggest sporting event on earth.**

Countries chosen to host this event value the opportunity so much that they go out of their way to put their best foot forward.

They are at their best behaviour in order to attract as many tourists as possible and to reap the fruits of their exposure to investors and potential international business partners.

On March 4, Sergei Skripal and his daughter Yulia Skripal were attacked with a suspected nerve gas in Salisbury, United Kingdom. Sergei is a former Russian military intelligence officer who doubled as a British spy.

After negotiations between the two countries, he is now a resident of Britain. The British government blamed Russia for the attack and mobilised its Nato allies to expel a number of

Russian diplomats in protest. The Russians retaliated by doing the same.

This episode is obviously a huge diplomatic and public relations disaster for Russia, which vehemently denied poisoning the Skripals and suggested that the UK did it.

The questions come to one's mind thick and fast – why would Russia do this at this particular point in time? Why would they do it less than two months before hosting the biggest sporting spectacle on earth? Why would Russia decide to sabotage itself? Are Russians that stupid?

Then there was a reported chemical attack on residents of Douma, an enclave near Damascus in Syria, occupied by rebels. The area had been bombed to ruins by a combination of Russian, Syrian and Iranian forces.



Like their counterparts in neighbouring areas of Eastern Ghouta, the rebels in Douma had negotiated an exit plan with the Russians that would see them relocating to another part of the country. At the time of the alleged attack, the rebels and their families were in fact in the process of leaving.

Russia and its two allies deny categorically that a chemical attack took place and allege that the rebels and their western allies staged the event in order to justify an attack on Syria. The rebels are supported with weapons, training and advice by Western countries to fight the Syrian government.

Led by the US, Western countries were apoplectic with anger. There were furious debates at the United Nations Security Council that pitted Russia against the rest. The US and its allies, true to form, launched missile attacks on Syria.

Again the questions flood one's head: why would Syria use chemical agents against the community of Douma when they have been dislodged from that enclave and were actually leaving? Why did they do that when they knew that it would result in military attacks from the West?

Why would Russia involve itself in that incident when it was still grappling with the fallout from the Skripal affair? And why do Western

countries launch attacks on Syria when there was an agreement that international inspectors would be dispatched to Douma to ascertain if a chemical attack had happened and if so, what sort of substance was used?

Given that the credibility of the US and its allies is almost non-existent, especially when it comes to the Arab world, why should we believe them? Don't we still remember how they invaded Iraq under the pretext of going to destroy weapons of mass destruction, while fully aware that such weapons did not exist? Isn't Iraq the mess it is today because of their cruel misadventure?

Did they not do the same to Libya under the pretext that they were protecting the country against its leader, Muammar Gaddafi, when in fact the goal was regime change? Up to today, Libya has not recovered.

The latest turn of events in Syria is intriguing. Did the chemical attack actually happen or not? If it did, who launched the attack? Was it the Syrian government, the British through their surrogates, the so-called white helmets, or the rebels on their own?

In this brutal Syrian war in which major powers fight one another through proxies, you never know where the truth is. One thing for sure, the West wants Syrian President Bashar al-Assad gone.



Tech that Identifies Hazardous Chemicals from a Safe Distance is Coming

Source: <https://www.disruptordaily.com/tech-that-identifies-hazardous-chemicals-from-a-safe-distance-is-coming/>

Apr 26 – A series of recent attacks in the recent news cycle has served as high-profile reminders of the danger that weaponized chemicals pose to their intended targets. But the reality which is not as frequently reported is that non-targets in the vicinity of weaponized chemicals at the time of deployment as well as identification and cleanup workers often fall prey to the same effects that the hazardous material inflicts upon its intended victim.

We still aren't at a stage where the safe identification of hazardous chemical agents is a guarantee – far from it. But U.S. intelligence agencies, and likely other intelligence agencies spanning the globe have been seeking a solution that would allow for the detection and recognition of specific dangerous chemicals from a distance of up to 30 meters, or nearly 100 feet. In the United States, the **Standoff ILuminator for Measuring Absorbance and Reflectance Infrared Light Signatures (SILMARILS) program**, managed by Kristy DeWitt, has been at the forefront of finding such a solution. Under the umbrella of the Intelligence Advanced Research Projects Activity (IARPA), the project will conclude in 2021 with a specific goal in sight, and that objective is a fundamental change in how we investigate and potentially prevent chemical attacks and drug-related activities.





According to IARPA, the development of a portable system which accounts for real-world factors in the chemical identification process is the goal of the project. Utilizing active [infrared spectroscopy](#) – the analysis of infrared light interacting with a molecule – the system will be able to detect trace amounts of chemical residue on surfaces at a 30 meter range. The system will be state of the art, incorporating power that suits the limits of battery life, an eye-safe infrared light, a rapid scan rate, and the capacity to account for variable factors including surface-adsorbed clutter, varying substrates, differences in temperature, humidity, and background light.

Potential, non-guaranteed uses for this detection system include scanning human hands for residue from explosives and narcotics at airport security, specifically identifying the dreaded mysterious ‘white powder’, screening stationary vehicle cargo and car trunks for evidence of chemical agent or narcotics transport, detecting explosive fingerprint residue on a car door, and examining the suspected area of a chemical release from a safe distance. Each of these instances reveal how current systems of detection and identification would be improved both in terms of rapidity and safety.

Even if this cutting-edge approach to detecting and diagnosing different chemical agents, from potentially lethal explosives or gasses to narcotics, is not ready by the SILMARILS project’s closure in 2021, expect that such an apparatus will be deployable in the not-too-distant future.



Syrian forces discover **UK, German-made chemical weapons depot in Douma**

Source: <http://www.presstv.com/Detail/2018/04/26/559809/Syria-chemical-weapons-Germany-Britain>

Apr 26 – **Syria’s government forces have discovered a depot of German and UK-manufactured chemical weapons left by terrorists in the town of Douma, a Syrian official says.**

"In the depot with chemical weapons left by terrorists in Douma, we have found chemicals from Germany, the United Kingdom, from the Porton-Down laboratory in Salisbury," Russia’s Sputnik news agency cited Syria’s Deputy Ambassador to the Organization for the Prohibition of Chemical Weapons (OPCW) Ghassan Obaid as saying after a briefing in The Hague on Thursday.

Obaid called on OPCW inspectors to visit the site and expressed hope that the inspection will ultimately prove the allegations against Damascus to be wrong.



Russian Foreign Ministry spokeswoman Maria Zakharova's had said earlier that containers with chlorine and smoke bombs made in the UK and Germany had been discovered in the territories freed from militants in Eastern Ghouta region in the suburb of the capital city of Damascus.

The Fact-Finding Mission from the OPCW, which has been deployed to Syria since April 14 to probe the Douma incident, visited a second site in the town on Wednesday and collected samples from the location. The new samples, together with other samples, will be taken to the OPCW laboratory in The Netherlands for further examination.



Also at the Thursday press conference in The Hague, the OPCW representatives of Syria and Russia presented witnesses who were used in staged videos of the recent suspected chemical attack in the Syrian town of Douma.

The file photo shows a clandestine laboratory discovered by Russian forces in the Syrian town of Douma in April, where terrorists used to produce chemical weapons.

Russia's Permanent Representative to the OPCW Alexander Shulgin described the recent suspected chemical weapons attack in Douma as a "provocation" that Moscow had warned about in advance.

He said the only evidence for the alleged gas attack was a "sloppily staged" video shot by a pseudo-humanitarian organization in a bid to "touch hearts," adding that the same strategy had been used in previous false flag attacks in Syria.

Western states blamed the Syrian government for the suspected chemical weapons attack in the Damascus suburb town of Douma on April 7.

One week after the incident, the US, Britain and France launched a coordinated missile attack against sites and research facilities near Damascus and Homs with the purported goal of paralyzing the Syrian government's capability to produce chemicals.

Shulgin said the representatives of the three countries that launched the Syria strikes were absent at Thursday's briefing because they were afraid to look into the eyes of the witnesses of the Douma incident. Syria has rejected the accusations of possessing chemicals. It surrendered its chemical stockpile in 2013 to a mission led by the OPCW and the UN.

During the conference at The Hague, Syria's deputy representative to the OPCW said the witnesses revealed "the false of allegations and lies of Western countries about the allegations of chemical use in Douma city."

Obaid also noted that all the chemical allegations against the Syrian government were leveled by Western countries to "distort" the Syrian army's image that is conducting a counter-terrorism operation.

He further said that Syria had sent more than 100 letters to the OPCW on terrorist groups' plan to use chemical weapons in order to blame the Syrian army.

Reinforced Western military presence

Meanwhile, the West has reinforced its forces in a US-led coalition which has been launching attacks on Syria since 2014 without the Syrian government's approval or a UN mandate.

The coalition, which claims that it seek to root out Daesh, still continues its operations despite the collapse of the terror group late last year.

On Thursday, US Defense Secretary Jim Mattis told the Senate Armed Services Committee in Washington that French special operations forces have been deployed in Syria over the past two weeks to boost the US-led campaign against Daesh.



In response to a question about whether the US was planning to withdraw its forces from Syria, Mattis said, "we are not withdrawing" right now.

"You will see a reenergized effort," he said.

"You will see increased operations on the Iraqi side of the border, and the French just reinforced us in Syria with special forces here in the last two weeks. This is an ongoing fight right now," Mattis added.

The US defense secretary said he wanted to see more "regional support" for US-led coalition, noting "that we would probably regret it" if the US does not keep its forces in Syria for a long term.

Last month, US President Donald Trump claimed that his country would withdraw from Syria "very soon." However, top US Defense and State Department officials reacted by adopting a totally different stance, arguing that the US should not leave anytime soon as the "mission is not over." Also, reports emerged later showing that Trump's advisors had apparently dissuaded him.

The US-led coalition runs a military base in the al-Tanf town in eastern Syria. Washington has described the area, which lies at the ultra-strategic intersection of the Syrian, Iraqi, and Jordanian borders, as its "red line."

On numerous occasions, the Russian military, which has been assisting the Syrian army in its anti-terrorism operations, has reported suspicious activities in and around the base in support of Takfiri terrorists.

Late last year, Chief of the General Staff of the Russian Armed Forces Valery Gerasimov said satellite and other surveillance data indicated that terrorist squads were stationed in the Tanf base, and "effectively training there."

US forces also maintain significant presence in northern Syria, where they back Kurdish militants operating against the Syrian government.

Washington has deployed around 2,000 troops to Syria.

How to properly seal a gas mask without shaving your beard

Source: <https://www.wearethemighty.com/properly-seal-gas-mask-beard>

Apr 23 – Warfighters have charged into battle throughout history with fully bearded chins. Sadly, the need to survive chemical weapons attacks has overshadowed the need to keep one's chin beautiful.

Today, the most widely stated reason for requiring troops to keep a clean-shaven face is because facial



hair prevents the proper sealing of a gas mask.

Many [studies](#) and personnel [trials](#) have proven this true time and time again. That's right, folks. Chemical weapons are so evil that they've even killed beards.

Though chemical warfare is uncommon, we might have a potential enemy who isn't afraid to use it...

Maintaining a clean

shave isn't a problem for most troops. Military regulations prohibit facial hair and every male service member must remain baby-faced. This isn't solely for potential chemical warfare reasons, but rather for maintaining a uniform and professional [appearance](#) among troops.

However, troops with [religious reasons](#) or a [medical profile](#) may be exempt from the shaving requirement. Unfortunately, their luck runs out when it's time to visit the CS chamber. Despite



knowing that their beards will prevent a complete seal, some in the chain of command will still send these troops in for whatever reason.

I'm not saying these leaders are setting up those troops for failure, but they really are...(Photo by Pierre Courtejoie)



Recommended Videos

Well, my bearded friends, the military is developing an [alternative](#) to the standard M50 gas mask that will protect a troop from chemical weapons by forming a skin-tight seal at the neck instead of the chin. Unfortunately, there hasn't been much [progress](#) with the technology, even from the Canadian military, but trials are still ongoing.

This doesn't mean that bearded gentlemen are completely screwed out of wearing a gas mask. A Marine veteran and survivalist YouTuber, [TEOTWAWKI Man](#), has found a field expedient solution — all it takes is a bunch of Vaseline. What you need to do is slather the edges of the mask with Vaseline and coat your beard with it, too. It should be a *nasty* amount of goo.

It won't be pleasant, but it will be a lot faster than shaving and a lot less painful than sucking up CS gas.

CBRNe Defense and Response in Densely Populated Areas

By Dr. Yasuhiro Kanatani

Source: <https://www.cbrneportal.com/cbrne-defense-and-response-in-densely-populated-areas/>

After the September 11 terrorist attacks, various types of terrorism or “Non-Conventional Threats (NCTs)” were defined. The preparation for NCTs requires further management mechanisms to minimize social damage. The transfer and proliferation of weapons of mass destruction, such as biological, chemical, and radiological/nuclear (CBRN) weapons, has been recognized as a significant threat since the end of the Cold War. In particular, there remain strong concerns that terrorists could acquire and use CBRN weapons as a form of NCT. We learned from the Tokyo Subway Sarin Attack (1995) that a critical issue for chemical attacks in densely populated areas is the capacity of the rescue and emergency transport services and the logistics for providing life-support devices and antidotes. Therefore, the authorities need to develop plans for managing chemical terrorism,



including developing the capacity for evacuating severe injuries and stockpiling and deploying antidotes in a timely manner.

If biological weapons are used in densely populated areas, the spread within society occurs at a very rapid pace, and its latent phase prevents early awareness of a biological attack. To minimize damage caused by biological weapons, constructing a communicable disease surveillance system and detecting unusual trends within this system are necessary for public health authorities. The standard strategy against biological weapons is surveillance and vaccination. However, this requires logistics to support the distribution of antibiotics, antidotes, and vaccines. The time-constrained step in the response against biological weapons used in densely populated areas is the deployment of healthcare providers to provide medical support. In preparation for CBRNe terrorism in densely populated areas, it is necessary for authorities to estimate the vulnerability and risk of all areas and minimize the areas' risk by constructing an ICT network. For example, constructing an IoT (Internet of Things) platform allows the authorities to collect and integrate information on medical needs and then distribute limited healthcare resources efficiently and effectively. Moreover, as incorrect information will unnecessarily inflame public anxiety, early risk communication has become important to minimize public anxiety.

Dr. Yasuhiro Kanatani is the Director of the Department of Health Crisis Management at the National Institute of Public Health. He is also a Professor (Cooperative Graduate School Program) of the Department of Computer Science, School of Computing at Tokyo Institute of Technology. His research interests focus on health risk assessment and management. He graduated from National Defense Medical College (NDMC) in 1989 and received a PhD in medicine from NDMC in 1994. He had worked as a medical officer at the Ministry of Health, Labor and Welfare from 1999 to 2002 and at the Ministry of Defense from 2002 to 2004. Before moving to the NIPH in 2010, he had worked as an associate professor in the Division of Environmental Medicine at the NDMC Research Institute from 2004.

