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*Dedicated to Global
First Responders*

DIARY



October 2019



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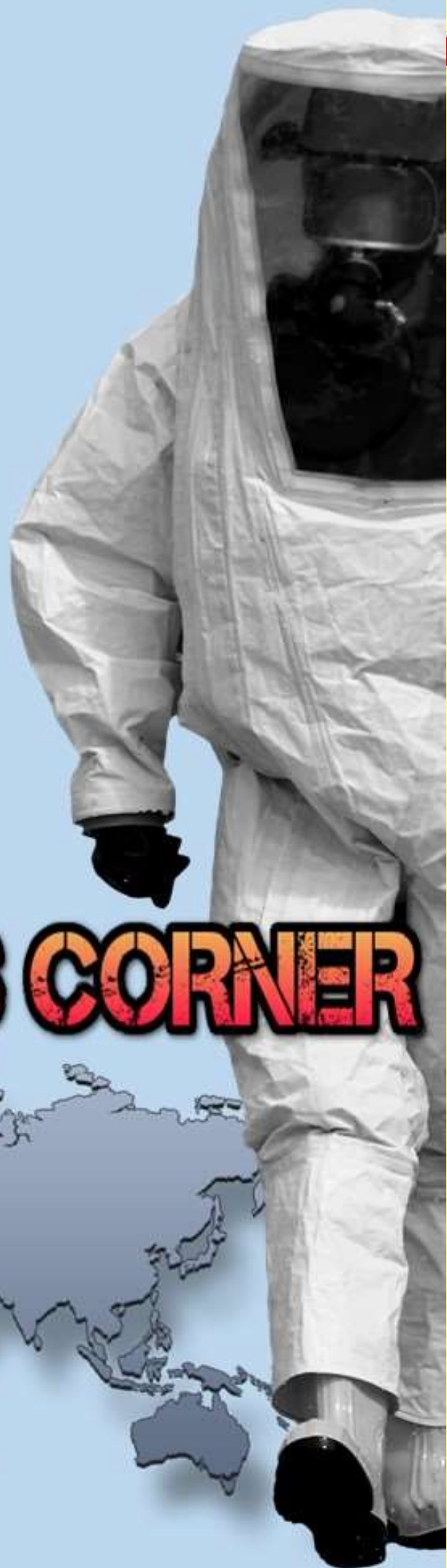


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²**BRNE**
DIARY

EDITOR'S CORNER





Editorial

Brigadier General (ret.) Ioannis Galatas, MD, MA, HAMC

Editor-in-Chief
C²BRNE Diary



Dear Colleagues,

October was good if there was not the invasion of Turkey into Syria in combination with the US forces removal from the area leaving their allies (Kurds) all alone to struggle for their lives. But c'est la vie and we all have to realize once and for good that in real life all nations are alone. In that respect, nations should be able to stand on their feet and prepare for the worst without hoping for the best. No alliances, no traditional friendly relations, no "we belong to the West or East, nothing; only the national benefit and profit are what rules in decisions; nothing else. So, instead of blaming others, nations should aim for autonomy and transform problems identified to lessons learned and try to find solutions to fill the gaps. Asymmetric thinking might be a good approach, especially for countries experience financial shortage to invest in defense. It is not only expensive weapons that win the wars. It is brains and thinking out of the box that changes the equilibrium and surprise the offender. In addition to the above, there is also the problem with the nuclear weapons the US stored in Turkey – local government is totally unpredictable and future surprises cannot be excluded.

Apart from what is happening in our neighborhood, there are some interesting CBRN-related news that are presented in the October issue of our journal:

- ◆ Deadly gas maybe starting to leak from Europe's World War cemeteries – an old known reality that is gradually becoming an active problem requiring immediate preventive intervention.
- ◆ First human FDA-approved human monkeypox-smallpox vaccine (Jynneos™).
- ◆ Only 1 in 10 countries have adequate protection against a catastrophic biological event.
- ◆ Two new Ebola treatment (REGN-EB3 and mAb-114) prove highly effective in Congo.
- ◆ First rapid diagnostic test for detection of Ebola virus antigens (OraQuick™).
- ◆ Risk of lab-created pandemic pathogens – all these experimental scientific ambitions should be controlled before it is too late.
- ◆ Artificial intelligence and killer/kamikazi drones – what an oxymoron to use the word "intelligence" when referring to killing machines!
- ◆ Two interesting drone detection systems (Popstar™ and AirWarden™) are now available – hope to be installed before the first actual drone attack against critical infrastructure (like airports).

Take care CBRN First Responders and keep in mind that "Planning is bringing the future into the present so that you can do something about it now!"

The Editor-in-Chief



Greek Police Release Lebanese 'Hijacking' Suspect in Case of Mistaken Identity

Source: <https://aawsat.com/english/home/article/1915421/greek-police-release-lebanese-hijacking-suspect-case-mistaken-identity>



Sep 23 – Greek police have released a 65-year-old Lebanese man held in connection with a 1985 hijacking, saying on Tuesday it appeared to be a case of mistaken identity with a person wanted by German authorities.

The man was arrested on September 19 when his name came up as being wanted by German authorities during a passport check on the island of Mykonos. An EU database had identified a person matching the name of the individual as being wanted by Germany in a terror-related case.

Greek police had said that case was a 1985 hijacking connected to the hijacking of a TWA 847 flight, and an abduction two years later.

However, other than a name there was no further proof of identification from German authorities, police said in a statement.

Greece's embassy in Lebanon in the meantime had furnished authorities with documentation citing a Lebanese official as saying the detainee was a respected journalist whose name happened to be identical to that of the wanted man, police said.

"In the afternoon hours (of Monday) we were informed by German authorities that the relevant German prosecution authorities will not seek the extradition of the individual since his identification was not possible, and that he should be released," police said.

The individual had since been released, police said.

TWA Flight 847 was travelling from Cairo to San Diego with stops in Athens, Rome, Boston and Los Angeles. It was hijacked on June 14, 1985 after it took off from Athens.

Over a horrific 17 days, TWA pilot John Testrake was forced to crisscross the Mediterranean with his 153 passengers and crew members, from Beirut to Algiers and back again, landing in Beirut three times before he was finally allowed to stop.

The hijackers' demands included the release of Shiite Muslims held by Israel.

On June 15, 1985 during the first stop in Beirut, one of the passengers, 23-year-old US Navy diver Robert Stethem, was severely beaten, shot point blank in the head and his body thrown onto the tarmac.

Greek media said the wanted man had been arrested in Germany two years after the hijacking but was later exchanged with two Germans who were abducted in Beirut. He has remained a fugitive ever since.

Airlines, Including Delta, to Add New Gender Options for Non-Binary Passengers

Source: <https://www.thedailybeast.com/airlines-including-delta-to-add-new-gender-options-for-non-binary-passengers>

Feb 2019 – Airlines for America, the industry trade group representing the country's largest airlines, will add new gender options in order to accommodate **non-binary** passengers who have "X" on their IDs, The Daily Beast can confirm.

Airlines for America, or A4A, told The Daily Beast that it "recently approved a new international standard that will **allow for 'unspecified' and 'undisclosed' as options in addition to 'male' or 'female'**"—a decision made in conjunction with members of the International Air Transport Association, or IATA, which represents carriers worldwide.

"The updated procedures are effective June 1, 2019," A4A said.

Delta, which left A4A in 2015, separately confirmed to the Daily Beast that the airline is "planning to offer a non-binary gender option during the booking process" as part of their "ongoing efforts to accommodate the needs of diverse customers throughout our business."

A4A members—which include American Airlines, Alaska Airlines, United, JetBlue, and Southwest—will still have to individually update their online booking processes, which currently only allow passengers to select "male" or "female" from drop-down menus. But A4A told The Daily Beast that its member airlines are "committed to making these changes to their reservation processes to account for non-binary IDs while ensuring continued compliance with U.S. and foreign government requirements that passenger data match the identification used for travel."

The change in the A4A standard represents a major victory in the movement to add a non-binary gender option to government ID. Currently, five states—Oregon, California, Colorado, Arkansas, Minnesota—and Washington, D.C. allow non-binary people, who identify neither as strictly male or female, to get driver's licenses with "X" as a gender marker rather than "M" or "F."

But non-binary people who already have "X" driver's licenses told The Daily Beast that they still have to choose either "male" or "female" when reserving flights—and they often take an alternate form of ID to the airport as backup.

"For now, I carry my passport with me in addition to my driver's license just in case," Alon Altman, a non-binary Google employee, told The Daily Beast.



That's in line with what the National Center for Transgender Equality recommends for passengers who have gender-neutral ID. In a 2017 FAQ, the [transgender](#) rights advocacy group [wrote](#), "It is ideal to bring an ID to fly that has a gender marker that matches the gender you submitted to the airline."

Still, several non-binary people contacted by The Daily Beast reported no issues showing their new "X" driver's licenses to Transportation Security Administration agents.

"I have used it at TSA and [while] checking in to a flight," said Altman. "They didn't even seem to notice the gender marker."

EDITOR'S COMMENT: Bravo! Eagerly waiting for the next step: totally DELETE "man" and "woman"! ADD "allien", "mammal" and "vegetable".

Turkey is now a haven for terrorists and an enabler of terrorism

By Jonathan Schanzer and Aykan Erdemir

Source: <https://nypost.com/2019/09/23/turkey-is-now-a-haven-for-terrorists-and-an-enabler-of-terrorism/>

Sep 23 – On Monday, four children of an American and his Israeli wife killed by the Palestinian terrorist group Hamas in 2015 filed suit against Turkey's Kuveyt Turk Bank in a New York court. They charge that the bank helps Hamas finance its terrorist attacks, allegations the firm is almost certain to deny.

The lawsuit against this Shariah-compliant bank, which counts the Turkish government as a shareholder, comes two weeks after the US Treasury sanctioned 11 Turkey-linked entities and individuals for supporting Hamas and other jihadist outfits. The evidence keeps mounting: Turkey has become a haven for regional baddies.

Under President Recep Tayyip Erdogan, Turkey has become a permissive jurisdiction for rogue regimes and their illicit bankers. Between 2012 and 2015, Tehran relied on Turkish banks and a dual Iranian-Turkish gold trader to circumvent US sanctions at the height of Washington's efforts to thwart the Islamic Republic's nuclear ambitions. It was the biggest sanctions-evasions scheme in recent history.

Similarly, Venezuela's Maduro regime has been using Turkish-based companies in a money-laundering network involving the sale of Venezuelan gold. The US government sanctioned that network in July.

Reports suggest that a Treasury-sanctioned money man for the Assad regime in Syria owns an extensive network of companies in Turkey, thus enabling Syria to circumvent US sanctions.

Turkey has also proved a forgiving host to terrorists. In April, Treasury sanctioned six individuals and a Turkish money exchange for their role in bankrolling Islamic State. The action underscored how Islamic State terrorists continued to operate from Turkish territory well into 2018.

Turkish law enforcement is known to turn a blind eye to jihadists, while the country's courts treat them leniently, often releasing them pending trial or granting them parole — in stark contrast to harsh treatment meted out to secular and pro-democracy dissidents.

After their ouster from Egypt in 2013, the Egyptian Muslim Brotherhood established new institutions in Turkey. In addition to Islamist propaganda, the movement's television stations have broadcast death threats against Egyptian officials and foreign nationals in Egypt. Ironically, the Turkish government defends the Muslim Brotherhood's "freedom of expression" even as Erdogan has silenced Turkey's domestic opposition. Turkey stalks and prosecutes dissident groups with zeal, branding them terrorists, while allowing actual terrorists from Hamas to operate freely on Turkish soil. Saleh Arouri, the Hamas military commander responsible for the 2014 kidnapping and killing of three teens in the West Bank, spearheaded that operation from Turkish soil. The US Treasury designated Arouri as a terrorist in September 2015 and subsequently issued a "Rewards for Justice" bounty for information leading to his arrest or capture.

But Arouri is just one of many Hamas operatives who have operated in Turkey. In 2011, 10 Hamas operatives Israel released as part of a prisoner exchange arrived in Turkey, and many remain active there. Imad al-Alami, Hamas' long-serving envoy to Iran and a US-designated terrorist since 2003, received medical treatment in Turkey in 2014 and continued his work there while he convalesced.

The New York lawsuit against the Kuveyt Turk Bank has the potential to check Turkey's impunity. In 2016, the nonprofit St. Francis of Assisi filed a complaint in California against Kuveyt Turk Bank and its parent company, Kuwait Finance House, for allegedly processing donations to Islamic State. A federal judge dismissed the case because it couldn't be proved that a US person had been harmed.

By contrast, Monday's complaint against Kuveyt Turk has plaintiffs with ties to the United States. The plaintiffs also argue that the bank is subject to jurisdiction in New York for using its correspondent bank accounts in the



Empire State to facilitate US-dollar-denominated transfers for Hamas' benefit.

It's already clear that Erdogan's Turkey has become a permissive jurisdiction for illicit and terror finance. But this new

case on behalf of an American victim of terrorism and members of his family could finally begin to hold the regime in Turkey responsible.

Jonathan Schanzer, a former terrorist finance analyst at the US Treasury, is senior vice president for research at Foundation for Defense of Democracies, where Aykan Erdemir, a former Turkish parliamentarian, is a senior fellow.



ACT Dog Owners to Be Fined \$4,000 For Not Walking Their Pets

Source: <https://10daily.com.au/news/australia/a190926rkezd/act-dog-owners-to-be-fined-4000-for-not-walking-their-pets-20190926>

Sep 27 – The ACT Government passed strict new rules about pet ownership on Thursday, becoming the first jurisdiction in the country to recognise animals as "sentient beings".

The legislation acknowledges animals "deserve to be treated with compassion" and have a quality of life that "reflects their intrinsic value".

Under the laws, people can now be fined for not walking their dog at least once a day and are forced to live in a confined space.

The legislation clarified 'confined space' to mean "impeding or preventing the animal's freedom of movement" or using a device, such as a rope, to tie up an animal.

If a dog is confined without adequate ability to exercise for 24 continuous hours, the owner must then allow them to exercise for the next two hours.

If not, owners could face on the spot fines of up to \$4,000.

If an animal has an adequate area to run around and exercise, owners would not face punishment.

Animal owners who do not provide adequate shelter, food and water also face the same punishment.

The new laws will make the ACT a "national leader in animal welfare", Minister for City Services Chris Steel said.

"These animal welfare laws reflect the values of the Canberra community on how we should manage and care for our domestic animals, livestock and wildlife," he said.

"Fines for these offences can now be easily issued by officers as part of the new escalating enforcement framework to deter further acts of cruelty from happening."

People who participate in animal fighting face up to three years imprisonment and fines of \$48,000.

Pet shops and breeding will also be required to obtain a licence to operate before the legislation comes into effect in six months.



EDITOR'S COMMENT: Until now I liked Australians mainly for their Lady Prime Minister. Now, I like them more for the new legislation considering animals as "sentient beings". Bravo Aussies!

Gov job opening in Greece

(A hypothetical post reflecting unfortunate reality – read in following 4 pages)

In many instances many EU countries accused Greece that as a gate into EU is not protecting the European borders against the human tsunami of illegal immigrants and to a lesser degree refugees from conflict zones like Syria, Iraq and Afghanistan. With borders closed all these people are trapped in Greece while the EU is providing verbal support and huge amounts of money to Turkey that is not doing its best to control the situation.

Hospitality Zeus of the past is not enough to deal with the ongoing situation and the only hope left is bad weather during winter time that might discourage immigrants invasion and related human trafficking. In addition, the deliberate misinterpretation of international



law for immigrants and refugees¹ adds more problems than solutions. The situation is critical and future developments will be unpredictable and most probably bloody. It will come a time that we will stop taking about a “Union” and return to the old “just Europe” definition reflecting ugly reality.



¹ [http://www.europarl.europa.eu/RegData/etudes/ATAG/2015/569051/EPRS_ATA\(2015\)569051_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/ATAG/2015/569051/EPRS_ATA(2015)569051_EN.pdf)



The Hellenic Republic Is looking for a man or a woman to be immediately appointed as the Minister of Migration

Job description

The suitable candidate will manage the Illegal immigrants and refugees flows In the Hellenic Republic

Citizenship eligibility

The candidate should be a citizen of an EU country with the exception of Greece

Experience required

None specific – just vast amounts of common logic

Eligibility criterion

Ability to solve the problem presented in the next page

Duration of hiring

One year and if successful, extension to 5-10 years

Compensation & benefits

The successful candidate will determine the annual salary by himself/herself – unlimited (zero taxes), plus accommodation in a fully furniture villa by the sea, two SUV/sedan vehicles (2019/20 models plus unlimited fuel credit card), private school for children (if any), unlimited supermarket credit card, free Greek lessons, full free medical/dental/vet insurance, pet transportation (if any), house personnel (3 people with university education)

Expiration application submission date

December 31, 2019 (by email or registered mail)



The problem to be solved

Background

Data from the International Organization for Migration (IOM)

(01/01/2015 until update date (24 Sep 2019))

- ✓ Cumulative total: 1.161.151
- ✓ Total 2019: 41.615
- ✓ 2019 by land: 5.487
- ✓ 2019 by sea: 36.128
- ✓ Total 2018: 50.215
- ✓ Total 2017: 35.052

**Submit
your proposal
for a peaceful
solution NOW!**

Geographic data

- ✓ Land borders with Turkey: 192km
- ✓ Greek coastline: 13,676 km
- ✓ Distance of Greek islands from Turkey: 3 to 10km (average)

Categories of incoming aliens:

1. Illegal (economic) immigrants (from Tibet to Haiti and Colombia)
2. Refugees (Syria, Afghanistan, Iraq)

Borders' situation in neighboring countries

Closed

Mandatory parameters for problem solving

- The incoming human flows should be managed without the use of **any kind of force** since that would be too easy and could be effectively done by Hellenic Armed Forces, Hellenic Police or Hellenic Coast Guard.
- Greece is **not wishing** to receive without control all these people for reasons of national security and change of the composition of the national domestic population (religion and ethical issues).

Towards Tokyo 2020

Source (video): <https://www.youtube.com/watch?v=QXtOdSgf6lc>



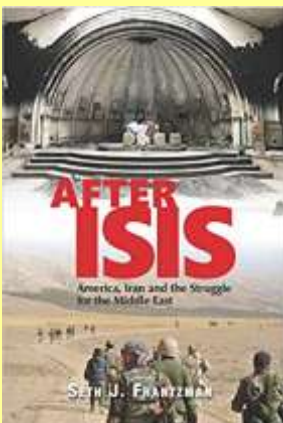
EDITOR'S COMMENT: Security?

After ISIS: America, Iran and the Struggle for the Middle East

September 30, 2019

By Seth J. Frantzman (Author)

Source: <https://www.amazon.com/After-Isis-America-Struggle-Middle/dp/9657023092>



This book, based on four years of on-the-ground reporting, research in ten countries in the Middle East, a thousand hours of interviews with key players and access to generals, spies, policymakers, soldiers and refugees, is the first comprehensive look at the defeat of ISIS and the future reshaping of the Middle East. It provides a unique window into the battle for the heart and soul of the Muslim world and lays out why we need to be informed about changes on the ground after the defeat of ISIS. More than seventy countries are members of the international coalition formed in 2014 to defeat Islamic State (ISIS). After ISIS provides a sobering blueprint for how the US and regional powers will re-shape the region in years to come. Understanding these events and the choices ahead will determine if ISIS and similar



ideologies reemerge, whether a new war between the US, its allies and Iran comes in the wake of ISIS, or if a younger generation of leaders can carve out a new Middle East. As ISIS recedes, the world is at a unique historic crossroads in the Middle East. Decisions made now in the region and in Washington matter more than ever. Tehran and the US are increasingly on a collision course to struggle over the vacuum left behind by ISIS in Iraq and Syria.

Read also:

Does Israel Have Secret Arab Allies?

By Seth Frantzman

The Jerusalem Post (September 26, 2019)

Source: <https://www.meforum.org/59451/does-israel-have-secret-arab-allies>

Seth Frantzman is a writing fellow at the Middle East Forum, op-ed editor of The Jerusalem Post, and founder of the Middle East Center for Reporting and Analysis.



Iran could be 'destroyed overnight in a massive shock and awe attack' says leaked US 'war plan'

Source: <https://www.thesun.co.uk/news/10029382/iran-leaked-war-plan-destroyed-overnight/>

Sep 29 – **IRAN would be blitzed to bits by the US in a colossal "shock and awe" attack which destroy the regime over night, leaked documents show.**

Codenamed **Theatre Iran Near Term** (TIRANNT), the war plan is believed to be the blueprint for a strike that would pave the way for crushing the country's powerbase **within 24 hours**.

A war on Iran has been on the drawing board on the Pentagon for more than ten years.

But rising fears of an imminent conflict after Tehran's [missile and drone strike on Saudi oil plant](#) attacks, the leaked plans have reemerged and are viewed by experts as how a US attack would unfold.

Almost certainly Iran's nuclear plants and facilities would be destroyed first.

And while conventional weapons would be used instead of nukes, the attack would nonetheless crush Iran's military strength with little more than a day.

Under TIRANNT, cruise missiles would be unleashed from ships in the Gulf and bombs dropped from formations of B52 Stratofortress as well as B2 stealth warplanes

More than 10,000 targets would be pummelled.

Planes could fly from the British territory of Diego Garcia in the Indian Ocean, Saudi Arabia, and the United Kingdom.

Presently there is only one US Navy aircraft carrier deployed to the Gulf, the USS Abraham Lincoln.

But the plan highlights how six aircraft carrier groups can be dispatched off the coast of Iran at a month's notice.

The sheer intensity of the air raids would mirror the 2003 "shock and awe" attacks in Iraq.

This quickly saw that country's defences crumble before an invasion swept dictator Saddam Hussein from power.

The war plan, which also involves NATO and Israeli forces, was leaked by William Arkin, a former US intelligence analyst in 2007.

The blueprint was subsequently examined by Dr Dan Plesch and Martin Butcher.

Their study concludes: **"The US has made military preparations to destroy Iran's WMD (weapons of mass destruction), nuclear energy, regime, armed forces, state apparatus and economic infrastructure within days if not hours.**

"Any attack is likely to be on a massive multi-front scale but avoiding a ground invasion."

EDITOR'S COMMENT: And this will bring peace in the Middle East? And what about the WMD contamination of the environment and the people not only in Iran but also in the neighboring countries? And what if Iran has a Plan B and manage to lounge a few (Shahab-5, Soumar or Hoveyze) missiles to all possible directions (Europe included since the US is out of range)?



Collateral damages you might say – who gives an S when the the country of Evil is gone? Come on people! Replace arms with common logic and find applicable solutions that will be beneficial to all since it is all about money...

Nearly 250 fugitives wanted for serious crimes including human trafficking, terrorism and murder were arrested across Asia during an INTERPOL-coordinated operation

Source: <http://www.worldsecurity-index.com/pressdetails.php>

Sep 25 – Operation Tighten the Net involved the 13 countries: the 10 Association of Southeast Asian Nations (ASEAN) countries plus China, Japan and Korea, together known as ASEAN+3. Simultaneous actions in the countries between June and August led to the arrest of 241 wanted fugitives and new information gathered to support ongoing investigations.

High-profile fugitives were identified by the countries and intelligence was shared on these cases. Of the individuals arrested, 80 were subjects of INTERPOL Red Notices for crimes ranging from fraud, drug trafficking, money laundering and crimes against children.

In one case, a Korean national wanted on fraud charges was located in Thailand after 25 years on the run, including more than 20 living illegally in Thailand.

As a result of the operation and intelligence sharing, 248 new Red Notices and 20 Blue Notices were issued. INTERPOL's Blue Notices are used by member countries to collect additional information about an individual's identity, location or activities in relation to a crime.

Prior to the operation, in May INTERPOL held a training workshop for the participating countries on the Organization's fugitive investigation capabilities and criminal databases, as well as INTERPOL's support to mutual legal assistance matters.

The operation was the first regional fugitive investigative action coordinated by the INTERPOL Liaison Office in Bangkok, Thailand, with support from the INTERPOL National Central Bureau (NCB) in Korea.

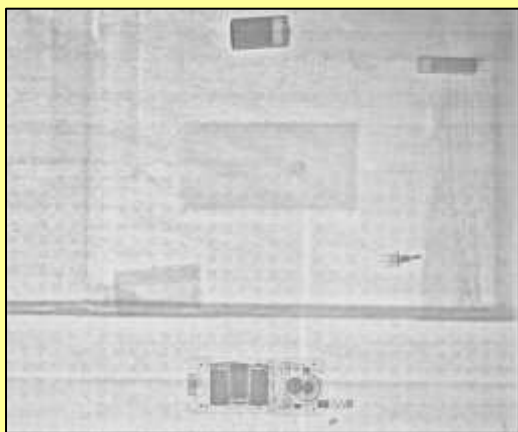
Commissioner General of the Korean National Police Agency, Min Gab Ryong reaffirmed his country's commitment to collaborating with INTERPOL against all crime threats 'while at the same time securing the rule of law in the region by synchronizing efforts with regional partners as a member of ASEAN+3'.

A high-level police executive meeting was held in Seoul, Korea in early September to review the outcomes of the operation and plan for future actions in the region.

Kitaek Kang, Head of the INTERPOL Liaison Office in Thailand, acknowledged the efforts of the participating INTERPOL NCBs as well as partner law enforcement organizations and reiterated INTERPOL's commitment to working with all ASEAN+3 partners to build on the momentum of the operation.

Increasing prison security using portable X-Ray systems

Source: <http://www.worldsecurity-index.com/pressdetails.php>



Sep 19 – Prisons security requirements increasing as technology and prisoner's sophistication evolve.

A prison in Columbia needed a solution to inspect outside of the entrance, dozens of new prisoners that Arriving with large bags containing their private stuff: food, sheets, mattresses and electric devices, which will not fit in the standard luggage scanners.

You can see Money, batteries and phone concealed behind 20cm of thick Ytong wall

Another request from a prison in Guatemala was to scan the cells walls to



make sure no money, weapon or mobile phones are hidden inside.

The solution for both missions and others, is a portable X-Ray system that can be deployed everywhere in minutes and scan objects in different dimensions, shapes and density.

Using lightweight yet strong battery operated portable X-Ray sources allows to penetrate even thick walls, a sophisticated software installed on a laptop allows to enhance and save the images so they can be used as evidence if needed, In order to make the process faster, possible to combine up to 9 flexible imaging plates, each in size of 36X43 cm and scan them all together in a very high resolution to cover large areas.

Systems are designed to work in every weather condition or terrain and all parts are packed in a rugged and portable case.

System is safe and only requires to keep several meters distance during operation.

VCsecurity can offer several solutions to fit every client needs and budget.

Frontex teams up with INTERPOL to track down foreign terrorist fighters

Source: <http://www.worldsecurity-index.com/pressdetails.php>

Sep 24 – Frontex, the European Border and Coast Guard Agency, supported the implementation of the Neptune 2 sea border operation coordinated by INTERPOL that resulted in the detection of more than a dozen suspected foreign terrorist fighters travelling across the Mediterranean.

Frontex provided two experts to assist in border control at two sea border crossings in Italy and France.

Operation Neptune 2 (24 July – 8 September) focused on the threats posed by suspected foreign terrorist fighters potentially using maritime routes between North Africa and Southern Europe during the busy summer tourist season. The operation, which also included the participation of the World Customs Organization (WCO), highlighted the role of international, regional and national inter-agency cooperation in enhancing security.

Officials at seven seaports in the six participating countries – Algeria, France, Italy, Morocco, Spain and Tunisia – carried out more than 1.2 million searches across INTERPOL's databases for stolen and lost travel documents, nominal data and stolen vehicles. These resulted in 31 active investigative leads, with more than 12 of these linked to the movement of terror suspects.



First person in UK to be convicted and sentenced for firearms manufacture using a 3D printer

Source: <http://www.worldsecurity-index.com/pressdetails.php>

Sep 20 – Man sentenced in UK first conviction for firearms manufacture using a 3D printer.

Tendai Muswere, 26 (24.04.93), of Tachbrook Street, SW1, was sentenced today (Thursday, 19 September) to three years imprisonment in what is believed to be the first conviction and sentencing in the UK for manufacturing a firearm using a 3D printer.

The investigating officer, Detective Sergeant Jonathan Roberts, who led the investigation, said: "I hope that today's sentencing sends a very clear and powerful message that we will prosecute anyone who thinks that they can get away with being in possession of, or manufacturing a firearm, in London."



On Wednesday, 19 June at Southwark Crown Court, Tendai Muswere, 26 (24.04.93), of Tachbrook Street, SW1, pleaded guilty to a charge of manufacturing a firearm, namely a 3D printed gun.

Officers executed a drugs warrant at Muswere's home in October 2017 and during the course of the operation found components of a 3D printed gun, capable of firing a lethal shot. Muswere, who does not hold a firearms licence, told officers that he was printing the firearm for a university project. He claimed not to be aware that the components he had made were capable of firing. He later refused to comment on what his film project was about.

A search of his internet search history revealed that he had viewed videos demonstrating how to use a 3D printer to manufacture firearms which fired live ammunition. The officers also discovered cannabis plants and evidence of cannabis cultivation.

A second raid on Muswere's home in February 2018 resulted in the discovery of further components of a 3D printed gun.

DS Jonathan Roberts continues: "Muswere claimed that he was printing the firearms for a 'dystopian' university film project but he has not explained why he included the component parts necessary to make a lethal barrelled weapon. We know that Muswere was planning to line the printed firearms with steel tubes in order to make a barrel capable of firing."

US DOD Program Aims to Deter 'Insiders' From Harmful Acts with lessons for us all!

Source: <http://www.worldsecurity-index.com/pressdetails.php>

Sep 19 – The Defense Department is encouraging employees to keep the workplace safe by being alert to potential threats from colleagues or others as part of an employee awareness campaign that coincides with National Insider Threat Awareness Month.

Insider threats are posed by employees or anyone else who has been granted trusted access to DOD information systems, installations, or facilities who commit a harmful act, intentional or not.

The department's counter-insider threat program aims to teach analysts in the various DOD component hubs to recognize concerning behaviors and potential threats. Dr. Brad Millick, director of DOD's counter-insider threat program in the Office of the Under Secretary of Defense for Intelligence, said the program's principal goal is to intervene before someone commits a hostile act.

To do that, Millick intends to enlist the help of all DOD employees. "What we are trying to do is tell people if you hear that, if you see that, if you sense that, pay attention to that. To prevent damage and avert casualties, we need the workforce's help."

In support of the DOD counter-insider threat program and National Insider Threat Awareness Month, the Defense Counterintelligence and Security Agency's Center for Development of Security Excellence provides many resources designed to educate the workforce about insider threats and the role of counter-insider threat programs.

"Many people are uncomfortable reporting information about their co-workers or themselves to their security office or counter-insider threat program," said Rebecca Morgan, chief of the insider threat division at CDSE. She stated that her goal is to help individuals not only understand their responsibility in recognizing and reporting indicators, but also to share information about the true nature of counter-insider threat programs.

"Counter-insider threat programs are designed to deter, detect, and mitigate risk. They are most effective when providing proactive intervention to individuals who are struggling with everyday stress. That intervention may prevent witting or unwitting threats to the enterprise via unauthorized disclosure, targeting and recruitment by foreign intelligence, acts of workplace violence or other forms of harm to the department and its assets," Morgan said.