Chemical attacks: a tale of two cities

By Andy Oppenheimer

Source: <https://www.cbrneportal.com/chemical-attacks-a-tale-of-two-cities/>

May 01 – To review and assess CBRN defence and security in densely populated areas, two wildly contrasting, unfolding events of world importance emerge as apt case studies. Both involved chemical weapons (CW). In chronological, not lethality order: the poisoning of a former Russian double agent, Sergei Skripal, his daughter Yulia, and a police officer, Det Sgt Det Sgt Nick Bailey, in Salisbury on 4 March, and the mass-casualty chemical attack on a rebel-held area in Douma, east Ghouta, Syria on 7 April.

The response in each was as different as one would expect: the first, limited and targeted attempted murder took place in a small town in peacetime England, the second, a mass-casualty attack in a country torn and ravaged by a six-year-long civil war in which a half a million people have died and where CW attacks have become a regular occurrence.

The first involved, to all intents and purposes, a nation state wielding a CBRN material against specific individual targets: a rare nerve agent in the Novichok series, developed in the 1970s in the Soviet Union to evade detection and NBC suit protection. The second involved the latest in a series over five years of aerial barrel bombardments of chlorine, most likely delivered by Syrian forces, which killed at least 70 and injured some 500 civilians, many of them children. While both events are in totally different circumstances, they may serve to illuminate the problems of response – even in developed countries at peace – to a CBRN event in a populated area.

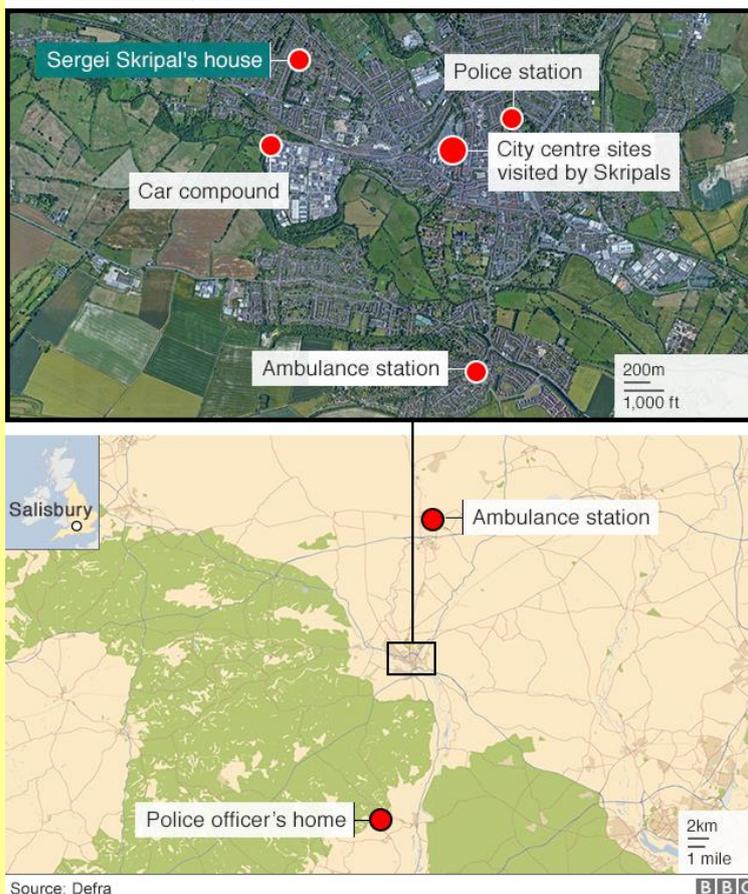
Response: Salisbury

The targeted assassinations in Salisbury required complicated investigation, response and remediation. For the first time in Britain, military specialist CBRN personnel were deployed in support of a chemical weapon attack investigation: Falcon Squadron from the Royal Tank



Regiment, deploying the renowned Fuchs mobile laboratories to carry

Salisbury sites requiring possible decontamination



out tests, decontamination and sensitive-site exploitation. Over 200 counter terrorism officers continue to work on one of the most complicated cases ever investigated in the UK. They have 5,000 hours of CCTV footage and 1,350 seized items to examine.

Although only a small amount of the nerve agent was administered, confirmed as in liquid form, decontamination of nine sites were set to begin in mid-April, with the Skripal house where most of the agent was found remains cordoned off. After a pause for the Easter holiday Salisbury residents were warned to expect increased activity and the return of NBC-suited investigators as they remove items and decontaminate the sites. Anyone who had been on or near the named sites was advised to launder their clothing or bag it up for council collection. Businesses have taken a 20% fall.

►► Read the rest of this article at source's URL.

Andy Oppenheimer AIEExpE MIABTI is Editor-in-Chief of CBNW (Chemical, Biological & Nuclear Warfare) and CBNW Xplosive journals, a consultant in CBRNE and counter-terrorism, and author of *IRA: The Bombs and the Bullets* (Irish Academic Press, 2008).

Tactical decontamination saves time

Source: <https://www.dvidshub.net/news/275839/tactical-decontamination-saves-time>

May 05 – “Gas, gas, gas!”

Donning protective masks, Soldiers of Company C, 1st Battalion, 63rd Armor Regiment waved their arms to signal universal gas alert. The chemical attack potentially contaminated the nearby tactical vehicles, allowing for the latest decontamination concept and capability to be tested.

Soldiers used the simulated attack to test an advanced capability for tactical vehicle decontamination against persistent chemical agents during Joint Warfighting Assessment (JWA) 18, Hohenfels, Germany, May 3, 2018. The decontamination process was taught to 14 Soldiers who performed the task in a real-world training environment. The JWA evaluates concepts and capabilities in a realistic, rigorous training environment to build a ready, agile and adaptive future force.



Soldiers can potentially continue to engage the enemy, not lose ground and still be able to execute the decontamination of their vehicle with the CSAM, according to Chemical Corps Command Sgt. Maj.



Henney Hodgkins, who closely observed the tactical decontamination capability. It can help the troops to continue the fight forward, ensuring the enemy doesn't gain ground. Hodgkins explained the system is a proof of concept, acknowledging pros and cons.

"We know there are some errors that need to be improved, but we can see the value of giving the combatant commanders this opportunity to stay engaged with the enemy," she said.

The goal of the tested capability

will help to develop organic options for Soldiers to complete the task, said Col. Andy Munera, commandant for the U.S. Army Chemical Biological, Radiological, and Nuclear (CBRN) School.

He arrived on-site to observe the implementation of the Chemical Self-Assessment and Mitigation (CSAM) Bag, which provided an answer to the question, "How do we prepare forces to operate in potential contaminated environments?"

Munera emphasized getting more CBRN attack scenarios implemented into concurrent Soldier training. "The Army is now going back and looking at the transition from COIN (counterinsurgency operations) to

peer and near-peer competitors who have the capability of employing various CBRN threats against us," explained Munera. "JWA and experiments like this allow us to test out new capabilities to increase readiness for the force to conduct operations in a potentially contaminated environments."

Time is critical when it comes to decontamination and mission completion, according to retired U.S. Army Maj. Joseph Call, chief experimentation coordinator with the Joint



Experimentation and Analysis Division of Joint CBRN Combat Developments. Though the current tactical vehicle decontamination method is successful, Call believes there may be a more proficient, time-sensitive way to accomplish the same end-result.

He explained that the current method requires several steps. It can take up to almost a day to return from a chemical agent attack location back to an operational decontamination station. From there, the vehicle is processed through a series of high-powered sprays to dilute potential chemicals while being monitored for contamination. He said this action can take up to a day and may divert mission objectives. The entire vehicle must be cleaned because the potential contamination area is unknown. Use of the CSAM, which contains a contamination indicator decontamination assurance system (CIDAS), eliminates this need.



“It takes effort away from what we are trying to do, which is prosecute the war against the enemy,” explained Call. “By having the unit that’s contaminated be able to decontaminate [themselves], and by having CIDAS available, it allows to only have to mitigate contamination in areas where the contamination actually is.”



Decontamination efforts are only used on designated spots identified by the CIDAS. One CSAM contains the necessary equipment to decontaminate two vehicles and uses only five gallons of water. Call explained the process is not intended to completely eliminate contamination, but mitigate it to a non-lethal threshold. This procedure takes a couple hours, depending on environmental conditions.

According to Call, tactical vehicles are coated in chemical agent reactive coating (CARC) paint, which keeps chemical agents from soaking into vehicle. If a vehicle’s temperature is increased from the sun, however, liquid agents turn into harmful gas agents.

“You have a liquid, depending on the ambient temperature, that’s not dangerous to you unless it gets on your skin,” explained Call. “But as it heats up, a gas starts forming; that gas is what is bad.”

Toxic chemical agents can be dispersed through various modes such as rockets, land mines, missiles, bombs, spray tanks and other munitions. The CIDAS will alert Soldiers through a color-metric change as it comes in contact with a toxic agent. Soldiers are required to circle and identify contaminated spots, spray the identified spots and with chemical mixture that must be kept wet for several minutes, known as “dwell time.” Once identified areas are sprayed, other high traffic areas such as latches, hatches and weapons systems, even if it did not show up as contaminated.

“If you can decontaminate your vehicle within the first few hours, before the agent can seep into the CARC paint and into the metal, you’re probably going to have a chance of having a completely clean vehicle afterward,” said Call.

The Army will continue to streamline this concept and capability meet the CBRN’s evolving needs, while simplifying the decontamination process for Soldiers.

Survitec presents its Milpod CBRN proof stretcher at Sofex 2018

Source: http://www.armyrecognition.com/sofex_2018_official_online_show_daily_news/survitec_presents_its_mipod_cbrn_proof_stretcher_at_sofex_2018.html



May 09 – Safety solutions provider Survitec is showcasing the launch of the newly designed, rapidly inflating SONICS Milpod at the **12th annual Special Operations Forces Exhibition and Conference (SOFEX)** show in Amman, Jordan on the 7-10th May 2018. The show provides a showcase for Survitec’s CBRN range of



products including the Bio Skin and Bio Shell protective suits, with the MilPod personal isolation chamber set to take pride of place.



The specialist man portable stretcher can be used for the rapid extraction and treatment of injured individuals in CBRN environments and inflates in under 15 seconds, providing a completely contained



environmentsuitable to treat any casualty, from minor flesh wounds to chemically contaminated personnel. In line with Survitec's proud heritage and technological expertise across a number of sectors, the MilPod is entirely inflatable, robust enough to cope with the demands of the most inhospitable environments, and can even float.

The stand portrays a simulation of a wounded Special Forces operator getting placed into the MilPod and being treated by a medic dressed in Survitec CBRN products. The medic mannequin will be displaying Survitec's complete CBRN offering including a non-carbon protective hood, respirator, protective over gloves, socks and over boots and medical equipment. The four-day event is attended by international delegates including defence ministers, chiefs of armed forces, special operations commanders and defence procurement directors.

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SOFEX is one of the world's leading and fastest growing special operations forces, homeland security and counter terrorism exhibition and conferences. Paul Parry, Survitec Group CBRN Business Manager, said: "The threats facing the protection of civilians and military personnel from chemical, biological, radiological and nuclear dangers continue to evolve and so too must the equipment they rely on to stay safe. Protecting individuals in such scenarios is only half the battle - the gear they use must be comfortable and functional enough for them to remain operational and alert to further threats.

"We're not just another me-too manufacturer making comparable kit to what already exists on the market; we genuinely want to move the needle when it comes to the defence sector and launch innovative products that have never been seen before. Using cutting-edge design and the latest lightweight fabrics gives users extra performance gains that could make all the difference in mission-critical scenarios."

Chemical attack accusations 'fake,' Assad tells Greek newspaper Kathimerini in exclusive interview

By Alexis Papachelas (Journalist)

Source: <http://www.ekathimerini.com/228495/article/ekathimerini/news/chemical-attack-accusations-fake-assad-tells-kathimerini-in-exclusive-interview>

May 10 – In an exclusive interview with Kathimerini, Syrian President Bashar al-Assad denied that the Syrian Army used chemical weapons against civilians, while taking aim at both Turkish President Recep Tayyip Erdogan and US President Donald Trump.

Saying that Syria gave up its chemical arsenal in 2013, Assad said the "Western narrative started after the victory of the Syrian Army, not before." He accused Erdogan of being "affiliated" with the Muslim Brotherhood Islamist movement and called Turkish troops "terrorists" over their intervention in Afrin.



As for Trump, who has called Assad an "animal," the Syrian leader said it did not bother him "because I deal with the situation as a politician, as a president."

There have been accusations from the US and the Europeans about the use of chemical weapons, and there was an attack after that. What is your response to that? Was there a chemical attack? Were you responsible for it?

First of all, we don't have a chemical arsenal since we gave it up in 2013, and the international agency for chemical weapons conducted investigations about this, and it's clear or documented that we don't have any. Second, even if we did have, we wouldn't use them, for many different reasons. But let's put these two points aside, let's presume that this army has chemical weapons and it's in the middle of the war; where should it be used? At the end of the battle? They should use it somewhere in the middle, or where the terrorists made an advancement, not where the army finished the battle and the terrorists gave up and said, "We are ready to leave the area," and the army is fully in control of that area. So the Western narrative started after the victory of the Syrian Army, not before. When we finished the war, they said, "They used chemical weapons."

Second, the use of weapons of mass destruction (WMD) in a cramped area with a population like Douma – the supposed area, it's called Douma and they talk about 45 victims – when you use WMD in such an area, you should have hundreds or maybe thousands of victims. Third, why do all the chemical weapons – the presumed or supposed chemical



weapons – only kill children and women? They don't kill militants. If you look at the videos, it's completely fake. I mean, when you have chemical weapons, how could the doctors and nurses be safe, dealing with the chemical atmosphere without any protective clothes, without anything, just throwing water at the victims, and the victims become OK just because you washed them with water. So, it's a farce, it's a play, it's a very primitive play, just to attack the Syrian Army, because... Why? That's the most important part: When the terrorists lost, the US, France, the UK and their other allies who want to destabilize Syria lost one of their main cards, and that's why they had to attack the Syrian Army, just to raise the morale of the terrorists and to prevent the Syrian Army from liberating more areas in Syria.

Are you saying that there was a chemical attack and someone else is responsible, or that there was nothing there?

That's the question, because the side who said – allegedly – that there was a chemical attack, had to prove that there was an attack. We have two scenarios: Either the terrorists had chemical weapons and they used them intentionally, or maybe there were explosions or something, or there was no attack at all, because in all the investigations in Douma, people said, "We didn't have any chemical attack, we didn't see any chemical gas or smell any," and so on. So, we don't have any indications about what happened. The Western narrative is about that, so that question should be directed at the Western officials who said there was an attack. We should ask them: Where is your concrete evidence about what happened? They only talk about reports. Reports could be allegations. Videos by the White Helmets – the White Helmets are funded by the British Foreign Office – and so on.

In a tweet, US President Donald Trump described you as "animal Assad." What is your response?

Actually, when you are president of a country, you have first of all to represent the morals of your people before representing your own morals. You are representing your country. Does this language represent the American culture? That is the question. This is very bad, and I don't think so. I don't think there's a community in the world that has such language. Second, the good thing about Trump is that he expresses himself in a very transparent way, which is very good in that regard. Personally, I don't care, because I deal with the situation as a politician, as a president. It doesn't matter for me personally; what matters is whether something would affect me, would affect my country, our war, the terrorists, and the atmosphere that we are living in.

He said "mission accomplished in Syria." How do you feel about that?

I think maybe the only mission accomplished was when they helped ISIS escape from Raqqa, when they helped them, and it was proven by video, and under their cover. The leaders of ISIS escaped Raqqa, going toward Deir ez-Zor just to fight the Syrian Army. The other mission accomplished was when they attacked the Syrian Army at the end of 2016 in the area of Deir ez-Zor when ISIS was surrounding Deir ez-Zor, and the only force was the Syrian Army. The only force to defend that city from ISIS was the Syrian Army, and because of the Americans' – and of course their allies' – attack, Deir ez-Zor was on the brink of falling into the hands of ISIS. So, this is the only mission that was accomplished. If he's talking about destroying Syria, of course that's another mission accomplished. While if you talk about fighting terrorism, we all know very clearly that the only mission the United States has been carrying out in Syria is supporting the terrorists, regardless of their names, or the names of their factions.

He also used such language with the North Korean leader, and now they're going to meet. Could you potentially see yourself meeting with Trump? What would you tell him if you saw him face to face?

The first question you should ask is: What can you achieve? The other: What can we achieve with someone who says something before the campaign, and does the opposite after the campaign, who says something today, and does the opposite tomorrow, or maybe in the same day? So, it's about consistency. Do they have the same frequency every day, or the same algorithm? So, I don't think that in the meantime we can achieve anything with such an administration. A further reason is that we don't think the president of that regime is in control. We all believe that the deep state, the real state, is in control, or is in control of every president, and that is nothing new. It has always been so in the United States, at least during the last 40 years, at least since Nixon, maybe before, but it's becoming starker and starker, and the starkest case is Trump.

When will you accomplish your mission, given the situation here in Syria now?



I have always said, without any interference, it will take less than a year to regain stability in Syria; I have no doubt about that. The other factor is how much support the terrorists receive, which is something I cannot tell you, because I cannot predict the future. But as long as it continues, time is not the main factor. The main factor is that someday, we're going to end this conflict and we're going to reunify Syria under the control of the government. When? I cannot say. I hope it's going to be soon.

There has been some criticism lately, because you apparently have a law that says that anybody who doesn't claim their property within a month cannot come back. Is that a way to exclude some of the people who disagree with you?

No, we cannot dispossess anyone of their property by any law, because the constitution is very clear about the ownership of any Syrian citizen. This could be about the procedure. It's not the first time we have had such a law just to replan the destroyed and the illegal areas, because you're dealing with a mixture of destroyed and illegal suburbs in different parts of Syria. So, this law is not about dispossessing anyone. You cannot, I mean even if he's a terrorist. Let's say, if you want to dispossess someone, you need a verdict by the judicial system – you cannot make it happen by law. So, there's either misinterpretation of that law, or an intention, let's say, to create a new narrative about the Syrian government in order to rekindle the fire of public opinion in the West against the Syrian government. But about the law, even if you want a procedure, it's about the local administration, it's about the elected body in different areas, to implement that law, not the government.

It is clear that your biggest allies in this fight are Russia and Iran. Are you worried they might play too important a role in the future of the country after this war is over?

If you talk about my allies as a president, they are the Syrian people. If you talk about Syria's allies, of course they're the Iranians and the Russians. They are our strongest allies, and of course China that supported us politically in the Security Council. As for them playing an important role in the future of the country, these countries respect Syria's sovereignty and national decision making and provide support to insure them. Iran and Russia are the countries which respect Syria's sovereignty the most.

It's been a few years since you visited Greece. Your father had a very close relation with some of the Greek political leaders. How have the relations been between Greece and Syria these days, and what kind of message would you like to send to the Greek people?

At the moment, there are no formal relations between Syria and Greece; the embassies are closed, so there are no relations. At the same time, Greece wasn't aggressive towards what happened in Syria. It always supported a political solution, it never supported war or attacks against Syria. You didn't play any role to support the terrorists, but at the same time, as a member - and an important member - of the EU, you couldn't play any role, let's say, in refraining the other countries from supporting the terrorists, violating the international law by attacking and besieging a sovereign country without any reason, without any mandate by the Security Council. So, we appreciate that Greece wasn't aggressive, but at the same time, I think Greece has to play that role, because it's part of our region. It is part of the EU geographically, but it's a bridge between our region and the rest of Europe, and it's going to be affected, and it has been affected by the refugee situation, and terrorism now has been affecting Europe for the last few years, and Greece is part of that continent. So, I think it's normal for Greece to start to play its role in the EU in order to solve the problem in Syria and protect the international law.

How about Turkey? Turkey invaded part of your country. You used to have a pretty good relationship with President Recep Tayyip Erdogan. How is that relationship now after the Turkish invasion?

First of all, this is an aggression, this is an occupation. Any single Turkish soldier on Syrian soil represents occupation. That doesn't mean the Turkish people are our enemies. Only a few days ago, a political delegation visited from Turkey. We have to distinguish between the Turks in general and Erdogan. Erdogan is affiliated with the Muslim Brotherhood. Maybe he's not organized, but his affiliation is toward that ideology, I call it this dark ideology. And for him, because, like the West, when the terrorists lost control of different areas, and actually they couldn't implement the agenda of Turkey or the West or Qatar or Saudi Arabia, somebody had to interfere. This is where the West interfered through the recent attacks on Syria, and this is where Erdogan was assigned by the West, mainly the United States, to interfere, to make the situation complicated, again



because without this interference, the situation would have been resolved much faster. So, it's not about personal relations. The core issue of the Muslim Brotherhood anywhere in the world is to use Islam in order to take control of the government in your country, and to create multiple governments with this kind of relationship, like a network of Muslim Brotherhoods, around the world.

At an election campaign rally this week, he said that he's going to order another incursion into Syria. How are you going to respond to that if it happens?

Actually, Erdogan has supported the terrorists since the very beginning of the war, but at that time, he could hide behind words like "protecting the Syrian people," "supporting the Syrian people," "supporting the refugees," "we are against the killing," and so on. He was able to appear as a humanitarian president, let's say. Now, because of these circumstances, he has to take off the mask and show himself as the aggressor, and this is the good thing. So, there is no big difference between the head of the Turkish regime sending his troops to Syria and supporting the terrorists; this is his proxy. So, we've been fighting his army for seven years. The difference between now and then is the appearance; the core is the same. At that time, we couldn't talk about occupation – we could talk about supporting terrorists – but this time we can talk about occupation, which is the announcement of Erdogan that he's now violating the international law, and this could be the good part of him announcing this.

But how can you respond to that?

First of all, we are fighting the terrorists, and as I said, the terrorists for us are his army, they are the American army, the Saudi army. Forget about the different factions and who is going to finance those factions; at the end of the day, they work for one agenda, and those different players obey one master: the American master. Erdogan is not implementing his own agenda; he's only implementing the American agenda, and the same goes for the other countries in this war. So, first of all, you have to fight the terrorists. Second, when you take control of more areas, you have to fight any aggressor, any army. The Turkish, French, whoever, they are all enemies; as long as they came to Syria illegally, they are our enemies.

Are you worried about a third world war starting here in Syria? I mean, you have the Israelis hitting the Iranians here in your own country. You have the Russians, you have the Americans. Are you concerned about that possibility?

No, for one reason: Because fortunately, you have a wise leadership in Russia, and they know that the agenda of the deep state in the United States is to create a conflict. Since Trump's campaign, the main agenda was against Russia, create a conflict with Russia, humiliate Russia, undermine Russia, and so on. And we're still in the same process under different titles or by different means. Because of the wisdom of the Russians, we can avoid this. Maybe it's not a full-blown third world war, but it is a world war, maybe in a different way, not like the second and the first, maybe it's not nuclear, but it's definitely not a cold war; it's something more than a cold war, less than a full-blown war. And I hope we don't see any direct conflict between these superpowers, because that is where things are going to get out of control for the rest of the world.

Now, there's a very important question about whether Syria can be a unified, fully sovereign country again. Is that really possible after all that has happened?

It depends on what the criteria of being unified or not is. The main factor to have a unified country is to have unification in the minds of the people, and vice versa. When those people look at each other as foreigners, they cannot live with each other, and that is where you're going to have division. Now, let's talk about facts and reality – not my opinion, I can tell you no, it's not going to be divided, and of course we're not going to accept that, but it's not about my will or about my rhetoric, to say we're going to be unified; it's about the reality.

The reality, now, if you look at Syria during the crisis, not only today, since the very beginning, you see all the different spectrums of the Syrian society living with each other, and better than before. These relationships are better than before, maybe because of the effect of the war. If you look at the areas under the control of the terrorists, this is where you can see one color of the Syrian society, which is a very, very, very narrow color. If you want to talk about division, you have to see the line, the separation line between either ethnicities or sects or religions, something you don't see. So, in reality, there's no division till this moment; you only have areas under



the control of the terrorists. But what led to that speculation? Because the United States is doing its utmost to give that control, especially now in the eastern part of Syria, to those terrorists in order to give the impression that Syria cannot be unified again. But it's going to be unified; I don't have any doubt about that.

But why would the US do that if you're fighting the same enemy: Islamic terrorism?

Because the US usually has an agenda and it has goals. If it cannot achieve its goals, it resorts to something different, which is to create chaos. Create chaos until the whole atmosphere changes, maybe because the different parties will give up, and they will give in to their goals, and this is where they can implement their goals again, or maybe they change their goals, but if they cannot achieve it, it's better to weaken every party and create conflict, and this is not unique to Syria. This has been their policy for decades now in every area of this world.

Looking back, do you feel you've made any mistakes in dealing with this crisis and the civil war, when it started?

If I don't make mistakes, I'm not human; maybe on a daily basis sometimes. The more you work, the more complicate the situation, the more mistakes you are likely to make. But how do you protect yourself as much as possible from committing mistakes? First of all, you consult the largest proportion of the people, not only the institutions, including the parliament, syndicates, and so on, but also the largest number of people, or the largest part of society, to participate in every decision.

While if you talk about the way I behaved toward, or the way I led, let's say, the government or the state during the war, the main pillars of the state's policy were to fight terrorism – and I don't think that fighting terrorism was wrong, to respond to the political initiatives from different parties externally and internally regardless of their intentions, to make a dialogue with everyone – including the militants, and finally to make reconciliation. So, about the pillars of our policy, I think the reality has proven that we were right. As for the details, of course, you always have mistakes.

How much is it going to cost to reconstruct this country, and who is going to pay for that?

Hundreds of billions, the minimum is 200 billion, and according to some estimates it's about 400 billion dollars. Why is it not precise? Because some areas are still under the control of the terrorists, so we couldn't estimate precisely what the figure is. So, this is plus or minus, let's say.

There has been a lot of speculation. For example, people say in order for a political solution to be viable, you might have to sacrifice yourself for the good of the country. Is that something that has crossed your mind?

The main part of my future, as a politician, is two things: my will and the will of the Syrian people. Of course, the will of the Syrian people is more important than my will, my desire to be in that position or to help my country or to play a political role, because if I have that desire and will and I don't have the public support, I can do nothing. After seven years of me being in that position, if I don't have the majority of the Syrian people's support, how could I hold it for more than seven years now, with all this animosity from the strongest and the richest countries? Who supports me? If the Syrian people are against me, how can I stay? So, when I feel that the Syrian people do not want me to stay anymore, of course I have to leave without any hesitation.

A lot of blood has been spilt. Can you see yourself sitting across from the opposition and sharing power in some way?

When you talk about blood, you have to talk about who spilt that blood. I was president before the war for 10 years. Had I been killing the Syrian people for 10 years? No, definitely not. So, the conflict started because somebody, first of all part of the West, supported those terrorists, and they bear the responsibility for this war. So first of all the West, who provided military and financial support and political cover, and who stood against the Syrian people, who impoverished the Syrian people and created a better atmosphere for the terrorists to kill more Syrian people. So, part of the West, mainly France, UK, and US, and also Saudi Arabia and Qatar and Turkey are responsible for this part. Of course blood has been spilt – it's a war – but who's responsible? Those who are responsible should be held accountable.



Syria Used Chlorine Gas in February Attack, Chemical Weapons Inspectors Confirm

Source: <http://time.com/5279828/syria-chlorine-chemical-attack/>

May 16 – The international chemical weapons watchdog said Wednesday that chlorine was **likely** used as a weapon in the rebel-held northern **Syrian town of Saraqeb** in early February, the latest report of poison gas being unleashed in Syria's civil war.

The Organization for the Prohibition of Chemical Weapons released details of a report into the chlorine use, but did not say which side in the fighting used it. The OPCW is not mandated to apportion blame for the attack.

The probe into the use of chlorine gas in the Saraqeb attack comes amid the OPCW's investigation into another attack two months later in Douma, near the capital Damascus — a much larger attack in April that triggered U.S., British and French strikes against government posts in Syria a week later.

The OPCW said that its Fact-Finding Mission probing alleged use of chemical weapons in Syria “determined that chlorine was released from cylinders by mechanical impact in the Al Talil neighbourhood of Saraqeb.”

On Feb. 4, the White Helmets search-and-rescue group and a medical charity reported that several people suffered breathing difficulties after a suspected chlorine gas attack on Saraqeb, days after the Trump administration accused President Bashar Assad's government of producing and using “new kinds of weapons” to deliver poisonous gases. Damascus denied the White House's charges.

At the time, the White Helmets said three of its rescuers and six other people suffered breathing problems. The Syrian American Medical Society said its hospitals in Idlib treated 11 patients for suspected chlorine gas poisoning.

OPCW Director-General Ahmet Uzumcu harshly criticized the chemical attack.

“I strongly condemn the continued use of toxic chemicals as weapons by anyone, for any reason, and in any circumstances,” Uzumcu said in a statement. “Such acts contradict the unequivocal prohibition against chemical weapons enshrined in the Chemical Weapons Convention.”

The OPCW said its team based its findings on evidence including “the presence of two cylinders, which were determined as previously containing chlorine; witness testimony; environmental samples that demonstrated the unusual presence of chlorine in the local environment; and the number of patients at medical facilities shortly after the incident who showed signs and symptoms consistent with exposure to chlorine and other toxic chemicals.”

Saraqeb is in the northern Idlib province, a stronghold for rebels and opposition to Assad's government. The province is also home to al-Qaida-linked militants. The town has before come under suspected chemical attacks, including in 2016 and in 2013.

The mission also is investigating allegations that poison gas was used in Douma, near the capital Damascus, in a deadly April 7 attack. That attack led to the U.S., France and Britain blaming the Syrian government and launching joint punitive airstrikes targeting suspected Syrian chemical weapons facilities on April 14. The organization has not yet issued a report on that attack.

Assad's forces have repeatedly been accused of using chemical weapons in the civil war. His regime denies the allegations. Rebels also have been accused of using poison gas.

Nerve agent handed to Germany in 1990s could prove key in UK spy attack case

Source: <https://www.thelocal.de/20180517/nerve-agent-handed-to-germany-in-1990s-could-prove-key-in-uk-spy-attack-case>

May 17 – **Germany's intelligence service BND had in the 1990s obtained from a Russian informer a sample of the poison used against ex-double agent Sergei Skripal, German media reported on Thursday,** drawing a link to Moscow as the origin of the toxin.