Although personal problems and indicators alone don't necessarily mean an employee poses a threat, Millick said, at times a combination of them can cause an employee to gravitate toward negative workplace events. Behaviors of concern or potential warning signs include, but are not limited to:

- ◆ Threatening statements or actions
- ◆ Signs of disgruntlement
- ◆ Ideological challenges or opposition to the mission
- ◆ Circumventing rules or behaviors reflecting ethical flexibility
- ◆ Browsing files and records without authorization
- ◆ Impact of external influences on work such as substance abuse problems, financial problems, or association with anti-U.S. or criminal groups
- ◆ All DOD personnel must remain vigilant in recognizing and reporting concerning behaviors. If fellow employees see behaviors or hear comments that a co-worker is struggling, it's important to notify security officials and the counter-insider threat program

"Intervention can assure that resources are provided to the individual at risk and give them



a means to reassess their situation and alter their plans," Millick said. This becomes even more critical if fellow employees recognize signs that a co-worker might carry out a threat. Threats of imminent harm should be communicated to security officials and/or 911 immediately. "The ideal situation is to prevent those who start out as great employees from harming the government, their co-workers and their personal and professional lives."

History has shown that even trusted insiders can be a threat to our national security and safety. Some high-profile examples of trusted insiders who carried out hostile acts against the federal government are:

- Former Army Maj. Nidal Hasan, an active duty psychiatrist, killed 13 people and wounded 30 in a 2009 attack at Fort Hood, Texas.
- Former Naval Criminal Investigative Service special agent John Beliveau accepted \$30,000 in cash, several lavish trips, dinners and additional services in payment for classified information between 2008 and 2013.
- Former government contractor Aaron Alexis shot and killed 12 people at the Washington Navy Yard in September 2013.
- Former government contractor Reality Winner leaked classified information in 2017

Studies conducted after attacks by insiders show co-workers often suspected something was wrong with the individual, but they didn't believe their suspicions warranted an outreach to their agency's counter-insider threat program or internal security officials.

"A lot of the reports posted after horrific insider events indicate there's a pattern of behavior before the attack, or 'left of boom,' that is detectable, in small behaviors of concern, in stressors, or in base personality," Millick said.

If those behaviors are observed and reported to appropriate security or program staff, then employees can be helped before they pose a threat, he noted. "When we detect these behavior anomalies, we will work with stakeholders in the enterprise and get those folks the help and counseling needed," Millick said.

For more information on potential risk indicators, insider threat case studies, awareness videos and more, visit the Center for Development of Security Excellence Insider Threat Vigilance Campaign at <https://www.cdse.edu/toolkits/insider/vigilance.html>

Hundreds of Cops Are in Extremist Facebook Groups. Why Haven't Their Departments Done Anything about It?

Source: <http://www.homelandsecuritynewswire.com/dr20191001-hundreds-of-cops-are-in-extremist-facebook-groups-why-haven-t-their-departments-done-anything-about-it>

Oct 01 – In June, *Reveal* from [The Center for Investigative Reporting](#) identified hundreds of police officers across the country who were members of closed racist, Islamophobic, misogynistic or anti-government militia groups on Facebook. "We sought reaction from more than 150 law enforcement departments about their officers' involvement in these extremist groups," Will Carless writes in [Reveal News](#), but "only one department – the Harris County Sheriff's Office, which fired a detective for racist posts – has publicly taken any significant action.

He adds:

More than 50 departments promised investigations, but few have taken any other steps. The Portland Police Bureau said "no jurisdiction existed" for it to take any action against an officer whose Islamophobic comments were posted before he joined the agency. The New York Police Department said it couldn't substantiate reporting showing one of its officers had posted misogynistic comments, even though we obtained screenshots.

Social media activity isn't just a public-facing display of officers' beliefs and biases. Officers are susceptible to being radicalized online just like so many civilians, said Christy Lopez, a Georgetown Law professor who oversaw the Department of Justice's civil rights investigation into the Ferguson Police Department.

"It's hard when you get out there as a new officer, you're from a sheltered community somewhere, and you start to see a lot of pain and harm that is often happening in poor communities of color," Lopez said. "And it is easy for officers who are trying to deal with the emotional impact of that to start to dehumanize people."



EDITOR'S COMMENT: This is not a uniquely US problem ...

White Supremacists Lead New Wave of Foreign Fighters: Report

Source: <http://www.homelandsecuritynewswire.com/dr20191001-white-supremacists-lead-new-wave-of-foreign-fighters-report>

Oct 01 – The [Soufan Center](#) released a new report titled [White Supremacy Extremism: The Transnational Rise of The Violent White Supremacist Movement](#). The report closely examines the transnational nature and operational dynamics of a wide range of white supremacy extremist (WSE) groups across the world. The report also draws on lessons learned from disrupting and combatting Salafi-jihadist groups like al-Qaeda and the Islamic State, the tactics of which in some cases are being utilized by WSE groups. Finally, the report offers several policy prescriptions necessary to combat the white supremacy extremism threat.

"White supremacy extremism is a growing transnational threat and one that is too large not to tackle head on," [said](#) Ali Soufan, founder of The Soufan Center. *"As the world has become more and more interconnected through social media, white supremacy extremists have found it easier and easier to recruit, fundraise, and spread violent propaganda. Moreover, white supremacist extremists are imitating Salafi-Jihadist groups like Al-Qaeda and the Islamic State, and many are taking advantage of international conflicts –such as the conflict in Ukraine -to expand the global white supremacy movement. Our new report outlines how these groups currently operate across the world and provides actionable solutions for policymakers, civil society, security services, and law enforcement agencies to combat this brand of violent extremism."*

The report concludes with a series of proposed policy prescriptions for the United States to make serious progress in combatting WSE groups globally. These include:

- ◆ Sanctioning transnational WSE groups as foreign terrorist organizations;
- ◆ Updating U.S. law to develop a robust domestic terrorism law statute;
- ◆ Improving data collection on hate crimes and domestic terrorism;
- ◆ Increasing human and financial resources to federal agencies to counter the WSE threat;
- ◆ Developing targeted guidance to financial and non-banking institutions to better identify WSE financial activity;
- ◆ Increasing civil society engagement on addressing WSE;
- ◆ Pressuring the tech sector to implement community use guidelines;
- ◆ Engaging more with multilateral institutions on WSE, including the United Nations.

Airline Ground Crews Are an Under-Monitored Terror Threat

By Charles "Sam" Faddis

Source: <https://www.hstoday.us/subject-matter-areas/transportation/perspective-airline-ground-crews-are-an-under-monitored-terror-threat/>

Sep 30 – The recent arrest of an American Airlines mechanic has highlighted again the danger posed by insider threat to airlines and the difficulty of detecting individuals who have access to aircraft and secure areas at airports who may pose a threat. Abdul-Majeed Marouf Ahmed Alani was charged earlier this month with willfully damaging an aircraft by gluing a piece of Styrofoam inside the nose of the aircraft, which effectively disabled a component pilots depend on to gauge such things as airspeed, the pitch of the plane, and so forth. Initially, the case was described as being related to a labor grievance. Recent information suggests there may be a much darker angle.

Prosecutors said at a detention hearing that Alani has ties to Islamic extremism. According to prosecutors, Alani has a brother in Iraq who may be a member of ISIS, has a history of making extremist statements and was found to possess videos on his cell phone depicting mass murders by ISIS.

Alani traveled to Iraq in March of this year and shortly before his arrest sent a wire transfer to someone in Iraq.

Based these allegations, U.S. Magistrate Judge Chris McAliley ordered pretrial detention for Alani. "You may be very sympathetic to terrorists," Judge McAliley told Alani at the hearing. "That's very disconcerting."

The possibility of an open "back door" to airport and airline security has been established for some time. We have, since 9/11, done a great deal to prevent individual passengers from making it on board a commercial aircraft with a weapon or dangerous substance of any kind. It is not at all clear that we have spent nearly as much time effectively addressing the possibility that individuals employed at the nation's airports may do harm. In fact, the



closer you look at the problem the more evident it is that we have not.

Insider threat security measures in place at airports rest on two main pillars: access controls and background checks. Access control systems, if employed correctly, are an effective means of controlling who can go where and do what. The issuance of a badge to someone who then has to run it through a badge scanner or reader of some kind, however, does not address the fundamental question: How do you decide who receives what badge?

Which brings us to background checks.

Background checks as generally employed at the nation's airports today are flawed in at least two respects. First, they are, as the name suggests, checks on what a person has already done. They are a snapshot in time. They tell you, to the extent the information checked allows, what a person has done prior to their employment. They tell you nothing about what happens to or with that individual after their employment begins.

More fundamentally, however, background investigations are ineffectual for the purposes of detecting individuals involved in terrorist activity, because they look for the wrong things. They are superficial checks of criminal records and employment history and the like, and they do not begin to delve into the kind of ideological and psychological considerations that are crucial in detecting what is, in effect, a spy within an organization.

The security background check systems used across the country were built by individuals and organizations based on experience in preventing shoplifting, embezzlement, smuggling and other criminal activity by employees. Finding individuals involved in such activities within airlines and at airports is no doubt important. It does not follow, however, that the same approaches that help you uncover the guy stealing from the stockroom will help you catch the individual getting ready to put a bomb into the food cart being loaded onto an international flight carrying hundreds of passengers. To do that, you are going to have to start by appreciating the sophistication of your adversary.

Kim Philby is one of the most famous spies in history. He was recruited by the Russians as a young man based on his involvement in Communist Party activities in Britain and contacts with other known Communists. The first thing his Soviet handlers told him after he was recruited was to stop going to Communist Party meetings, stay away from other Communists and stop mouthing off about workers and their rights. They wanted him to be trusted and to work his way up in the British government.

Philby listened. He was accepted into the British Secret Service. Before he was uncovered, decades later, he was on the short list to become the head of that service, and he had compromised countless operations.

The Philby case is an old one, but its principles hold today. Recently, the FBI arrested a Hezbollah operative on U.S. soil, Alexei Saab, a 42-year-old native of Lebanon. Saab is accused of scouting targets for attacks in New York, Boston and Washington, D.C., over a period of years.

Saab is not a lost soul with Islamist leanings. He was [recruited by Hezbollah](#) before he ever came to the United States. Everything he has done since then, including becoming a U.S. citizen, has been at the direction of his Hezbollah masters and designed to provide cover for his activities. He was highly trained, and the reports officials say he prepared for Hezbollah were extremely thorough and detailed.

Every terrorist organization on Earth is going to follow the same basic methodology to the extent they can. Whether they recruit an individual prior to his employment at an airport or with an airline or afterward, they are going to focus on keeping that individual from attracting attention or inviting scrutiny. In short, they are going to coach him and guide him in how to avoid detection in the same way an intelligence service coaches and guides a spy within another intelligence service. Detecting that kind of operation by focusing on superficial background information is unlikely. Hoping that the individual directed to take a job with an airline here in the United States has somehow ended up on a terrorist watch list is just as unlikely. Any group with any savvy will choose someone who is known in the trade as a "clean skin," i.e. someone who has not been compromised and has no operational history.

To detect and defeat such a threat means employing measures of the kind routinely used by intelligence services and government agencies. Delineation of a such a program in detail is beyond the scope of this article, but it would include:

Background – Who is the individual? Where are they from? What are their ideological leanings? With whom are they in contact? What does their social media say about them? If the individual is here as a refugee from Syria, is he a Christian fleeing persecution or a Sunni Muslim from an area known to be a hotbed of support for ISIS? This is not intended to suggest that religious affiliation alone should become some sort of litmus test. A great many Syrian Sunni Muslims detest ISIS and everything it stands for. It is meant to suggest that when we are concerned with countering threats in what amounts to an ongoing war with Muslim extremists, it is relevant to know where the job candidate for a sensitive position stands ideologically.

Monitoring – Once the individual is on board, they must be monitored in the same fashion that government agencies with access to sensitive data monitor their employees. This does not just mean a look at alcohol use and interpersonal behavior on the job, although those are



likely important for other reasons. It means monitoring travel outside the country, monitoring contacts with foreign nationals and keeping tabs on who is paying the employee's bills. It also means monitoring the employee's actions in the workplace and training other workers in what to look for. Is the employee affording access to controlled spaces to individuals who should not have access? Is the employee himself accessing areas he should not? Is the employee asking for information on sensitive matters unrelated to his direct job

responsibilities? Is the employee working unusual hours particularly if he is alone or unsupervised?

Designing an effective system to counter insider threat at airports across the United States will not be easy. We should bear in mind, however, that the stakes are high and the threat real. In 2015, a Russian airliner flying from Egypt to Russia was blown out of the sky and everyone on board killed. The subsequent investigation determined a bomb, placed on board by a mechanic at the direction of ISIS, was the cause.

Charles S. (Sam) Faddis, Senior Partner- Artemis, LLC is a former CIA operations officer with thirty years of experience in the conduct of intelligence operations in the Middle East, South Asia and Europe. His last assignment prior to retirement in May of 2008 was as head of the CIA's terrorist Weapons of Mass Destruction unit. He took the first CIA team into Iraq in the Summer of 2002 in advance of the invasion of that country and has worked extensively in the field with law enforcement, local security forces and special operations teams. Since retirement, he has written extensively, provided training to a wide variety of government and private entities and appears regularly on radio and television.

London Rail Commuters Screened for Weapons in New Tech Trial

By Kylie Bielby

Source: <https://www.hstoday.us/subject-matter-areas/transportation/london-rail-commuters-screened-for-weapons-in-new-tech-trial/>

Sep 25 – A weapons detection trial funded by the British government will take place in Stratford station, London, as part of the country's drive to crack down on knife crime.



The specialized technology, made by Thruvision, is designed to detect weapons including guns, knives and explosive devices concealed under clothing at distances of up to 30 feet.

It works by revealing objects concealed in clothing that block a person's body heat.

Trained police officers will be able to identify objects that could be used as a weapon, without needing physical searches. The technology enables police officers to see the size, shape



and location of any concealed item. It does not show any intimate body parts and it is impossible to tell an individual's gender, age or ethnicity from the imagery it produces.

The technology has been vetted and approved by the U.S. Transportation Security Administration and more than 250 units have been deployed worldwide in 19 countries over the last five years for applications including mass transit and aviation security, facilities and public area protection, customs, and border control and supply chain loss prevention. The Los Angeles Metro is one of Thruvision's mass transit customers.

The initial five-day trial at Stratford station this September will be run by British Transport Police, with support from the Metropolitan Police.

Transport Security Minister, Baroness Vere, said improving safety at stations is paramount to ensuring that everyone can use the railways with confidence, and added that technology should be at the forefront of that mission.

The trial will look at how officers can use technology to detect



if an individual is carrying a knife without causing any personal disruption, such as stopping the individual or requiring them to empty their pockets.

It will enable the government and law enforcement to consider whether such technologies can play a significant role in efforts to

combat knife crime.

The U.K. government's Joint Security and Resilience Centre is providing approximately £40,000 to deliver the trial and will continue to explore other technologies through collaborating with other government departments and industry.

The trial follows the recent launch of a national campaign to recruit 20,000 new police officers – the biggest police recruitment drive in the U.K. in decades. Additionally, new government legislation has made it simpler for police to use stop and search as they work to tackle violent crime.

Kylie Bielby has more than 20 years' experience in reporting and editing a wide range of security topics, covering geopolitical and policy analysis to international and country-specific trends and events. Before joining GTSC's Homeland Security Today staff, she was an editor and contributor for Jane's, and a columnist and managing editor for security and counter-terror publications.

These Indicators Could Be Warning Signs of the Next Attack

By David Pounder

Source: <https://www.hstoday.us/subject-matter-areas/surveillance-protection-detection/these-indicators-could-be-warning-signs-of-the-next-attack/>

Oct 01 – A common theme in security planning is working toward a state of preparedness to be in a position to help reduce or mitigate the risk of a hostile event from a number of all-hazards threats. Part of this process is recognition of the indicators that may signal that a threat may be targeting a specific person or location, or that an individual may be on the path toward hostile activity. With the recent number of hostile events, specifically active shooter incidents, now is a perfect time to remind all organizations about the importance of not only having a reporting process in place in which employees can highlight these suspicious activities, but also to train employees to recognize these behaviors.



There are several different ways in which attackers reveal indicators in either their actions or behaviors that may give insight into things that may happen. There are challenges and questions about whether these indicators lead to an attack or whether they are protected actions, but these indicators are actions or behaviors that another person could reasonably believe are not normal activity. In either event, having a formalized security plan that focuses on the threat, as well as building information sharing relationships and training employees, can help prepare organizations to both identify suspicious behaviors and report concerns appropriately. All these actions can help move an organization to being proactive versus reactive and toward an overall state of preparedness.

Hostile events have continued to dominate the physical security space over the past year and they have routinely been the subject of public- and private-sector reporting. In almost every instance, part of the mitigation strategy to reduce risk is placing an emphasis on the importance of being alert and aware for signs and indicators to identify suspicious behaviors or actions, and to report concerns to a supervisor or law enforcement. This message has been promoted by federal agencies through the DHS [“See Something, Say Something”](#) campaign, which encourages each organization to adopt a similar approach internally. DHS even designated Sept. 25 as National “If You See Something, Say Something” [Awareness Day](#). “By designating a day to the campaign, the Department hopes to highlight the importance of suspicious activity reporting. Informed, alert communities play a critical role in keeping our nation safe.” This program has been successful with several threats and incidents mitigated by individuals who have reported suspicious behaviors, sometimes involving people closest to them. Some of these include:

- Earlier this month, a mass shooting was [averted](#) after Fort Worth police received a call from a father who reported his own son. The father said that his 27-year-old son wanted to buy guns and go on a rampage and wanted to kill many people in something that was similar to the [Midland-Odessa shooting](#) at the end of August.
- In August 2019, North Carolina police [arrested](#) a High Point University (N.C.) student “who admitted to planning a mass shooting” at the school. The 19-year-old was charged with “two felony counts of having a gun on campus and an additional count for making threats of mass violence... after a classmate reported him.” The man allegedly had ammunition and two firearms in his dorm room, had been plotting the shooting since December and had studied previous shootings, including the 2015 church shooting in Charleston, S.C.
- Also this August, a California hotel worker [may have prevented a mass shooting](#) after the worker reported a disgruntled colleague who had threatened to shoot staff and guests.
- In [December 2018](#), Texas police arrested an armed man “who allegedly said he was on his way to a nearby church to fulfill ‘a prophecy.’” The incident started when a woman called to report an armed man wearing a surgical face mask and tactical-style clothing. When responding officers arrived, he was “oddly dressed” and claimed he was heading to a nearby church to carry out an undisclosed prophecy.
- In February 2018, an 18-year-old [was arrested](#) after his grandmother found a [journal detailing plans to shoot](#) his classmates at a high school in Everett, Wash. When officers responded to the house, they “were shown excerpts of the journal and were told the grandson had a semiautomatic rifle stored in a guitar case.”

These are just some of the many instances of individuals reporting suspicious behaviors and activities. “Law enforcement authorities nationwide [reported a spike](#) in tips from concerned relatives, friends and co-workers about people who appear bent on carrying out the next mass shooting.”

Understanding and recognizing the variety of hostile event indicators is the foundation of prevention: what they are, what they mean to the respective organization, and how they can be seen within the business. Indicators are predictors of unfavorable events that can adversely impact organizations – they monitor changes in the levels of risk exposure and can contribute to the early warning signs that enable organizations to report risks, prevent crises and mitigate them in time. In simpler terms, hostile event indicators are behaviors that are **not what could be construed as normal behaviors**. In and around the workplace, are there individuals or activities that stand out, or may cause someone to question who they are, what they are doing, and why they might be doing it?

Questioning behaviors out of the norm is a good starting point, and coupled with additional resources, such as the DHS [“Recognize The Signs Of Terrorism-Related Suspicious Activity”](#) infographic, can further help individuals and organizations:

- **Expressed or Implied Threat.** Threatening to commit a crime that could harm or kill people or damage a facility, infrastructure, or secured site. Without question, these types of threats need to be taken seriously. One example that highlights the risk of not reporting is in the [Aurora, Ill., shooting](#) in February 2019 in which an attacker told a co-worker earlier that he would kill people if he got terminated; however, the co-worker thought the comment was an off-the-wall expression and not real.
- **Breach/Attempted Intrusion.** Attempts to enter a restricted area or impersonating authorized personnel.
- **Recruiting/Financing.** Funding suspicious or criminal activity or recruiting people to participate in illegal activity.



C²BRNE DIARY – October 2019

- **Surveillance.** A prolonged interest in or taking pictures/videos of personnel, facilities, security features, or infrastructure in an unusual or covert manner. Last week, a New Jersey man was [indicted](#) on charges he supported Hezbollah by scouting possible targets for an attack. These targets included locations in New York City (New York Stock Exchange, UN headquarters, the Statue of Liberty, Rockefeller Center and local airports, tunnels and bridges), Washington D.C. (the U.S. Capitol and Lincoln Memorial, and Boston (Fenway Park and the Prudential Center).
- **Acquisition of Expertise.** Seeking out or gaining skills or knowledge on a specific topic, i.e. facility security, military tactics, or flying an aircraft.



EXPRESSED OR IMPLIED THREAT

Threatening to commit a crime that could harm or kill people or damage a facility, infrastructure, or secured site



SURVEILLANCE

A prolonged interest in or taking pictures/videos of personnel, facilities, security features, or infrastructure in an unusual or covert manner



THEFT/LOSS/DIVERSION

Stealing or diverting items—such as equipment, uniforms, or badges—that belong to a facility or secured site



TESTING OR PROBING OF SECURITY

Investigating or testing a facility's security or IT systems to assess the strength or weakness of the target



AVIATION ACTIVITY

Operating or interfering with the operation of an aircraft that poses a threat of harm to people and property

- **Sabotage/Tampering/Vandalism.** Damaging or destroying part of a facility, infrastructure, or secured site. Some of these types of incidents may seem minor in nature but they signal that there is interest in the location. In instances of vandalism, it could be an indicator of a larger hate-based threat in the area that may escalate or be demonstrated in other type of threats.
- **Theft/Loss/Diversion.** Stealing or diverting items, i.e., uniforms or badges, that belong to a facility or secured site.
- **Eliciting Information.** Questioning personnel beyond mere curiosity about an event, facility, or operations. This indicator gets tricky because it can be difficult to distinguish between someone who may be interested in an individual's job and someone who is trying to elicit information for nefarious purposes. Referencing back to the baseline of behaviors that might be considered out of bounds or not normal, a stranger taking undue attention in your line of work and what you do, or asking questions that may cross the line when dealing with sensitive topics, may be indicative of an individual working in the target selection and initial surveillance phases of the Hostile Events Attack Cycle (HEAC). The information they can glean from an unsuspecting employee may help them develop their plan.



BREACH/ATTEMPTED INTRUSION

Unauthorized people trying to enter a restricted area or impersonating authorized personnel



ACQUISITION OF EXPERTISE

Gaining skills or knowledge on a specific topic, such as facility security, military tactics, or flying an aircraft



ELICITING INFORMATION

Questioning personnel beyond mere curiosity about an event, facility, or operations



MISREPRESENTATION

Presenting false information or misusing documents to conceal possible illegal activity



CYBERATTACK

Disrupting or compromising an organization's information technology systems

- **Materials Acquisition/Storage.** Acquisition and/or storage of unusual materials such as cell phones, radio controllers, or toxic materials.
- **Testing or Probing of Security.** Investigating or testing a facility's security or IT systems to assess the strength or weakness of the target.
- **Misrepresentation.** Presenting false information or misusing documents to conceal possible illegal activity.
- **Weapons Collection/Storage.** Collection or discovery of unusual amounts of weapons including explosives, chemicals, or other destructive materials.
- **Aviation Activity.** Operating or interfering with the operation of an aircraft that poses a threat of harm to people and property. Drones are one such indicator in this category. Drone activity can constitute harassment, or surveillance. Operators can use drone



activity to test response times and learn about security and defenses that may be used by a target location. And in certain locations, drone activity would be unusual. A drone in a residential area might not be as significant as a drone in an industrial or downtown location. It would appear out of place and not something that would normally occur, and therefore should be reported.

- **Cyberattack.** Disrupting or compromising an organization's information technology systems. When discussing blended threats, cyber incidents or activity could be a precursor or the start of a larger attack.
- **Sector-specific Incident.** Actions that raise concern to specific sectors (e.g., commercial facilities, or a subsector such as lodging or public assembly) with regard to their personnel, facilities, systems, or functions.

In addition to these suspicious activities, there are also individual behaviors that friends, family, co-workers and associates may be able to recognize that could point to signs of trouble. Using the principle of acts that would not be considered normal as a foundation, some potential warning signs that may lead to a [Pathway to Violence](#) in interactions with others may include those listed below. **These indicators are important to understand because they recognize behaviors that could highlight issues within an individual that could result in a triggering event.** These events are issues that could push an individual over the proverbial line. They could develop into grievances between the individual and a potential target. According to the FBI's "[A Study of Pre-Attack Behaviors of Active Shooters in the United States Between 2000 and 2013](#)," on average, each active shooter in the time period displayed 4 to 5 concerning behaviors that were observable to others – the most frequent ones were related to the shooter's mental health, problematic interpersonal interactions, and leakage of violent intent.



One of the key resources for all organizations is the DHS [Security of Soft Targets and Crowded Places Resource Guide](#). This guide "provides an easy to use method to quickly find information on a wide range of free capabilities that can be incorporated into the security practices of organizations of all sizes." In addition to identifying suspicious behaviors, the guide addresses security screening procedures to include bag checks, protecting against unmanned aircraft systems (i.e., drones), bomb threats, and hostile events to include active shooter situations. The guide provides helpful links to training materials and instruction, aids and tools, as well as videos and websites for reference.

Referring back to the HEAC, these indicators can signal a couple different things:

1. These indicators may point to an attacker in a specific phase of their planning and preparedness of an attack. During various parts of the planning, an attacker may be vulnerable to exposure in order to learn more about the target. For example, an indicator may signal that the attacker is doing pre-attack work, i.e., target selection and surveillance, and reporting this suspicious behavior may disrupt that attack.
2. Reportable behaviors are just one small part of a puzzle. While first line defenders may observe a behavior, the larger organization may be aware of threats against their location based on coordination with local law enforcement, government partners, or fusion centers. This piece of information may help build out the larger puzzle/threat.

These are just some of the indicators that could signal a suspicious event. Context matters in these situations; however, it is important individuals do not try to rationalize or "explain away" an event, or think that someone else may report it. As noted above, identifying suspicious incidents or behaviors may be a prelude to a hostile event. Following the HEAC process, surveillance activities can signal a potential target, while individuals' behaviors could signal an issue with a potential attacker that could lead to an active shooter situation. One common indicator is the warning signs that emerge



in the days and weeks leading up to the shootings – for [example](#), “many shooters taking to social media to vent outrage at whatever is troubling them.”

But there is a risk with increased awareness as well, especially when looking at individual behaviors. Within the U.S., the Constitution protects the rights to free speech and to bear arms, so while actions may be concerning to some people, they may not actually represent an impending attack. Further, with so many social media platforms, it is unrealistic to expect law enforcement to be able to see everything. This is where the added context and the whole picture needs to be put together by organizations. The foundation remains within an organization’s policies, processes and procedures to not only respond to a threat but help in identifying that threat. Within those processes is having a process to report suspicious incidents or behaviors, for **appropriate intervention**. This means that organizations help establish the conditions and processes that can work toward ensuring the safety of you and your colleagues. DHS’s pathway to violence looks at:

- Being aware of **drastic changes in attitude** toward others.
- Taking note of any **escalations in behavior**.
- **Providing any information that may help facilitate intervention** and mitigate potential risks.

It’s a collective effort; prevention is not and cannot be a passive process.

- **Formalize the Security and Incident Response Plan.** It’s important that all employees and emergency responders, internal and external to an organization, have a copy of and an understanding of emergency plans.
- **Establish a reporting process.** Part of that security plan is ensuring employees know what to do should they identify suspicious activities. As noted by DHS, “contact your supervisor or your human resources department to alert them of potential dangers and enable them to mitigate any emerging risks.” And if that isn’t possible, then individuals should report to local law enforcement or the FBI.
- **Know the Threat.** Incumbent upon knowing the threat is developing information sharing relationships internally and externally. Security organizations should ensure that all employees are aware of the potential threats so they can be prepared in the event of an incident. Externally, information sharing exchanges about threats and threat tactics between organizations will ensure better preparedness and development of plans.
- **Training / Rehearsals / Exercises.** Once the plan is in place, it needs to be communicated down to every employee, discussed during training events, and rehearsed through drills and other exercises.
- **Employ Random Active Measures.** As it relates to hostile events, Random Active Measures are actions that are enacted “randomly” to throw off the HEAC process. They introduce an element of uncertainty for the attacker. Some examples include 100 percent ID Card and bag check, changing guard force over time, adding pop-up barriers or new traffic patterns, roving security patrols through parking lots or throughout the external parts of the building, or vehicle inspections.

David Pounder is the Director, Threat and Risk Analysis at Gate 15 and serves as an Information Security Officer for a leading financial organization. He advises on both physical and cyber security issues, and specializes in counterterrorism, force protection, and counterintelligence efforts.

Does ISIS Have a Lone Wolf Network Across the Globe?

By Phil Price

Source: <https://www.hstoday.us/subject-matter-areas/terrorism-study/does-isis-have-a-lone-wolf-network-across-the-globe/>

Oct 01 – The relentless terrorist PR machine seemed to be unraveling in November 2018 after a man crashed his car into some shopfronts in Melbourne, Australia, jumped out and started stabbing passers-by, killing one. Shortly afterward, he was shot by the police. At first, ISIS claimed responsibility, describing him as an IS “fighter.” But a few days later, IS’s weekly Arabic newsletter *al-Naba’*, published by their central information “ministry,” disavowed this claim, and went on to point out that most lone actors had never met any IS agents and were self-motivated. What was going on?

In a [report](#) published by the International Centre for Counter-Terrorism at The Hague, an unnamed staff member at the European Counter-Terrorism Centre (ECTC) at Europol studied claims made by ISIS about lone actors from 2016-18 to shed light on how the group actually operates.

IS started systematically encouraging lone actor attacks in the West in 2016. Sometimes communication was controlled, and credit claimed centrally. At other times the initiative seems to have been left to the perpetrators.



The whole program was run by a separate setup within ISIS – the “external security” or *al-amn al-khariji*. Vulnerable individuals would be contacted online and incited to carry out attacks, the report notes. Networks of “clean men” (unknown to security forces) provide a link back to the center, enabling valid claims of responsibility.

Internal, Arabic-language ISIS publications tended to report incidents later, suggesting that they deferred to the “external security” for clearance. A network of publications aimed at various internal, Islamic audiences and externally at the West spread the word. The aim was to maintain and develop IS’s reputation and ultimately credibility as the leading Islamic extremist movement.

What is a “clean man”? The report explains:

“By mid-2016, the ‘external security’ [of IS] reportedly had sent ‘hundreds of operatives’ to Europe and had ‘hundreds more in Turkey alone.’

According to statements by a former IS member who returned from Syria to Germany in July 2015, these operatives acted as nodes that could remotely activate potential suicide attackers who had been drawn in by propaganda. He stated that new converts to Islam, known as ‘clean men,’ with no established ties to radical groups, were in charge of linking them. They carried messages between ‘external security’ handlers and their operatives.”

At its height, this IS international operation was clearly sophisticated and adept, the report says, as “external security” members showed high levels of operational information security awareness, using different platforms, chat functionalities in video games and new mobile phones, among other means, to contact and retrieve data, including video statements, from lone actors.”