Britain has accused Russia of carrying out the nerve agent attack against Skripal and his daughter Yulia in March, but Moscow has denied the claims and argued that the country never had any programmes to develop the chemical weapon, known as Novichok.

But German newspapers Süddeutsche Zeitung and Die Zeit as well as regional public broadcasters NDR and WDR said their research showed that a Russian scientist had in the 1990s offered to provide information about the new class of chemical weapon that his country was developing.



In exchange for his and his family's safety, the scientist offered to obtain a sample and its formula for Germany.

The scene in Salisbury, UK where the bodies of Sergei Skripal and his daughter were found in March. Photo: Andrew Matthews/PA Wire/DPA

The offer put Germany in a dilemma as it was obliged to adhere to international treaties that bans it from producing such weapons of

mass destruction.

Eventually, the sample was sent to a Swedish laboratory for analysis, while the BND and Germany's defence ministry took hold of the formula, according to the report.

Under orders from then chancellor Helmut Kohl, the BND shared the information with its closest allies, including US and British secret services.

Small quantities of the nerve agent were subsequently produced in some NATO countries for test purposes -- to determine if protective gear was able to withstand it, and to find antidotes against the poison, added the report.

Western allies kept their knowledge of the nerve agent from the public in order not to aggravate ties with then Russian president Boris Yeltsin at a time when both sides were emerging gingerly out of the Cold War.

The poisoning in Britain's Salisbury of the Skripals unleashed a diplomatic furor.

Western states have backed Britain over its accusation that Moscow was behind the attack, and expelled dozens of Russian diplomats in response.

A Month in Sergei Skripal's Health: From Critical Condition to Rapid Improvement

Source: <https://sputniknews.com/europe/201804061063282391-sergei-skripal-health-condition/>

Apr 06 – Sergei Skripal is no longer in critical condition, according to the British medics' Friday report. It has been almost a month since the former Russian spy has been poisoned in Salisbury, Britain. How has his condition progressed since March 4? Here is what we know so far.

- On March 4, Sergei Skripal and his daughter Yulia were found unconscious on a bench near The Maltings shopping center in Salisbury. According to March 7 by Met police, the Skripals were being treated for suspected exposure to an unknown substance and both remained in a critical condition in intensive care.
- On March 13, the [Met police referred to reports](#) of Mr. Skripal remaining in a critical condition in hospital "after being exposed to a nerve agent in a targeted attack."
- March 17 and the Skripals still remained in critical condition in hospital, while British scientists determined this to be the result of a military grade nerve agent, as [stated by the Met police](#).



- On March 29, the British National Health Service (NHS) issued a statement saying that Julia Skripal [was recovering](#).



© AFP 2018 / Ben STANSALL / In this file photo taken on March 8, 2018 members of the emergency services in green biohazard encapsulated suits re-affix the tent over the bench where Russian spy Sergei Skripal and his daughter Yulia were found in critical condition on March 4 at The Maltings shopping centre in Salisbury, southern England



- On April 5, UK's Met police [issued a statement on behalf of Yulia Skripal](#) who said she "woke up over a week ago now" and is glad her strength is "growing daily." No mention, however, was made of the health condition of her father Sergei, who was still believed to be in critical condition in the hospital.
- Finally on April 6, Christine Blanshard, Medical Director at Salisbury District Hospital, said in a statement that Sergei Skripal "is responding well to treatment, improving rapidly and is no longer in a critical condition."



Following the [Salisbury incident](#), Britain accused Moscow of complicity in the poisoning, initiating a series of measures in response, including the expulsion of 23 Russian diplomats. In turn, Russia has rejected London's allegations, citing lack of evidence and calling for a joint investigation into the Skripal case.

Earlier this week, the head of the Defence Science and Technology Laboratory (DSTL) at Porton Down admitted that contrary to London's claims, [researchers have failed to prove](#) the A-234 substance, allegedly used for Skripals' poisoning, was made in Russia.

Ex-Ukrainian Soldier to Trump: 'I'm Ready to Testify Kiev Used Chemical Weapons'

Source: <https://sputniknews.com/military/201805201064624496-ukraine-soldierletter/>

May 20 – In 2014, reports surfaced of the Kiev military allegedly using chemical weapons in its operations against the Donbass militia.

In a [video message](#) to US President Donald Trump, posted on the Open Ukraine YouTube channel, **former Ukrainian army serviceman Alexander Medinsky claimed that Kiev used chemical weapons during its military operation in Donbass.**

Addressing Trump as “an irreconcilable fighter against the spread of poisonous agents and the use of chemical weapons of mass destruction,”



Medinsky, who took part in combat operations in Ukraine's southeast, said that in the summer of 2015, Kiev's Special Operations Forces (SOF) confiscated a chemicals lab used by the pro-Kiev volunteer Donbass Battalion and took it out to Kiev where it worked until the end of 2016 and was later moved to a SOF base.

According to Medinsky, people working at the lab had been ordered to develop chemical agents for use against enemy manpower and which he claims were later put to use in Donbass.

"I'm ready to testify in US courts, to the FBI, NSA and CIA about chemical weapons use by the Kiev military," Medinsky said, adding, that he was ready to make more detailed information available to representatives of the US intelligence community.

He also mentioned an SOF doctrine, which allows the use of poisonous agents and explosives not only against members of the Donbass militia, but also against journalists, politicians and public activists “opposed the Poroshenko's regime.”

“I'm asking you to pay attention to all these things. I also ask you to bring pressure to bear on the Kiev regime and take decisive action against the

terrorist war it is waging against its own people,” Medinsky concluded.

As early as in May 2015, the leaders of the self-proclaimed Donetsk People's Republic (DPR) warned that Kiev was ready to start developing chemical weapons which it could later use and blame it all on the independence supporters.

The DPR defense ministry later accused Kiev forces of firing artillery shells near Slavyansk, which “dug into the ground,” shrouding the area in smoke.

More than 10,000 people have been killed since the start of the armed conflict in Donbass four years ago. Kiev launched a [military operation](#) in the east of Ukraine in 2014, after local residents refused to recognize the new government that came to power in what they consider to have been a coup.

In February 2015, the warring parties signed the Minsk peace accords to end the fighting in the region, but the situation remains tense, with both parties accusing each other of ceasefire violations.



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BIO NEWS



Inside The Secret US Stockpile Meant To Save Us All In A Bioterror Attack

Source: <https://www.ndtv.com/world-news/inside-the-secret-us-stockpile-meant-to-save-us-all-in-a-bioterror-attack-1842300>



Image credit: CDC

Inside a Strategic National Stockpile warehouse are supplies for a large-scale public health incident

Apr 24 – A Secret Location Outside Washington, D.C.: From the outside, it looks like an ordinary commercial warehouse, only much bigger, about the size of two super Walmarts. Inside it's dark except when motion sensors are triggered. When the lights come on, hundreds of thousands of shrink-wrapped boxes of medicines emerge from the gloom, stacked on shelves nearly five stories high.

This is quite a different kind of warehouse. It and several others across the country are part of the \$7 billion Strategic National Stockpile, a government repository of drugs and supplies ready for deployment in a bioterrorism or nuclear attack, or against an infectious disease outbreak - of either a known pathogen or some unknown threat with pandemic potential, which global health officials dub "Disease X" - or other major public health emergency. There are antibiotics, including the powerful medication Ciprofloxacin, vaccines for smallpox and anthrax, and antivirals for a deadly influenza pandemic.

The need for biodefense has become more clear in the wake of outbreaks of Ebola in West Africa, Zika in the Americas, devastating wildfires and hurricanes, and the poisonings of the North Korean leader's half brother in Malaysia and former Russian spies in England with nerve and radiological agents. Last year, the federal government added three new chemicals to its list of high-priority threats, including chlorine and blister agents, such as mustard gas, that have been used in deadly chemical weapons attacks in Syria. On Monday, officials announced plans to add more anthrax antitoxin. For nearly two decades, the repository has been almost exclusively managed by the Centers for Disease Control and Prevention. That will change under a Trump administration plan to shift oversight of the \$575 million program to a different part of the Department of Health and Human Services. Doing so, proponents say, will keep the program intact but streamline decision-making and create "efficiencies."



But some public health officials and members of Congress in both parties worry the move will disrupt a complex process that relies on long-standing relationships between the federal program and the state and local agencies responsible for distributing the medicine. During a congressional hearing last week, lawmakers expressed concern that a change could risk the government's ability to deliver lifesaving medical supplies to what public health officials call "the last mile" - to people in need during a disaster.

"You have spent years planning and exercising and training because you need to know what to do if 100,000 doses of Cipro showed up in your state," said Ali Khan, who used to oversee the program and now is dean at the University of Nebraska Medical Center's College of Public Health. "How would you get it out? Who would dispense it? These parts are as critical as maintaining the medicines in pristine condition."

He and other public health experts also question whether the administration's plan will politicize decision-making about products bought for the stockpile. The office of the assistant secretary for preparedness and response (ASPR) oversees the process by which the government awards contracts to private biotechnology companies that develop and manufacture medicines such as anthrax vaccine. The CDC then is responsible for buying and replenishing the materials. Eligible medicines are tested by the Food and Drug Administration to check if, and for how long, the expiration date can be extended.

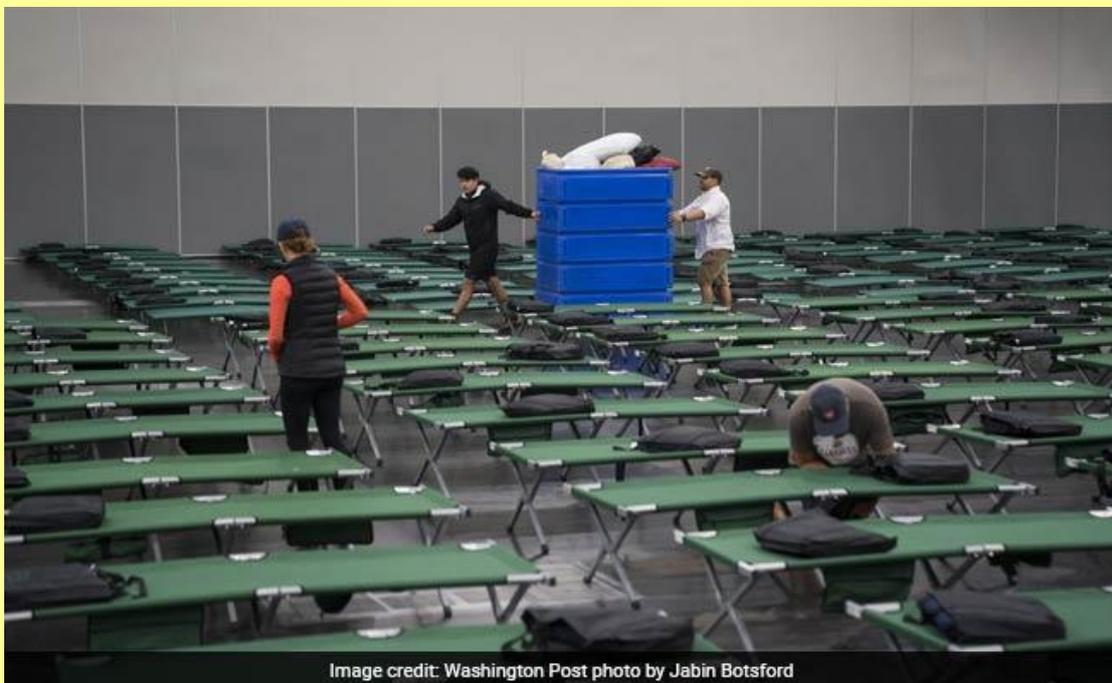


Image credit: Washington Post photo by Jabin Botsford

Houston's George R. Brown Convention Center became a shelter for those displaced by Hurricane Harvey (WP)

Come October, however, the ASPR will be in charge of choosing the products and then purchasing them for the stockpile. Proponents say the shift makes sense operationally to place key decisions about the repository under one office.

"I think this is a very good move," said Irwin Redlener, director of the National Center for Disaster Preparedness at Columbia University. "It will help coordinate and organize the delivery of vital medical responses."

But critics say it will allow biotech companies to lobby for more of their specialized, and often more expensive, drugs to be included because the federal government is often the only purchaser.

Just because the government can buy these products, they say, doesn't mean it should do so given the parallel need for medications, like antibiotics, that have much broader use.

And it's not clear, they caution, whether the new structure will make Americans safer. The stockpile should contain "the stuff we need for the disasters we know we're going to



have - like gloves, syringes, Cipro, penicillin, antibiotics, and influenza vaccines - versus the newest, sexiest version of the anthrax vaccine," said Georges Benjamin, executive director of the American Public Health Association, who was Maryland's health secretary during the 2001 terrorist and anthrax attacks. Officials won't say how many stockpile warehouses exist. But there are at least six, according to a 2016 independent report. All the locations are secret, including this one in an industrial complex off a busy highway. A reporter allowed to tour the facility had to agree not to disclose the location. No camera, video equipment or cellphone is permitted inside.

In the early hours of a crisis, the warehouse can send an affected city or region a "12-hour push package," a pre-configured cache of 130 containers of antibiotics, syringes and oxygen tubing, enough to fill the belly of a wide-body plane. "About 50 tons of materiel," said Shirley Mabry, the stockpile's chief logistics officer.

In the section of the warehouse where biologic drugs such as botulism antitoxins are stored at minus-4 degrees Fahrenheit, workers wear full-body insulated suits. Because of the intense cold they are limited to 20 minutes inside the two enormous freezers, just enough time to drive a forklift in and retrieve a pallet of medicine. An intensely loud vibrating sound makes conversation impossible.

Nationwide, the repository contains enough medical countermeasures to add up to more than 133,995 pallets. Laid flat, they'd cover more than 31 football fields - or 41 acres of land. They contain enough vaccine to protect every person in America from smallpox.

The stockpile program was created in 1999 under President Bill Clinton to respond to terrorist events, including the first World Trade Center bombing, the sarin gas attack on the Tokyo subway and the Oklahoma City bombing. The original goal was to be ready for chemical, biological, radiological and nuclear threats. The repository includes nearly 2,000 caches of nerve agent antidotes, known as Chempacks, that are stored and maintained separately from the warehouses at more than 1,300 locations around the country where they can be accessed quickly.

Over time, the stockpile's mission has expanded to include natural disasters and emerging infectious disease threats. The stockpile deployed antiviral medicine during the 2009-2010 swine flu pandemic, and vaccines, portable cots and other supplies during the hurricanes that devastated Houston and Puerto Rico last year. As the only source of botulism antitoxin in the United States, it also sends medicine for about 100 cases a year of severe food poisoning.

The inventory exceeds 1,000 categories of drugs and other items, but CDC's budget hasn't always been able to keep up with the program's ever-growing list of needs.

"It's a mission among many pressing missions among the CDC," said Tara O'Toole, who was undersecretary for science and technology under President Barack Obama and chaired a National Academy of Sciences, Engineering and Medicine committee in 2016 that reviewed the ongoing challenges facing the program. "Bottom line, it's a good idea to lay the responsibility of the cost of maintaining it on the same people who decide what to put in the stockpile."

The group of federal agencies making decisions about what goes in the repository is led by the ASPR office, which is headed by former Air Force physician Robert Kadlec. He is a former special assistant to President George W. Bush on biodefense and former deputy staff director of the Senate Intelligence Committee.