But increasingly the message was fragmented. The 2016 arson attack on a Shi’a cultural center in Malmö, Sweden, and an alleged bomb plot at Charles de Gaulle airport in Paris in 2017 were both claimed as the work of IS soldiers in internal publications, but not mentioned in those magazines and newspapers directed to the outside world. In contrast, the 2017 bombings in the Champs Elysées and Brussels Central Station were claimed as the work of “caliphate soldiers” in *Rumiyah*, a onetime ISIS publication for external audiences, without having previously been claimed by IS in their internal media.

Motivating the home base and encouraging IS supporters in the West were crucial factors, the report stresses. Claims were made when they would support these aims, and incidents overlooked when they did not.

Toward the end of the period studied, it became clear that the PR and communication system was struggling. The Oct. 2, 2017, Las Vegas mass shooting was initially claimed as the work of a “caliphate soldier” for which no evidence emerged, and the claim was quietly dropped. The failed bomb attack on a London Underground train in 2017 was clumsily and inaccurately reported as the work of “a security detachment of IS soldiers” when in fact it proved to be the work of a single 17-year-old Iraqi refugee. It began to look as if opportunistic reasons drove responsibility claims to encourage home audiences. But the international network seemed no longer able to provide dependable verification.

This research into the messaging and PR network of IS concludes that the West is dealing with a complex organization that is breaking down into informal networks. It may now be more based on seizing opportunities than implementing a disciplined strategy. In one sense this is perhaps a sign of success in the West’s fight against the terror group. But it leaves

a potent, shadowy network of individuals who can communicate, share experience, and motivate each other and newcomers.

“The remnants of IS’s external operations structures seem to persist as a network of individuals that can communicate and, possibly, cooperate based on their common experience and acquaintance,” says the report. “With regard to the persistence of the threat from lone actors in the future, much will depend on these operatives’ personal influence on others and their motivation to continue the activities of ‘IS soldiers’ in the West.”

The challenge of international terrorism directed or inspired by ISIS has changed, but remains a live threat.

Phil Price is a multilingual writer and translator based in London, UK. A graduate of Oxford University, Phil went on to hold senior management positions in several major British and German companies, and spent time living and working in Germany and Poland as well the UK. For HSToday, Phil reviews the latest findings from academic research and international studies into all aspects of international terrorism and presents the key trends and insights.

Islamic State 2.0 and the Information War

Source: <http://www.homelandsecuritynewswire.com/dr20191002-islamic-state-2-0-and-the-information-war>

Oct 02 – In December 2018, US President Donald Trump declared victory over the Islamic State in Iraq and Syria, [tweeting](#) that ‘ISIS is largely defeated and other local countries,



including Turkey, should be able to easily take care of whatever remains. We're coming home!' And in the first three months of this year, Trump [said or tweeted](#) 16 times that IS was either completely defeated or soon would be.

Anne-Marie Slaughter and Asha C. Castleberry write in [The Strategist](#) that the United States government appears to disagree. In August, the three lead inspectors general from the Department of Defense, the Department of State and the US Agency for International Development submitted a [joint report](#) to Congress reviewing Operation Inherent Resolve, the US campaign to defeat IS, over the period from 1 April through 30 June of this year. They concluded that, 'Despite the loss of physical territory, thousands of ISIS fighters remain in Iraq and Syria and are carrying out attacks and working to rebuild their capabilities.'

Marie Slaughter and Castleberry write:

The IS resurgence is partly the result of Trump's December decisions to [withdraw all US troops from Syria](#) and [halve the number in Afghanistan](#), which prompted defense secretary James Mattis to resign and made America's regional security partners less able to conduct counterterrorism operations. In Iraq, IS is regrouping and building clandestine terrorist cells in key areas of Baghdad, Ninewa and Al Anbar provinces, and in the Middle Euphrates River Valley. In Syria, the group is mounting strong counteroffensives in Raqqah and Homs provinces, and is aggressively seeking to establish a safe haven.

Trump isn't likely to reverse his decision on troop withdrawals. But IS's battlespace is digital as much as physical. And in that regard at least, the Trump administration must strengthen America's capacity to wage war effectively.

A must-see video

A boy from Syrian Al Hol camp says he wants to be Inghasi

Source: <https://www.trendsmap.com/twitter/tweet/1178912709351530496>

Ask yourselves, WHY?

Eighteen Years On: The War on Terror Comes of Age

Source: <http://www.homelandsecuritynewswire.com/dr20191004-eighteen-years-on-the-war-on-terror-comes-of-age>

Oct 04 – Later this year, a U.S. service member is likely to be deployed to Afghanistan who was not yet born on September 11, 2001, when al-Qaeda terrorists launched the most devastating terrorist attack in history and killed almost 3,000 people, mostly Americans. The years in between have seen wars in Iraq and Syria justified in the name of counterterrorism as well as more limited U.S. interventions against jihadi groups in Libya, Somalia, and other countries. "Hundreds of thousands have died in these conflicts—some from terrorism, but most from combat and the associated ravages of war," Daniel Byman writes for West Point's [Combatting Terrorism Center](#). "Yet even as this body count soared, neither al-Qaeda nor other jihadi groups have proven able to conduct a repeat of 9/11 or even anything close to it."

He continues:

Judging the threat that jihadi terrorism currently poses to the United States and, more broadly, the success of the U.S.-led struggle against various jihadi groups in the post-9/11 era depends on what interests are prioritized and which perspective one takes. Under three very different administrations, the United States has scored impressive successes against al-Qaeda, the Islamic State, and other jihadi groups, decimating their leadership and limiting attacks on the U.S. homeland to a fraction of what Americans feared in the aftermath of 9/11. Yet, almost two decades after 9/11, the United States has still not put the nail in the coffin of jihadis. Indeed, although the operational freedom of jihadi groups is constricted by U.S. and allied counterterrorism efforts, the jihadi cause as a whole has far more local and regional influence than it did in the years before 9/11, it is better able to inspire individuals in the West to act on its behalf, and groups have proven resilient despite the fierce U.S.-led onslaught. Americans are wearying of grinding conflicts in Afghanistan, Syria, and other countries and favor, at most, limited efforts



in far-flung theaters like Somalia or West Africa where jihadis are active. Efforts to pass the burden onto allies have met little success in most parts of the world, with a few important exceptions like the French counterterrorism campaign in Mali.

Before Americans celebrate or despair, however, it is useful to take stock of the problems facing the main jihadi organizations themselves.

Handheld, Quiet, and Non-Lethal: China's Solution to Riots

Source: <https://i-hls.com/archives/95347>

Oct 04 – Chinese scientists have recently developed a new nonlethal weapon to be used against rioters and protestors by police officers as an alternative to lethal weapons. The sonic gun utilizes low-frequency sound waves to cause “extreme discomfort with vibrations in the eardrums, eyeballs, stomach, liver, and brain.”

Chinese media has reported that the weapon has no moving parts. **The handheld device works by heating a chemically inactive gas. When the gas is heated, the gas particles vibrate and produce a deep, low-hertz, and monotonous sound.** The sound produced is likely inaudible to humans, however, the United States National Institute of Health mentions that the effects of such a low-hertz sound can cause people on the receiving end of the noise to feel vertigo, imbalance, incapacitation, disorientation, nausea, vomiting, and more.

In contrast to the Chinese solution towards rioters, the United States utilizes the Long Range Acoustic Device (LRAD) in riot control situations. Popularmechanics.com report that the LRAD emits a high-pitched electronic squeal instead of a low pitched pulse.

The currently unnamed Chinese weapon has been described as rifle-like in shape. Chinese officials have met in Beijing and approved the nonlethal weapon for mass production. With the officials hoping the weapon become fielded as soon as possible.

How a remote patch of Abu Dhabi desert became a world leading solar plant

Source: <https://www.thenational.ae/uae/environment/how-a-remote-patch-of-abu-dhabi-desert-became-a-world-leading-solar-plant-1.918667>

Oct 06 – Less than 30 months ago, it was an unremarkable patch of Abu Dhabi desert. Today, enough power is produced on the **eight square kilometre site to power 90,000 homes.**

Near the small town of Sweihan, a stone's throw from the Dubai border, the **Noor solar power plant** is officially up and running, with more than **3.2 million solar panels** soaking up the sun.

The **largest facility of its kind in the world**, it is also playing its part in the battle to reduce carbon emissions and address climate change, reducing the Emirate's CO2 emissions by one million metric tonnes, the equivalent of taking 200,000 cars off the road.

“This is a laboratory for the world,” said Jorge Perea, executive managing director of Noor Abu Dhabi, who oversaw the US\$872 million project, delivering it on schedule and budget.

The technology is developing and the prices are getting lower. It is right now the cheapest source of energy in the world

He said he has welcomed a string of foreign officials and energy ministers to the facility, which was connected to the grid last

November and was operating commercially by the summer.

“This country, it is 10 years in front,” he said. “They are investing in the technology and are hiring the best professionals.”

Mr Perea believes the plant's beauty is in its simplicity. It is run by a small, multi-cultural management team of only seven, an Emirati, Pakistani, Irishman, Syrian, Jordanian and Filipino. Mr Perea, a black belt in karate, is from Spain. On an average day, only around 70 workers will be on site.



A robot cleaner goes to work on the solar panels. Pawan Singh / The National



He could have increased efficiency by having rotating solar panels, meaning they were constantly aimed at the sun. But this would have meant far higher costs and maintenance requirements, so instead they were installed with a sweeping, curved design to ensure at least some panels would be exposed to maximum sunlight at any one time.

Lightweight structures ensured less steel was used. Cleaning of the panels is carried out once a day, by 'robots' and without the need for water. Once a day, large brushes automatically sweep over each panel. In total, the system cleans 800km of panels every 24 hours.

Eight companies submitted proposals for a cleaning solution for the site – essential in a dusty climate. Two were chosen for extensive testing with the eventual winner, provided by a Chinese company, found to be most efficient.



The focus on achieving maximum efficiency while keeping to tight budgets has all meant the energy generated – which is eventually fed to customers by the Emirates Water and Electricity Company (EWEC) – has meant the cost of the power is at a record low.

Built as a commercial venture and without subsidies, the cost of 2.42 US cents per kilowatt hour which was described as so low it was “jaw dropping” by industry observers when it was announced. It remains the lowest price in the world for non-subsidised solar.

“The plant is nice but it’s a business,” said Mr Perea. “We need to give a return of investment, and if we introduce a lot of complicated things the cost will go up.

“We have reached this price because of most efficient technology we can use. Engineering is to do the necessary with the minimum cost. It is not architecture; the architect is looking for something nice, something beautiful. But I don’t need a gold pen to write.”

While the solar plant is almost peaceful now, it was not always the case. Almost 3,000 workers helped to build it, laying 7,120km of cables – more than enough to cover the distance between Abu Dhabi and Manila if they were all laid out in a straight line.

Drones were used to pinpoint the locations of 616,098 ground screws, with data transferred to an unmanned machine to drill holes and with near-perfect accuracy. A worker then inserted the poles, which we then automatically drilled in with precise torque by another machine, this time manned by a human operator. On one particularly productive day during the construction 26,000 solar panels were installed in 24 hours.

But it was not all straightforward – a solution had to be found after Dhub lizards – which have protected status - were found living on the site. Steps were taken to ensure they were not harmed and visitors to the plant are now warned not to feed or disturb the so-called ‘little dinosaurs of the desert’, should they encounter one.

The Noor – Arabic for light – plant started running commercially in June and, for now, remains the largest single-site power plant in the world. A small handful of others, in China and India, have a higher output than Noor’s 1,177 megawatt capacity but were built in different stages or operate as ‘solar parks’ with multiple different operators sharing the same infrastructure.



The Noor operation, meanwhile, is owned 60 per cent by a holding company owned by the Abu Dhabi government with 40 per cent owned by a foreign holding company, split equally between a Japanese and Chinese firm.

While Noor produces enough energy for 90,000 UAE homes, that figure would be even more impressive if not for the high domestic power consumption rates caused mainly by air conditioners. A plant in Europe producing a similar output could power approximately 150,000 homes, due to their lower average consumption.

But even the plant operators admit Noor will not be a record holder for long. Advances in technology and manufacturing mean the prices of solar energy generation are tumbling all the time. New projects are being planned all the time, with plans for an even bigger solar plant in Al Dhafra, Abu Dhabi, well advanced.

Meanwhile, it is hoped that in the decades to come advances in battery technology will make help solar realise its full potential.

"Batteries are the next step," Mr Perea said. "The weakness of this plant is we can produce when we have sun. But with batteries, we could produce, store it for the night, and have a more stable grid.

"They are under development now, people are investigating and improving. The batteries are the future, the next step."

The weakness of this plant is we can produce when we have sun. But with batteries, we could produce, store it for the night, and have a more stable grid

Plants like Noor, it is hoped, will help the UAE hit a 50 per cent clean energy target by 2050. While it is unlikely Noor will be expanded, other major solar plants in the UAE are inevitable and the country's first nuclear power plant is expected to begin operating shortly.

The plant planned plant in Al Dhafra will be even bigger than Noor, producing up to almost double the power, and cover approximately 20 square km. EWEC recently invited bids to construct the new plant, which it is hoped will be up and running by 2022.

"Noor is the first project of this size in Abu Dhabi," said Adel Al Saeedi, director of the privatisation directorate at EWEC. "We started big and we started right. It was the right time, the technology became better and more affordable. The technology is developing and the prices are getting lower, so it's not only environmentally good but economically feasible as well. It is right now the cheapest source of energy in the world."

Potential developers were also "excited" by the new project in Al Dhafra, Mr Al Saeedi said, with bids expected to be formally submitted by the end of this month.

"It will be another good project towards achieving the clean and renewable energy targets of the UAE," he added.

"Solar is the future of energy, not only in the UAE, but in the world.

"And the sun, luckily, is available all year long in the UAE."



EDITOR'S COMMENT: Great project indeed! But the first thing that came into my mind is "how one can defend a solar mega plant against a swarm drone attack or any aerial attack?" Will solar plants be the future asymmetric targets?

START releases 2018 GTD data and announces partnership with CHC Global

Source: https://www.start.umd.edu/pubs/START_GTD_TerrorismIn2018_Oct2018.pdf

With more than 9,600 terrorist attacks killing more than 22,980 people in 2018, the level of terrorist violence worldwide decreased for the fourth consecutive year, while sustaining an increase for the third consecutive year in the United States with 67 attacks, according to a [new report](#) from the University of Maryland's National Consortium for the Study of Terrorism and Responses to Terrorism (START). This is the most terrorist attacks that the country has experienced since 1982.

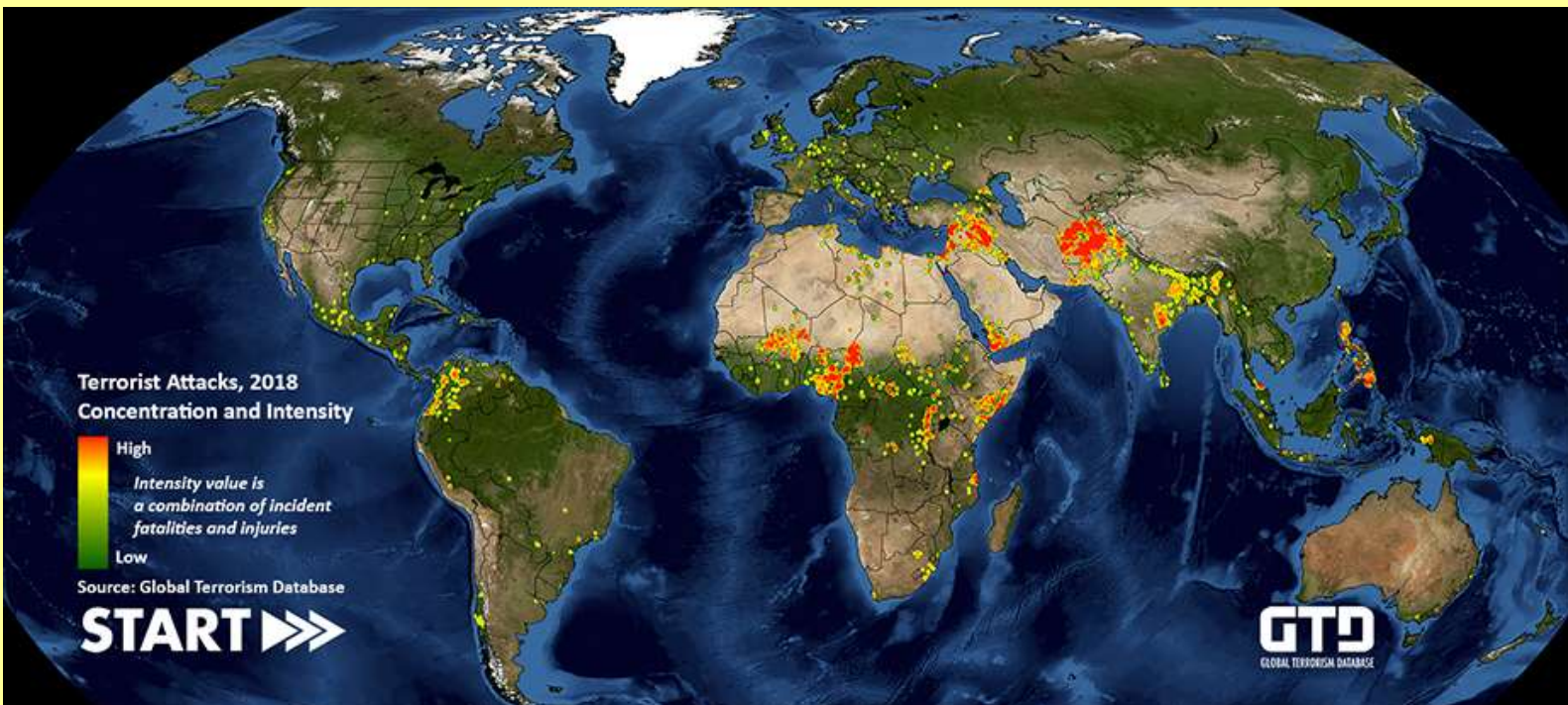
Based on newly released data from START's [Global Terrorism Database™](#), which now includes information on more than 190,000 terrorist attacks dating back to 1970, the report highlights trends in global terrorism in 2018, including: a steep decline in ISIS attacks in Iraq, but an expansion of the group's global footprint; fewer mass casualty attacks in Western Europe; and an increase in far-right attacks in the United States.

"It's always interesting to see how diverse patterns are from place to place" said Dr. Erin Miller, manager of the GTD™ and author of the report. "We have data on terrorist violence worldwide, but remember that every place is unique, with complex and varied contexts and developments that extend beyond terrorist violence. This analysis just scratches the surface."

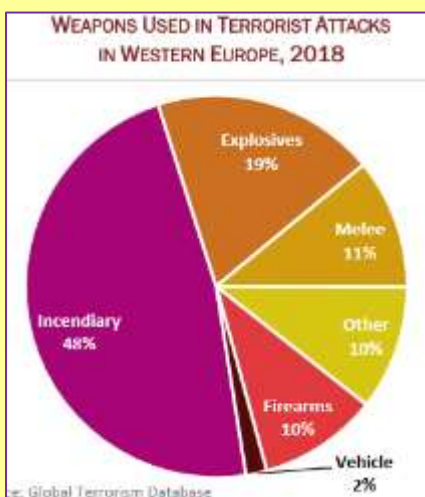
Since terrorist violence peaked in 2014 at nearly 17,000 attacks and more than 45,000 total deaths globally, the number of attacks has decreased 43 percent and the total number of deaths has decreased 48 percent. The decrease has been driven largely by patterns of terrorism in Iraq, which from 2013 to 2017, suffered more terrorist violence than any other country in the world. However, in 2018, following a lengthy and deadly offensive by the Iraqi



government and its allies against Islamic State, terrorism in Iraq decreased dramatically. The number of terrorist attacks in Iraq decreased 46 percent between 2017 and 2018 and the number of people killed in terrorist attacks decreased 78 percent. Though Islamic State's violence decreased dramatically since the liberation of Mosul in July 2017, it remained deadly, killing more than 800 victims in at least 650 attacks in 2018 in Iraq and more than 700 people in at least 72 attacks in Syria. The group killed more than 1,606 in 735 attacks in total, also claiming responsibility for deadly attacks in Iran, the Philippines and Tajikistan. The influence of Islamic State continued to expand geographically. Attacks carried out by Islamic State "core" operatives, affiliated organizations or unaffiliated individuals who indicated allegiance to Islamic State took place in 34 countries in 2018 (56 countries since 2002).



The number of terrorist attacks in Western Europe decreased 31 percent between 2017 and 2018, while the number of deaths decreased 70 percent, in part because there were fewer mass casualty attacks. In 2015, 2016, and 2017 there were multiple events in Western European countries in which assailants killed more than five people, including mass casualty attacks carried out by jihadists in Paris, Brussels, Nice, Berlin, Manchester, London, and Barcelona. There were nine lethal terrorist attacks in Western Europe. The deadliest of these occurred in December, when an assailant who claimed allegiance to Islamic State attacked civilians at a Christmas market in Strasbourg, France, killing five people and injuring 11 others. "Patterns of terrorism in Western Europe and the United States can be very volatile," Miller said. "In general, the number of terrorist attacks in these locations has been relatively low compared to other parts of the world and other times in history, so it can be difficult to discern clear trends. But in the United States we have seen a steady increase in attacks in recent years and it seems to be sustained."



attacks in 2015 to 67 attacks in 2016.

There were six lethal terrorist attacks in the United States in 2018, excluding one attack in which only the perpetrator died, compared to 18 in 2017. Although terrorism in the United



C²BRNE DIARY – October 2019

States is ideologically and geographically diverse, all six lethal attacks involved far-right ideological elements, including primarily white supremacy and, in at least two cases, male supremacy.

Table 2: Ten countries with the most terrorist attacks, 2018

Country	Total Attacks		Total Deaths*		Deaths per Attack*		Total Injured*		Injured per Attack		Kidnapped/ Hostages	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Afghanistan	1443	1168	7379	4653	5.47	4.21	6514	5010	5.12	4.61	1362	835
Iraq	1130	1988	1054	4348	0.97	2.31	1723	4179	1.62	2.23	203	2005
India	750	867	350	384	0.48	0.45	541	602	0.75	0.72	247	223
Nigeria	562	411	2040	1532	3.98	4.04	772	852	2.03	2.64	445	245
Philippines	424	486	297	326	0.71	0.69	343	297	0.83	0.64	55	409
Pakistan	368	576	540	852	1.49	1.51	1018	1830	2.85	3.27	23	107
Somalia	286	372	646	1470	2.55	4.18	638	1100	2.63	3.25	238	286
Yemen	228	142	302	379	1.64	2.94	328	418	1.96	3.45	333	107
Cameroon	203	92	208	214	1.28	2.46	180	238	1.22	2.94	335	77
Colombia	166	102	96	59	0.60	0.58	129	95	0.82	0.94	60	79
Worldwide	7564	8695	15951	18859	2.25	2.28	15757	19624	2.34	2.44	5477	9016

*Includes perpetrators

New partnership, new website

In concert with the new report and 2018 data, START is announcing a new partnership and launching a new GTD website.

The University of Maryland has partnered with [CHC Global](#), to serve as START's exclusive commercial distribution partner for the GTD. Headquartered in London, CHC Global is an independent advisory practice, who work to understand, manage and insure terrorism risks. The partnership is intended to help secure the long-term stability of the GTD, ensure it remains freely available for personal and academic research use, and allow START researchers to focus on making continual improvements to the data and data collection process.

"CHC Global has extensive expertise in delivering terrorism analytics in the public and private sectors," START Director William Braniff said. "The fact that they share our commitment to distributing the GTD widely to those who work to understand and minimize the impacts of terrorism makes them ideal partners in this effort."

The partnership will allow START, via CHC Global, to engage more proactively and gain licensing revenue from the many organizations who value the database and routinely use it in their work and products.

"The GTD is recognized as the authoritative source of terrorism event data by researchers, policy makers and commercial organizations, internationally," CHC Global CEO Chris Holt said. "It is an unparalleled resource for those who seek to understand the frequency and severity of terrorism. We're very much looking forward to developing this partnership with START, including enhancing aspects of the data for commercial users."

Since initially being made public in 2007, monthly downloads of the GTD have risen dramatically as the dataset continues to improve, resulting in an average of more than 1,000 downloads per month in 2018, and over 63,600 total downloads through 2018. While a majority of those downloading the data indicate they are doing so for personal or academic research use – which they will be able to continue to do freely – a large number of users also indicate they represent organizations, including commercial entities. Those users will now need to purchase a license from CHC Global to download the GTD dataset.

All users may still access the search and browse function of the legacy GTD site, subject to agreeing to non-commercial terms of use.

START has compiled and published the GTD for more than a decade but [has faced a challenge in securing long-term funding for base data collection](#). Without 2019 funding from the [Department of Defense Combating Terrorism and Technical Support Office](#) and the [German Federal Foreign Office](#), there would have been a lapse in GTD production, meaning that individual governmental and non-governmental organizations and institutions would have needed to develop individualized, ad hoc strategies for measuring terrorism, or rely on less data-driven approaches to countering terrorism.

In addition to partnering with CHC Global to commercially distribute the GTD, START continues to seek consistent funding for the GTD well beyond 2019. Furthermore, without



U.S. Government funding, the U.S. Government will not maintain government purpose rights to the data to future releases of the data.

The GTD's comprehensive, accessible, transparent, structured and unstructured data make it a critical resource for governments, non-government organizations, commercial entities, and scholars alike. It is used by thousands of analysts around the world, seeking to better inform the public about a frequently misunderstood topic. All of these users benefit from high-quality data for both operational and analytical purposes.

Can Israel Trust the U.S. after Syria Withdrawal?

By Seth Frantzman

Source: <https://www.meforum.org/59533/can-israel-trust-the-us-after-syria-withdrawal>

Oct 07 – The US surprise decision to announce that [it would withdraw](#) from an area along the Syrian border and enable a Turkish military operation into northern Syria raises many questions about long-term US policy in the Middle East. It is also concerning to Jerusalem because both Iran, an enemy of

oil facilities. The UAE is seeking to end the Yemen conflict. Riyadh appears bogged down in Yemen with the forces it supports being dealt a blow by the Iranian-backed Houthis. Saudi's image has been harmed by the murder of former insider Jama Khashoggi in Istanbul last year.



Israel, and Turkey, which excoriates Israel regularly at international forums, appear to gain as the US retreats.

The US decision to open the door for a Turkish invasion of eastern Syria is [seen as a betrayal](#) among US partners on the ground in Syria, and particularly among many Kurds. Across the region it is also seen as the US, once again, letting down allies. This has been a refrain from Iraq to Egypt to the Gulf. US President Donald Trump said that although the Kurds fought alongside the US, eastern Syria was now the for "Turkey, Europe, Russia, Iran, Iraq, Russia" to deal with.

...

The US may appear to only be leaving a few border posts in Tel Abyad near the Turkish border. But the effect is felt all the way to the Gulf and Riyadh and down to Amman and Cairo. It's a message.

In the Gulf the feeling is already clear. Saudi Arabia cannot confront Iran after the September 14 attack on Abqaiq and its

This then is the situation in the region. The US wants to end the Afghan war, empowering Iran there as well. It wants to leave Syria. It may be asked to leave parts of Iraq by Iranian-backed parties in parliament. Turkey, once more close to Israel, is now one of the most vocal opponents of Israel in the region and is empowered by the US move. It and its ally Qatar have worked with Hamas. Iran works with Hamas. Iran works with Turkey on Syria. On Iran's grand chessboard for its long-term strategy in the region, it sees another win. The US decision to leave eastern Syria appears abrupt, not informing European allies or the SDF, or preparing the ground. It shows that the US can make policy by tweet, as Trump has in the past. What does this

mean for Jerusalem? It means that Washington's "deal of the century" and other plans are not clear. An erratic Washington, even one that appears more pro-Israel than previous administration, leaves more questions than answers. Israel's enemies exploit that kind of uncertainty. There is a feeling that while the US supports Israel's actions in the region, Israel is also alone and not being consulted on regional strategy.

In the short term the plans by Ankara to move into eastern Syria, bit-by-bit, are clear. But the long term question is how Iran and Israel enemies may benefit. Russia will watch closely what is happening because its ally the Syrian regime doesn't want the US to manage a Turkish takeover of eastern Syria.

Russia previously signed off on

Turkey using the airspace over Afrin for a campaign there. But Russia is



concerned about instability in Raqqa and other areas where there was previously ISIS presence. If the SDF fights Turkey there will be a power vacuum. Will Iran fill the vacuum? If it does it gives it more real estate in Syria to transfer weapons

to Hezbollah and allies. Whoever fills that vacuum has leverage over the future of Syria and Iraq and security throughout the region. Israel is concerned and will watch closely.

Seth Frantzman, a writing fellow at the Middle East Forum, is the author of [After ISIS: America, Iran and the Struggle for the Middle East](#) (2019), op-ed editor of [The Jerusalem Post](#), and founder of the [Middle East Center for Reporting and Analysis](#).

EDITOR'S COMMENT: The question is not if Israel can trust the U.S. The question is if any country can trust the U.S. For example, can Greece trust the U.S. in case of a clash/conflict with the neighboring (NATO member) Turkey? Will U.S. national benefits/interests prevail over long "friendship" and "admiration of the country who gave birth to democracy?"

Institute for National and International Security (INIS)

Source: <http://www.intelligence-security.rs/>

The Institute for National and International Security (INIS) is one of the leading academic institutes for Intelligence, National and International Security, Defense and Counter-Terrorism with its members all around the World. INIS is an Scientific Academic Society (recognize by government of Serbia) providing expertise in terrorism, counter-terrorism, homeland security, threat vulnerability, risk assessment, intelligence analysis, national security and defense policy and issues related to National and International affairs.

INIS gather academicians, researchers and scholars to share information and expertise through research papers, situation reports and academic publications for worldwide distribution. It is important to underline that INIS administers the largest public domain research database on terrorism and organize crimes. The TOC-search ([Terrorist and Organized Criminal Search Data Base](#)) is a dynamic data base which offers comprehensive information on global terrorist network and helps researchers, analysts, students and others working to prevent terrorism.

The Institute for National and International Security (INIS) aims to independently or in cooperation with other higher educational and scientific-research institutions, state bodies, public institutions, enterprises, civil society organizations, organize and conducts academic and scientific-research, activities in the field of National and International Security. In order to better understand the phenomena and the process in the field of security, it is necessary to collect new knowledge in this field, to constantly carry out the evaluation process and to harmonize theory and practice in order to acquire theoretical knowledge and skills in practical application. To reach this goals, the INIS will develop the following projects:

- [Project TOC search. Database for Searching Information on Terrorism and Organized Crime](#)
- [Project "Security Talks"](#)
- [Deep Internet Search in Security](#)
- [Nuclear Security](#)
- [Counter Terrorism](#)
- [Face detection software in the field of Security](#)
- [Development of Android applications in the field of Security](#)
- [Digital Steganography](#)
- [Cyber Security](#)
- [Drone Security Surveillance](#)
- [Fast Battery Charging in Security](#)
- [Android Application for TOC and Face Rec.in Security](#)
- [USB Secure Communication in Security](#)
- [Hybrid Warfare](#)
- [Radicalization and Deradicalization](#)
- [Intelligence and Counterintelligence](#)



- [Security, Conflictology and Geopolitics](#)
- [Software for 3D reconstruction of objects and faces using 2D photographs](#)
- [WeACT - Software for secure communication](#)
- [Critical Infrastructure Protection \(CIP\) & Resilience](#) | [Project TOC search. Database for Searching Information on Terrorism and Organized Crime](#)
- [Project "Security Talks"](#)
- [Deep Internet Search in Security](#)
- [Nuclear Security](#)
- [Counter Terrorism](#)
- [Face detection software in the field of Security](#)
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- [Software for 3D reconstruction of objects and faces using 2D photographs](#)
- [WeACT - Software for secure communication](#)
- [Critical Infrastructure Protection \(CIP\) & Resilience](#)

Master in National Security and Intelligence Studies

INIS will soon independently or in cooperation with another accredited educational institution start with Master program in the fields of National and International Security, Intelligence and Counterintelligence. Students on this degree programme will examine a broad range of contemporary security challenges and risks, such as terrorism, hybrid threats, proxy wars, asymmetric warfare, conflict and transnational and national organized crime. Students will also explore the intelligence and strategic approaches used by governmental and non-governmental actors to combat these threats and risks. The degree adopts a unique approach to the study of security by combining theoretical, applied and empirical knowledge and skill sets. Students will have the opportunity to meet with and work alongside a range of academics and researchers from international partner universities and think tanks from around the world, as well as practitioner experts from governmental and defense sectors.