Kadlec stresses that the impending change has nothing to do with CDC's performance. "The question here is whether we can get better efficiencies," he said in an interview. At the same time, he said he will be able to advocate most effectively for the program to give it greater visibility, which could lead to more funding.

"Quite frankly, by the back of the envelope, they need more money," he said.

When the stockpile was established, CDC was the only major public health agency in the federal government. The ASPR office, created in 2006 in the wake of Hurricane Katrina to manage emergency responses across the government, was historically focused on natural disasters and threats from dirty bombs or crude biological or chemical weapons, he said. But since then, the world has changed, with many more unpredictable threats. The ASPR office needs to change to meet these threats. "The decision to move the stockpile, I think, was just a natural one," Kadlec said.



Yet Congress has some bipartisan concerns about the stockpile's future. Republican and Democratic appropriators, who just gave the program budget a slight boost for this year, signaled their unease as part of the recently passed spending bill. They specifically highlighted CDC's "unique expertise in public health preparedness and response, science-based policy and decision-making, public health communication, and coordination with state and local groups."

Lawmakers also "strongly urged" HHS Secretary Alex Azar to "maintain a strong and central role for CDC" in the program.

Kadlec testified April 18 at a House Appropriations subcommittee hearing on next year's HHS biodefense budget. Rep. Tom Cole, R-Okla., who chairs the health subcommittee, told Kadlec his main concern is "that we make this organizational change in a way that makes [the stockpile] stronger, not one that's duplicative, let alone something that might disrupt the relationships we have."

Sen. Patty Murray, Wash., ranking Democrat on the Senate Health, Education, Labor and Pensions Committee, faults the administration for failing to get "any input from Congress" despite the fact that lawmakers are in the process of reauthorizing the law that includes the Strategic National Stockpile.

"We have yet to see proof this large-scale public health program with complex state, local and federal partnerships would be better served at ASPR than at CDC," Murray wrote in a letter in February to Mick Mulvaney, President Donald Trump's budget director. At the CDC, she said, the program "may be better protected from politicization and therefore better able to be scientifically driven."

Mulvaney defended the plan in his response, saying it will "streamline operational decisions during responses to public health and other emergencies and improve responsiveness." It is unlikely that Congress could derail the move, but appropriators have to fund it and still can provide direction and oversight.

At CDC, the program's current director is hoping its planned move this fall will provide new ways to improve the stockpile's capability. Regardless of where it is located within HHS, Greg Burel said, in an emergency "we will not change the way we respond."

U.S. 'a Lot More Fragile Than We Realize' on Biothreats, Experts Warn

Source: <https://www.hstoday.us/subject-matter-areas/pandemic-biohazard/country-a-lot-more-fragile-than-we-realize/>

Apr 27 – The nation is critically underprepared to confront transnational biological threats ranging from DIY bioterror agents to natural pathogens that outpace current pharmaceuticals and overwhelm medical facilities, the Blue Ribbon Study Panel on Biodefense heard at a Wednesday event at the Hudson Institute.

James Lawler, a retired Navy commander whose experience includes serving as director for medical preparedness policy on the National Security Council and director for biodefense policy on the White House's Homeland Security Council, warned that the country is "woefully unprepared for these biological threats" in an increasingly interdependent world.

"Events halfway around the world have rapid effects," he said, and the nation suffers from a "lack of threat awareness and poor situational awareness as it comes to biological threats."

Problems include "excruciatingly slow and moribund" programs that rely too much on "backwards engineering" of the last big threat along with insufficient staffing and not enough human intelligence on biological programs, as well as a "lack of situational awareness in day-to-day health activities."

Lawler stressed that there are "still significant problems connecting the clinical world with the public health world," while the ability "to be able to understand those events in real time is critical to being able to defend ourselves in rapidly evolving events."

As genetic engineering continues to evolve, he warned, the threat will "exponentially" increase with "significant potential for malevolent use."

"Innovation is going to be the key to moving us ahead," he said, with a need "to think beyond the linear approach we're using now."





“If you’re the kind of person who lies awake at night thinking about problems, this is one of the problems you should be thinking about... we’re now in the era of the iPhone 10 and we’re still using a flip phone.” Kenneth Luongo, president and founder of the Partnership for Global Security, echoed that the U.S. “remains woefully underprepared” for a biological attack or a “new intensity level” of pathogens. He cited Rhode Island hospitals being overwhelmed by flu patients this past winter to the point of having to transfer overflow patients, “and this is an infectious disease that we prepare for every year.”

Better modeling is needed to map the potential spread of disease, he said. Synthetic biology presents new challenges from a risk perspective as new biological systems can be used for malicious purposes, he warned.

Because of the natural lack of transparency about biological programs from authoritarian regimes, it “falls to the intelligence community to determine what’s happening” in research programs with “serious questions” like Russia — where Luongo has “no doubt” there’s an active biological program with weapons potential.

“Is there any reason to believe even if we had global rules and we signed the convention that anyone would live by the rules?” former Homeland Security Secretary Tom Ridge asked about synthetic biology developments. “If you think it’s developing at a rapid pace... where do we focus our efforts?”

“Start with the intelligence community — that’s where the information about the dark corners is going to come from,” Luongo advised.

Even though the lack of a biological attack has lowered the priority of addressing biological threats, Luongo warned “that’s a mistake.”

Ridge’s co-chairman on the Blue Ribbon Study Panel, former Sen. Joe Lieberman (I-Conn.), said later in the conference that while he’s worried about a bioterror attack the impact of an infectious disease pandemic could be worse as “the potential for devastation is great.”

Former USAID Director Andrew Natsios, director of the Scowcroft Institute of International Affairs, told the panel that the country is “a lot more fragile than we realize” when it comes to emergency response, and the ebola crisis demonstrated the need for several central points at which decisions can be made rapidly. “Time is of the essence — the longer the delay, the more people could die,” he said.



Natsios warned of the consequences of a lack of U.S. leadership in the international system. “We are sort of like Jimmy Stewart — we are going to see what the world looks like without that honorable man in the movie,” he said, referencing “It’s a Wonderful Life.”

With deficits in drug development, he suggested expanding upon the Gavi Vaccine Alliance model in which pharmaceutical companies are promised that if they mass produce, the products will be marketed through NGOs and the UN.

“Do not reinvent the federal organization wheel,” he suggested, while emphasizing the need for coordination. “Do not try, in cases of international aid programs, try to transplant what works well in a Western country to a developing country.”

And, Natsios recommended, “do not confuse emergency response with other biomanagement issues” – coordinating before the emergency and, once the event takes place, decentralizing to the lowest levels “or we won’t get there in time.”

Elizabeth Cameron, vice president for Global Biological Policy and Programs at the Nuclear Threat Initiative, emphasized that “bringing home people overseas working on this mission is not a good idea” as “detecting an outbreak at the source and stopping it there is certainly best for the country.”

She noted that, to the detriment of a “global biosecurity dialogue,” foreign and defense ministers are often not present at biodefense meetings.

“Pay attention to emerging risks including those associated with advances in technology,” Cameron said, including the ability to whip up a batch of smallpox from scratch.

She recommended an accountability framework focused on safer and secure biotechnology and transparency to account for gaps in commitments, and said a country index is forthcoming from the Bill and Melinda Gates Foundation.



“Mad camel” disease? New prion infection raises alarm

Source: <http://www.homelandsecuritynewswire.com/dr20180424-mad-camel-disease-new-prion-infection-raises-alarm>

Apr 24 – Italian and Algerian researchers released new evidence of prion disease in three dromedary camels found in an Algerian slaughterhouse, according to a new study in *Emerging Infectious Diseases*.

The discovery, now being called camel prion disease (CPD), has raised more questions than answers about this deadly illness characterized by misfolded brain proteins.

“These camels are quite intriguing,” prion expert Valerie Sim, MD, associate professor at the University of Alberta, told CIDRAP News. “If we know anything about prions it’s that they can they can cross species; it’s not easy to do, but they can. So it’s very concerning if you have any infected animals in the food supply chain.”

Sim was not involved in the new study.

CIDRAP [notes](#) that in prion disease, the normal shape of a protein is contorted, and that triggers a domino-like effect in neighboring proteins, leading to fatal and severe neurodegenerative disease. Prion diseases can affect both humans and animals, and though inter-species transmission is rare, it can happen, as it did most famously during the bovine spongiform encephalopathy (BSE, or “mad cow”) epidemic, which started in the late 1980s in the United Kingdom.



In both humans and animals, the diseases can happen spontaneously, or they can be inherited from a genetic mutation or, rarely, transmitted when a person eats the meat of an infected animal. The last category, infectious prion disease, is the most concerning for researchers working on the human-animal interface.

New threat in animals

“Is there a clear exposure risk in camels? That’s what’s needed to be understood,” said Sim. She said that the presence of prions in the camels’ lymph tissues suggests the disease was acquired and not spontaneous, likely from something the animal was digesting.

In the *Emerging Infectious Diseases* study, researchers describe CPD in three symptomatic camels from a Saharan population in southeastern Algeria, where the animals were brought for slaughter to the Ouargla abattoir in 2015 and 2016. Dromedary camels are commonly slaughtered and consumed in many parts of North Africa and the Middle East.

Breeders bringing the camels to slaughter noted several neurologic symptoms from 2010 to 2015 in about 3% of their animals, including “weight loss; behavioral abnormalities; and neurologic signs, such as tremors, aggressiveness, hyperreactivity, typical down and upward movements of the head, hesitant and uncertain gait, ataxia of the hind limbs, occasional falls, and difficulty getting up.” Anecdotal evidence collected from employees at the slaughterhouse suggests that these symptoms have been present since the 1980s.

The researchers, from Algeria and Rome, took brain samples as well as samples from the cervical, prescapular, and lumbar aortic lymph nodes from three symptomatic and one healthy camel. They confirmed the diagnosis by the presence of disease-specific prion protein in brain tissues from the symptomatic animals. The authors said the presence of prions in the lymph nodes suggests infection, but the disease remains a mystery.

Disease origin unknown

“The origin of CPD is unknown. It might be a disease unique to dromedaries or a malady deriving from transmission of a prion disease from another species,” the authors concluded. They noted, however, that BSE from imported meat in the late 1980s cannot be ruled out.

Michael Osterholm, PhD, MPH, director of the University of Minnesota’s Center for Infectious Disease Research and Policy, publisher of CIDRAP News, said the study was noteworthy especially as it comes on the heels of new information from Canadian researchers that showed that chronic wasting disease—another prion disease—in deer and their relatives can be transmitted to non-human primates fed meat from infected animals.

“The whole issue of prions and meat consumption is a new and much more serious topic we need to look at,” Osterholm said. “Even though there’s no evidence that there is transmission [from camels], the absence of evidence is not evidence of absence.”

— *Read more in Baaisa Babelhadj et al., “Prion Disease in Dromedary Camels, Algeria,” Emerging Infectious Diseases 24, no. 6 (June 2018).*

Files found taped to a drawer in a filing cabinet reveal horrifying details of Rajneesh cult's twisted murder plots, plans for widespread bioterrorism and poisonings in Oregon in the 1980s

Source: <http://www.dailymail.co.uk/news/article-5648263/Rajneesh-cult-members-files-detailing-murder-plans.html>

Apr 23 – Recently unearthed documents belonging to the member of Orange People details the twisted murder and bio-terrorism plots inside Oregon's notorious Rajneesh cult.



CBRNE-TERRORISM NEWSLETTER – May 2018

Two years members of the Indian 'sex cult' were jailed for poisoning hundreds of people with salmonella, a 14-year-old boy discovered secret documents hidden inside an old, locked filing cabinet his father had bought from the commune.

The weathered manila folder, which had been taped underneath the bottom of the second drawer, had the words: 'RAJ Neesh PURAM' scrawled across it and gave sinister titles to its different sections, including: 'POISONINGS.' 'Abuse of Power.' 'Drug Abuse.' 'Unreported Deseases (sic).'

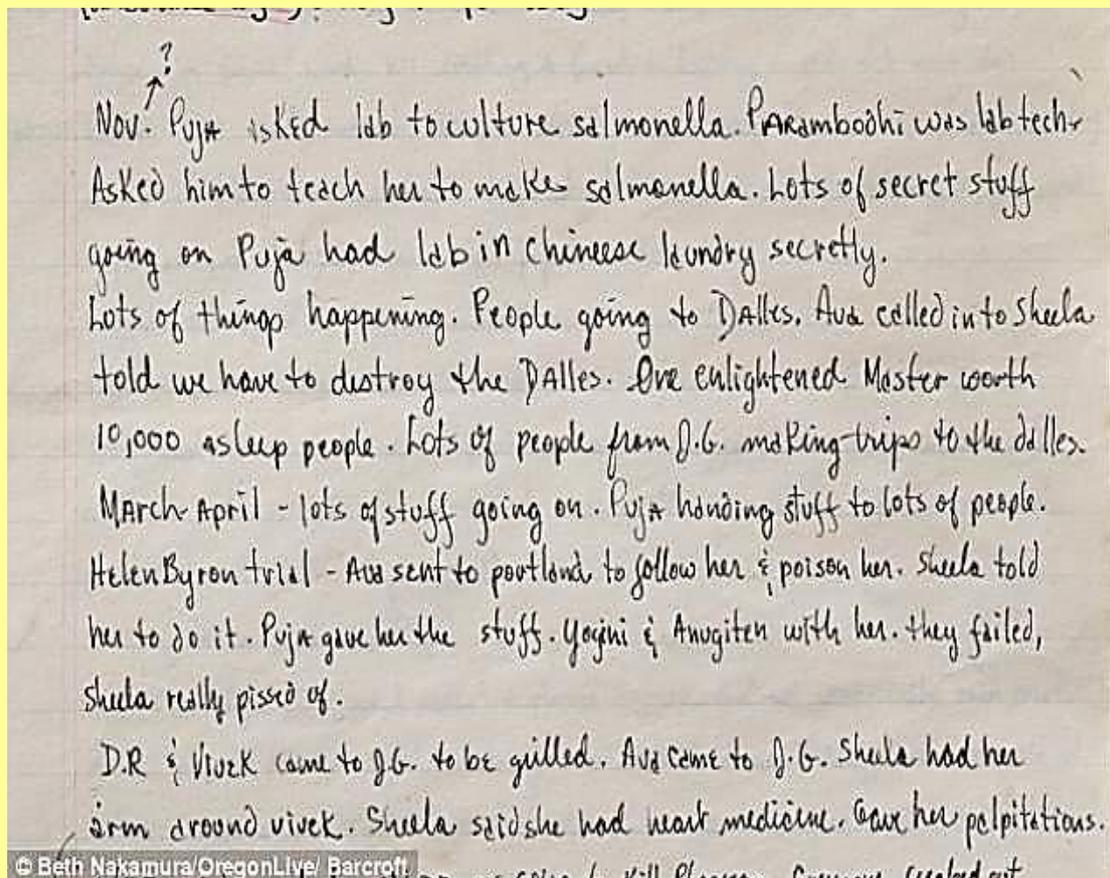
The documents, obtained by [Oregon Live](#), describe how salmonella bacteria was cultivated in a makeshift lab, nicknamed the Chinese laundry, in a bid to destroy the Oregonian city of The Dalles.