Real Islamist Terrorism Experts are Scarce in France – Political Scientist

Source: <https://sputniknews.com/analysis/201910091077000221-real-islamist-terrorism-experts-are-scarce-in-france---political-scientist/>

Oct 09 – The profile of Michaël Harpon, who killed four his colleagues at the Paris police headquarters on 3 October, raises the debate on the dangers of Islamist radicalisation.

Despite the fact that Harpon's bosses knew about his statements regarding the terrorist attack on Charlie Hebdo in 2015, Harpon continued working in the prefecture and had access to classified information. After the incident, can we say that the French authorities are not taking the problem of Islamic radicalisation seriously enough?

Sputnik: How can one explain that despite several reports from his colleagues concerning Michaël Harpon's radicalisation, no thorough investigation was launched against him, and he managed to retain his position and access to classified information?

Bassam Tahhan: For a long time, there has been a major dysfunction in the work of public services. So far, France has taken no sufficient measures to properly analyse the manifestations of radical Islamism in the country. We need to look at the root of the problem. Too many factors have been neglected, especially in relation to foreign policy. For example, our intelligence services don't want to work with their Syrian counterparts. Yet it is in Syria



that there is the greatest concentration of jihadists in the world, in Idlib for example. This can be regarded as a manifestation of pride – France doesn't want to admit that the country itself and its allies have lost in Syria. Moreover, Paris is often opposed to Russia, Iran or Damascus intervening to the fight against Islamism in Syria.

Sputnik: You say that too many French anti-terrorist experts are not competent...

Bassam Tahhan: Yes. There is also a major problem regarding the analysis of Islamist terrorism in France and internationally. In France, the real experts are scarce. **Forgive the expression, but many quacks exercise in this area.** Just look at former advisers to the Ministry of the Interior, the Prime Minister or the Elysee who express themselves on issues related to Islam in the media. There is a lack of competent experts. Remember the way the authorities were hiring these so-called experts to fight radicalisation in deprived neighbourhoods. They were often hired because they bore Arab names, and not because they were competent. In general, the whole French policy with regard to Islam should be questioned. The number of Islamist attacks in recent years in the country is there to testify. In the event of a tragedy, the authorities always find a reason to shirk their responsibilities.

Sputnik: Do you think that a tragedy like that of the Paris police headquarters can happen again?

Bassam Tahhan: Yes, obviously.

Sputnik: How do you assess France's domestic situation?

Bassam Tahhan: Economically speaking, France is going through some very hard times. Bonds and values are collapsing. In this context, part of the vulnerable segments of the population is looking for an alternative value system, and there is a risk of succumbing to the temptation of radical Islam. For several decades, the French authorities haven't given due attention to the numerous manifestations of religious fanaticism among the population. For example, no one ever banned foreign preachers from freely disseminating their radical views in mosques. Perhaps France wasn't ready for such a large percentage of Muslims in the country. Today, Islam is the second religion in the country. This raises certain questions, especially related to the current international situation.

Sputnik: That is to say?

Bassam Tahhan: For example, there are those who are ready to convert to radical Islam out of solidarity with the Palestinians. And we haven't yet found a solution to all these problems. Everything that has hit the Muslim peoples in the world can cause radicalisation. We have already seen this during the war in Iraq, which resulted in millions of dead and the appearance of Daesh*. Then the war in Syria began.

Sputnik: So, you think this situation is partly related to France's foreign policy...

Bassam Tahhan: The Elysee received the opponents of Assad, and representatives of the Muslim Brotherhood movement, and this was in the name of democratic intervention in the process of regime change in Syria. It's unacceptable. France acted as an ally of the allies of the Islamists.

Sputnik: According to the French Minister of the Interior Christoph Castaner, Michaël Harpon talked to the Salafists. Who finances the Salafists in France?

Bassam Tahhan: **They have several sources of funding.** The Turkish source is Recep Tayyip Erdogan. The international Muslim Brotherhood Bank, the Gulf countries, also finance them. Finally, they are directly sponsored by organisations such as Al Qaeda, which still has funds. It should be added that France understands very poorly what Salafism is and that it hasn't stopped developing over the past 40-50 years. Today it's very difficult to turn to history and realise how exactly foreign preachers appeared at the head of French mosques. France lacks competent experts on Islam.

Sputnik: What role do theologians play in Islam?

Bassam Tahhan: Too often they act as mentors, explaining how to become "a good Muslim." They don't have a critical approach to religion or to writing. This is a huge problem, and it's partly the cause of radicalisation.

Sputnik: How can radicalization be effectively combated in France?

Bassam Tahhan: It's necessary to hire competent experts, and create tools that will immediately take measures against suspects in radicalisation, especially if they hold important posts. The other day there was a [tragedy in the Paris police headquarters](#). And tomorrow it can happen anywhere. I have repeatedly mentioned the cities I came up with – Idlib-on-Oise (Idlib-sur-Oise) or Idlib-on-Seine (Idlib-sur-Seine); this way I wanted to draw public attention and encourage people to be vigilant. The French authorities don't impede the development of radical and Salafist movements. But it's necessary to fight them at all levels – both at school and the Ministry of Internal Affairs. After 9/11, the US administration demanded an additional 8,000 vacancies for Arabic-speaking employees. Until Arabic is taught in French public schools, private and religious organisations will continue to do so. And among them, there are institutions that keep in touch with the radicals. I myself taught Arabic and dealt with Salafi colleagues who refused to say the words "whiskey" or "wine" in the classroom. I drew attention to this, and they were removed from



office. This proves that one can act. It's hard to understand why the French secret services, which have substantial funds, are unable to restrain this movement.

Islamic State **brides** in Syria could cause 'mass casualty' attack in Australia if rescued, Peter Dutton says

Source: <https://www.abc.net.au/news/2019-10-10/peter-dutton-al-hawl-women-would-pose-terror-threat-australia/11589326>



Oct 10 – Australia could be at risk of a major terror attack if the Federal Government rescues the partners of Islamic State fighters from Syria, according to the Home Affairs Minister.

Peter Dutton said he had received advice that some of the women were as "hardcore" as the male Islamic State fighters they spent time with.

"These are people that would, in our judgement — not all of them but some of them — have the potential and capacity to come back here and cause a mass casualty event,"

Mr Dutton told 2GB.

"So, I don't think it should come as a surprise when we say we're not going to send our soldiers to rescue people of this nature."

Twenty Australian women and more than 40 children are trapped in the squalid al-Hawl camp in northern Syria after family members were killed or jailed after fighting alongside the Islamic State terror group.

Some of the women claim they were tricked into going to Syria and have pleaded with the Federal Government to rescue them and their children from the camp.

But Mr Dutton said that was not the advice he had received.

"The advice in relation to some of these women is far from being dragged there by their husband or boyfriend," Mr Dutton said.

"They've gone willingly and or they are as hardcore as some of the male terrorists they've seen in Syria and Iraq."

Mr Dutton's statement comes as [Turkey mounts a military offensive into the region just north of the camp after US troops withdrew](#).

Prime Minister Scott Morrison said Australia was "deeply concerned" by Turkey's actions and warned it could lead to a resurgence of the Islamic State group.

He said he had been in direct contact with the US this morning and that Australia was also speaking to the Turkish Government.

Space to play or pause, M to mute, left and right arrows to seek, up and down arrows for volume.

"We are also very concerned about what this could potentially mean for the Kurdish people, we're concerned at what this could mean for the potential for the resurgence of Daesh (Islamic State)," he said.

While the Federal Government has made it clear most women and children would not be rescued, Mr Dutton said there was not a blanket ban on their return to Australia.

"We will look into individual cases and in some cases it might make sense for us to intervene, but in the majority of cases I think most people realise if you go into a warzone and take kids into a warzone ... you've made a decision to destroy the lives of your children and that's something you'll have to live with," he said.

The Home Affairs Department has confirmed at least 17 dual-nationals who fled Australia to join IS have been stripped of their citizenship, but they declined to identify all the individuals affected.

It is also unclear how many of the 20 Australian women living in the al-Hawl refugee camp have had their passports cancelled.

However, according to Mr Morrison, the children of these women would not have their citizenship revoked.

"My advice is that the citizenship of children of those for whom their citizenship is cancelled ... is unaffected," he said.

Muslims across Europe face 'new kind of terror' rooted in white supremacist ideology

Source: <https://www.thenational.ae/world/europe/muslims-across-europe-face-new-kind-of-terror-rooted-in-white-supremacist-ideology-report-1.921508>

Oct 09 – Anti-immigrant and anti-Muslim resentment have fused and hardened in Europe, the 2018 European Islamophobia Report has said



In Europe the Muslim community is facing a “new kind of terror” which is rooted in anti-Muslim racism and white supremacist ideology, a report funded in part by the EU has said.

According to the [European Islamophobia Report](#), nationalist, populist and far-right movements have increased their influence across the European continent and, where they have achieved power, they have undermined the rights of minorities in general, singling out Muslims in particular.



The policies and rhetoric of governments, of the kinds seen in 2018 in Italy, Austria, Hungary and Poland, has eventually led to violence against Muslims, the report outlines.

“Finally, the xenophobic and anti-Islam climate fostered by far-right governments paves the way for physical and terror attacks against Muslims or people who might be taken to be Muslim,” it said.

A publication of SETA | FOUNDATION FOR POLITICAL, ECONOMIC AND SOCIAL RESEARCH – Ankara, Turkey 2019.

Even where they have not come into power, as is the case in the majority of European countries, far-right movements have imposed what the report describes as a “**nativist ideology**” coupled with an “Islamophobia agenda” on national debate. This leads to Islamophobia entering the mainstream.

“Centrist parties do not manage to counter far-right discourse and often even fall into their trap by adopting their xenophobic approaches on security, immigration, and diversity issues,” the report said.

The individual country reports gathered by the initiative paint a stark picture. **In Austria Islamophobic incidents rose by 74 per cent over the course of 2018**, with the government

policy towards politically organised Islamic groups reportedly legitimising anti-Islamist sentiment.

In France, the report described how counter terror policy had led to the militarisation of the police. The counter terror policy in general in the country, the report said, was “jeopardising the fundamental rights” of Muslims in France.

In Italy the report observed the country was becoming “increasingly intolerant towards Muslims and migrants” as instances of hate speech on social media nearly triple from 2017 to 2018.

The report, also looked at the complicated way far-right and Islamophobia had morphed online as well as the instances of Islamophobic terror attacks and extremely violent attacks targeting Muslims.

These included the attack of three Arab students by over ten men at the Katowice Central Rail Station in **Poland** and the attack in the **UK** on the Al-Majlis Al-Hussain Islamic Centre in September when three worshippers were injured by a car deliberately driven into pedestrians.

Ultimately the report said there was an “urgent need to counter anti-Muslim racism”. It called on the European Parliament to adopt a resolution on combating Islamophobia recommending a similar strategy to the one that had been used to combat anti-Semitism.

It added that right wing extremism needed to be tackled with more focus from security agencies as well as better communication between authorities and Europe’s Muslim communities.



18 Years After 9/11, Why Is Guantánamo Still Open?

Source: <http://www.homelandsecuritynewswire.com/dr20191009-18-years-after-9-11-why-is-guant-namo-still-open>

Oct 09 – Andrew Boyle writes in [Just Security](#) that on the 18th anniversary of 9/11, he was sitting in Guantánamo Bay observing pre-trial hearings in the case against some of those alleged to have conspired in carrying out the devastating attacks. Sitting with him were other observers

representing various organizations, a handful of journalists, and a group of victims’ family members, some wearing pins showing their deceased loved ones. “We had all arrived a few days before on a charter flight from Andrews Air Force Base,” he writes. “The day after we



C²BRNE DIARY – October 2019

landed, the world [learned](#) that President Donald Trump had canceled a planned meeting with the Taliban at Camp David that would have coincided with the anniversary of the attacks, a jarring juxtaposition.”

Boyle adds:

That a child born on that day the planes hit would by now have gained the right to vote, but there has yet to be a trial of the alleged attackers, serves to highlight how painfully slow the process at Guantánamo is proceeding. It also serves as a reminder that the U.S. has yet to solve the problem that is Guantánamo. Trump, on the campaign trail, vowed to keep the Guantánamo Bay detention facility open and to “load it up with some bad dudes.” Instead, it remains in his—and the nation’s—interest to close it.

In the courtroom on September 11th, on the other side of the sound-proof glass from where I sat, were two of the five defendants in the case: Khalid Sheikh Mohammed, the alleged planner of the attacks, and his nephew, Ammar al-Baluchi. The other three defendants in the case—Walid bin Attash, Ramzi bin al-Shibh, and Mustafa al-Hawsawi—had appeared in court earlier that week but chose not to that day. Providing adequate medical care for these and other detainees as the years drag on with no release or transfer in sight has required the government to [contemplate](#) significant new and costly investments in the Guantánamo detention facilities for an aging inmate population.



If he wants to upstage his predecessor, Trump should take the necessary steps to close down the detention facility there. In the meantime, as long as the proceedings in the 9/11 case continue under [the newly appointed judge in the case, Air Force Col. Shane] Cohen, it's clear he takes his responsibilities seriously. He opened the September 11 hearing by stating:

In this particular case, not only have I been asked to [ensure] a fair trial, but to sit in judgment in many instances of my own country and its actions. I get the weight of that decision. I get the weight of the impact of the decision that I'm making. Never underestimate the weight that I feel each and every day with the decisions that I make that impact the lives of people all over the world.

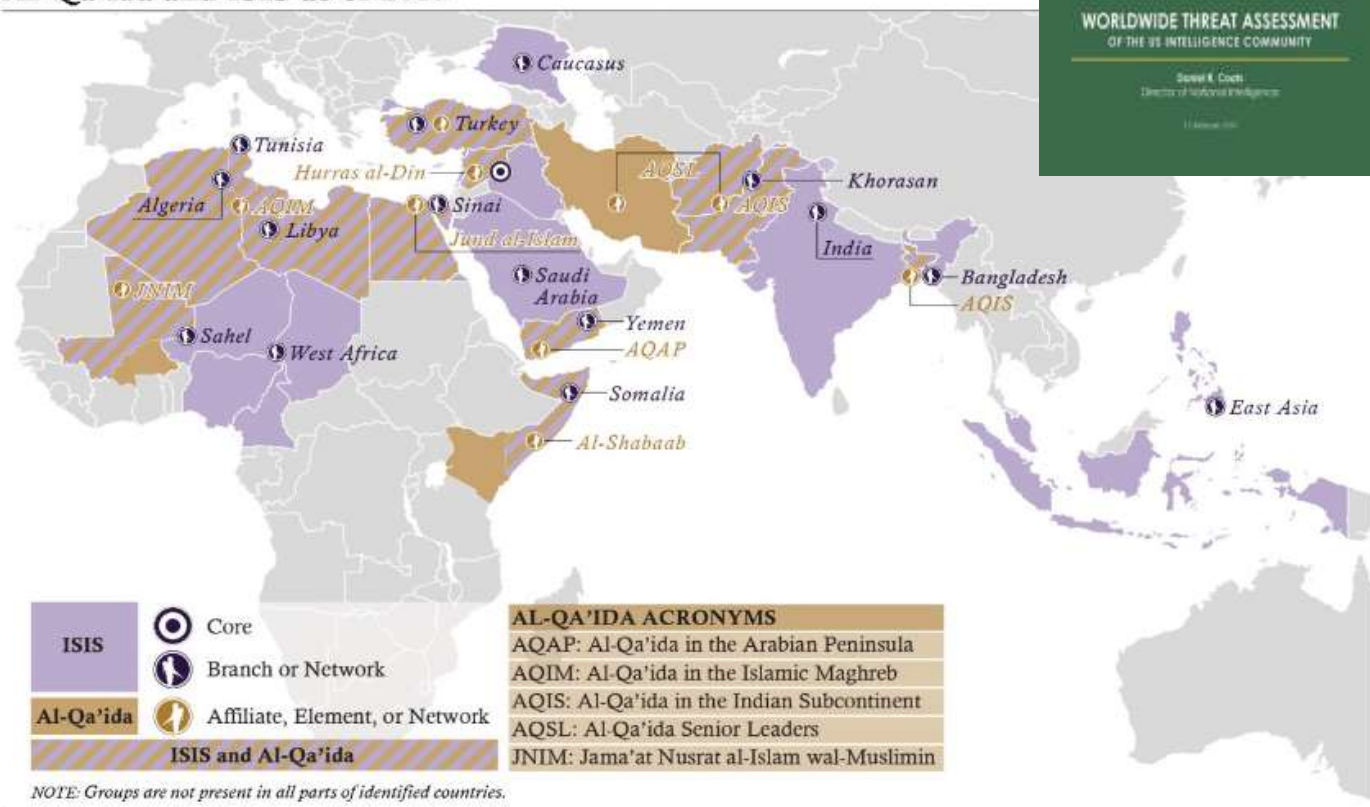
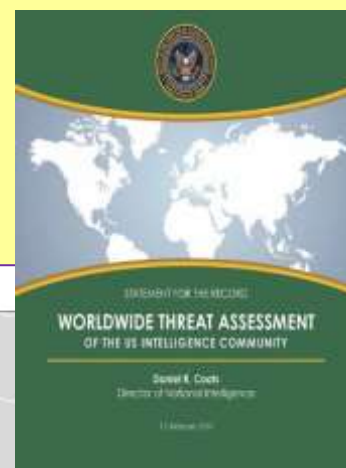


2019 Worldwide threat assessment of the US intelligence community

Source: <http://www.rieas.gr/images/trasatlantic/drcoatsdni19.pdf>

The Office of Director of National Intelligence (ODNI) released its annual "Worldwide Threat Assessment" today. The written statement accompanied oral testimony given by Director Daniel

Al-Qa'ida and ISIS as of 2018



Coats to the Senate Select Committee on Intelligence. The ODNI warns that both the Islamic State and al Qaeda maintain global

Biotechnology

Rapid advances in biotechnology, including gene editing, synthetic biology, and neuroscience, are likely to present new economic, military, ethical, and regulatory challenges worldwide as governments struggle to keep pace. These technologies hold great promise for advances in precision medicine, agriculture, and manufacturing, but they also introduce risks, such as the potential for adversaries to develop novel biological warfare agents, threaten food security, and enhance or degrade human performance.

networks that are far from defeated. **The Islamic State still has “thousands” of fighters in Iraq and Syria alone, contradicting claims by President Trump and other administration officials that the so-called caliphate has been defeated.**



Dubai Ambulance Service Adds Corvette, GT-R To Fleet

Source: <https://www.motor1.com/news/375547/dubai-ambulance-corvette-gt-r/>



Oct 10 – Dubai is unlike anywhere else in the world, and not just because it's a gorgeous city bordered by desert and ocean. It's the land of amazing skyscrapers, incredible people, and lifestyles so opulent that supercars are mere daily drivers. Dubai's police force is notorious for its fleet of hypercars, but it's not the only public service to wield unexpectedly awesome support vehicles. Can you say *Corvette ambulance*? How about *GT-R ambulance*? No, we're not making this up.



Dubai Corporation for Ambulance Service recently picked up the two high-speed emergency vehicles, and what they lack in space



they make up for in speed. Obviously, the mission for these responders isn't to load patients on a stretcher and zip them to the hospital. According to a report from [GTSpirit](#), these vehicles will be highly mobile first-response machines that aim to reach critical patients **four**



to eight minutes quicker than a traditional ambulance. At least, that's what the ambulance service claims per the report. The high-profile machines will also roll through common tourist areas and be on-site at select sporting events.

Much like the ultra-rare hypercars decked out for police duty, we also suspect the ambulance service will enjoy a bit of PR with such vehicles in its fleet. That said, there are times when saving a life comes down to minutes or even seconds. If the [Corvette](#) or [GT-R](#) can reach a person having a heart attack quicker than a standard ambulance – even if it's just a single EMT with resuscitation equipment – that could be the difference between life and death.

As for looking cool while helping people and saving lives, that's just a Dubai bonus.

EDITOR'S COMMENT: I love fast cars – especially the GT-R but this is just a show off case! It would be of interest to publish the results of the operational tests they made before deciding use super cars as first response cars. Easy to do, just have a hypothetical incident in location A and two ambulances one "ordinary" and one "super" in location B. Then you measure the time required to cover the A-B distance during heavy traffic, rain and sandstorm. I am sure that the time difference will not exceed a few minutes. First responders on motorcycles or tricycles (teamed with ordinary ambulances) are still the best reliable solution for immediate medical intervention. When the GT-R will be able to fly above the traffic then it will be a good solution. It would be nice response planners to propose based on reality and not publicity. Even in Dubai the sky still has certain limits...

A Crack in the Armor: Military Health System Isn't Ready for Battlefield Injuries

By Steve Sternberg

Source: <https://www.usnews.com/news/national-news/articles/2019-10-10/military-health-system-isnt-ready-for-battlefield-injuries>

Oct 10 – Surgical readiness in the Military Health Service is fraying fast. A nine-month U.S. News investigation has uncovered mounting evidence that military medical leaders are squandering a valuable wartime asset: the surgeons and surgical teams that save lives on the battlefield and back home.

The investigation is the latest chapter in a continuing U.S. News probe of military [health care](#). Interviews with more than two dozen active-duty and retired military surgeons and a confidential survey of Army surgeons and Pentagon records obtained by U.S. News have found:

- Severe shortages of skilled surgeons, especially trauma surgeons, on active duty and in the reserves.
- Army field hospitals that "are not staffed with appropriate specialty capabilities for a combat theater."
- An active-duty patient population that rarely needs surgery, with the end result that in the majority of the nation's 48 military hospitals, surgeons struggle to practice their craft. Many moonlight in civilian hospitals to keep their skills from eroding.
- Lengthening deployments that keep surgeons out of the operating room for months at a time, sapping hard-earned and highly perishable surgical skills.

The documents reveal that members of the military's Joint Trauma System and other military medical leaders repeatedly warned Pentagon officials, including former Surgeon General Nadja West, about the crisis in surgical care. West could not be reached for comment.

West retired in December according to the Army and her deputy, Maj. Gen. R. [Scott Dingle](#), was appointed in July to replace her. The Senate confirmed his appointment in September. Unlike previous surgeons general, Dingle is an administrator with no medical degree or



clinical experience. He is out on emergency family leave and could not be reached for comment, Army public affairs officer Maura Fitch said.

Each year, the Military Health System invests \$50 billion annually in a network of hospitals and clinics to serve the routine health care needs of healthy, young, active-duty personnel, their families and some retirees.

The military justifies the expense of funding the MHS by asserting it provides a training ground for military health personnel to hone their skills until they're needed on the battlefield.

The U.S. News investigation indicates that the reality is often the opposite of what is intended: military hospitals sap surgeons' skills because most surgeons spend so little time in the operating room.

Civilian surgeons at busy medical centers may perform as many as 500 operations per year; military surgeons perform one fifth of that number, and, in many cases, even fewer, according to published studies of surgeons' case logs.

The situation is so dire that many surgeons view the military hospitals where they're assigned as a form of confinement where they watch their training – which costs taxpayers approximately \$500,000 per surgeon – atrophy. [Deployments](#), months spent in austere conditions often doing little or no surgery, are even worse.

Congress has accepted the Pentagon's assurances that military hospitals can keep surgeons' skills fresh. House Armed Services Committee staff, briefed on the U.S. News findings, did not respond to a U.S. News request to interview the group's chairman, Rep. Adam Smith (D-Wash), or other committee members. Smith did not respond to a request for an interview conveyed to him via his Twitter account.

Surgeons and other trauma care specialists are among the harshest critics of the current system and its failure to ensure that military medical teams are prepared to care for wounded warriors. A military that is ill-prepared and ill-equipped to perform surgery, they say, can't fulfill its solemn promise to provide life- and limb-saving care to those who are injured serving their country.

So many Army surgeons have become disenchanted with their military careers that "a surgeon insurgency is building," one says in an email obtained by U.S. News. To gather information firsthand, U.S. News reached out confidentially to approximately 140 U.S. Army surgeons.

Almost two dozen responded, providing detailed information on their surgical caseloads and experiences. The respondents answered a set of standard questions and most agreed to be interviewed. They spoke to U.S. News on condition of anonymity, asking that their identities be withheld to guard against retaliation from superiors.

In frank comments, surgeons shared serious concerns about the state of military surgery, about the complacency of commanders, and about the lack of awareness among young combatants who believe that, if they're wounded, they'll be well cared for.

"Parents who send their kids to war should be worried about the care they'll get if they're wounded," says one Army surgeon who has cared for scores of injured combatants. "I would be."

"These 20-year-old kids think they're getting top-notch care," says another. "They're not. And it's nobody's fault but the Army's."

The Surgeon Pipeline Is Running Dry

The U.S. military fields 1.3 million active duty troops, with another 865,000 in reserve. Surgeons, and the teams they lead, are combatants' best hope of surviving catastrophic injuries.

Combat casualty care depends on expert surgery performed hundreds of miles from sterile, high-tech operating rooms. Military surgeons operate in small teams under challenging conditions, often in tents or hovels without running water or bright light.

Skilled surgeons are essential for high-quality trauma care. They can definitively treat severe injuries – stop the bleeding, cut away damaged or infected tissue, extract bullets or bomb fragments, manage complex wounds and debride burns, especially in such critical areas as the head, neck and torso. Military surgeons are famed for improvising new procedures in challenging settings that revolutionize civilian medicine.



To achieve those gains, the military needs a reliable pipeline of skilled surgeons, technicians and nurses. But, in the all-volunteer military, surgeons are in short supply – and caught in a tug of war between military hospitals that need their services stateside and combat commanders who need them to care for troops who fight wars.

Vice Admiral Raquel Bono, who retired in August as director of the Defense Health Agency, which governs military hospitals, told U.S. News that the military's surgical crisis is exacerbated by a private-sector surgeon shortage that will make it difficult, if not impossible, to fill gaps by recruiting civilian surgeons. "We're very much a microcosm of what's happening in the rest of the health sector in the United States," Bono says.

"These 20-year-old kids think they're getting top-notch care. They're not. And it's nobody's fault but the Army's."

It has also proven difficult to entice qualified applications to enlist and train at the military's medical school, the Uniformed Services University of the Health Sciences, despite the rich rewards of enlistment, which include free medical school tuition while earning a modest military salary; specialty training either in a military or civilian hospital; and the promise of a generous pension.

At latest count, of the 45,000 members of the Army's medical force, just two dozen are trauma surgeons, some of whom are eligible to retire in the coming months, according to the latest count by the Army's surgical consultant to the surgeon general, Department of Defense sources said. There are fewer than 150 general surgeons, only 75 of whom are available for deployment.

In an effort to bolster the ranks, the Army has shunted 23 general surgeons into trauma-training fellowships at Brooke Army Medical Center, the military's level one trauma center, and other hospitals, including University of Texas Health Sciences Center, Vanderbilt School of Medicine, University of Minnesota Medical School and the University of California, San Diego, Medical School.

When they complete their training, a handful will likely be assigned to Brooke, where they will continue to perform trauma surgery. Many others will be assigned to combat units, where they will do very little surgery, says a battle-tested surgeon, who asked that his identity be withheld to avoid retribution from superiors. Wherever they land, he says, "They're all going to be young and inexperienced."

There will also most likely be a shortage of senior surgeons to guide them, according to data published last year in the Journal of the American College of Surgery. By the end of the year, the active-duty military is likely to lose half the current corps of senior surgeons to retirement and separation of service. Surgeons say their number one reason for leaving the military is their "loss of operative skills" and their concern that they won't be able to maintain their "surgical competence," the authors note.

In the Journal of the American College of Surgery. Surgeons say their number one reason for leaving the military is their "loss of operative skills" and their concern that they won't be able to maintain their "surgical competence," the authors note.

Bono, recently retired from DHA, acknowledged that the surgeons' criticisms are valid. "I share the concerns the surgeons have shared with you," Bono says. "In their current configuration, military treatment facilities don't lend themselves...to giving surgeons the volume, diversity and breadth (of experience) that surgeons are looking for."

The shrinking pool of surgeons means that those that remain will shoulder a heavy deployment load. At any given time, half of all Army surgeons are deployed, says Dr. Matthew Martin, a trauma surgeon at Scripps Mercy Hospital in San Diego. Martin retired from the Army in October 2018 after a decade as medical director and chief of surgical research at Madigan Army Medical Center near Tacoma, Washington.

"There are fewer than 100 deployable surgeons in the Army now, and we have (fewer than) 50 deployment slots," he says. "That's a higher deployment pace than at the peak of the wars in Afghanistan and Iraq."

All three ranking surgeons in the military's Joint Trauma System have become so concerned with the Army's failure to address the surgeon shortage that they documented their assessment in a "memorandum of record" obtained by U.S. News.

"There are currently not enough general or trauma surgeons in the U.S. Army to support global contingency missions," according to the memo signed in June 2018 by Army Col. Jennifer M. Gurney, Air Force Col. Stacy A. Shackelford and Navy Capt. Zsolt T. Stockinger.

Why don't more surgeons leap at the opportunity to obtain a no-cost medical education and repay their debt by serving their country? Col. Jason Hiles, MD, general surgery consultant to the Army Surgeon General, offered this explanation in a Feb. 19, 2019 update on coming changes to Army surgery for his fellow surgeons:

"I cannot get a single [surgeon] to assist recruitment command in recruiting general surgeons. Nor can I make myself do it," Hiles wrote in the memo obtained by U.S. News. "How can you recruit people to *not* operate and deploy where they will *not* operate?"

"Surgeons who have operative experiences," he continued, are "rare as unicorns."

Hiles did not respond to requests for comment.

The surgeon shortage has already manifested during wartime.

During Operation Iraqi Freedom, U.S. Army Gen. Peter Chiarelli found himself waging a separate and unexpected battle to stop the Army from recalling one of two U.S. neurosurgeons in Iraq. It was July 2004, and the battle for Sadr City was raging.



C²BRNE DIARY – October 2019

Chiarelli's men were suffering devastating head injuries from the enemy's latest weapon of choice, improvised explosive devices. Soldiers with traumatic brain injuries need expert care that only neurosurgeons can provide. But the Army had other priorities.

"I went crazy," says Chiarelli, now retired from the military and an adviser to the George W. Bush Presidential Center. "I fought to keep two neurosurgeons there. The day I left the country, they went down to one. That's when I realized we had a problem." Without another neurosurgeon, Chiarelli says, more men would die or risk suffering lasting brain damage.