Followers of Bhagwan Shree Rajneesh, also known as Osho, were seeking election in two Wasco County Circuit Court seats but feared they couldn't get enough votes. So they decided to use Salmonella bacteria to poison the population, first through infected glasses of water to two County Commissioners and then by spreading it at salad bars and in salad dressing at eight restaurants.

More than 750 people contracted salmonella, sending 45 to hospital, although no one died.

The plot ended up with the members, Ma Anand Sheela and Ma Anand Puja, aka Sheela Silverman and Diane Yvonne Onang, being sent to jail. Sheela pleaded guilty to arson, attempted murder, wiretapping, poisoning and assault yet served just two years and five months in federal prison.

The former prosecutor in that case, Robert Weaver, believes that someone in the cult may have started the manila folder because they were angry over the plot and wanted to expose the Rajneesh leaders.



'My guess would be these were people so disgusted with Sheela and the power group they decided to document what was going on for themselves.'

The folder also details furious infighting at the cult which suggests that some may have been unhappy with how it was being run.

He also believes they could have been covering themselves.

'Maybe for some sense of self-protection,' he said. 'Perhaps they really wanted to restore the Garden of Eden and thought this isn't what we came for.'



Weaver says the notes would have been very useful during the trial but they were still able to get a conviction.



© Samvado Gunnar Kossatz/Wikipedia Commons

The ranch, pictured above, cost \$5.75million and housed 1,600 followers. The commune built their own stores, homes, and police force

The manila folder also detailed how followers unsuccessfully attempted to kill the Bhagwan's doctor, Swami Devaraj, by injecting him with adrenaline.

There was another failed hit on disciple, Helen Byron, after she sued the Bhagwan's church, Rajneesh Foundation International, for not repaying a \$300,000 loan.

A nearby town resident, Rosemary McGreer, who had been vocal in her opposition against the church's attempt to turn the town into the city of Rajneeshpuram said she was 'shaken' but not surprised to learn she too had been targeted.

'Heaven knows, they were doing these kinds of crazy things,' she said.

The papers also revealed claims that the church had drugged members and visitors to the site.

It described how the antipsychotic medicine Haldol was slipped into beers given out to homeless people who were brought in to boost the Rajneesh leader ranks to help sway a local election.

The 13 page, handwritten document, also detailed how the ran had 'Blue Files' with fake names and backgrounds of people on the commune in case of an immigration raid.

The file came into the the teen's hands in 1986 after his father, who did business with the cult, delivering refrigeration and freezer equipment, took the old office drawers off the church's hands.

After the boy, made the shocking discovery, his family decided not to make it public in case they were targeted by church members.

There had also been a police investigation and several arrests, while some had fled the country, so his father told him the files probably wouldn't tell prosecutors anything new.

So instead, the teen, from Terrebonne, now a 45-year-old man who lives in Washington State, kept the folder hidden among his coin collection for decades.

It was only when the new Netflix documentary 'Wild Wild Country' aired, that he remembered the incredible discovery.



'Maybe it's time I do tell somebody the story,' he thought. 'Maybe there may be some interest in it again.' Cult leader Bhagwan Shree Rajneesh created a name for himself in India based on his spiritual teachings of open love and higher awareness.

His practices included naked meditation, group sex, and dancing.

In 1981 he created a utopia for his Western followers, purchasing a sprawling 64,000-acre ranch for \$5.75million next the small town of Antelope, Oregon.

Rajneesh and his 1,600 disciples - many of them wealthy professionals - created a world for themselves on the camp with their own homes, stores, and police force.

They took over the area with their communal living style, their daily dancing and singing routines, and stuck out in the red and orange clothing.

However their world clashed with that of the sleepy Antelope town next door, home to just 45 residents and stretching less than a square mile in size, according to the NY Post.

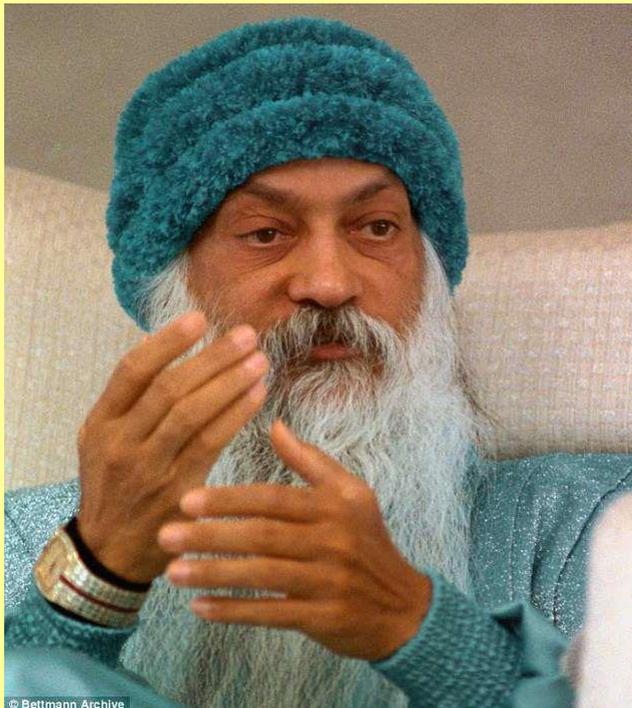
Tensions between the cult and the town's citizens heightened and three years later it came to a crash.

'At first, they were seen as strange — not as a threat. Then they started buying property,' Antelope resident John Silvertooth said to the NY Post previously.

'They moved enough people in to get a majority on the town council . . . which changed the name of Antelope to Rajneesh. Main Street turned into Bhagwan Boulevard,' he added.

The commune's growing influence took over the town's local council and adopted its own policies, igniting fury in the Antelope residents.

Video interviews collected from the 80s for a Netflix docu-series on the cult entitled Wild Wild Country reveal citizens' outrage towards the Rajneesh followers.



'I want that guru and his evil influence out of my city,' one woman in the Netflix program.

Another local described the ashram as 'run by satanic power'.

A former ranch resident said the daily dancing and strange practices 'just struck fear in me. It was a cult.'

[Rajneesh pictured above with a diamond watch revealing insight into his flashy taste, speaking at a conference](#)

Locals - and doubtful ashram members - found the practices such as group sex therapy sessions that released repression to be bizarre.

'Everyone was so crazy for enlightenment . . . [that they] took part in sexual encounters, emptied their pockets and proved their devotion [through] expensive gifts,' Rajneesh's spokesperson Sheela 'Ma Anand' Silverman wrote.

Rajneesh was indeed so wealthy from decades of donations in his mystic career that he had a taste for flashy items and boasted a collection of 93 Rolls-Royce automobiles.

Another former cult member told the NY Post that the 'free love' ideology created an unbridled sex environment.

Silvertooth said he once met a teenage hitchhiker escaping the ranch who said 'he was sick of being raped'.

The madness of the Rajneesh community culminated in 1984 when the cult hatched a plan to win the November 1984 town council elections to drown out the Antelope residents' dissent.



Their tactics included busing in thousands homeless people from New York City, Phoenix, and San Diego to register to vote in the small town in order to win a Rajneesh majority.

County authorities sniffed out the plan and refused to register the vagrants.

The salmonella plot was the largest bioterror attack in the United States.

The restaurant plot was a test run for the real plan of poisoning the city's water supply, but the group never carried it out.

'They put salmonella in the salad bars of 10 [local] restaurants; 700 people got sick. Then the [Centers for Disease Control and Prevention] got involved and they backed off [from the poison water plan],' says Wild Wild Country co-director Maclain Way.

The election came and went, without a single Rajneeshee making it onto the commission.

'That whole episode with the poisoning — it showed the extreme nature of some of the people there,' a former cult member said.

The following year in 1985 a disciple burnt down a Wasco County Planning Office because it reportedly contained documents relating to a real estate investigation of the cult.



A glimpse at his 93 Rolls-Royce collection above at the Oregon ranch camp site

Rajneesh's spokeswoman Silverman plotted the poisoning of the guru's doctor, saying he was keeping him on drugs.

The cult also conspired to kill presidential appointee Charles Turner, who was investigating the ranch's illegal activity spanning smuggling and immigration fraud.

The nation's eyes were turned to the cult's chaos that took over a once-quiet town, causing Rajneesh to flee.

He boarded a Learjet business aircraft to escape to India, but was caught and detained during a gas stop in Charlotte, North Carolina on October 28, 1985.

He was charged with immigration fraud in connection with the arranged marriages he set up for followers to gain American citizenship.

He agreed to stay out of the country and returned to India where he changed his name to Osho and his teachings continued.

He died in 1990 at the age of 58.

Now the site that was once the peak of the Rajneesh movement is home to a Christian camp.



Researchers awarded \$1.7M to support fast, effective responses to biological attacks

Source: <http://augustafreepress.com/researchers-awarded-1-7m-to-support-fast-effective-responses-to-biological-attacks/>

Apr 25 – When Americans hear the word *bioterrorism*, they may be reminded of the series of anthrax attacks that followed in the wake of 9/11, infecting 22 people and killing five.

Exposure to toxins produced by that bacteria can prove fatal in as few as three days after the start of symptoms, and symptoms often appear no more serious than a common cold.

Today, the Defense Threat Reduction Agency, or DTRA, is leading a proactive effort to ensure a fast, effective response to any future bioterrorist attacks. With \$1.7 million in newly awarded funding, a research team at the [Biocomplexity Institute of Virginia Tech's Nutritional Immunology and Molecular Medicine Laboratory](#) (NIMML) will head up a five-year project to develop a system public health officials could use to immediately identify the best treatment strategy for anyone exposed to a toxic biological agent.

“Recent advances in data analytics and artificial intelligence systems are fundamentally transforming our ability to personalize

treatments to the specific needs of a patient under treat-to-target paradigms,” said Josep Bassaganya-Riera, co-director of the Biocomplexity Institute’s Nutritional Immunology and Molecular Medicine Laboratory. “Our goal in this project will be to leverage the power of modeling and advanced machine learning methods, so a group of people exposed to a harmful pathogen or its toxins can receive faster, safer, more effective and personalized treatments.”

The progression of an infection can vary greatly depending on a host of factors, including the type of pathogen, how individuals were exposed to it, and in what quantity. Rather than relying on a standard response plan which, may not suit the specific conditions of a biological attack, the Virginia Tech team aims to empower DTRA officials with a system capable of quickly generating customized treatment strategies.

This project will build on computational modeling systems previously designed by NIMML to create tailored treatment plans for patients infected by the toxin-producing bacterium, *Clostridium difficile*. In 2015, the Centers for Disease Control reported nearly half a million Americans had suffered from this disease; 29,000 of those cases resulted in death within a month of diagnosis.

“Our computational models are used as platforms for integrating results obtained in the lab and clinical data from patients. In the event of an attack, they could be used to evaluate in real time the particular characteristics of the outbreak and accelerate the choice of treatment,” said Raquel Hontecillas, an associate professor at the Biocomplexity Institute and co-director of NIMML.

As a leading laboratory at the Biocomplexity Institute, NIMML’s overarching research program focuses on transitioning advanced computational technologies into new health care applications.

“We’ve spent the past decade building research programs that are collaborative, data-intensive, and backed by the latest in high-performance computing technology,” said Chris Barrett, executive director of the Biocomplexity Institute. “Our solutions are designed to be flexible so that during a crisis, when conditions on the ground are constantly changing, our partners can apply them with confidence.”



By using similar advanced computational approaches in a combination of translational methods, the NIMML team recently launched [Landos Biopharma](#), an emerging biotech company that develops oral therapeutics for autoimmune diseases. The team has the expertise and capabilities to move new therapeutics from the discovery stages into clinical testing.

The Biocomplexity Institute regularly conducts research through federal, state and industry grants and contracts. This award is part of the institute's portfolio of research programs that has received more than \$103 million in new awards in the first half of FY 2018.

Most Americans favor more funding for biosecurity capabilities

Source: <http://www.homelandsecuritynewswire.com/dr20180426-most-americans-favor-more-funding-for-biosecurity-capabilities>

Apr 26 – A new [nationwide survey](#) of the American electorate reveals that the vast majority of Americans support increased funding to address biosecurity threats. Additionally, most Americans support their elected officials actively engaging to promote and support biosecurity.

Nationally, 73 percent of the 1,612 Americans surveyed say they would have a favorable reaction “if Congress decided to increase the budget this year for developing preventive measures for biological and chemical threats.”

How elected officials act on biosecurity issues is important enough to affect voters at the ballot box, according to the survey. A majority of Americans – 52 percent – say they are more likely to support their elected representative if that representative is “actively engaged in promoting and supporting biosecurity.”

The Alliance [says](#) that similarly, 52 percent say they would become less likely to re-elect a representative who voted AGAINST providing additional funding to the Strategic National Stockpile (SNS) and Biomedical Advanced Research and Development Authority (BARDA). Only 20 percent say voting against the additional funding would make them more likely to re-elect that representative.

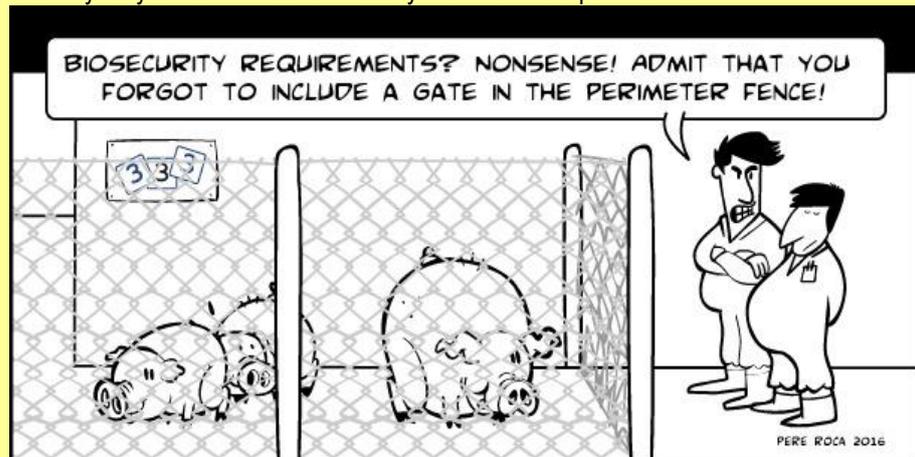
“What we’re seeing in these results is that people care greatly about health security threats and want their elected officials putting more resources into medical

countermeasures,” said Brent MacGregor, Co-Chair of the Alliance for Biosecurity, which sanctioned the survey. “Preparedness against naturally occurring and man-made biological threats is a very real part of our national security that Americans across a wide spectrum are willing to spend the necessary money to bolster.”

The new survey also shows more than half of the American public does NOT currently feel confident that the federal government is prepared to address the next biosecurity threat. Only 31 percent of Americans say they are confident in America’s preparedness to respond to threats compared to 50 percent confidence in a March 2016 survey.

“The American people deserve to feel safe,” said Chris Frech, Co-Chair of the Alliance for Biosecurity. “We should strengthen the public-private partnerships that enhance national health security and support the rapid development, production, stockpiling and distribution of critically needed, lifesaving medical countermeasures so that Americans can be confident in their government’s preparedness to protect us from biological and chemical threats.”