Surgeon Shortage Grows as Threat of Conflict Rises

The erosion in military surgery comes at a perilous moment. Turkish forces, on Wednesday, attacked Kurdish troops. Tensions with Iran, Russia, China and North Korea are rising. The NATO Alliance is under unprecedented stress. Provocations like the recent drone strike on the Saudi oil field and missile attacks on tankers in the Gulf of Oman in June could quickly flare up into conflict and, then, conflagration. Sri Lanka's Easter church bombings, and countless other incidents, demonstrate that the war on terrorism is anything but won.

"Conflict with one of the great powers, Russia or China, would produce lots of casualties. Near their homelands they can challenge us quite severely," says Col. (Ret.) Mark F. Cancian, a 37-year Marine Corps veteran and national security adviser at the Center for Strategic and International Studies in Washington, D.C. "North Korea is also clearly very dangerous; (and) it would be very easy to imagine some incident sparking a confrontation with Iran."

Military planners say these conflicts could be far more savage than those experienced during the wars in Iraq and Afghanistan. They will likely also be fought on much more challenging terrain.



"The next battlefield is going to be unlike anything we've seen in the past 18 years," says Michael Heimall, a former Army officer who served as director of the Walter Reed National Military Medical Center in Bethesda, Md., from 2015 to 2017. "We've had the real luxury of taking the capabilities of places like Walter Reed and Landstuhl (Regional Medical Center in Germany) into large bases in Iraq and Afghanistan. We've brought the modern medical center to the battlefield.

"Because of air superiority, we've had the ability to fly wherever we want, whenever we want, to move people around rapidly on the battlefield and also out of theater," Heimall says. "A critically wounded patient could leave the battlefield and be back at Walter Reed Medical Center in 96 hours or less sometimes."

"We likely won't have that luxury on a battlefield in Eastern Europe, the Balkans, Africa, or the Pacific Rim, when near-peer competitors [such as China and Russia] are involved," he says.



With unrest escalating worldwide, experts say, the U.S. Military Health System must be ready to deal with the carnage that is likely to occur in even a limited conflict. The improvised explosive devices that were the terrorist's weapon-of-choice in Afghanistan and Iraq may cause catastrophic injuries, but their range is limited, affecting only those within the blast radius.

In contrast, high-tech weapons such as the thermobaric bombs deployed by Russia in Syria – which use oxygen as fuel and ignite the atmosphere – can devastate hundreds or thousands. A nuclear conflict with North Korea or Iran would produce unimaginable suffering and destruction, Cancian says.

"We're facing a level of threat and casualty generation that's orders of magnitude greater than anything the military dealt with in Iraq and Afghanistan," says one leading Pentagon expert, who, like most active-duty and Department of Defense personnel, agreed to speak on condition of anonymity.

Surgery as a Weapon of War

America's allies, including the NATO member nations, depend on the U.S. for a range of medical services essential for any military exercise, from providing medical infrastructure to evacuating and hospitalizing wounded combatants.



"Over 50% of the medical support for most NATO missions is provided by the U.S.," says Maj. Gen. Jean-Robert Bernier, M.D., who retired from the Royal Canadian Medical Service last year after chairing the NATO committee of chiefs of military medical services.

Knowing they'll receive world class care if they're injured is a critical morale builder for the troops, Bernier says.

"Any military leader who has been in combat knows that [the promise of prompt and high-quality medical care] has a massive impact on the morale of troops and their willingness to fight and take risks in combat," says Bernier, speaking on his own behalf and not that of the Canadian military or NATO.

Combatants might be less inclined to wade into the fight if they were aware of the surgeons' concerns about their

own lack of readiness and atrophying skills.

"I could definitely use refresher training in trauma," one surgeon responded to the U.S. News survey. "It has now been eight years since I have really seen any volume of trauma patients. It is a skill-set that needs to be maintained."

Some surgeons fear that they do so little surgery that they will be unemployable when their service obligation ends.

To the question, "Do you feel that you can maintain your skill set on active duty when you're not deployed?" one surgeon answered: "No. I only do one to three basic general surgery cases a week."

Asked, "Do you believe your surgical volumes will affect your ability to obtain civilian employment when you separate from service?" the surgeon responded, "Yes. As of now there's no way I could be employed outside the Army."

Combatants at Risk from Their Surgeons

The surgeon shortage also has profound implications for the way care is provided in conflict zones, by forcing the military to fill vacancies in Army Field Hospitals with OB-GYNs and other specialists with little training in combat trauma care.

Those vacancies have become all the more common, because the military now routinely deploys small teams of doctors, nurses and other personnel with special operations forces



working in remote regions. The goal is to get wounded personnel into a surgeon's hands within an hour – the so-called "Golden Hour" – to improve survival.

In large conflicts, the military assembles modular 250-bed combat support hospitals near enough to the fighting to receive casualties from medics close to the front.

But as the nature of warfare changed, from clashing armies to targeted Special Forces engagements, the hospital units have been downsized as well, some of them to just 32 beds.

Standard 20-person forward surgical teams, with three or four surgeons, plus assorted anesthetists, nurses and operating-room technicians, have likewise been pared down. A typical configuration is a 32-bed field hospital staffed with four surgeons and an anesthetist.

Typically, two doctors are general surgeons and one is an orthopedic surgeon. Much to the trauma surgeons' chagrin, the team's fourth member can be an OB-GYN, capable of delivering babies and managing bleeding but ill-trained to save lives or salvage limbs. "No OB-GYN takes trauma call at a level I trauma center. That's not what they do for a living," says Dr. John Holcomb, director of the Memorial Hermann Texas Trauma Institute and former head of the U.S. Army Institute for Surgical Research. "Why is that okay on the battlefield?"

The surgeons leading the Joint Trauma Command contend that the Army Field Hospital staffing guidelines are ill-conceived. In 2016, they issued a formal Position Statement on the Specialty Capability of the Army Field Hospital.

"While OB-GYNs have a role in deployed field hospitals (primary care, female health)," the statement says, "it is not primarily in the management of combat injured requiring surgical care."

Orthopedic surgeons, in contrast, are "mission critical," the surgeons say, and they back their assertion with data. Between 2002 and 2014, surgeons performed 25,218 orthopedic procedures – including 8,347 amputations – at forward surgical facilities. More than 82% of casualties returning from Afghanistan and Iraq had an orthopedic injury.

"Here's the game they play," says one high-ranking Army combat care specialist. "A gynecologist counts as half a surgeon. Put two gynecologists together, and, in Army math, that makes a trauma surgeon. Who do you want operating on you when your spleen is broken – one surgeon or two gynecologists?"

Such substitutions are routine, says Martin, formerly of Madigan medical center. "They have to fill those slots, so they put other specialties in," he says. "It's a paper game."

In fast-moving special operations missions, forward surgical units are subdivided even more, to four- or five-person "austere surgical teams" made up of a surgeon, an anesthetist (often a trained, certified registered nurse), an OR nurse and another nurse or medic. It takes a certain kind of surgeon to operate out of a backpack, solo. Experts say these surgeons should be highly experienced and accustomed to working in challenging settings. "We take young graduates just out of training and they get the far-forward deployments," says the combat trauma care specialist. "They put you in a dugout with half the people and half the backup."

Military surgical leaders have also warned that downsized forward surgical teams often pair out-of-practice older surgeons with newly trained younger surgeons in situations where they may be required to juggle several soldiers with catastrophic injuries at once, without sufficient support.

In one [published case report](#), an Army surgeon offers his own experience as a tragic lesson in what can go wrong. The surgeon had been assigned to a Forward Surgical Team a two-hour drive south of Baghdad with one other surgeon. Suddenly they found themselves caring for four soldiers with catastrophic wounds caused by an improvised explosive device.

"So here I am, three years out of residency, used to taking calls two to four times a month at a relatively slow, level II trauma center," the surgeon said. "In that time, I had performed maybe four or five blunt-trauma related operations...and only a few penetrating trauma cases from Afghanistan. Now I had to simultaneously care for four wounded, multi-system trauma patients with one other surgeon, who was less than a year out of residency."

Not realizing that the soldiers could have been transferred to a bigger hospital 17 minutes away by air for more definitive care, the surgeons did their best to repair the damage, according to the account in a 2016 report on "Essential Medical Capabilities and Medical Readiness" by the Institute for Defense Analysis.

Their decision, the surgeon says, cost precious time – and one patient a leg. Had the surgeons responded differently, amputation might have been avoided.

"We could have simply applied secure tourniquets to this guy, resuscitated him, and sent him on his way."

Steve Sternberg is the Assistant Managing Editor for Health Initiatives and an architect of the Healthiest Communities initiative, a population health assessment of roughly 3,000 U.S. counties. His most recent investigative projects focused on [unsafe surgery in U.S. military hospitals](#) worldwide, the dangers of [doctor burnout](#), and preventable deaths among children



undergoing complex congenital heart surgery in children's hospitals. He joined U.S. News & World Report in 2011 as the deputy health rankings editor, supporting the Best Hospitals and Best Children's Hospitals rankings. Previously, he was an investigative reporter and medical writer at USAToday from 1998 to 2011; he has also covered health and medicine at the Atlanta Journal-Constitution and the Miami Herald, and his work has appeared in The Washington Post, Mother Jones, Medical Economics, Science, The Scientist, Bioworld Today and other publications. Sternberg is a 2015 recipient of an Association of Health Care Journalist's Award for Excellence in Health Care Journalism, the Dag Hammarskjold Award for Human Rights Journalism, the American Heart Association's Howard L. Lewis Achievement Award, the National Headliner award, the Penney-Missouri award, the Global Health Council Media Award, the Kaiser Family Foundation Media Fellowship award and the John S. Knight Professional Journalism Fellowship at Stanford University, where he studied health policy and genetics in 1992. He appears as a moderator and panelist at health and journalism conferences around the U.S. A graduate of Ithaca College, he earned his masters in science writing from Johns Hopkins University.

After mass shootings, California sets new limits on gun buyers and expands firearm seizure

Source: <https://www.latimes.com/california/story/2019-10-11/california-approves-gun-control-red-flag-laws>



Oct 11 – After a string of mass shootings across the country this year, Gov. Gavin Newsom on Friday toughened California's already strict gun control laws, signing a raft of bills that broadly expand the state's "red flag" law and limit the purchase of semiautomatic rifles by individuals to one per month.

Newsom, who was elected last year on a campaign that [promised strict limits on firearms](#), signed 15 bills passed in response to recent mass shootings.

"This continues California's leadership in terms of gun safety," Newsom said at a state Capitol bill-signing ceremony.

"Gun violence is an epidemic in this country, one that's been inflamed by the inaction of politicians in Washington," Newsom added.

The measure restricting purchases, Senate Bill 61, prohibits Californians from buying more than one semiautomatic rifle per month and is one of two-gun bills by state Sen. Anthony Portantino (D-La Cañada Flintridge). It also bans the sale of semiautomatic centerfire rifles to people younger than 21, removing a provision of the law that allowed younger people to buy such guns if they have a hunting license.

"Our efforts to keep high-capacity weapons out of the hands of teenagers, continuing to close loopholes in law, and working with the DOJ and governor's office this past year on this slate of bills is important and appropriate work that will continue to make our communities safer," Portantino said Friday.

The restrictions on gun buying were opposed by groups representing gun owners, including the National Rifle Assn. and its state affiliate, the California Rifle and Pistol Assn.

"This bill places burdens on law-abiding residents," said Amy Hunter, a spokeswoman for the NRA, about SB 61. "It will not make anyone safer."

Another Portantino measure signed by Newsom **reduces the number of firearms an unlicensed individual is able to sell**

each year and the frequency with which they are able to sell.

"It is my hope that these bills can prevent a future horrendous violent situation," Portantino said.

Newsom's action comes just days after a new poll found that **68% of Californians say laws covering the sale of guns should be stricter.**

The poll, released Oct. 2 by the nonpartisan Public Policy Institute of California, found that 38% of state residents said they are very concerned about the threat of a mass shooting in their area, up from 28% who had the same fear in a PPIC poll two years ago.

Republican legislators opposed the one-gun-a-month bill and criticized the state for failing to remove guns from the hands of thousands of felons and people judged by the court to be severely mentally ill as it is already empowered to do.

"Instead we continue to do more and more legislation that interferes with the law-abiding citizen's right to own and possess firearms, which is their constitutional right to do," said Assemblyman James Gallagher (R-Yuba City).

The measure eliminating an exemption to the rifle-purchase ban for those under 21 who have hunting licenses was proposed after law enforcement discovered that the 19-year-old accused of [opening fire at a synagogue in Poway](#) had applied for a hunting license.

However, the license wasn't valid at the time of the April shooting, which left one person dead and three injured.

A mass shooting that left 17 dead at a [high school in Parkland, Fla.](#), in 2018 was cited by lawmakers who approved legislation to expand "red flag" laws that allow people to petition the courts to remove guns from persons judged a danger to themselves or others.

The law currently allows law enforcement and family members of troubled individuals



to ask the courts to issue a “gun-violence restraining order” that takes away their firearms, but the measure signed Friday by Newsom adds teachers, school administrators, employers and co-workers to the list of those who may petition the courts to remove guns.

Assemblyman Phil Ting (D-San Francisco) introduced the bill after school officials said they had raised concerns about the behavior of the Parkland shooting suspect before the rampage in February 2018.

“Thoughts and prayers are no longer enough,” Ting said Friday. “With school and workplace shootings on the rise, it’s common sense to give the people we see every day the power to intervene and prevent tragedies.”

Most of the laws signed by the governor take effect Jan. 1, but Ting’s bill expanding gun-violence restraining orders becomes effective Sept. 1, 2020. Then-Gov. Jerry Brown vetoed a similar measure last year, saying school employees and workers can work through family members or law enforcement if a restraining order is needed.

“I think law enforcement professionals and those closest to a family member are best situated to make these especially consequential decisions,” Brown wrote in his veto message. Newsom said he was not familiar with his predecessor’s rationale but said that the expansion is justified and that other states and perhaps Congress will consider following California’s lead.

“What’s important is that this is another tool in the tool kit for those that know individuals the most,” Newsom told reporters. “There is a judicial process so there is due process.”

Newsom, who led the 2016 campaign that won voter approval of the gun control initiative Proposition 63, had signaled for months that he wanted to expand the state’s red-flag law.

Another measure signed by the governor extends the length of gun-violence restraining orders from one to five years.

Despite gun laws that are the strictest in the nation, California has seen its share of mass shootings, including one July 28

at the [Gilroy Garlic Festival](#) that left three people dead and 17 injured.

Within days of the Gilroy shooting, a gunman killed 22 people at a Walmart in El Paso and another man gunned down nine people outside a nightclub in Dayton, Ohio.

Newsom has reacted angrily to the carnage and demanded that Congress adopt national gun safety measures.

“I have no problem with the 2nd Amendment — you have a right to bear arms, but not weapons of goddamned mass destruction,” Newsom told reporters during a visit to the Santa Clara Valley Medical Center after the Gilroy shooting.

Portantino and Newsom criticized the U.S. Congress on Friday for failing to take action of its own on gun violence.

“I am very pleased that California continues to lead the nation on gun control but saddened that, despite tragedy after tragedy, Washington remains incapable of acting on a national level in the best interests of all our communities,” Portantino said.

Other bills signed Friday by Newsom will:

- Allow those subjects to a gun-violence restraining order to submit a form to the court voluntarily relinquishing their firearm rights
- **Require firearm packaging to contain a warning statement on suicide prevention**
- Mandate that county sheriffs who issue licenses for concealed weapons charge a fee covering the cost of vetting the applicant, thus eliminating the current \$100 cap on fees
- Prohibit gun shows at the Del Mar Fairgrounds in San Diego County
- Require, starting in 2024, that the sale of components used to build a firearm — often used to build untraceable “ghost guns” — be carried out through a licensed vendor.

EDITOR’S COMMENT: “...prohibits Californians from buying more than one semiautomatic rifle per month ...”; “...bans the sale of semiautomatic centerfire rifles to people younger than 21 ...”; “...reduces the number of firearms an unlicensed individual is able to sell each year and the frequency with which they are able to sell.” Poll: 68% of Californians say laws covering the sale of guns should be stricter. Please define “stricter” because English is not my mother tongue! And all these “improvements” AFTER mass shootings – NEVER PRO-ACTIVE!

German Synagogue Attacker Used Homemade 3D-Printed Plastic Gun

Source: <http://www.homelandsecuritynewswire.com/dr20191010-german-synagogue-attacker-used-homemade-3dprinted-plastic-gun>

Oct 10 – Experts say that the fact that the neo-Nazi who attacked a synagogue in Germany used a 3D-printed gun should serve as a warning to security services, experts have said.

Stephan Balliet used only one plastic gun in his attack in the city of Halle, which left two people dead, but had manufactured several more, according to documents seen by [The Independent](#).



C²BRNE DIARY – October 2019

The 27-year-old Balliet livestreamed his attack the way the Christchurch, New Zealand shooter did, and posted three documents online in which he outlined his extreme-right, antisemitic, and racist ideology.

Researchers at the [International Center for the Study of Radicalization](#) (ICSR), based at King's College London, uncovered scores of files showing that **Balliet had been making printed plastic weapons even before Brenton Tarrant killed more than 50 Muslims in New Zealand.**

The files were posted on an obscure "chan" imageboard.

Minutes before the attack, Balliet posted a message which said: "For all of you, who live in no fun countries [with restrictive gun laws] this may be of interest."

"All you need is a weekend worth of time and \$50 for the materials."

He wrote that he was about to start "live testing" before posting a link to the Twitch livestream that showed him carrying out the shooting.

The post was made at 11.57am on Wednesday, minutes before the attack on the synagogue.

The *Independent* [notes](#) that the downloaded folder contained the three documents that were shared widely online in the immediate aftermath of the shooting, but there was also a photo of Balliet and more folders containing detailed instructions on how to make homemade weapons.

It contained numerous files that could be run through a 3D printer to make the same firearms, as well as ammunition.

Balliet listed his primary objective as "proving the viability of improvised weapons," although footage of the attack showed them jamming and failing multiple times.

ICSR research fellow Blyth Crawford said the documents claimed Balliet had been making his own guns for "years."

She told *The Independent* the possibility of other terrorists using 3D printed weapons "needs to be responded to" by authorities.

"Designs for [one of Balliet's weapons] have been around for a long time, but it is becoming more and more inexpensive to develop them," she warned.

Rajan Basra, another ICSR research fellow, suggested there would have been a more urgent response from authorities if the attack had claimed more than two lives.

"There is a risk that because he didn't succeed in launching a mass-casualty attack, it's delaying the realization that terrorists could use 3D printed guns," he said.

"The reaction to attacks depends on the number of victims but the risk with that is that we miss longstanding trends, things that are staring us in the face."

The *Independent* also notes that the Halle shooting came only weeks after the first person was jailed for printing a 3D gun in the United Kingdom.

Tendai Muswere claimed the pistol, found during a London drugs raid, was for a prop for a university film project but was convicted for firearms offenses.

The German police said that Balliet was not known to be a security risk and had no criminal record.

Analysis of Balliet's documents shows that several of the image files showing his plastic weapons were created on 8 March, which is a week before the Christchurch attack in New Zealand.

"One line suggested the attacker had intended to create more weapons or do more attack planning but he abandoned that for reasons we can't speculate on, and decided to conduct the attack on Yom Kippur," Crawford said.

ICSR researchers said that the adoption of new technologies and platforms by young far-right extremists like Balliet, would make it impossible for his files to be completely removed from the internet.

Basra called for authorities to encourage people to report suspicious offline behavior, rather than solely using internet activity as an indicator of security risks.

"Balliet had been making weapons for a couple of years, he had been planning attacks for months," he told the *Independent*.



“He must have spoken to people; they must have suspected something. I think it would be much more effective if there was a focus on real-world behavior.”

Withdrawing from Syria: Trump Sets Cats Among Flocks of Pigeons

By Saeed Naqvi (The Milli Gazette Online)

Source: <http://www.milligazette.com/news/16816-withdrawing-from-syria-trump-sets-cats-among-flocks-of-pigeons>

Oct 13 – When Dore Gold, one of the most powerful voices in Israel’s strategic community, raises his hands, skywards, and exclaims “today I feel as vulnerable as the Kurds,” who have been abandoned by Donald Trump, one fact can be cast in stone: West Asia has changed. **A panic war cannot be ruled out.** But war with whom? Situated in a comparable circumstance, Saudi Crown Prince, Mohammad bin Salman, on his knees in Yemen and the Aramco compound, is flourishing the flag of peace at Tehran. But then who

hit the Iranian tanker outside Jeddah? These regional conflicts will not tamely wind down; they will zig-zag their way out.

The Saudi “messenger” to Tehran, happens to be Pakistan’s Prime Minister. Surely, Imran Khan will carry the peace message, but he will also unfurl his Jammu and Kashmir agenda before the Iranian leadership. This, when Narendra Modi and Xi Jinping will also be circling around that issue and addressing a host of others. It must be clear as daylight to New Delhi that Trump’s withdrawal from West



Asia is synchronizing with his “pivot to Asia,” which means expanded conflict with China. Western media’s dedicated coverage of the disturbances in Hong Kong, human rights in Xinjiang, all signal a long term Sino-US standoff. Since the days of Manmohan Singh as Prime Minister, India has been active in the “Quard” with Japan, Australia and the US. Ambiguities in the international system made it possible to play both the options – quard and bilateral relations with Beijing. But is Trump likely to be more jealous as US-China tensions rise? New Delhi will have to toss up a coin with the same image on both sides.

It is exactly 33 years ago that President Ronald Reagan and the General Secretary of the Soviet Communist Party, Mikhail Gorbachev, mooted such innovative arms control ideas at Reykjavik, Iceland, that even strategist like Henry Kissinger found them unacceptably radical. And yet, when sense sank in, the intermediate Range Nuclear Forces Treaty was signed the next year paving the way to a changed world order. Change is in air, but of a different order.

Trump has been characteristically blunt. “The United States has spent eight trillion dollars fighting in and policing the Middle East (West Asia). Thousands of our great soldiers have died or been badly wounded. Millions of people have died on the other side.”

“Going into the Middle East is the worst decision ever made in the history of our country. We went to war under a false and now disproven premise: weapons of mass destruction. There were none.” This is Trump’s rationale for “slowly and carefully bringing our great soldiers and military home”. He says his focus is on the Big Picture. “USA is now greater than ever before.” That is his line for the 2020 elections.

Trump has been making allegations against his predecessors even before. Watch his interview to Jake Tapper of the CNN on the eve of the 2016 elections. He was vehement that Obama and Hillary Clinton spent millions “in Syria which, in fact, went to terrorists”. Soon after this allegation, Obama’s Defence Secretary, Ashton Carter, told a Congressional hearing before live TV cameras that a \$500 million project to train militants had to be terminated because the “Jihadis” so trained had walked away with all the expensive equipment and joined some other group.



This was quite as mysterious as the origins of the Islamic State. The sudden establishment of the Islamic State in Mosul remains an uninvestigated whodunit. When the IS charged towards Baghdad in 2014, wielding the latest arms mounted on Humvees straight from the showroom, sources in Baghdad and Najaf were quite convinced that the IS was a US project.

What Erdogan has been offered is a poisoned chalice. This is clear as daylight in Trump's own words. The tone is of malicious glee: "Turkey, Europe, Syria, Iran, Iraq, Russia and the Kurds will now have to figure the situation out."

The recipe for the countries listed above to stew in their own juices is available possibly unknowingly even in Turkish statements. The Kurdish forces Erdogan is bombing had in their custody thousands of Islamic State detainees, many of them foreigners. State Department spokesmen are on record: "The US has pressed France, Germany and other European nations to take back captured IS fighters, but they refused." In fact, Turkish sources have amplified this statement. **Some 12,000 IS fighters are distributed over seven prisons in north-east Syria. Of these, 4,000 are "foreigners", which means neither Syrian nor Iraqi.** List of IS members and their families taken back by western countries is almost comical: France (18 children), US (16 adults and children), Germany (fewer than 10), Australia (8 children), Sweden (7 children) and Norway (5 children). It is in the nature of groups like the IS to slip through even well laid nets. How many IS fighters are lying low in Syria's north is anybody's guess. But the Kurds along the Syria-Turkey border, who kept a steady gaze on the IS will now be hopelessly distracted by the Turkish offensive. Until the other day, the US was with the Kurds. **What if these IS jihadis are let loose, say, across the border into Turkey?** Erdogan will have to cope with trouble-makers of a more lethal make than the Syrian Kurds.

Pundits like *New York Times*' Thomas Friedman see West Asia exposed to a different kind of danger as a result of the US withdrawal. Ever since the Iraq-Syria border was opened, the Iranians have an easy land bridge from Tehran, Iraq, Syria to Lebanon. Friedman's anxiety is that this "tightening of the noose around Israel" will now go unchecked because that was one of the roles the US played in the region. "This brings the Iran-Israel shadow war into the open." **By the act of pulling out, Trump has set several cats among several flocks of pigeons all over the place.**

'No Friend but the Mountains': A History of US Betrayal of the Kurds

By Brett Wilkins

Source: https://original.antiwar.com/brett_wilkins/2019/10/14/no-friend-but-the-mountains-a-history-of-us-betrayal-of-the-kurds/

Oct 15 – To be clear, what follows is not an endorsement of a continued US military presence in Syria. There is, however, a difference between President Donald Trump attempting to fulfill a campaign promise to end American involvement in wars that have cost so much in blood and treasure and giving the green light to what many fear will be the great death and destruction, even ethnic cleansing, that will accompany a Turkish invasion of Syrian Kurdistan. Trump's [announcement](#) on Sunday that the United States would step aside and allow the Turks to launch their long-desired offensive against Syria's Kurds is nothing less than the latest of many epic US betrayals of a steadfast ally, one which has stood and fought with America in conflicts for over half a century. The president's [crass dismissal](#) of his country's latest abandonment of the Kurds – "they didn't help us at Normandy," he said – pours salt in the wound of a proud, loyal people who have time and again laid down their lives in service of their own freedom – and US interests.



Fool Me Once...

Betraying the Kurds is a business that goes back to the collapse of the Ottoman Empire at the end of World War I. The victorious Allied powers occupied Anatolia and soon set about dismembering the vanquished empire into colonies and spheres of interest they could control. Under the 1920 Treaty of Sèvres, the stateless Kurds – who nevertheless call a large swathe of territory stretching from southeastern Turkey through northeastern Syria, Iraq and western Iran their home – were to hold a referendum to decide their future status. However, the Treaty of Sèvres was scrapped after Turkish nationalists under Kemal Ataturk seized control of Anatolia. It was replaced in 1923 by the US-backed Treaty of Lausanne, which gave Britain and France control of present-day Iraq and Syria while leaving the Kurds with nothing. When Iraqi Kurds established a short-lived Kingdom of Kurdistan in 1922, British troops swiftly moved to destroy it.



In the years after World War II, the United States usurped Britain as the leading power in the Middle East. In Iran, the two countries worked together to overthrow [Mohammad Mossadeqh](#), a wildly popular reformist who threatened capitalist interests by nationalizing key oil infrastructure, in a [1953 coup](#). Mossadeqh was replaced with Mohammad Reza Shah, a brutal monarch who would rule Iran for a quarter century until the Islamist revolution of 1979. While the US enabled the Shah's continuous repression of Iranian Kurds, Washington armed Iraqi Kurds in their fight against erstwhile ally Abdel Karim Qasim, the Iraqi leader who made the fatal mistake of getting too close to the Soviet Union. After a failed assassination plot [involving](#) a young law school dropout named Saddam Hussein, Qasim was murdered by Baathists in 1963. Not only did the Kennedy administration cut off aid to Iraq's Kurds, it provided the new government with 5,000 bombs, including [1,000 napalm bombs](#), to use against them. Entire villages were incinerated; men, women and children who just a few years earlier were America's friends died by the thousands.

'A Cynical Enterprise'

It wasn't long before the Iraqi government was once again cozying up to the Soviets, and once again America was arming Iraqi Kurds to fight Baghdad. In May 1972, President Richard Nixon and National Security Adviser Henry Kissinger stopped in Iran on their way home from a Moscow summit with Soviet leader Leonid Brezhnev. While in Tehran, the Shah beseeched his benefactors to organize a Kurdish insurrection against a hostile Iraqi government in which the aspiring vice president, Saddam Hussein, had overseen the nationalization of foreign oil and banking assets. Within weeks, the White House and CIA launched a covert action program and the Kurds were [supplied](#) with \$16 million worth of Soviet weapons, provided by Israel. The Kurdish nationalist Mustafa Barzani, leader of both the Kurdish Democratic Party (KDP) and his people's rebellion against Baghdad, did not trust the Shah, who could easily have funded the project himself. Instead, Barzani insisted on US backing, stating that if the insurrection succeeded, he was ready for Kurdistan to "become the 51st state." Barzani put his full faith in Kissinger, who he lavished with presents and praise.

The Kurds, who have a well-earned reputation as fierce warriors, battled Iraqi forces for three years, suffering thousands of casualties during the course of their campaign. Meanwhile, the US discouraged Kurdish efforts to negotiate for autonomy within Iraq while preventing Kurdish fighters from launching an all-out offensive against Baghdad. According to the [Pike committee report](#), a suppressed 1976 congressional probe of CIA misdeeds, the US objective was "that the insurgents simply continue a level of hostilities sufficient to sap the resources of our ally's neighboring country." In October 1973 Kissinger wrote to CIA Director William Colby that, contrary to the wishes of Israel, which was at war with Iraq and half a dozen other Arab countries at the time, Kurdish fighters should not wage all-out war against Iraqi forces. Such a campaign may very well have secured Kurdish independence but that was of little concern to Kissinger, who treated the Kurds as pawns in his game of *realpolitik*.

At the same time the US was supporting a limited Kurdish rebellion, it was also encouraging Iran and Iraq to settle their differences. The CIA was aware of such diplomatic efforts as far back as 1972, but the US failed to notify its Kurdish allies, who were kept fighting against Iraq so that the Shah would have leverage while negotiating with Hussein. "Even in the context of covert action, ours was a cynical enterprise," noted the Pike report. In March 1975, with Gerald Ford now US president, Iran and Iraq signed the Algiers Accord, in which they agreed to settle their border disputes. US arms and other supplies were abruptly cut off, with the Kurds caught completely by surprise and now facing a massive search-and-destroy operation by Iraqi forces. "Our movement and people are being destroyed in an unbelievable way, with silence from everyone," Barzani [wrote](#) in a desperate plea to Kissinger. "We feel, Your Excellency, that the United States has a moral and political responsibility towards our people, who have committed themselves to your country's policy."

Still, even as Kurdish commanders warned the CIA that "complete destruction is hanging over our head," the local CIA station chief was more concerned that America's erstwhile allies would be "likely to go public" about their betrayal. The US stood by as Iraqi forces destroyed villages and slaughtered the Kurds, 200,000 of whom fled into Iran. Of those, 40,000 were forced back into Iraq. Kissinger dismissed his government's unconscionable treachery by [telling](#) the Pike committee that "covert action should not be confused with missionary work." President Ford – who along with Kissinger would [give the green light](#) for Indonesia's genocidal invasion of East Timor later that year – stood shamefully silent through it all. Barzani [made one last plea](#) for his people as he lay dying of cancer in 1979: "We do not want to be anybody's pawns," he said. "We are an ancient people. We want our autonomy. We want *sarbasti* – freedom."