A closer look at the data shows Americans of every demographic group and political ideology support both the additional funding and the increased attention of their elected officials on biosecurity.



The survey was conducted by Remington Research Group, via both landlines and cell phones. The margin of error is +/- 2.5 percent with a 95 percent level of confidence, 1,612 likely 2018 General Election voters participated in the survey and results are weighted to match expected turnout demographics for the 2018 General Election.

Your genome may have already been hacked

By Norman A. Paradis

Source: <http://www.homelandsecuritynewswire.com/dr20180430-your-genome-may-have-already-been-hacked>

Apr 30 – On 25 April, California law enforcement announced the [possible capture](#) of a long-sought serial killer. Shortly after, it was reported that police had used public DNA databases to [determine his identity](#).

This extraordinary event highlights that when you send off a cheek swab to one of the private genome companies, you may sacrifice not just your own privacy but that of your family and your ancestors. In a time of widespread anxiety over the misuse of social media, Americans should also be concerned over who has access to their genetic information. For-profit genome testing companies like 23andMe make money, in part, by [selling anonymized genomic data](#). Many people may not realize that re-identifying genomes – that is, identifying an individual from their genetic profile – is a [relatively straightforward process](#). In one study, researchers could re-identify five of 10 people, as well as their families.

Humans [share about 99 percent](#) of their DNA bases with one another. The few differences that exist are often sufficient to figure out who's related to whom.

The genome has been something of a [disappointment](#) medically. Physicians generally can't do much with the information that a given patient has, say, a 3 percent greater risk of dementia. But those data are potentially very useful to [insurance companies and employers](#) trying lower their risk.

The [Genetic Information Nondiscrimination Act](#), a federal law passed in 2008, prevents insurance companies and employers from forcing people to undergo genetic testing. But it doesn't necessarily prevent bad actors from using dark-web databases and advanced analytics to give themselves a commercial edge.

There have been no reports yet of companies doing this. But we live in an age in which it seems the possible becomes probable on an almost daily basis.

Members of Congress have already tried [to remove](#) some of the little genetic privacy protection that already exists. And companies have begun to offer [genome sequencing as an employee benefit](#).

The financial services industry offers a cautionary tale for the customers of the genome industry. Banks are highly regulated and supposed to provide state-of-the-art protection, yet they have [been hacked](#).

Compared to financial institutions, genome companies are lightly regulated. Eventually one or more of them will be hacked or even caught selling "risk profiling" services to third parties.

With respect to police and prosecutors, the situation is somewhat different. In the end, they must submit their work to the courts. It's possible that setting up a [fake account on an ancestor DNA website](#), as the California police reportedly did, constitutes unreasonable search and seizure.



Given the large financial rewards and the behavior of other industries, millions of American families should likely consider their genomic privacy as already compromised. If the genome of one of your relatives is in one of these databases, then essentially so is yours. In the uncommon circumstance that a whole family has not one member who has yet to send

off a cheek swab, that family might want to consider opting out of this whole thing until society sorts out risks, benefits and privacy protections.

Most people, however, will have to wait and hope they will not be harmed by a genomic revolution that has provided them with little benefit.

Norman A. Paradis is Professor of Medicine, Dartmouth College.

Elevating CRISPR-Cas9

By GMU Biodefense graduate student **Janet Marroquin**

Source: <https://pandorareport.org/2018/04/26/elevating-crispr-cas9/>

Apr 26 – The contentious debate regarding the precision of the commercially available gene-editing tool, CRISPR-Cas9, continues as *Nature* recently [retracted a study](#) published last year on the unintended effects of off-target mutagenesis. The 2017 study used CRISPR-Cas9 to edit a genetic mutation causing blindness in mice but the researchers also observed CRISPR-induced mutations in other genes due to off-target editing at higher rates than previously documented. [In their report](#), the researchers expressed their concern over the alarming target imprecision of the widely-used gene-editing tool and its effect on unwanted mutations in gene therapy. However, further evaluation of the study by other researchers raised questions about the validity of the study results given the possibility of natural genetic variation introducing mutations independent of CRISPR use. After eight months of deliberation, *Nature* determined the cause of the unexpected mutations to be natural genetic variability, as the mice were not genetic clones, and not the pronounced off-target effects of the CRISPR-Cas9 system used, ultimately leading to the retraction of the study from the journal.

What does this mean for the evaluation of off-target effects on gene-editing? Are off-target effects really a problem or are they negligible? And what are off-target effects anyway? The debate remains unresolved as CRISPR continues to be sought as a tool for myriad uses including gene-therapy and cancer treatments.[i] Experts familiar with the CRISPR-Cas9 system have recognized that off-targeting occurs with varying frequency in different organisms and, as such, validate their results through methods such as whole-genome sequencing in order to discern possible unintended mutations.[ii] When using gene-editing technology, the experimenter must first design a guide RNA (gRNA) segment that specifically targets the gene of interest for the insertion or deletion of the desired/undesired mutation. Unfortunately, binding of the gRNA may occur at undesired sites if the base pair mismatch is low enough, resulting in unwanted off-target effects.[iii] To counter the possibility of off-target editing, researchers have developed computational algorithms to identify potential off-target sites prior to use, thus improving precision in the technique.[iv]

Joining independent research teams in the application of data analytics and machine learning to gene-editing is Microsoft's artificial intelligence tool, [Elevation](#), designed specifically for the prediction and reduction of off-target effects by CRISPR. In addition to developing the algorithm for the experimenter, Elevation further commoditizes its service by allowing the experimenter to enter the target RNA sequence [online](#) for step-by-step guidance on designing the gRNA. According to the results of its endorsed study, Microsoft has built an effective and efficient platform available to the general public for precise gene-editing.[v]

The investment of resources in gene-editing technology by commercial industry confirms the enormous potential that CRISPR-Cas9 holds for biology, medicine, and science as a whole. Its functional versatility has brought continuous attention to potential applications but, like all dual-use research, while the benefits from gene-editing are high, so are the associated risks. The commercialization of CRISPR, coupled with the commercialization of



an AI tool that facilitates its use and improves its accuracy, has heavy implications for biosecurity. Without institutional oversight or regulatory guidance, gene-editing technology is easily accessible to the general public, including malevolent actors with perverse intentions. As advances in biotechnology continue to democratize and lower the barrier of entry, it is critical for the biosecurity community to find a balance in policy on dual-use technology that will foster scientific discovery while ensuring security against nefarious actions.

References

- [i] Barrangou, Rodolphe., Jennifer Doudna. Applications of CRISPR technologies in research and beyond. *Nature Biotechnology*34 (2016): 933-941. doi:10.1038/nbt.3659
- [ii] Zhang, Qiang, Hui-Li Xing, Zhi-Ping Wang, Hai-Yan Zhang, Fang Yang, Xue-Chen Wang, Qi-Jun Chen. Potential high-frequency off-target mutagenesis induced by CRISPR/Cas9 in Arabidopsis and its prevention. *Plant Molecular Biology*96, (February 2018): 445-456. <https://doi.org/10.1007/s11103-018-0709-x>
- [iii] Zhang, Xiao-Hui., Louis Y. Tee, Xiao-Gang Wang, Qun-Shan Huang, Shi-Hua Yang. Off-target Effects in CRISPR/Cas9-mediated Genome Engineering. *Molecular Therapy-Nucleic Acids*4, no.e264 (2015):1-8. <https://doi.org/10.1038/mtna.2015.37>
- [iv] Zhou, Hong., Michael Zhou, Daisy Li, Joseph Manthey, Ekaterina Lioutikova, Hong Wang, Xiao Zeng. Whole genome analysis of CRISPR Cas9 sgRNA off-target homologies via an efficient computational algorithm. *BMC Genomics* 18, no.9 (November 2017): 31-38. doi: 10.1186/s12864-017-4225-1
- [v] Listgarten, Jennifer., Michael Weinstein, Benjamin P. Kleinstiver, Alexander A. Sousa, J. Keith Joung, et al. Prediction of off-target activities for the end-to-end design of CRISPR guide RNAs. *Nature Biomedical Engineering*2, no.1 (January 2018): 38-47. <https://doi.org/10.1038/s41551-017-0178-6>

Glimpses of future battlefield medicine – the proliferation of robotic surgeons and unmanned vehicles and technologies

Source: <http://jmvh.org/article/glimpses-of-future-battlefield-medicine-the-proliferation-of-robotic-surgeons-and-unmanned-vehicles-and-technologies/>

On the 100th anniversary of the 1918 pandemic, experts warn flu is global threat

Source: <http://www.homelandsecuritynewswire.com/dr20180508-on-the-100th-anniversary-of-the-1918-pandemic-experts-warn-flu-is-global-threat>

May 08 – The U.S. Centers for Disease Control and Prevention (CDC) partnered with Emory University to mark the 100th anniversary of the 1918 flu with a symposium about influenza pandemics: when and if they will strike, how ready the United States is to confront a pandemic, and how to do so.

“The more I learn about flu, the less I know,” said Michael Osterholm, director of the University of Minnesota’s Center for Infectious Disease Research and Policy, publisher of [CIDRAP News](#), as he began his remarks on the challenges of anticipating the next pandemic. Osterholm’s sentiment was echoed by others throughout the day-long event. No one argued that the United States is prepared to face a flu pandemic, as experts explained the current status of avian flu viruses, a universal vaccine, and challenges to preparedness.

“I don’t know what the virus will do,” said Osterholm. “But history tells us that influenza comes back and comes back and comes back.”



Devastating pandemic, related effects

He then argued that, during the next influenza pandemic, more people will die from the non-pandemic aspects of such a global health crisis. Illustrating his point with pictures of massive container ships that move goods across the globe, Osterholm said that the US economy is so inextricably linked to other countries, especially China's, that a pandemic would paralyze supply chains for both consumer and medical goods.

"A flu pandemic would result in unprecedented employee absenteeism," Osterholm said. He also noted that thirty of the most common generic medicines currently used in the United States are wholly or partially manufactured in China.

"Look at what happened with saline bags in Puerto Rico," said Osterholm, who predicted months before the devastating 2017 hurricanes that storms on the island would cause problems for US clinics and hospitals.

In a counterpoint to Osterholm's talk, Arnold Monto from the University of Michigan, said that he certainly did not disagree with Osterholm's conviction that the next pandemic would be deadly, but he said modern tools, including the flu vaccine, would mean it's unlikely the 1918 pandemic could ever be repeated.

Luciana Borio of the White House National Security Council, said the administration also sees the threat of pandemic flu as a global health crisis.

"Flu is our number one health security issue," said Borio. "We do not close borders to control flu."

Borio—who also confirmed that China is not currently sharing flu vaccine strain information nor any progress made on its development of a universal flu vaccine—said that a universal vaccine is a focus of the Trump presidency.

Few states fully prepared

CIDRAP [notes](#) that despite the macro threat of flu, there are small things state governments can do to more readily prepare for a coming pandemic.

In a talk about Trust for America's Health (TFAH's) annual readiness report, "Ready or Not?" TFAH President and CEO John Auerbach, said no states were completely prepared for a pandemic (based on 11 criteria, and ranked from 1 to 10). Only five states had a preparedness ranking of 8 or 9, and half sat at a 5 or lower. The report was published in December.

Dwindling public health department budgets are a problem, Auerbach said, but so are public perceptions and actions during a pandemic.

"Only a handful of states mandate paid sick leave," Auerbach said. "So even if someone knows not to go into work when they're sick, if they think they're going to lose a paycheck, they still go in."

Nancy Messonnier, head of CDC's National Center for Immunization and Respiratory Diseases, said that despite gaps in preparedness, the CDC is better equipped to handle a flu pandemic now than it was in 2009, when a novel H1N1 flu strain first emerged. Technologies, including mobile apps that help consumers find flu shots, and antivirals are putting the power to prevent and fight flu into patients' hands, she said.

Superbugs: are we returning to an era where bacteria are a major killer without a cure?

By Anthony McDonnell

Source: <http://www.homelandsecuritynewswire.com/dr20180508-superbugs-are-we-returning-to-an-era-where-bacteria-are-a-major-killer-without-a-cure>

May 08 – There have been bacteria on this planet for at least the last 3.5 billion years. For the entirety of our species' existence we have relied on bacteria to aid us in breaking down food, whilst being helpless to guard against their wrath whenever we had a bacterial infection. It wasn't until the late nineteenth century that more powerful microscopes lead us to understand what bacteria were and how the infections spread, in what was known at the time as 'germ theory.'



Understanding how bacteria made people unwell led us to greatly improve hygiene; with large government programs to build sanitation systems, doctors started to wash their hands and utensils, and people started to drink clean water. These changes, along with other medical innovation, lead to dramatic improvements in people's health: in 1900 one in every 125 Americans were killed every year by infection and life expectancy was just 46; by 1941, it had risen to 65 and the number of people dying annually from infections had fallen to just one in 500. It was in this year that humans finally took the upper hand in our battle to stave off infection, when a research team in Oxford demonstrated how penicillin can cure bacterial infections. By 1955 just one in every 1670 Americans were killed by infections annually (the rate has plateaued since then).

Over the next few decades, antibiotics transformed modern medicine, not only allowing us to treat people who had bacterial infections, but also creating a safety net for other areas of medicine. Doctors can now treat other illnesses through surgery or by using drugs that have the unfortunate side effect of greatly lower immune systems (such as chemotherapy), with the knowledge that if someone picks up a bacterial infection, it can be treated.

Sadly, however, this was not the end of the story. Every time bacteria come into contact with antibiotics there is the possibility that through a process of natural selection, they may evolve to evade the drugs, creating what is referred to as "superbugs." These superbugs can often *not* be killed by antibiotics. They have altered their membranes so the antibiotic cannot get into their cell, developed efflux pumps to remove the antibiotic from their system or learned to make enzymes that break down the antibiotic. In the early years of antibiotic development researchers were able to come up with enough new antibiotics to

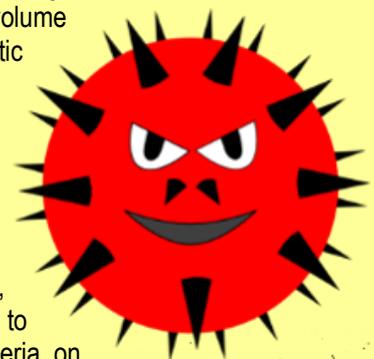
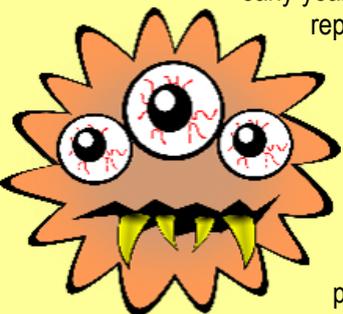
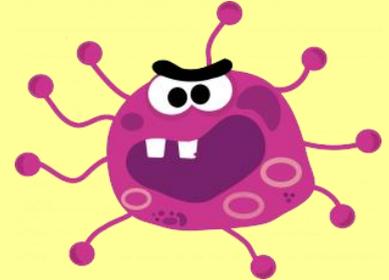
replace the ones that we had lost to resistance, but this is no longer the case. There has not been a new class of antibiotic able to treat gram-negative bacteria since the 1980s. This has led to a slowly-building crisis that kills 58,000 neonates in India every year and about 1.5 million people globally. If we do not start to take robust action against superbugs, then we are looking at returning to an era where bacteria are once again a major killer for which there is no cure.