From Friends to Foes

That year, 1979, saw Iran go from US staunch ally to public enemy number one during the Islamist revolution and occupation of the American Embassy in Tehran. Shortly after a successful effort by Zbigniew Brzezinski, President Jimmy Carter's National Security Adviser, to "draw the Russians into the Afghan trap" and "give the USSR its own Vietnam War" ([his own words](#)), Brzezinski encouraged Saddam Hussein – who had just [ruthlessly](#)



[installed](#) himself as Iraqi dictator – to invade Iran. Although the United States was officially neutral in the Iran-Iraq war, the Reagan administration removed Iraq from the US list of state sponsors of terrorism, opening the door for billions of dollars in Western aid and arms sales. Iraq [obtained](#) lethal chemical and biological materials which Hussein's scientists weaponized and his forces unleashed upon both Iranian troops and Iraq's own restive Kurdish population. Tens of thousands of Kurds were killed in Hussein's genocidal [Anfal campaign](#); as many as 5,000 people, most of them women and children, perished during a mustard and nerve gas [attack](#) on the town of Halabja on March 16, 1988. Reagan officials [knew for years](#) that Iraq was launching chemical attacks but kept up their support while denying knowledge of the war crimes.

America's friends of today are often its foes tomorrow. In the 1980s, Philippines strongman Ferdinand Marcos and Panama's narco-trafficking dictator, Manuel Noriega, went from favored clients to enemies, and in the case of Noriega, [a marked man](#). In the summer of 1990 Saddam Hussein ordered his forces to invade Iraq under the [false belief](#) that the George H.W. Bush administration would tolerate such a move. A massive US-led invasion was launched to expel him from the tiny, oil-rich nation. In the closing days of the short but intense war, Bush called on the Iraqi people to rise up against Hussein. The Shiites in the south and east of the country and the Kurds in the north heeded Bush's call, and their revolt came close to succeeding. But Bush officials realized that a popular uprising would run contrary to US interests; what they wanted was a military coup that would replace Hussein with a pro-American strongman who would counter Iran's regional power. The US [turned its back](#) on the Iraqi uprising it had instigated, just as it had done to the Kurds in the 1970s and just as it had [done to Hungary](#) in 1956 when the Eisenhower administration coldly decided it wasn't prepared to risk nuclear war with the Soviet Union for freedom in Budapest.

'We Rose Up Like You Asked Us'

Not only did the US abandon the Iraqi rebels, it actively aided Saddam Hussein's forces as they crushed the rebellion with fierce cruelty. Not only were US troops ordered not to help the rebels in any way, they also blocked their retreat and threatened to slaughter them if they didn't turn back towards Hussein's forces and certain death. Rocky Gonzalez, a US special forces officer at the time, [recalled](#):

"The rebels wanted aid, they wanted medical treatment, and some of the individuals wanted us to give them weapons and ammunition so they could go and fight. One of the refugees was waving a leaflet that had been dropped by US planes over Iraq. Those leaflets told them to rise up against the regime and free themselves. They weren't asking us to fight. They felt they could do that themselves. Basically they were just saying 'we rose up like you asked us, now give us some weapons and arms to fight... It was gut-wrenching to me. Here we are sitting on the Euphrates River and we were ordered to stop. As a human being, I wanted to help, but as a soldier I had my orders.'"

General "Stormin'" Normal Schwarzkopf gave the Iraqi military permission to ignore the no-fly zone imposed over large swathes of the country. He surprised and delighted Iraqi generals, who [incredulously asked](#), "you mean even the helicopters that are armed can fly in the Iraqi skies?" The answer was yes, and they immediately set to strafing Kurdish and Shiite rebels from above. US troops gave fuel to Iraqi Republican Guard units and allowed an Iraqi tank division to pass through American checkpoints unhindered. Bush didn't even protest when Saddam Hussein authorized the use of chemical weapons against the rebels. There is no doubt that US officials knew about this. "People started showing up at our perimeter with chemical burns," confirmed Gonzalez. "They had blisters and burns on their faces and on their hands."

In 2004 the US task force investigating Iraq's nonexistent weapons of mass destruction determined Hussein's forces had [used sarin nerve gas](#) against some of the rebels. President Bush had threatened Hussein with severe reprisals should he dare use chemical weapons, but the Iraqi dictator did use them and Bush never uttered a word of protest. Nor did he lift a finger as Iraqi forces raped, murdered and plundered their way back into control of the country, with Hussein ordering the horrific repression to be televised – just like his [infamous 1979 purge](#) – so that all Iraqis could see and fear.

'High Moral Principle'

"America is never wholly herself unless she is engaged in high moral principle," Bush had declared in his 1991 inaugural address. "We as a people have such a purpose today. It is to make kinder the face of the nation and gentler the face of the world." The people of Iraq, spurred to action by the United States and then left to be torn to shreds by Saddam Hussein, their bodies ordered to rot unburied in the streets so that dogs could feast upon their bloated flesh, had just learned a hard lesson about America's "high moral principles." Hussein was once again firmly in control of Iraq and Iraqi oil was soon flowing to Western markets again.

A few years later in 1995, CIA case officer Robert Baer set up an agency outpost in Iraqi Kurdistan, negotiated a truce between warring Kurdish factions and helped them contrive a plan to kill or capture Hussein using renegade Iraqi troops and Kurdish fighters. However,



the operation was compromised. Hussein's forces launched a swift offensive, capturing the key northern city of Erbil and executing some 700 Kurds. During the 1990s, the Clinton administration protected Iraqi Kurds with a no-fly zone and threats of renewed war. This allowed them to flourish under self-rule, while just to the north Turkey's 12 million Kurds aspired to the same sort of freedom. However, under Clinton US weaponry was used by the Turkish military – the Kurds' arch-nemesis – to [slaughter thousands](#) of Kurds and destroy thousands of villages in a brutal ethnic cleansing campaign aimed at wiping out the main rebel group, the leftist Kurdistan Workers' Party (PKK), and other insurgents.

The US turned to the Kurds for help again in 2003, and President George W. Bush cited the chemical attack on Halabja as one of America's pretexts for invading Iraq. "The Iraqi regime killed thousands of men and women and children, without mercy or without shame," Bush [declared](#) on the eve of a war in which [hundreds of thousands](#) of men, women and children would die. What Bush failed to mention was that US leaders helped Hussein obtain the weapons of mass destruction he used to kill so many of his people, and did nothing after he did. In any case, Kurdish *peshmerga* warriors, [including hundreds of women](#), fought alongside US troops and on their own, playing a key role in liberating Iraq and capturing Saddam Hussein and [even Osama bin Laden](#). How did the Bush administration repay his Kurdish allies? By allowing Turkey to launch its biggest [air and artillery assault](#) against PKK fighters in northern Syria.

When Syria became the seventh country bombed during the Obama administration (Bush bombed six), Kurdish fighters proved themselves invaluable allies in the war against Islamic State (ISIS), with Syrian Democratic Forces (SDF) troops doing most of the fighting on the ground as US and coalition warplanes bombed soldiers – [and civilians](#) – from above. In 2014, Syrian Kurdish fighters from the People's Protection Units (YPG) and Women's Protection Units (YPJ) also [rescued](#) thousands of besieged Yazidis from the Sinjar mountains across the border in Iraq while the rest of the world did little or nothing to stop ISIS' [genocidal campaign](#) of extermination, rape and enslavement. However, Turkey considers the YPG to be a terrorist organization due to its ties with the PKK and in order to appease Ankara Vice President Joe Biden in 2016 [threatened](#) to cut off all US aid to the Kurds if they did not comply with Turkish demands to withdraw to east of the Euphrates River.

No Friend But the Mountains

More than 10,000 SDF fighters, both men and women, died liberating their homeland from ISIS. President Trump's decision to abandon America's ally is all the more frustrating as it comes at a time when the so-called caliphate is on the brink of total annihilation. "This will lead to a security vacuum that ISIS will take advantage of and which will be in the ISIS interest," SDF commander Mazlum Abdi [told](#) Defense One. "This is going to jeopardize all the achievements we have made with the coalition against ISIS."

Trump is also throwing the Kurds under the bus at a time when a great democratic revolution is underway in northeastern Syria, one [largely led by women](#). The president, in his self-described "great and unmatched wisdom," is willing to sacrifice all of this in a move that will boost America's four biggest adversaries in Syria, ISIS, Iran, the Bashar al-Assad regime and Russia. While Trump's stated desire to get the US out of ["ridiculous endless wars"](#) is indeed laudable, giving Turkey America's tacit blessing to wage wider war in Syria is not an antiwar move. Trump's trust of Turkey – which allowed tens of thousands of foreign ISIS fighters to pass through its territory on their way to Syria and Iraq – also belie his claims of wisdom and genius.

For their part, Kurds have been bracing for another possible US betrayal for some time now, digging in and preparing to resist Turkish invasion and occupation. Kurdish leaders are confident that their fighting spirit and desire for freedom will see them to victory. They've been through this before – there's even a popular adage that the Kurds have "no friends but the mountains." Sadly, the old saying is once again proving more true than not.

Brett Wilkins is a San Francisco-based independent journalist and activist whose work, which covers issues of war and peace and human rights, is archived at www.brettwilkins.com

Western States Must Repatriate IS Fighters and Their Families Before More Escape Syrian Camps

By Kerstin Carlson

Source: <http://www.homelandsecuritynewswire.com/dr20191015-western-states-must-repatriate-is-fighters-and-their-families-before-more-escape-syrian-camps>

Oct 15 – For more than a year, European powers have dallied over the question of what to do with the tens of thousands of Islamic State (IS) fighters and adherents captured following the fall of the so-called caliphate in Syria and Iraq.



Now the U.S. decision to [withdraw troops](#) and Turkey's subsequent invasion of northern Syria on 9 October means the West has lost the luxury of inaction.

Since IS's territorial defeat in March 2019, camps housing "IS families" and other displaced persons have swollen far in excess of their capacity. In Syria, the largest camp, [Al-Hawl, exceeds 70,000 people](#).

The Turkish offensive has drawn the resources of the Kurdish-led Syrian Democratic Forces away from guarding the camps. Predictably, detainees [have been escaping](#). On 14 October, more than 700 IS adherents (men, women, and children, although reportedly no fighters) escaped the [Ain Issa camp](#) in Syria. The US had attempted to move 60 "high value" IS prisoners before its troops withdrew, [but failed](#). Expect more escapes, including of IS fighters, in the days and weeks to come.

Repatriation

Prior to the Turkish invasion, European nations had been wringing their hands, but doing little else, regarding the problem of foreign and other citizens in detention in Syria and Iraq. It's estimated that [40,000 foreign fighters, including 6,000 western Europeans](#), travelled to Syria and Iraq to join the group.

The two options most hotly debated regarding European citizens were repatriation and trials on site, where the detainees are being held. What to do with Iraqi and Syrian citizens was to be left to Iraq and Syria.

Of the two options, repatriation of nationals is the right choice. European countries, however, have equivocated. Europe does not want these citizens, understood as traitorous at best, dangerous at worst. The notion of danger includes even very small children, who [some argue should be understood](#) as "radicalized" or "cubs of the caliphate," irreparably marked by the violence and indoctrination they have experienced.

This narrative has taken precedence over the reports regarding the inhumane conditions in the camps in Syria: overflowing sewage leaking into tents, worms in the water, extreme weather conditions resulting in death, particularly for babies and young children. The case of [Shamima Begum](#), who left the UK as a 15-year-old to join IS and whose citizenship was later revoked by the British government, is a stark example of this. Her baby died a few weeks after he was [born in the al-Roj camp](#) in March 2019.

Britain is not alone: most European countries refuse to repatriate citizens picked up in Syria and Iraq, or even, in fact, to count or identify them. Only a few exceptional repatriation instances exist, including a [handful of French and Dutch orphans](#) and a large [mixed group of people including children to Germany](#). Kosovo and Kazakhstan have [been open to repatriation](#) and Turkey and Russia have taken some orphans. In June, the Kurds released 800 detainees [back to their families in Syria](#).

Repatriated IS fighters and adherents would stand trial in their home countries under domestic criminal law.

IS Tribunals

A second option, trials on site for IS adherents regardless of citizenship, was [gaining momentum prior to the Turkish invasion](#), with several countries [promoting the idea](#) of an international tribunal. The idea of constructing an ad hoc tribunal in the region promised to solve the detainee impasse for Western countries and the SDF.

But there are several problems with such an option. First, because the SDF is not an official government but rather provisionally in charge of territory in Syria, an ad hoc court with international support could not be set up in the Kurdish area of northern Syria. This leaves Iraq as the likely site. Constructing such an international tribunal in Iraq for IS adherents was the topic of a meeting held between Britain, France, Germany and three other countries in [Copenhagen on October 11](#). On the table is a hybrid structure, involving both international and Iraqi judges.

But an ad hoc tribunal in Iraq would need to contend with Iraqi law, which allows the death penalty, as well as the deeply problematic Iraqi trials already underway of IS affiliates. For the past several years, the Iraqi government has been subjecting IS fighters and affiliates to what can only be [called sham trials](#). Trials average ten minutes, and many defendants will not have met their defense attorney – [who is paid \\$25 per case](#) – before the trial.

Punishment for IS affiliation includes life in prison when judges are lenient, but [can also bring death by hanging](#). Iraqi courts have issued [hundreds](#) of death sentences, including against foreign nationals, although it's not clear if any have yet been carried out.

What Kind of Justice?

Internationally financed courts will not hand out death sentences – even life imprisonment is a sentence [rarely pronounced](#) by international or hybrid criminal courts. Gross violations of procedural rights are also unpalatable for Western-run institutions. But the numbers of detainees in prison prior to the Turkish offensive as well as the dearth of information regarding what crimes they have committed beyond affiliation with IS mean that rights-respecting court processes will take huge resources and could be inconclusive.



Any just tribunal would release most of the convicted prisoners within, at most, a few years if jail terms are to conform to widely accepted humanitarian standards. This would simply defer by a few years the question of what in fact should be done with IS affiliates – where should they live and where do they belong?

In early 2019, the Kurds set up trials for IS adherents in Kurdish-administered areas of Iraq and Syria, as an antidote to flawed Iraqi justice. Defense counsel was provided and sentences were capped at 20 years: rehabilitation, not revenge, was the goal, one judge [told a journalist for NPR](#). This promising development may be one more casualty of the changed circumstances on the ground.

The first, still best, option – repatriation of foreign nationals – is arguably a quickly closing window. Even then, questions would remain about what should happen to Iraqi and Syrian nationals, and what role the West should play in resolving their situation. But European powers must avoid taking the third option they'd been exercising by default – doing nothing, and waiting for circumstances to change.

Kerstin Carlson is Associate Professor International Law, University of Southern Denmark.

EDITOR'S COMMENT: Is the Prof. aware of the Lindholm Island proposal for immigrants? Is Prof. aware of the fact that Minister for Immigration and Integration Mattias Tesfaye will keep Denmark outside of a temporary EU arrangement to distribute refugees between member states (Oct 08, 2019)? Not a word about the repatriation of Danish who joined ISIS. "These people [Danish who joined ISIS] turned their backs on Denmark and used violence to fight against our democracy and freedoms. They constitute a threat to our security. They are undesirable in Denmark," Prime Minister Mette Frederiksen said in a statement (Oct 15, 2019). Prof's Berkeley background is consistent with current US administration directives but when an academician working in (wealthy) Denmark proposes solutions to serious global problems should be as objective as possible.

World's first artificial intelligence university to open in Abu Dhabi

Source: <https://www.thenational.ae/business/technology/world-s-first-artificial-intelligence-university-to-open-in-abu-dhabi-1.924350>



Oct 16 – The UAE is rolling out its biggest effort yet to develop a workforce versed in artificial intelligence, as the rapidly-advancing technology transforms economies worldwide.

The **Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)**, a new graduate-level AI research institution in Abu Dhabi, is accepting applications for its first masters and PhD programmes this month, with classes scheduled to begin in September 2020.

As the first university to have a singular focus on AI, the institution aims to attract students from around the world to advance the technology and propel the UAE's economic diversification efforts.

To compete with more than a hundred graduate degree programmes in AI – mainly in North America, China and the UK – MBZUAI is offering full scholarships, monthly stipends, health insurance and accommodation to all students.

MBZUAI is named after Sheikh Mohamed bin Zayed, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, who believes in the transformative power of knowledge and scientific thinking.

Artificial intelligence and machine learning, a subset of AI, are gaining leaps forward in mimicking human thinking – creating the building blocks for automatic systems that can be improved through experience and data. As the technology evolves, applications for autonomous vehicles, robotics, data mining and precision medicine, among others, are taking off and creating lucrative opportunities.

AI is expected to add 14 per cent to the world's gross domestic product by 2030, equivalent to \$15.7 trillion (Dh57.7tn), according to business consultancy PwC.

Experts estimate that AI's contribution to the UAE economy will match the global increase of 14 per cent – the largest GDP share in the Middle East – in the same time frame. The country



ranks 19th worldwide on the government AI readiness index, first in the region, according to Oxford Insights.

"The invention of electricity, the railroad, smartphones all transformed the world as we knew it. AI can lead to an ever-greater societal and economic transformation," said Dr Sultan Al Jaber, Minister of State and chairman of the MBZUAI board of trustees.

Talent and academic institutions are essential, he said. "The Mohamed bin Zayed University of Artificial Intelligence is an open invitation from Abu Dhabi to the world to unleash AI's full potential."

The university was officially launched on Wednesday at its campus in Masdar City.

The UAE was among the first nations to see an opportunity in AI for its economy. In 2017, the government rolled out an AI strategy, dubbed UAE 2031, outlining plans to use the technology to make governance more efficient and naming eight sectors it aims to transform including space, renewable energy, water and education. The country also appointed the world's first Minister of State for Artificial Intelligence, Omar Al Olama. Mr Al Olama was present at the launch on Wednesday, alongside Dr Ahmad Belhoul Al Falasi, Minister of State for Higher Education and Advanced Skills, and Sheikh Mohammad Bin Hamad Bin Tahnoon Al Nahyan, Chairman of Abu Dhabi Airports. Mr Al Olama and Dr Al Falasi are also members of the university's advisory board.

"You're seeing the AI race emerge, with more than 20 national strategies. Countries are saying we need to lead and not be playing catch-up on this opportunity," Faisal Hamady, principal at Boston Consulting Group, told *The National*. "It's a bit of a positioning game."

The money governments are investing is primarily going into research and development, workforce training, data infrastructure and governance, as well as helping start-ups grow, Mr Hamady said.

Start-up data aggregator Magnitt counts 128 Mena start-ups on its platform that use AI. Of those, 52 are based in the UAE.

Combined, these 128 start-ups have raised \$18 million to date, according to Magnitt, indicating that the application of AI is still in the early stages. However, half of the amount was raised within this year, which might point to an upward trend, Sietse van de Kerkhof, a venture capital data manager at Magnitt, told *The National*.

Give 5-year commitment

"Aside from certain hotspots around the world, like the US and China, pure AI research is rare," Mr van de Kerkhof said.

With the opening of MBZUAI, AI research will be both common and local in the UAE.

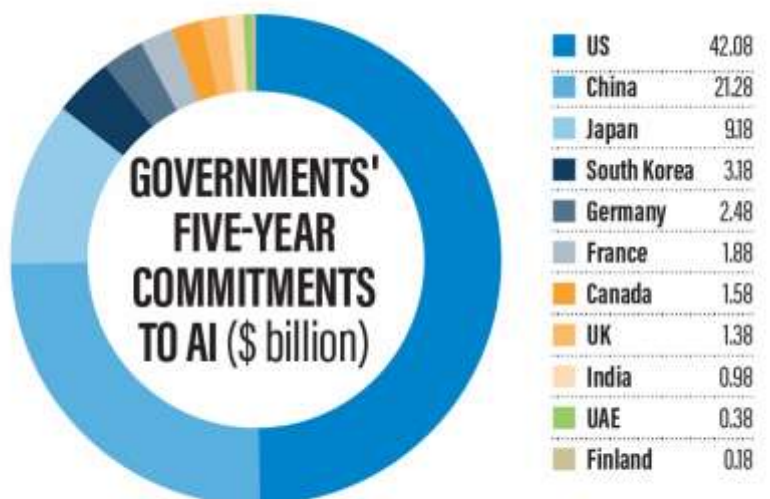
The university's founding board of trustees comprise leaders in the field. They include MBZUAI interim president, Professor Michael Brady, who teaches oncological imaging at the University of Oxford; Prof Anil Jain, a lecturer at Michigan State University; Dr Kai-Fu Lee, a technology executive and venture capitalist based in Beijing; and Prof Daniela Rus, director of Massachusetts Institute of Technology's Computer Science and Artificial Intelligence Laboratory, Professor Andrew Chi-Chih Yao, Dean of the Institute for Interdisciplinary Information Sciences at Tsinghua University in Beijing and Peng Xiao, CEO of Group 42.

MBZUAI has partnered with the Abu Dhabi-based

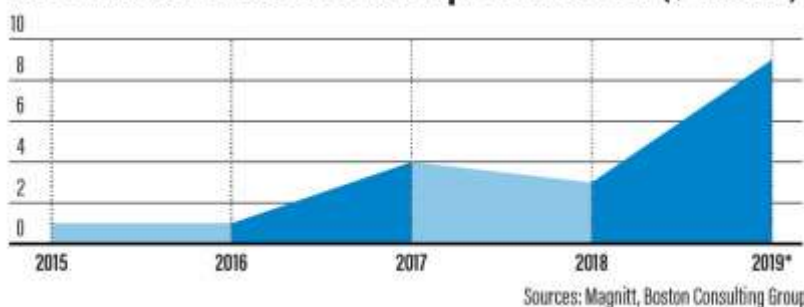
Inception Institute of Artificial Intelligence (IIAI), an applied research lab, to supervise PhD students and curriculum development. IIAI will also serve as a principal partner for collaborative research.

The university will offer master of science and PhD programmes in three of the fastest-growing areas of AI: machine learning, computer vision and natural language processing.

"Following decades of research into machine learning and artificial intelligence, we are now at a turning point in the widespread application of advanced intelligence. That evolution is –



Investments in Mena start-ups that use AI (\$ million)



among other things – creating exciting new career opportunities in nearly every sector of society,” said Prof Brady, interim president of MBZUAI.

Why We Must Ban Facial Recognition Software Now

Source: <http://www.homelandsecuritynewswire.com/dr20191018-why-we-must-ban-facial-recognition-software-now>



Oct 18 – Facial recognition technology, once a darling of Silicon Valley with applications for policing, spying and authenticating identities, is suddenly under fire. Conservative Republicans like Representative [Jim Jordan](#) of Ohio and liberal Democrats like Representative [Alexandria Ocasio-Cortez](#) of New York have strongly [criticized](#) the technology. [San Francisco](#), [Oakland](#), [Berkeley](#) and [Somerville](#), Mass., have barred all of their government agencies, including the police, from using it. And several Democratic candidates for president have raised deep concerns about it, with one, Senator Bernie Sanders, calling for an outright [ban](#) for policing.

Evan Selinger and Woodrow Hartzog write in the [New York Times](#) that

We think the senator is right: Stopping this technology from being procured — and its attendant databases from being created — is necessary for protecting civil rights and privacy. But limiting government procurement won't be enough. We must ban facial recognition in both public and private sectors, before we grow so dependent on it that we accept its inevitable harms as necessary for “progress.” Perhaps over time appropriate policies can be enacted that justify lifting a ban. But we doubt it.

The essential and unavoidable [risks](#) of deploying these tools are becoming apparent. A majority of Americans have functionally been put in a [perpetual police lineup](#) simply for getting a driver's license: Their D.M.V. images are [turned into faceprints](#) for government tracking with few limits. Immigration and Customs Enforcement officials [are using](#) facial recognition technology to scan state driver's license databases without citizens' knowing. Detroit aspires to use facial recognition for round-the-clock [monitoring](#). Americans are losing [due-process protections](#), and even law-abiding citizens cannot confidently engage in [free association](#), [free movement and free speech](#) without fear of being tracked.

They conclude

Facial recognition is truly a one-of-a-kind technology — and we should treat it as such. Our faces are central to our identities, online and off, and they are difficult to hide. People look to our faces for insight into our [innermost feelings and dispositions](#). Our faces are also easier to capture than biometrics like fingerprints and DNA, which require physical contact or samples. And facial recognition technology is easy to use and accessible, ready to plug into police body cameras and other systems.

We support a wide-ranging ban on this powerful technology. But even limited prohibitions on its use in police body cams, D.M.V. databases, public housing and schools would be an important start.

The public is ready for this, and the actions by San Francisco, Somerville, Berkeley and Oakland show it: Our society does not have to allow the spread of new technology that endangers our privacy.



EDITOR'S COMMENT: OK let us ban facial recognition and go back to suspects sketching with a pencil next time police will be looking for a terrorist or a murderer. Perhaps all these supersensitive politicians will make similar proposal for banning the production of tobacco products or ban selling drones for recreational purposes (both can kill people – now and in the near future).

Emirati student invents 'cooling suit' for outdoor workers

Source: <https://www.thenational.ae/uae/health/emirati-student-invents-cooling-suit-for-outdoor-workers-1.925122>

Oct 18 – When Aryam Ahmed saw a construction worker pass out from the heat in the street, she decided she wanted to solve the problem.

The Emirati engineering student spent the next two years developing a suit which would keep outdoor workers cool – and is now set



to pitch her fledgling business to an audience of international business leaders and investors.

The 21-year-old was recently chosen as one of the winners of the Pitch@Palace initiative, a scheme designed to encourage Emirati entrepreneurship backed by UK royal Prince Andrew.

Aryam Ahmed (right), a young emirati entrepreneur, and her project partner Latifa Al Seiri with the suit. Victor Besa/The National

It started when we saw a fainted worker on the street and we couldn't do anything about it. Employers have a responsibility for the health of the workers

She now hopes her invention will help keep well over one million outdoor workers in the UAE lead more comfortable lives and at the same time increase productivity for businesses.

Armed with one prototype, she has already set her sights on an expansion across the GCC.

"It started when we saw a fainted worker on the street and we couldn't do anything about it," said Ms Ahmed, a Khalifa University student from Abu Dhabi.

"As engineers, it is our responsibility to find solutions to

problems to help our society.

"I do not just want to show it in the UAE, I want other countries in the world to know about it. It is not only the UAE that needs this solution, it is the whole of the GCC. We want to create something that everyone can have.

"Employers have a responsibility for the health of the workers, so will want to reduce the risks and number of cases. So I think they will be open to these solutions."

The special suit material she developed is low cost and highly effective in maintaining body temperature for up to four hours, Ms Ahmed said.

She does not want to reveal precise details of how the material works, while its patent is pending.

However, she said it has performed well in tests and the suit also includes a smart system which monitors the external heat and a worker's body temperature, sending an alert to the employee's boss if their body temperature reaches 38 degrees. It also includes a 'panic button' so a worker can summon help in an emergency.

And while others have attempted to invent cooling suits for outdoor labourers before, they have often been designed with complicated fans or water-based cooling systems. Ms Ahmed, who developed the suit along with her project partner Latifa Al Seiri, believes the simplicity and safety of her design will mean it succeeds where others have failed.

While current laws mean companies have to allow outdoor workers have to long breaks during the hottest hours of the day, she said cases of heat-related illnesses remain a major problem.



Hers was one of four businesses selected as winners at the recent Pitch@Palace event, and will now go on to present her idea at a regional final next month in Bahrain. The winners of that round will win a place at a global final in London in December.



The event is supported by the Khalifa Fund for Enterprise Development, which seeks to encourage Emirati entrepreneurship. It also sees young business people receive mentorship from successful industry leaders and helps connect them with potential investors.

[Aryam Ahmed shows off the prototype suit during the recent Pitch@Palace final.](#)

“It has been a great experience, we have talked with many advisers and investors,” Ms Ahmed said. “They have also allowed me to connect with many people who I wouldn’t otherwise have been able to meet.”

The other winners at the Pitch@Palace event were the creators of a Arabic language learning platform for children, an online tool to connect patients with doctors and pharmacies and a home design app.

“It is great to be able to showcase some of the great innovation that has been going on in the UAE,” Prince Andrew, who began the scheme in the UK before expanding it across the world, said at the event.

“This project is about collaboration, everyone working together as a team to help these businesses grow.”

First Emirati astronaut receives honorary PhD from Khalifa University

Source: <https://www.thenational.ae/uae/education/first-emirati-astronaut-receives-honorary-phd-from-khalifa-university-1.926182>



Oct 20 – The UAE’s first astronaut received an honorary doctorate degree from Khalifa University on Sunday.

Hazza Al Mansouri was handed the first ever honorary PhD from the university during a graduation ceremony for more than 400 students in Abu Dhabi.

Sheikh Theyab bin Mohamed, chairman of Abu Dhabi Crown Prince’s Court and member of the Abu Dhabi Executive Council, handed Maj Al Mansouri the degree, in a hall packed with students in Emirates Palace.

Maj Al Mansouri became the first Emirati astronaut to go to the International Space Station last month.

Sunday’s graduation ceremony was also attended by Dr Sultan Al Jaber, Minister of State and chief executive of Adnoc Group, and Hussain Al Hammadi, Minister of Education.

EDITOR’S COMMENT: Why? He is a F-16 pilot with special skills and experience. And an astronaut – the first in UAE ever! He could be honoray promoted to the next rank or higher. He could be assigned to be an Ambassador of something. He could be given a post in the space program of his country. And many more; but not a PhD. PhD is not only a title in the academic world but also the result of hard study and innovative research in many fields of science. It is a deposit of life and personal effort. It is the same like hiring Olympians in the military (in Greece). They get the salary but they offer nothing back because they continue to



deal with their sports careers. They devoted their lives in sports so all of us have to pay them back because sports is not a real profession despite the money they earn in the international arena. The astronaut could be a Space Minister but a PhD holder? Of course, this is a personal opinion. At the same time, I congratulate UAE for achieving things that my country never dares to pursue. And we have some of the best Air Force Top Gear pilots in the world

A new era in multicultural Greece ...

(photo taken in Athens downtown)



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CHEM NEWS



Envionics ChemProX

New Generation Handheld Chemical Detector

Source: <https://www.envionics.fi/product/chemprox/>

Only fictional heroes accomplish missions alone. In an era where communication and connectivity became inherent to most of trivial daily tasks, ChemProX emerges as a contemporary tool, providing a simple, smooth, and effective experience. ChemProX enables any team to detect and classify CWA's and TIC's.

ChemProX belongs to a new generation of chemical detectors, enabling full situational-awareness during field operations. Developed together with First Response professionals and based on a 30-year experience, ChemProX is a device of its time, with an intuitive User Interface. Operators are not alone in the field, therefore shared real-time location and detection information between the team members and the Command Centre can be crucial for a successful result.



Key features:

- Wide range of detectable chemicals (CWA/TIC)
- Wireless network connectivity
- Built-in GPS and group location
- Simulation training mode
- Chemical database and instructions
- Optimized usability
- Lowest maintenance costs in its class

Main application areas:

- [Military](#)
- [First Response CBRN Monitoring](#)
- [Armoured CBRN Reconnaissance](#)
- [Border CBRN Monitoring](#)
- [Light CBRN Reconnaissance](#)



Nano Chip System Measures Light from Single Bacterial Cell to Enable Chemical Detection

Source: <https://www.rdmag.com/news/2017/08/nano-chip-system-measures-light-single-bacterial-cell-enable-chemical-detection>

August 2017 – Researchers at the Hebrew University of Jerusalem have created a nanophotonic chip system using lasers and bacteria to observe fluorescence emitted from a single bacterial cell. To fix the bacteria in place and to route light toward individual bacterial cells, they used V-groove-shaped plasmonic waveguides, tiny aluminum-coated rods only tens of nanometers in diameter. The novel system, described in the journal *Nano Letters*, paves the way for an efficient and portable on-chip system for diverse cell-based sensing applications, such as detecting chemicals in real-time.

The field of on-chip photonic devices for biological and chemical sensing applications presents many powerful alternatives to conventional analytical techniques for applications ranging from "lab on a chip" to environmental monitoring. However, these sensing schemes rely mainly on off-chip detection and require a cumbersome apparatus, even when measuring only single cells.

The Hebrew University team looked for ways to integrate all system components, including light sources and detectors, on-chip at the nanoscale. This would result in a lab-on-chip system that is small, portable and can perform sensing in real-time.

To achieve this, they molecularly engineered live bacteria that emit a fluorescent signal in the presence of target compounds. They paired these on-chip with a nanoscale waveguide, which not only served the purpose of guiding light, but also allowed mechanical trapping of individual bacteria within the V-groove.

In three different illumination conditions, they experimentally demonstrated the interrogation of an individual *Escherichia coli* bacterial cell using a nanoscale plasmonic V-groove waveguide. First, they measured the light emitted from a bacterium flowing on top of the nanocoupler in a liquid environment by allowing the fluorescence from the bacterium to be



coupled directly into the waveguide through the nanocoupler. Next, a bacterium was mechanically trapped within the V groove waveguide and was excited by laser directly either from the top or through the nanocoupler. In all cases, significant fluorescence was collected from the output nano coupler into the detector.

The system worked well both in wet environments, where the bacteria are flowing on top of the waveguide, and in dry conditions, where the bacteria are trapped within the waveguide.

The research was led by Prof. Uriel Levy, Director of The Harvey M. Krueger Family Center for Nanoscience and Nanotechnology at the Hebrew University in collaboration with Prof. Shimshon Belkin, at the Hebrew University's Alexander Silberman Institute of Life Sciences, who genetically engineered the bacterial sensors, and Prof. Anders Kristensen from the Danish Technical University, who was in charge of fabricating the V-groove waveguides. Prof. Levy is the Eric Samson Chair in Applied Science and Technology, and Prof. Belkin is the Ministry of Labor and Social Welfare Chair in Industrial Hygiene, at the Hebrew University. Unlike the more traditional plasmonic waveguides consisting of either silver or gold, the choice of aluminum was instrumental for being able to guide the fluorescent light emitted from the bacteria all the way to the output nanocoupler. Furthermore, the waveguide dimensions allow for efficient mechanical trapping of the bacteria and the multimode characteristics may become instrumental in gathering more information, e.g., on the specific position and orientation of the bacteria.

The results provide a clear indication of the feasibility of constructing a hybrid bioplasmonic system using live cells. Future work will include the construction of waveguide network, diversifying the system to incorporate different types of bacterial sensors for the detection of various biological or chemical analytes.

Sniffing Out Signs of Trouble

Source: <http://www.homelandsecuritynewswire.com/dr20190925-sniffing-out-signs-of-trouble>

Sep 25 – Science stinks.

So thought Megan Harries as she measured drops of



putrescine and cadaverine — the chemicals that give decomposing corpses their distinctive, terrible odor — into glass vials. She then placed the vials on the floor of a shipping container, walked outside, and closed the door behind her.

Harries, a postdoctoral fellow and chemist at the National Institute of Standards and Technology (NIST), returned a day later, after the vapors diffused. Outside the shipping container, she popped open an aluminum briefcase, unfurled a flexible tube with a metal tip at the end, and inserted that into a small hole drilled into the side of the container.

NIST [says](#) that Harries was conducting the first field test of a high-tech sniffing device called a PLOT-cryo — short for “porous layer open tubular cryogenic adsorption.” This NIST-

invented device can be used to detect very low concentrations of chemicals in the air. The results of the test were recently published in [Forensic Chemistry](#).

Harries wanted to know if PLOT-cryo could be used at ports of entry to quickly and safely screen shipping containers for dangerous or illegal cargo. So, did the instrument detect the stench of death? “Sure did,” she said. “It stank.”



Especially on the first few days. Harries returned to the shipping container every day for a few weeks as the chemicals evaporated away. Her goal was to determine how temperature, humidity and other



factors affected the PLOT-cryo's ability to detect chemicals in air.

The simulated shipping container — it was actually an old U.S. Army communications bunker — was in the parking lot at the NIST campus in Boulder, Colorado, not far from where employees parked their cars. "People would ask me, What is in there," she said.

Harries explained that the putrescine and cadaverine — the "decomposition suite of compounds," she called them — had been purchased from a chemical supplier. She also tested gasoline, chemicals present in explosives, and other compounds. "We chose those chemical mixtures as surrogates for things that law enforcement might care about," she said.

The PLOT-cryo itself is not a chemical sensor. Instead, it's a sophisticated air sampler. It works by sucking in air and forcing it through super-thin tubes, or capillaries, that are coated with a material that traps airborne chemicals. The capillaries are also chilled (that's where the "cryo" comes in), which makes for a better trap. After sampling, the user removes the trap and brings it to the lab to analyze what they've caught.

That analysis can be done quickly on standard lab equipment because the PLOT-cryo has concentrated the airborne chemicals, making them easier to detect and identify. Without that step, the analysis would be more costly and complicated. NIST researchers developed PLOT-cryo in 2009 and have shown that it can be used to detect clandestine graves, food spoilage, and chemicals in fire debris that might show evidence of arson.

During this first field test of a portable version of a PLOT-cryo system, Harries found that the instrument usually required less than a minute of sniffing time to pick up a scent — an important consideration for inspectors at busy ports of entry — though in cold weather it sometimes needed a bit more time. In addition, when the air was very humid, the cooling system caused ice buildup that obstructed air flow. Harries' colleagues are currently working on a different type of cooling system that they hope will solve that problem.

If it does, Harries said, the PLOT-cryo can give a boost to public health and safety. "It was good at detecting some very hard-to-detect stuff," Harries said. "We're close to solving an important problem."



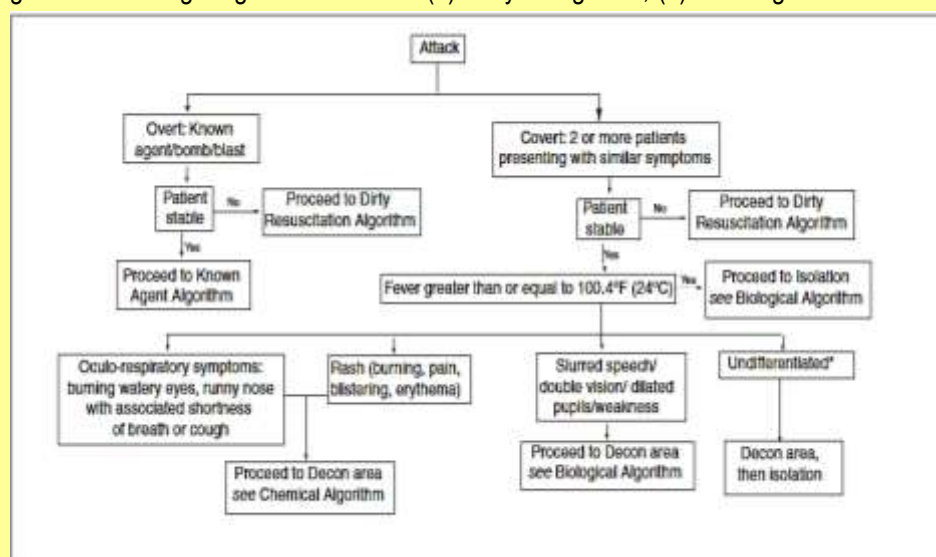
Symptom-Based, Algorithmic Approach for Handling the Initial Encounter with Victims of a Potential Terrorist Attack

By Italo Subbarao, Christopher Johnson, William F. Bond, et al

Prehosp Disast Med 2005;20(5):301–308

Source: https://www.academia.edu/27137375/Symptom-based_algorithmic_approach_for_handling_the_initial_encounter_with_victims_of_a_potential_terrorist_attack

Objectives: This study intended to create symptom-based triage algorithms for the initial encounter with terror-attack victims. The goals of the triage algorithms include: (1) early recognition; (2) avoiding contamination; (3) early use of antidotes; (4) appropriate handling of unstable, contaminated victims; and (5) provisions of force protection. The algorithms also address industrial accidents and emerging infections, which have similar clinical presentations and risks for contamination as weapons of mass destruction (WMD).



academic review.

Results: Six inter-connected algorithms were created, described, and presented in figure form. The "attack" algorithm, for example, begins by differentiating between overt and covert attack victims (A covert attack is defined by epidemiological criteria adapted from the Centers

for Disease Control and Prevention). The algorithms also address industrial accidents and emerging infections, which have similar clinical presentations and risks for contamination as weapons of mass destruction (WMD).

Methods: The algorithms were developed using references from military and civilian sources. They were tested and adjusted using a series of theoretical patients from a CD-ROM chemical, biological, radiological/nuclear, and explosive victim simulator. Then, the algorithms were placed into a card format and sent to experts in relevant fields for



for Disease Control and Prevention (CDC) recommendations). The attack algorithm then categorizes patients either as stable or unstable. Unstable patients flow to the “Dirty Resuscitation” algorithm, whereas, stable patients flow to the “Chemical Agent” and “Biological Agent” algorithms. The two remaining algorithms include the “Suicide Bomb/Blast/Explosion” and the “Radiation Dispersal Device” algorithms, which are inter-connected through the overt pathway in the “Attack” algorithm.

Conclusion: A civilian, symptom-based, algorithmic approach to the initial encounter with victims of terrorist attacks, industrial accidents, or emerging infections was created. Future studies will address the usability of the algorithms with theoretical cases and utility in prospective, announced and unannounced, field drills. Additionally, future studies will assess the effectiveness of teaching modalities used to reinforce the algorithmic approach.

Domestic Extremists Pursue Chemical, Bioweapons More Than ISIS Loyalists, Expert Tells Senate

By Bridget Johnson

Source: <https://www.hstoday.us/subject-matter-areas/terrorism-study/domestic-extremists-pursue-chemical-bioweapons-more-than-isis-loyalists-expert-tells-senate/>

Oct 01 – Far-right extremists in the United States “have pursued chemical and biological weapons more frequently” than homegrown extremists driven by loyalty to an international terrorist group, an expert told senators at a hearing on the domestic terror threat.

William Braniff, director of the National Consortium for the Study of Terrorism and Response to Terrorism (START) at the University of Maryland, told the Senate Homeland Security and Governmental Affairs Committee last week that “domestic terrorists are more



numerous, active, and lethal in gross numbers than international terrorists” and that “among domestic terrorists, violent far-right terrorists are by far the most numerous, lethal, and criminally active.”

“Far-right extremists conducted over 50 percent of the successful attacks in 2017 and 2018. There were six lethal attacks in the U.S. in 2018,” he said. “All six lethal attacks shared far-right ideological

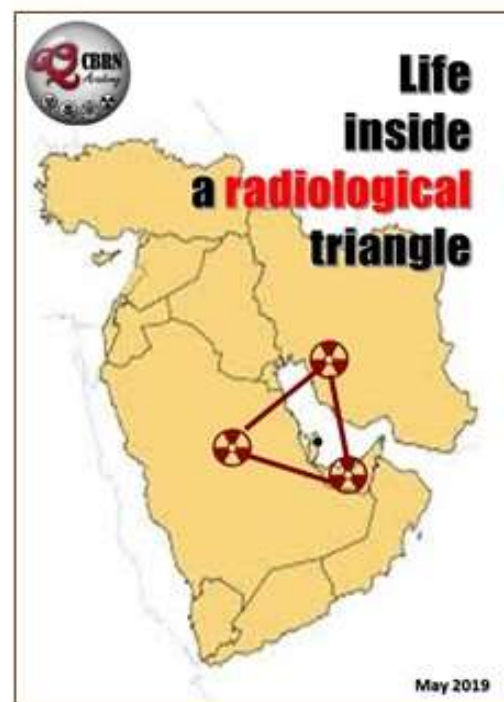
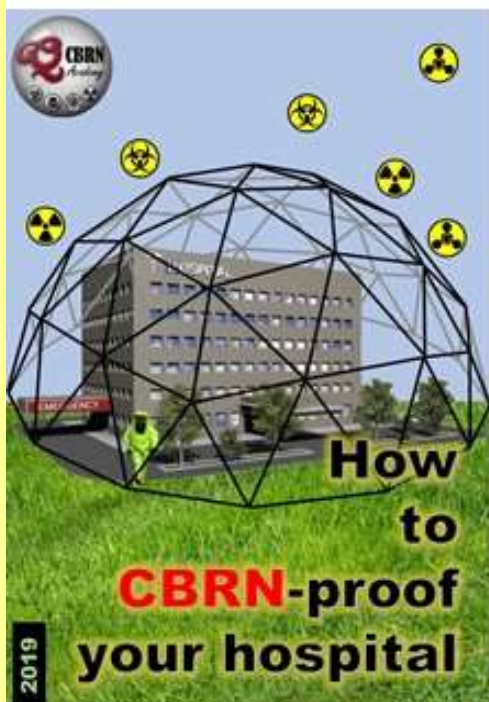
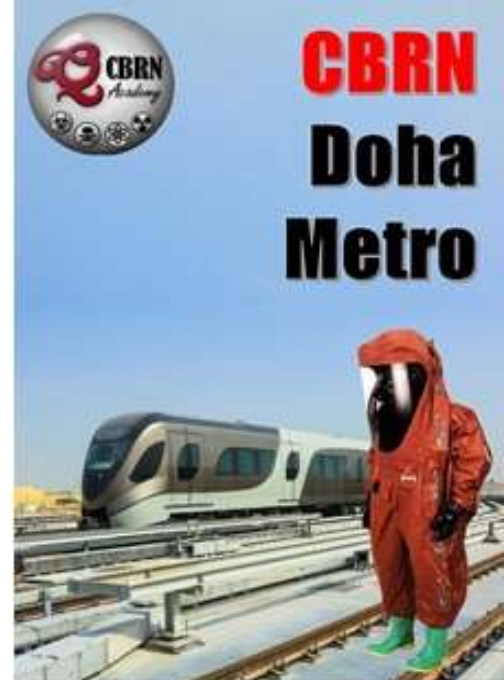
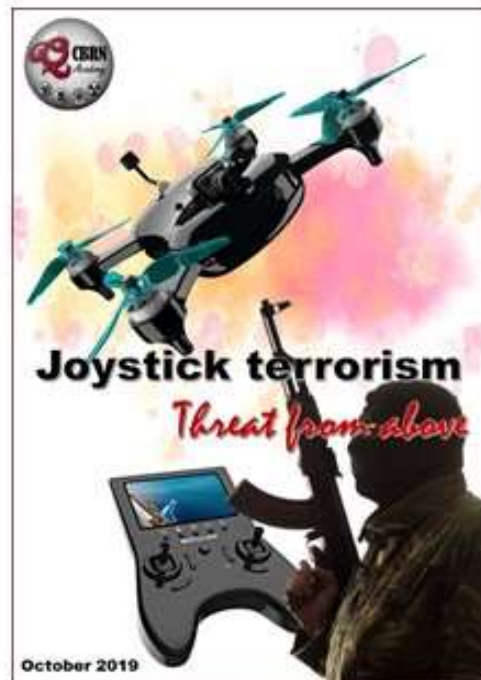
elements, primarily white supremacy, and in at least two cases, male supremacy. And we observed this general pattern to continue in 2019. Looking back over a longer time horizon, between 1990 and 2018, the violent far-right is responsible for 800 failed or foiled plots, 215 homicide events — compared to 350 failed or foiled plots, and 50 homicide events emerging from HVEs.”

These extremists are more engaged in illicit financial operations than homegrown terrorists loyal to groups like ISIS or al-Qaeda (HVEs), the professor noted, “engaging in over 600 terror financing schemes, and generating over \$1 billion in damages to the U.S. government between 1990 and 2013.”

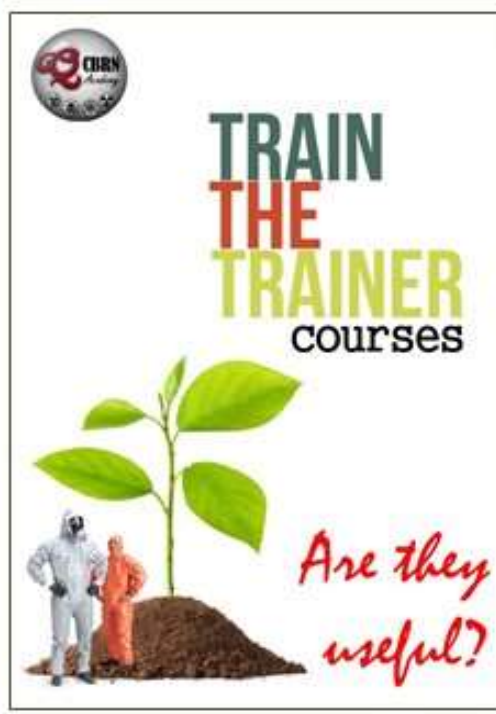
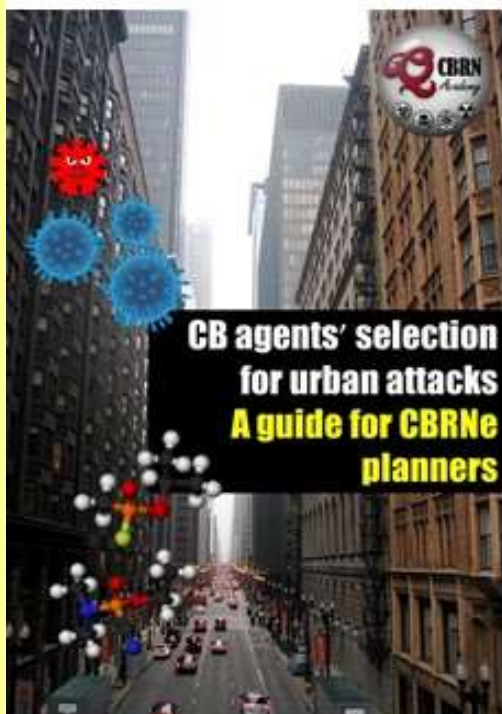
Between 80 to 90 percent of the hate-crime perpetrators in START’s database, Braniff testified, conform to “the ideological tenets of violent far-right extremism, broadly defined” as “the composition of far-right targets has changed, with anti-immigrant and anti-Muslim attacks increasing in frequency.”

With more domestic terrorists arrested than HVEs, 62 percent of far-right offenders and 78 percent of far-left terrorists “succeeded in their violent plots,” compared to only 22 percent for HVEs, he said, “due to a combination of pragmatic and political factors that collectively reduce resource allocation to domestic terrorism.”





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Braniff advocated that the government “take a public health approach to violence prevention, and invest in programs that build community resilience, programs that foster non-criminal justice interventions for at-risk individuals, and programs that foster rehab and reintegration for domestic extremists.”

Clint Watts, a former special agent in the FBI’s Joint Terrorism Task Force and senior fellow at the Center for Cyber and Homeland Security, pointed out two “critical ways” in which domestic extremists “vex law enforcement efforts.”

“First, domestic terrorists, for the most part, don’t operate as physical name groups in the way al-Qaeda and the Islamic State have, in an international context. And second, law enforcement pursues domestic terrorists via different rules and structures, separate from international terrorists,” he said. “Investigators must pass higher thresholds to initiate investigations, and have fewer tools and resources at their disposal. In some, domestic counterterrorism remains predominately a reactive affair, in which investigations respond to violent massacres and then pursue criminal cases.”

Robert Chesney, James A. Baker III Chair in the Rule of Law and World Affairs and associate dean for Academic Affairs at the University of Texas at Austin School of Law, told lawmakers he opposes designations of domestic terrorist organizations in the same way that foreign terrorist organizations are designated because of “the constitutional can of worms that would open up under the First Amendment.”

“The thought experiment of imagining the capacity to designate a group, being in the hands of officials who may be whatever is the opposite, ideological orientation or political orientation you may have — it’s a Pandora’s box we don’t want to get into, unless the use case for doing so is clearly enough established,” he said. “...It would certainly provide a broad basis to clarify investigative, and arrest authorities, and prosecution authorities. But I think we can get there without opening this particular Pandora’s box.”

Anti-Defamation League Senior Vice President of Programs George Selim, who formerly led the Department of Homeland Security’s Countering Violent Extremism Task Force, noted that “three of the five deadliest years of murder by domestic extremists in the period between 1970 and 2018 were in the past five years.”

“In the past decade, 2009 through 2018, the majority of the 427 people killed by domestic extremists were killed by white supremacists,” he said. “In the last year alone, we have seen mass murder after mass murder, targeting Jews, Muslims, Latin, and other immigrant communities, at the hands of white supremacists that were radicalized and lauded online, on the open net.”

Of DHS’ new Strategic Framework for Combating Terrorism and Targeted Violence, Selim said that the “forthcoming steps of a concrete implementation plan and associated funding request will be the ultimate test as to whether or not this framework will succeed or fail.”

“White supremacy is a very real and very deadly threat to our homeland. This is an all hands-on deck moment to protect our communities,” he added. “Solutions will require a whole of government, whole of society impact.”

Bridget Johnson is the Managing Editor for Homeland Security Today. A veteran journalist whose news articles and analyses have run in dozens of news outlets across the globe, Bridget first came to Washington to be online editor and a foreign policy writer at The Hill. Previously she was an editorial board member at the Rocky Mountain News and syndicated nation/world news columnist at the Los Angeles Daily News. Bridget is a senior fellow specializing in terrorism analysis at the Haym Salomon Center. She is a Senior Risk Analyst for Gate 15, a private investigator and a security consultant. She is an NPR on-air contributor and has contributed to USA Today, The Wall Street Journal, New York Observer, National Review Online, Politico, New York Daily News, The Jerusalem Post, The Hill, Washington Times, RealClearWorld and more, and has myriad television and radio credits including Al-Jazeera and SiriusXM.

FLIR Announces Industry’s First Multi-Gas Detector for Unmanned Aerial Systems

Source: <https://www.domesticpreparedness.com/updates/flir-announces-industrys-first-multi-gas-detector-for-unmanned-aerial-systems/>

Sep 27 – FLIR Systems, Inc. (NASDAQ: FLIR) today announced the FLIR MUVE™ C360, the industry’s first multi-gas detector specifically built for unmanned aerial systems (UAS).

The **MUVE C360** will transform how emergency response teams approach chemical, industrial, or environmental incidents by providing a new level of safety, dramatically reducing time to action, and delivering a more complete assessment in situations where every second counts. The C360 is currently compatible with the DJI Matrice 210 UAS platform.

Before putting the health and safety of response teams at risk, drone pilots will be able to fly the new MUVE C360 into a scene for initial assessment. The C360 houses a photoionization



detector, plus a suite of advanced electrochemical sensors that provide real-time continuous monitoring of chemical hazards such as chlorine, carbon monoxide, and other combustible gases. This capability will enable emergency response teams to assess situations remotely and select the proper personal protective equipment. Fire crews will be able to monitor air quality surrounding active scenes before entry, and industrial experts can perform inspections in hard-to-reach areas with relative ease.

Sensors: CO, Cl₂, O₂,
NO₂, H₂S, SO₂, LEL
(DJI Matrice drone)



The MUVE C360 will allow operators to understand the flow of hazardous vapors both at the source and in the air. It bypasses difficult terrain and enables

response teams to quickly draw a perimeter and map known hazards, while preset alarm thresholds help scene commanders or security operators make quick decisions.

“First responders are constantly seeking better and safer ways to do their jobs, and from the moment the FLIR MUVE C360 arrives in the market, the chemical and gas monitoring process will change forever,” said Jeff Frank, senior vice president at FLIR. “In the time it normally takes first responders to don proper equipment, the C360 has already arrived on scene, tested samples, and located the source of a hazard.

“With greater accessibility to drone technology than ever before, the purpose-built MUVE C360 will provide response teams with improved situational awareness that can help save lives and livelihoods,” Frank added.

FLIR is also introducing FLIR VueLink™, a pilot flight application that provides drone operators a plug-and-play interface to the MUVE C360. The app also includes advanced flight-control and interface with the FLIR Cloud.

The MUVE C360 and VueLink will be available in the fourth quarter of 2019. To learn more, visit www.flir.com/C360.

In-Suit Communications Equipment for First Responders

Source: <http://www.homelandsecuritynewswire.com/dr20191004-insuit-communications-equipment-for-first-responders>

Oct 04 – Every day, across the nation, emergency responders are dispatched to calls with situations ranging from basic structural fires to complex search and rescue operations to domestic violence or assaults. Emergency responders answering those calls for help oftentimes arrive at a scene with limited information, so communication between themselves and their colleagues becomes of the utmost importance. **When responding to a hazardous material incident, personal protective equipment (PPE) may need to be worn, which can significantly impact the ability to communicate.**

The most common way for responders to communicate with each other during an emergency scenario where PPE must be worn, is through the use of in-suit communications (ISC) equipment – radio accessories that enable them to communicate effectively without relying on just using a radio (which can be difficult or impossible to use in some PPE). ISC equipment are extensions of responders’ portable two-way radios and typically consist of microphones, headsets, earpieces and activation accessories such as push-to-talk devices or hands-free voice-operated exchange. However, each of these tools has different strengths



and weaknesses which must be carefully considered by responders before they use this equipment in the field.

S&T [says](#) that in August 2019, DHS [Science and Technology Directorate's](#) (S&T) [National Urban Science and Technology Laboratory \(NUSTL\)](#) conducted a System Assessment and Validation for Emergency Responders (SAVER) field assessment, supported by the Department of Energy's Pacific Northwest National Laboratory (PNNL), at the City of Seattle Joint Training Facility in Seattle, Washington. Six fire service responders, each with at least 10 years of experience using ISC and hazmat equipment, served as subject matter expert evaluators and assessed pre-selected models of ISC equipment from Dräger, CeoTronics, CavCom, and TEA Headsets.

"Communications in general is always important, especially in first responder settings," said Deputy Chief Willie Barrington, Seattle Fire Department. "It's our life line – it means everything to us. We're always looking at ways that we can better communicate while in the field and in our gear."

To ensure responders have the information needed to make educated decisions about the types of communications gear they procure and use, S&T established the [SAVER program](#), run by NUSTL. The SAVER program coordinates with other organizations to ensure projects are flexible and responsive to emergency responder requirements; assessments are conducted objectively, and unbiased assessment reports about equipment performance are disseminated to the responder community.

"The SAVER program is an invaluable program that helps us to make sure we can address any concerns we may have with equipment prior to purchasing it," said firefighter Grady Poole, Seattle Fire Department. "Through these hands-on assessments, we have an opportunity to look at emerging technologies, get our hands on it, test it in a realistic environment, validate our assumptions or expectations of how it will perform, and then share our findings and ideas with other responders from around the country."

To conduct the assessments, the fire service responders participated in four operational scenarios where they 1) familiarized themselves with the features and specifications of the ISC equipment and how to use it properly, 2) donned full Level A PPE with different types of ISC equipment, 3) conducted building entry drills where they climbed stairs and moved objects and other gear, and 4) communicated with each other in noisy environments. They repeated each scenario to evaluate every piece of ISC equipment.

After all the equipment was evaluated, NUSTL and PNNL surveyed the responders to gather their feedback and relevant data regarding how the ISC performed during each operational scenario. The ISC were evaluated on five criteria:

- ❖ Usability – ergonomics and ease of use when performing relevant tasks;
- ❖ Capability – product features or functions needed to perform relevant tasks;
- ❖ Deployability – ease of use, including transport, training, and operational restrictions;
- ❖ Maintainability – amount of maintenance and minor repairs that may be needed throughout the life of the equipment; and
- ❖ Affordability – total cost of ownership over the life of the equipment, including purchase price, training costs, warranty costs, recurring costs and maintenance costs.

The feedback and data from the responders' assessments are being compiled and analyzed. The NUSTL In-Suit Communications Assessment Report will be released to the national first responder community later this year.

"Our SAVER assessment report will be a valuable tool for responders because it includes the results of all of our evaluations and feedback from these assessments," explained NUSTL Test Engineer Hasan Shahid. "These results include responder feedback on how easy the ISC products were to set up and use, how well they worked and what types of technical difficulties, if any, they experienced while using them."

To learn more about NUSTL's SAVER program, visit their [website](#).

The Homicide case of a North Korean: The use of nerve agent VX

NCT Magazine (October 2019)

Source: <http://nct-magazine.com/nct-magazine-october-2019/a-homicide-case-of-a-north-korean/>

A century ago, the development, production and use of biological and chemical weapons have been prohibited by international treaties signed by most world countries. Among the most important treaties are the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare, the 1972 Biological and Toxin Weapons Convention for the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and the 1997 Chemical Weapons Convention. The Organization for the Prohibition of Chemical Weapons (OPCW), which is the international authority set up by in the 1997 Chemical Weapons Convention, is in charge of taking practical arrangements with regards to matters involving chemical weapons. As of yet, no organization similar to the OPCW with regards to biological weapons exists. O-Ethyl S-2-diisopropylaminoethyl methyl



phosphonothioate – better known as VX – is one of the nerve agents designated as a Schedule I chemical warfare agent according to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons, also regarding their destruction. VX can be manufactured using relatively simple chemical methods and inexpensive and readily available raw materials, which has turned VX into a feared second ‘nuclear weapon’ of less technologically developed countries. Previously, nerve agents have been designated as chemical warfare agents due to their use in warfare. Nevertheless, chemical warfare agents such as Sarin and Soman have recently become a popular choice for non-state entities in situations outside the battlefield. The infamous 2017 case of a North Korean assassinated at the Kuala Lumpur International Airport using a poisonous fluid believed to be VX will be examined in detail in this article.

Chronology of the incident

On the morning of 13 February 2017, a 46-year-old North Korean man was allegedly sprayed with a fluid by two females at the Kuala Lumpur International Airport (KLIA) in Malaysia. The victim then continued walking, albeit stumbling, into an KLIA Outpatient Clinic at around 9.15 am after the attack to seek medical assistance (Figure 1).

The Medical Officer who attended to the victim said that both his eyes appeared to be teary whilst the victim continued to sweat profusely and had an unpleasant smell surrounding him. He complained about severe pain in both of his eyes and his vital signs showed high blood pressure with an elevated heart rate. Shortly afterwards he collapsed in the clinic as he lost consciousness, displaying severe symptoms such as convulsions and twitching of the muscles as well as drooling from his mouth. He was immediately intubated and given one ampoule of adrenalin and atropine intravenously. At this time, his vital signs showed low blood pressure with an elevated heart rate and he was arranged for transfer to the hospital via the KLIA2 ambulance accompanied by the paramedics (Figure 2).



►► Read the rest of this article (including Postmortem examination) at source's URL.

Lay See Khoo is a senior Forensic Scientist who has been working for the National Institute of Forensic Medicine under Ministry of Health Malaysia for more than 15 years. She is currently a Member of Panel Evaluator in the field of Forensic Science for the Malaysia Qualifications Agency (MQA) appointed by Chief Executive Officer MQA since 2017, as well as a Permanent Representative for the Forensic Sciences Technical Committee to develop the Malaysian Standards appointed by the Director of Standards Development Agency, Malaysian Institute of Chemistry (IKM) since 2016.

Helping First Responders Identify Unknown Chemicals

Source: <http://www.homelandsecuritynewswire.com/dr20191009-helping-first-responders-identify-unknown-chemicals>

Oct 09 – First responders arrive first on the scene when disaster strikes or terrorists attack. They often encounter dangerous conditions like smoke and chemicals. To best help in situations like these, they need to know the chemical substances present onsite.