In our recent book [Superbugs: An Arms Race Against Bacteria](#), Will Hall, Jim O'Neill, and I look at the scientific, economic, and political failures that have led us to the point where antibiotics are ceasing to work, examine what will happen if we fail to act, before outlining the policy interventions that we think are required to keep us ahead in this vital arms race. In short,

we need to new antibiotics to replace those lost to resistance; but more importantly we need to slow down the rise of resistance by preventing people from becoming sick, having better prescription practices when people become ill, and stop the environmental pollution from agriculture and manufacturing that sees antibiotics pumped into the environment.

All of these problems are held back by market failures. In order to prevent the rise of resistance, public health officials often rightly try to limit the sales of new antibiotics – the more valuable a drug the stronger the impulse to protect it is likely to be. This is problematic because innovators make greater returns the more of their product they sell through their patent system, which uses price and volume as a proxy for societal value. We need a new system for rewarding antibiotic producers that incentivize new drugs without encouraging companies to oversell. Sanitation systems need to be improved in almost all low and many middle-income countries, so that people stop becoming sick. When we prevent illness then people will not need antibiotics. For example, at the moment, 1.7 million children die annually from diarrhea or pneumonia, and research indicates that simply by getting people access to soap we could more than half this number. This is not just a problem in resource-constrained environments: in the U.S., research suggests that while 68 percent of people wash their hands after going to the toilet, only 5 percent did so thoroughly enough to remove all the bacteria on their hands.

Finally, with diagnostics and pollution we need to find ways of getting decision makers to internalize the societal benefits that accrue from good antibiotic stewardship. Regulation or



taxation should be used to stop the environmental pollution of antibiotics. Rapid diagnostics can greatly improve prescriber practices, but there is a lack of investment into this area, and often when these diagnostics exist they end up costing more than the antibiotics, and so people do not use them. This means we are ignoring the societal benefit of using diagnostics to keep resistance at bay.

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Biological warfare

Biological warfare is defined as "the use of pathogens or toxins against human, animal, or plant populations by a state or sub-state actor to achieve military aims" (Zilinskas and Carus, 2002).
From: *International Encyclopedia of Public Health*, 2008

Related terms:
Infectious Disease, Antibiotics, Pathogen, Bacillus, Influenza, Botulinum Toxin, Smallpox, Q Fever, Vaccination, Spore

Source: <https://www.sciencedirect.com/topics/medicine-and-dentistry/biological-warfare>



UCLA Scientists Develop Bioterrorism Vaccine For Anthrax, Plague

Source: <https://patch.com/california/centurycity/ucla-scientists-develop-bioterrorism-vaccine-anthrax-plague>

May 10 — **A UCLA-led group of researchers may have found a vaccine against anthrax, plague and tularemia** -- three potent pathogens likely to be used in a bioterror attack, the university announced Thursday.

If found to be safe and effective in humans, the vaccine could protect people from all three lethal bacteria, the researchers said.

While there are no licensed vaccines for tularemia and plague, there is an anthrax vaccine which requires a burdensome immunization schedule and has severe side effects.

The UCLA team used molecular engineering to develop vaccines against each that use a **common delivery method, or "single vector," to carry protective antigens to the immune system.** The findings were published May 3 in the journal *Scientific Reports*.

"Relying on currently available antibiotics to counter an intentional outbreak of anthrax, plague or tularemia is not a pragmatic public health plan -- vaccines offer the only practical protection," said Dr. Marcus Horwitz, the study's senior author and a professor of medicine and of microbiology, immunology and molecular genetics at the David Geffen School of Medicine at UCLA.

"Vaccines utilizing a single vector that could be administered concurrently and protect against all three pathogens would be more acceptable to people than multiple unrelated vaccines requiring different immunization schedules, and be less costly because they would be simpler to manufacture," he said.

The researchers immunized laboratory mice with the three vaccines. Four to six weeks later, they administered lethal doses of anthrax, plague and tularemia bacteria by replicating the airborne method terrorists would be likely to use in an attack.



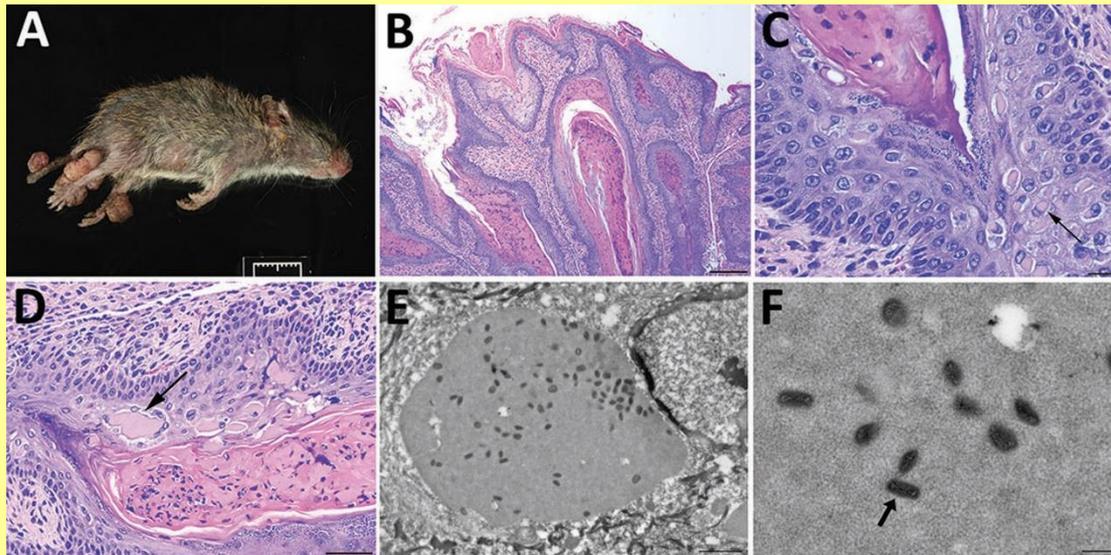
The vaccines -- **administered either through an injection or nasally** -- protected the mice against all three pathogens. Researchers tested various dosing schedules and found that a three-dose strategy worked well against all three pathogens.

The researchers then compared their new anthrax vaccine to the licensed anthrax vaccine. **The one they developed was more effective, especially when administered via injection, than the existing vaccine**, according to the study.



New Smallpox-Related Virus Found Lurking in Texas Rodents

Source: <https://www.livescience.com/62585-new-smallpox-related-virus-texas.html>



A newfound poxvirus, dubbed "Brazospox virus," was recently discovered in Texas rodents. Above, an image of an infected rodent with large skin lesions on its legs and tail (A); images of the skin lesions under a microscope, with arrows showing aggregates of viral proteins (B-D); images of the virus particles, which have a "brick-shape" appearance (E-F). *Credit: Hodo CL, et al. Novel Poxvirus in Proliferative Lesions of Wild Rodents in East-Central Texas, USA. Emerg Infect Dis. 2018 May; [Epub ahead of print]*

May 16 – **A never-before-seen virus that's a relative of the notorious smallpox virus has been found lurking in rodents in Texas**, according to a new study.

Researchers discovered the new virus in pygmy mice in east-central Texas. A genetic analysis revealed that the virus was a type of poxvirus, a diverse family of viruses that includes the [smallpox virus](#). But the new pathogen was quite different from any of the currently known poxviruses. Researchers dubbed the new virus "Brazospox virus," because the infected mice were found at sites near the Brazos River, which runs through east-central Texas.

It's still unclear whether the new virus can infect people, and right now, there's no need for the public to worry, said senior study author Dr. Sarah Hamer, an associate professor and

director of the Schubot Avian Health Center at Texas A&M University's Department of Veterinary Integrative Biosciences.

However, "this is yet another example of a potentially emerging virus in wildlife with unknown ability to be transmitted to humans and unknown impact on human health," Hamer told Live Science. "Certainly, there are related poxviruses that can be devastating for human health," and many can live in animals. [[10 Deadly Diseases That Hopped Across Species](#)] Indeed, although the variola virus, which causes smallpox, was declared eradicated from the world in 1980, [poxviruses continue to pose a risk](#) to humans. In particular, there has been a rise in cases of monkeypox, which is closely related to smallpox, in parts



of Africa since the 1980s, and the natural hosts of monkeypox remain unknown, according to the Centers for Disease Control and Prevention (CDC). And in 2013, two men in the country of Georgia were found to be infected with a [newfound poxvirus](#), which they likely contracted from contact with cattle.

Although there may be a perception of emerging diseases coming from "global hotspots," such as in Africa and Asia, the new findings are an example of novel viruses circulating "here in the natural areas 'in our own backyard,'" Hamer said. "The more we look, the more we will find." Poxviruses are oval- or brick-shaped viruses with large genomes that can cause disease in many types of animals, including humans, according to the CDC. Infections with poxviruses typically cause skin lesions or rashes. In the pygmy mice in the new study, the virus caused unique skin lesions on the animals' feet and tails. [\[The 9 Deadliest Viruses on Earth\]](#) Within their "family tree," poxviruses are divided into two main "subfamilies" — Chordopoxvirinae and Entomopoxvirinae — and within those subfamilies, into several dozen genera. For instance, the smallpox virus belongs to the

Chordopoxvirinae subfamily and the genus *Orthopoxvirus*.

In the new study, the researchers determined that Brazospox virus was most closely related to Chordopoxvirinae viruses. However, it was distinct from previously identified poxvirus, and it didn't fit into any currently recognized genus, the researchers said.

Although the researchers initially suspected that the pygmy mice could have a poxvirus infection, "we didn't expect that we'd uncover something novel," Hamer said. But advances in technology have led to more and more novel viruses being detected in recent years, and "this is one more example of a wildlife-associated virus that could be new or [could] have been circulating in nature for some time," Hamer said.

Currently, Hamer and colleagues are working with the CDC to grow the virus in lab dishes so that researchers can study its ability to infect human cells. The researchers are also interested in describing the geographic distribution of animals infected with the virus, Hamer said.

The [study](#) is published online in the June issue of the journal *Emerging Infectious Diseases*



A quarter of migrants to Europe infected with drug-resistant bacteria

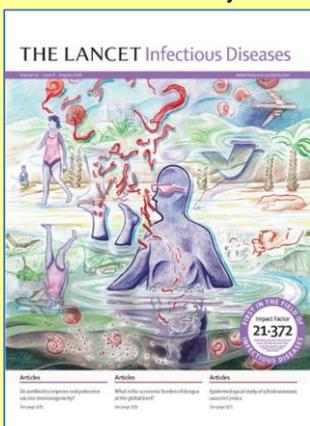
Source: <http://www.homelandsecuritynewswire.com/dr20180521-a-quarter-of-migrants-to-europe-infected-with-drugresistant-bacteria>

May 21 – A new review of research on migrant populations in Europe has found that more than a quarter are infected or colonized with antibiotic-resistant bacteria, with evidence suggesting that the pathogens are being acquired along the migration route or in host countries.

The findings are from a review and meta-analysis of observational studies on antimicrobial resistance (AMR) in migrants conducted by researchers from Imperial College London and published yesterday in the [The Lancet Infectious Diseases](#). The researchers also found that the prevalence of AMR carriage or infection was even higher among refugees and asylum seekers and in high-migrant community settings. But they did not find high rates of AMR transmission from migrants to host populations.

CIDRAP [notes](#) that the findings come amid a recent wave of immigration that has brought more than two million migrants to Europe since 2015, an influx that's been driven in part by conflicts and instability in the Middle East and Africa. The authors of the study suggest that the poor conditions that many migrants are exposed to in transit and in host countries—including crowded refugee camps and detention centers with poor sanitation and little

access to healthcare—may promote the spread of antibiotic-resistant bacteria. The role of these settings in the spread of infectious diseases has been highlighted in previous studies. "Poor social conditions in these settings, such as inadequate sanitation, overcrowding, and restricted access to health services (including antibiotics or vaccinations), favor the spread of antibiotic-resistant infections," the authors write.



Prevalence of infection and colonization

In their review of papers published from January 2000 through January 2017, the researchers identified 23 studies reporting on antibiotic resistance in 2,319 migrants. Countries of origin included Syria, Afghanistan, Eritrea and other countries in the Middle East, Africa, and Asia. Of these migrants, 77 percent were refugees or asylum seekers.

Nineteen of the studies reported on methicillin-resistant *Staphylococcus aureus* (MRSA), and 12 of the studies reported on AMR in gram-negative bacteria. When they were reported, the clinical manifestations were mainly skin and other soft-tissue infections and diarrhea.

Overall, the pooled prevalence of any detected AMR infection or carriage among migrants was 25.4 percent, with MRSA accounting for 7.8 percent and drug-resistant gram-negative bacteria accounting for 27.2 percent. The pooled prevalence of infection was 3 percent, and the pooled prevalence of carriage was 23 percent.

. Among refugees and asylum seekers, pooled prevalence of AMR infection or carriage was 33 percent, compared with 6 percent in other migrants. In high-migrant community settings, the prevalence was 33.1 percent.

None of the articles showed evidence of high rates of onward transmission of AMR pathogens to host populations, a finding the authors say could be linked to high-migrant communities being segregated from local communities.

Poor living conditions

While many of the countries and regions that the migrants came from are known to have high rates of AMR, the authors say they found evidence in the included studies that suggests the antibiotic-resistant organisms were acquired either during migration or in the host countries, which included Spain, Italy, Greece, Germany, Austria, the Netherlands, Sweden, and Switzerland.

For example, three of the studies found that migrants with similar migration trajectories were colonized with the same microorganisms. A study that looked at MRSA infections in four Swiss refugee centers found six clusters with recent transmission events and no relatedness in isolates from patients who came from similar regions.

Three of the countries where the studies were conducted—Greece, Italy, and Spain—are the main points of entry for migrants to Europe. They have also been found to have a high prevalence of MRSA (39.2 percent, 34.1 percent, and 25.3 percent, respectively), which raises the possibility that migrants could have acquired the pathogen from people in those countries.

But it's the poor conditions in the places where refugees are housed while they await resettlement that may be the most important factor in spreading AMR bacteria among migrants, the authors argue.

They suggest that interventions to improve living conditions should include a focus on better sanitation, less overcrowding, better infection prevention and control strategies, and increased access to health services. In addition, they call for more screening for colonization and improved antibiotic susceptibility testing in high-migrant community settings. While hospitals routinely target migrants and refugees from high-AMR-prevalence countries for this kind of testing, the migrants evaluated in the reviewed studies had infrequently been admitted to hospitals.

“Increased antibiotic resistance among refugees and asylum seekers and in high-migrant community settings (such as refugee camps and detention facilities) highlights the need for improved living conditions, access to health care, and initiatives to facilitate detection of and appropriate high-quality treatment for antibiotic-resistant infections during transit and in host countries,” the authors write. “These improvements will enable timely detection and treatment of infections when they do occur, thus reducing transmission and poorer and more costly health outcomes.”

—Read more in *Laura B. Nellums et al., “Antimicrobial resistance among migrants in Europe: a systematic review and meta-analysis,” [The Lancet](#) (17 May 2018).*