This is where analytical field instruments such as Gas Chromatograph/Mass Spectrometers (GC/MS) come into play. But to acquire such technology, first responders first need to know which GC/MSs suit both their needs and their budgets.

S&T [says](#) that that's where the Department of Homeland Security [Science and Technology Directorate's](#) (S&T) System Assessment and Validation for Emergency Responders (SAVER) Program steps in. The SAVER Program, managed by S&T's [National Urban Security Technology Laboratory](#) (NUSTL), conducts assessments and validations of commercial technology to save money and time for first responders when they need to purchasing high quality equipment.



C²BRNE DIARY – October 2019

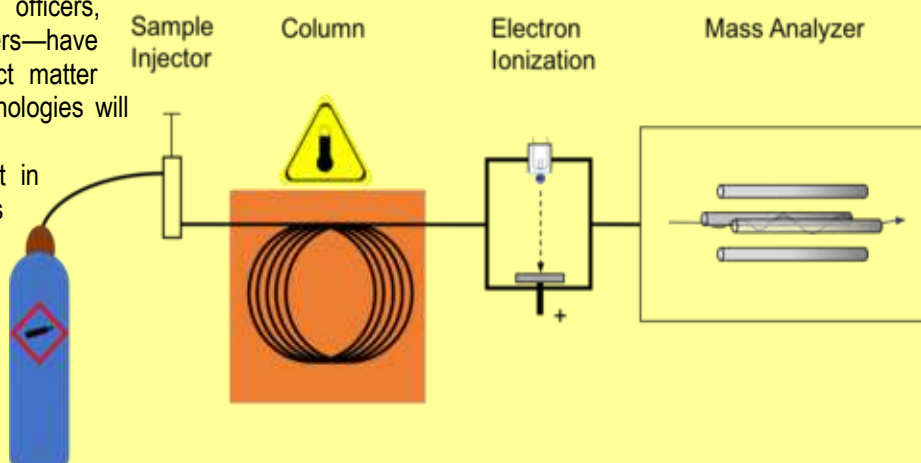
"It is like a consumer report," said John Kada, NUSTL Test Director for a recent GC/MS assessment. "Our report provides evidence how the instruments performed with respect to the evaluation criteria."

In July, Kada oversaw the assessment of three portable field GC/MSs used for analyzing chemical samples. Results from the assessment will be published in a report, to provide practical information for emergency responder organizations seeking an instrument best suited to their needs.

Background

Since its inception in 2004, the SAVER Program has assessed hundreds of emergency response technologies, and more than 1,000 emergency responders—law enforcement officers, firefighters, paramedics and emergency managers—have participated in those assessments. This subject matter expertise during the assessments ensures technologies will meet first responders needs.

S&T developed the recent GC/MS assessment in cooperation with the Department of Energy's Pacific Northwest National Laboratory (PNNL). A focus group consisting of first responders met in February 2019 to decide on the evaluation criteria. Most of the focus group members returned to participate in the July assessment.



Why do First Responders need GC/MSs?



During field operations, first responders may encounter substances suspected to be narcotics, toxic industrial chemicals, or chemical warfare agents. Responders specializing in hazardous materials use GC/MS equipment to identify these hazardous substances.

These instruments have multiple applications beyond first responder needs such as in environmental monitoring and cleanup to analyze environmental pollutants, in criminal forensics to link a criminal to a crime, in law enforcement to detect illegal narcotics, and in airport security to detect explosives.

"Gas Chromatography/Mass Spectrometry is considered the gold standard of analytical methods," said Kada. "With portable GC/MS instruments, first responders have laboratory capability right there in the field."

GC/MSs are capable of measuring gases, volatile and semi-volatile liquids, vapors emitted by some solids (if something has a smell, it emits vapor), and can also detect trace amounts of chemical compounds and identify them.

First Responders Assess the GC/MSs in Seattle

During the assessment, which took place at the Seattle Joint Training Facility, Washington, Kada and his team gathered relevant data from three different GC/MS models and received feedback from a group of seven first responder evaluators with different backgrounds, including firefighters, policemen, and a member of a municipal Department of Health. A representative from each instrument manufacturer trained the evaluators and provided technical support during the event.

"It is important to have documented results to demonstrate the effectiveness of our instrument in an unbiased environment utilizing industry experts as evaluators," said Craig Crume, Training Manager, Detection at FLIR Systems, Inc., one of the vendors.



The evaluators rated the affordability, capability, usability, deployability and maintainability of each instrument according to their needs in the field. They also rated the clarity of the analysis reports those instruments generated.

The seven responder evaluators were divided into three groups. Each evaluator has had experience operating field portable GC/MS or other chemical identification devices. The responders assessed the instruments by analyzing samples from common, non-toxic, consumer products, such as over-the counter medicines, cosmetics, and foodstuffs.

“For safety reasons, we didn’t have the responders use any dangerous chemicals,” Kada explained.

The assessment included 30 criteria and focused on testing the instruments’ general capabilities for analyzing different kinds of samples like solids, liquids, and gasses. Many questions were related to how effectively a responder can use that equipment.

S&T says that NUSTL will publish the evaluators’ feedback and results collected during the operational assessment scenarios later this year in [S&T’s SAVER library](#).

Deadly gases may be starting to leak from Europe’s World War weapons cemeteries

Source: <https://www.washingtonpost.com/world/2019/05/03/deadly-gases-may-be-starting-leak-europes-world-war-weapons-cemeteries/>

May 2019 — After World War I and World War II, officials decided to dump hundreds of thousands of metric tons of munitions into the oceans around Europe, which at the time appeared to be the most easily accessible disposal ground. Some of those weapons — including mines containing mustard gas — were simply dropped into the Baltic and North seas in the heart of Europe rather than being taken to faraway dump sites near the Arctic Circle.

But the hidden legacy of those world wars may come to haunt the continent for decades to come.

This week, the [Belgian newspaper Het Laatste Nieuws](#) reported that officials have grown concerned that one of those dump sites — close to the **Belgian coastal municipality of Knokke-Heist** — has started to leak. At the site, two out of 23 probed locations showed



signs of contamination, the paper said. The revelation followed months of official inquiries into what authorities’ fear could be a mounting public safety threat.

Used as a potentially deadly chemical agent during World War I, mustard gas can burn victims’ skin, respiratory tract and eyes.

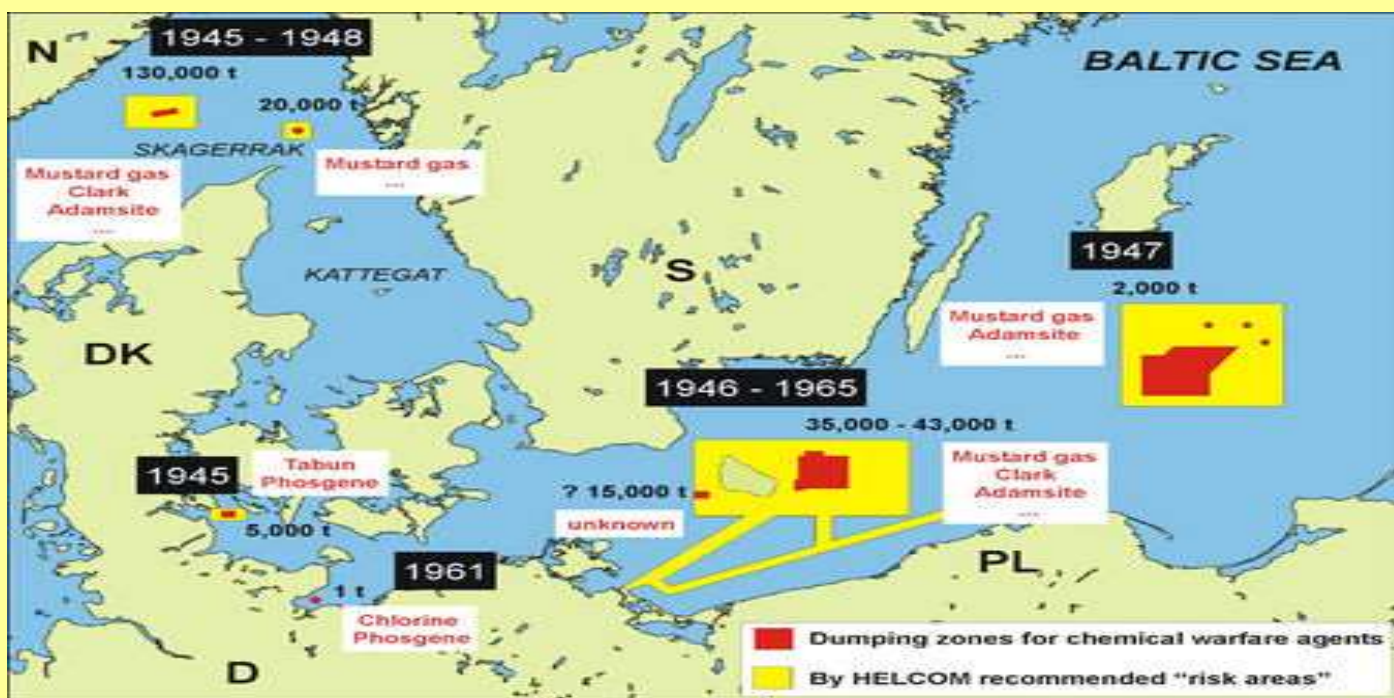


If confirmed, the leaks would hardly come as a surprise to other officials around Europe. They see themselves in a race against time to prevent the leaking of deadly gases and other hazardous substances, but they have struggled to have their concerns heard. While mustard gas leaks from Europe's underwater weapons cemeteries were long considered a worst-case scenario, officials also are expressing alarm over leaks of explosives such as TNT from dumped land mines or sea mines. While those substances have been contained inside metal cases for eight decades in the case of World War II, and about a century in the case of World War I munitions, the metal has rusted and become porous.

In the 1920s and 1940s, that may have seemed like a distant threat amid the still-vivid horrors of some of the deadliest conflicts in world history. But in more recent years, such leaks have posed a growing environmental threat. Activists have blamed the leaks in part for decreasing biodiversity in the Baltic Sea.

The problem extends far beyond the "weapons cemeteries" that are now making headlines.

In the neighboring **Baltic Sea, more than 80,000 mines are believed to be beneath the surface.** Unlike the North Sea's mass



dump sites, the locations of single mines are more difficult to track down. There are only vague maps of where the mines might be hidden — and most of them appear to be spread out



across hundreds of miles.

Reminders of their potentially deadly impact have mounted.

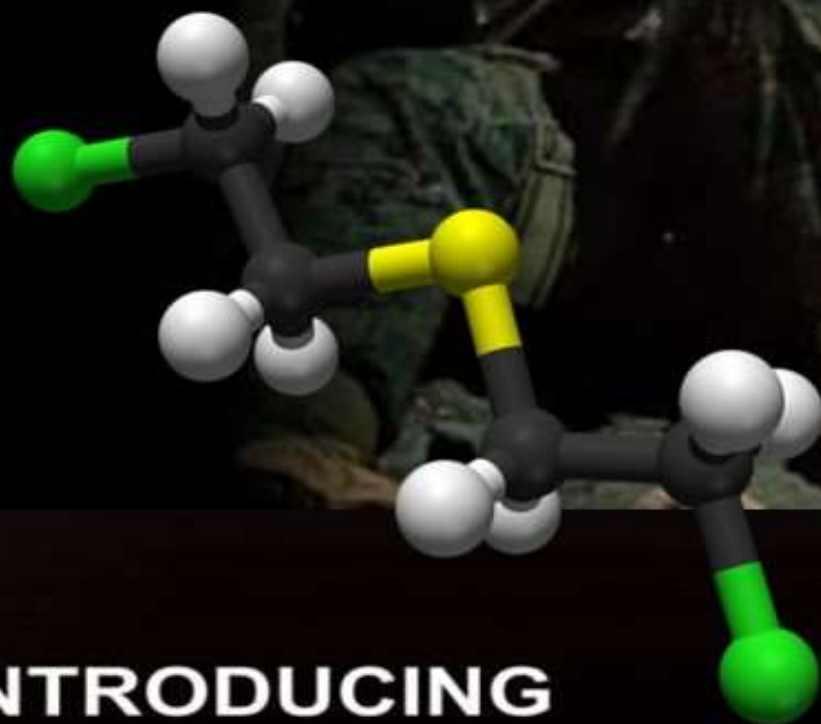




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rekah.co.il/

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Rekah Pharmaceutical Industry Ltd



In 2005, three Dutch fishermen were killed after they accidentally caught an American-made World War II bomb in their fishing net. Similar discoveries regularly trigger mass evacuations — for instance, last August in the Polish resort city of Kolobrzeg, where three bombs were discovered in the nearby bay.

European navies help out with remote-controlled vehicles and clearance divers within their own territorial waters. But in some areas, the density of explosives is believed to be so high that fishing is still prohibited there a century later.

Pipeline construction companies often hire private mine-clearance contractors to do the job if there is no way around it and when the explosives are found far out at sea, where European navies do not claim responsibility.

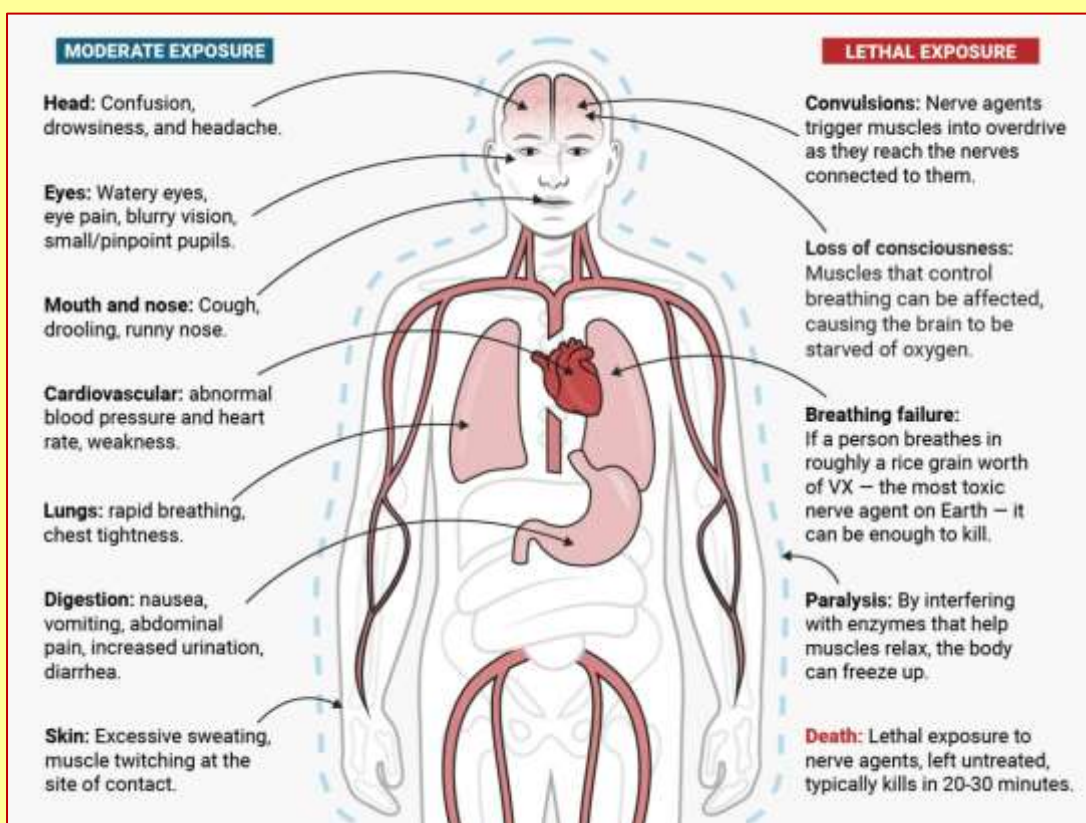
"It's unbelievable how many mines there still are," Cmdr. Peeter Ivask, the head of Estonia's navy, told a visiting reporter late last year.

"Our mission here will last decades," Ivask said. And, likely, it will never be complete.

Long-Term Effects Following Acute Exposure to Sarin Nerve Agent

Source: <https://globalbiodefense.com/2019/01/21/long-term-effects-following-acute-exposure-to-sarin-nerve-agent/>

January 2019 – The National Toxicology Program, on behalf of the National Institutes of Health (NIH) Countermeasures Against Chemical Threats (CounterACT) program, recently conducted a systematic review to evaluate the evidence for long-term neurological effects in humans and animals following acute exposure to sarin.



Long-term neurological effects of acute exposure to sarin are not well characterized. Previous reviews of potential health effects of sarin have generally not assessed individual study quality or considered multiple evidence streams (human, animal, and mechanistic data). In addition, the interpretation of effects of sarin in some previous reviews was compounded by concurrent exposure to multiple chemicals, such

Sarin is a highly toxic organophosphorus nerve agent that was developed for chemical warfare during World War II and continues to be used as a weapon. Long-term neurological effects of acute exposure to sarin are not well characterized. Previous reviews of potential health effects of sarin have generally not assessed individual study quality or considered multiple evidence streams (human, animal, and mechanistic data). In addition, the interpretation of effects of sarin in some previous reviews was compounded by concurrent exposure to multiple chemicals, such

as assessments of health effects in military personnel during the Gulf War or other conflicts.

The literature search and screening process identified 32 datasets within the 34 human studies and 47 datasets within the 51 animal studies (from 6,837 potentially relevant references) that met the objective and the inclusion criteria.

Neurological Response Health Effect Findings

Cholinesterase Levels

There is a high level of evidence from the human studies that sarin decreased cholinesterase levels in the initial time period and a moderate level of evidence for decreased cholinesterase



from experimental animal studies. The evidence for potential effects on cholinesterase in the extended period is inadequate with no experimental data and only a single study in humans.

Visual and Ocular Effects

Case reports or case series have reported that subjects exposed to sarin occupationally or via terrorist attacks complained of vision problems for weeks to years after exposure. There is a consistent pattern of findings that pupil constriction from acute sarin exposure gradually normalizes in the following week to several months. There is a moderate level of evidence from human studies that sarin has negative effects on vision in the intermediate time period including decreases in visual evoked potentials.

Learning, Memory, and Intelligence

Experimental studies in rats found consistent sarin-related effects on learning and memory that were apparent for days, weeks, and months after sarin exposure. The evidence from human studies for effects on learning and memory during the initial period is inadequate. In the extended period, there is a moderate level of evidence that sarin exposure is associated with impaired learning and memory based on epidemiological studies and a low level of evidence from experimental animal studies.

Morphology and Histopathology in Nervous System Tissues

Although there were no experimental animal studies available to evaluate morphological and histological changes at the extended time period after exposure, one cross-sectional study and one case report, which evaluated adults from the Tokyo subway attack, provide evidence that acute exposure to high levels of sarin is associated with morphological and histological changes in human nervous system tissues in the years following sarin exposure.

Key Data Gaps

Rapid Research Response

Because wartime and terrorist use of chemical weapons are rare and unpredictable events, there could be value to developing a rapid research response capability so that emergency response would include the latest treatment knowledge for the victims. The response could also collect vital human clinical data soon after chemical exposures.

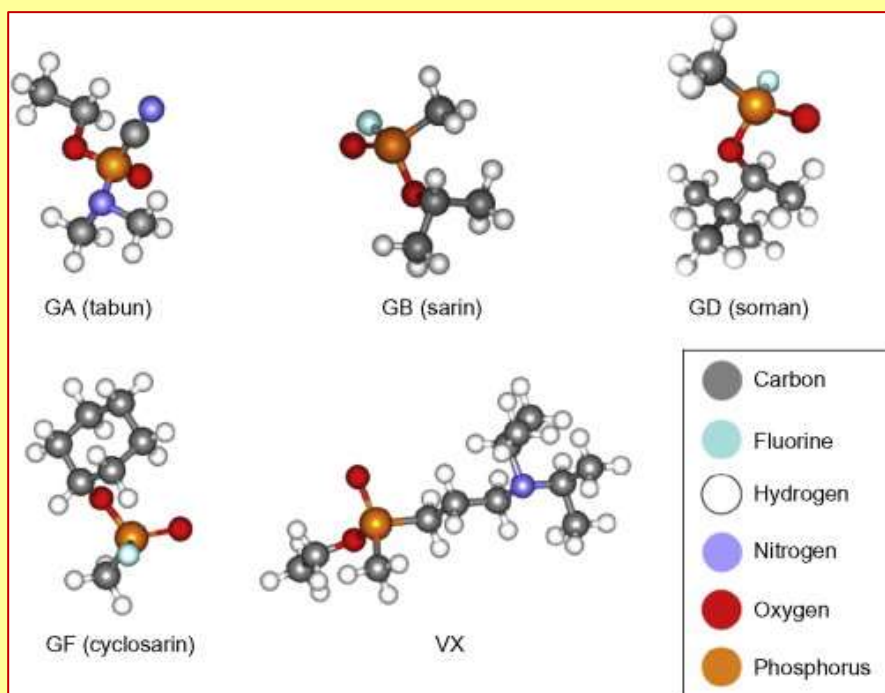
Well designed, pre-planned, epidemiological studies would add valuable data to the body of evidence that would be likely to impact conclusions or the confidence in the conclusions reached in this systematic review, given the lack of human data on many endpoints and time periods.

More rigorous human data would add greater confidence to conclusions reached in this evaluation across all outcomes described above except in the body of evidence for suppression of cholinesterase activity in the initial time period, which already is rated as high confidence and a high level of evidence.

Data on other persistent symptoms and neurological effects would also be valuable, as a range of effects have been reported, but the evidence was inadequate to evaluate these health outcomes due to serious limitations in the bodies of evidence (e.g., heterogeneity in the endpoints examined, too few human or animal studies, small sample sizes, serious risk-of-bias concerns).

Human Cohort Studies

Prospective longitudinal cohort studies would be the most informative to better assess neurological effects associated with sarin exposure. Studies that assess visual and ocular effects 1 year or more after exposure in humans would address a data gap in reaching conclusions. However, studies that evaluate measurable results beyond pupil size and self-reported symptoms would add value to the assessment of potential visual and ocular effects



resulting from acute sarin exposure. Human cohort studies would be invaluable in characterizing the relationship between ChE activity and neurological effects over time, as well as the potential relationship between acute sarin exposure and the development of PTSD as it relates to other neurological effects.

Animal Model Dose-Response Effects Over Time

Because of the ability to conduct controlled-exposure studies, experimental animal studies are particularly important for addressing research gaps identified by this systematic review, especially for identifying specific effects that could be targeted for medical mitigation. Animal studies indicate differences in inhibition and recovery of ChE activity in different areas of the brain; however, the data are insufficient to identify if there are particularly vulnerable areas of the brain. Future research could focus on these effects to help identify potentially vulnerable areas that could be targeted. Studies in appropriate animal models are also needed for rigorous, well-controlled experimental assessments of the dose-response relationship between sarin exposure and long-term neurological effects.

Sarin Effects on Special Populations

Another gap in both the human and animal data are the effects of sarin on the developing and aging brain. It currently cannot be assessed if children, the very young, or the very old are more susceptible populations.

Document: [Draft NTP Monograph on Systemic Review of Evidence of Long-Term Neurological Effects Following Acute Exposure to the Organophosphorus Nerve Agent Sarin \(.pdf\)](#)

Photo intelligence

Multiple base agencies conduct a joint chemical response exercise

Source: <https://www.afspc.af.mil/News/Photos/igphoto/2001851010/mediaid/2380070/>



Explosive ordnance disposal technicians assigned to the 379th Expeditionary Civil Engineer Squadron, assess and document a improvised rocket-assisted mortar during a joint chemical



threat training exercise at **Al Udeid Air Base, Qatar, Nov. 25, 2017**. The scenario involved an unknown object that was launched over the perimeter. (U.S. Air National Guard photo by Staff Sgt. Patrick Evenson)

EDITOR'S COMMENT: Again, and again and again! Donning of PPE should be as complete as possible and this can only happen by employing the “buddy system”. The difference between the two responders is so obvious! And if the absence of tape in the responder on the left is not very important, the gap (red circle) between the PPE's hood and the mask revealing flesh is lethal. If you cannot do it right during drill you will not do it right in a real incident. Simple as that. Be careful with the photos uploaded on the Internet because they reveal the level of the training of a specific organization.

Indonesia arrests 36 terror suspects including policewomen ahead of Jokowi inauguration

Source: <https://www.scmp.com/week-asia/politics/article/3033201/indonesia-arrests-terror-suspects-uncovers-suicide-bomb-plots>



Oct 17 – At least 36 suspected militants, including two former policewomen, have been arrested in recent weeks for plotting suicide bombings and assembling explosive devices ahead of Indonesian President Joko Widodo's inauguration for his second term this Sunday, police have said.

Four of those detained were suspected suicide bombers aiming to attack police stations and non-Muslim places of worship in the West Java city of Cirebon, and the Central Java cities of Solo and Yogyakarta, national police spokesman Dedi Prasetyo said on Tuesday. One of the four was a policewoman from Yogyakarta named Nesti Ide Sami, an anti-terror police source told *This Week in Asia*.



On Wednesday, another national police spokesman, M. Iqbal, said the force had raised its level of internal monitoring. Both policewomen had been fired for violating the police code of ethics for deserting the police force. They will now be dealt with by the judiciary for the alleged terror activities, he said.

Dedi, who briefed the media at length on Tuesday, said at least 10 home-made pipe bombs, chemicals for use in explosives, air guns, knives, documents on planned attacks, jihadist books, laptops and cellphones were seized in the raids.

The suicide bombers were intending to use “high explosives” including a toxic poison called **Abrin. The substance is found in the seeds of the rosary pea, a plant common in tropical areas, and has been described as a potential agent for chemical terrorism by the US Center for Disease Control and Prevention. “These bombs are different from those usually assembled by terrorist groups. These ones are more dangerous with less than 0.7 microgrammes of abrin being able to kill 100 people,” Dedi said.**



Indonesian authorities are on high alert after episodes of mass unrest across the sprawling archipelago in the last few months, with student protests against new laws last month resulting in clashes with police and the deaths of three youngsters.

But State Intelligence Agency spokesman Wawan Purwanto said large demonstrations could be used by militants as cover for an attack, according to comments reported by Agence France-Presse.

Authorities have increased their scrutiny of JAD, which was founded in 2015 and gained notoriety after a January 2016 gun and suicide attack in downtown Jakarta that left eight people dead.

Dedi said among the 29 arrested suspects were a man and his 14-year-old son on the tourist island of Bali who plotted to make a bomb for an attack against the local police.

Another character who went by the nom de guerre Jack Sparrow – a fictional character from the *Pirates of the Caribbean* film series – was detained for plotting to carry out a bomb attack in the restive Indonesian province of Papua.



Robi Sugara, a lecturer and counterterrorism analyst at Syarif Hidayatullah Islamic University, said what was “most worrying” was that terror groups would use knife attacks on any official, especially district level officials.

Benny Mamoto, a retired inspector-general of police who investigated many of the country’s major terror attacks, said the attack on Wiranto showed there was a need to “increase the level of alertness against attacks using sharp objects”. Mamoto, who is now head of research for Police Study and Terrorism at the University of Indonesia, said the country’s standard operating procedures for security also needed to be re-evaluated.

“The SOP needs to be evaluated each time there is a change in the modus operandi of the threats and the form of attacks. This issue will continue to grow in line with global developments, especially if they [Indonesian terror groups] are affiliated with groups in a particular foreign country.

“Terrorists study the way the security apparatus works, including how they carry out their operations and their weaknesses, which then become an opportunity,” he said, adding that this was why security forces needed to stay one step ahead and anticipate threats from new types of attacks.

EDITOR’S COMMENT: I am not sure how toxic Abrin could be after the explosion due to the high temperatures developed. But even tiny quantities can complicate open wounds caused. It is like the feces added into mortars during the FARC era in Colombia causing sepsis to those wounded.

Osprey – High Comfort Undergarment

Source: <https://www.opecbrne.com/product/osprey-high-comfort-undergarment/>



The Osprey is a high comfort, high protection carbon undergarment. It has been designed and tested to be worn as an undergarment in conjunction with a standard clothing outer layer. It should be employed for emergency evacuation from a hazard zone and affords requisite protection for immediate movement away from the hazard area. Frequently worn covertly, its close fit and good air permeability allows for long periods of comfortable wear.

Features and Benefits

- 24 Hours protection



- High protection, maximum comfort
- Exceeds NATO standards
- High air permeability
- Low physiological burden
- Launderable 20 times
- 20 year shelf life
- Available in integral and separate hood variations

Kestrel – Two Piece Lightweight Protective CBRN Oversuit

Source: <https://www.opeccbrne.com/product/kestrel-two-piece-mediumweight-protective-cbrn-oversuit/>

The Kestrel is a highly comfortable and highly protective two-piece CBRN oversuit harnessing much of the technology used in the Phoenix Lightweight Protection suit. At around 30% lighter than conventional systems, it provides qualified CBRN vapour protection with the added benefit of water/oil repellence and fire-retardant coatings, thus making the Kestrel an extremely versatile CBRN protection system for use in multiple CBRN threat environments.

Features and Benefits

- Conforms to NATO standards
- High protection
- High air permeability
- Greater comfort and low physiological burden
- 20 times launderable
- 20 year shelf life
- Compatible with a range of accessories
- Fire retardant and water/oil repellent
- Stand alone garment or overgarment
- Rugged and durable
- Available in various colours and camo patterns

Lightweight and breathable, the Kestrel has been tested using the Avon FM12 respirator, and can be configured to suit many other types of respiratory protection. The Kestrel provides demonstrable improvement in comfort at high and low temperature and humidity. Impact on body temperature at high humidity is also lower when measured against conventional overgarments.



Falcon – One Piece Lightweight Protective CBRN Oversuit

Source: <https://www.opeccbrne.com/product/falcon-one-piece-lightweight-protective-cbrn-oversuit/>

The Falcon is a highly comfortable and highly protective 1-piece CBRN oversuit harnessing much of the technology used in the Phoenix Lightweight Protection suit. At around 30% lighter than conventional systems, it provides qualified CBRN vapour protection with the added benefit of water/oil repellence and fire-retardant coatings, thus making the Falcon an extremely versatile CBRN protection system for use in multiple CBRN threat environments.

Constructed using a lightweight activated carbon liner, combined with a rugged and anti-rip outer, the Falcon has been designed to offer the wearer maximum comfort whilst still offering a high level of CBRN protection within both a military and civil environment.



Lightweight and breathable, the Falcon has been tested using the Avon FM12 respirator, but can be configured to suit many other types of respiratory protection.

Features and Benefits

- Conforms to NATO standards
- High protection
- High air permeability
- Greater comfort and low physiological burden
- 20 times launderable
- 20 year shelf life
- Compatible with a range of accessories
- Fire retardant and water/oil repellent
- Stand alone garment or overgarment
- Rugged and durable
- Available in various colours and camo patterns

The Falcon provides demonstrable improvement in comfort at high and low temperature and humidity. Impact on body temperature at high humidity is also lower when measured against conventional overgarments.

The Falcon suit has been designed as an integrated system for use with protective gloves and over-boots and a negative pressure respiratory system. The Falcon CBRN Protection Suit is designed for use by appropriately trained and CBRN aware personnel. It forms part of a specialised layer of protection against airborne challenge agents and is not intended for use by personnel who are not familiar with the requirements of a CBRN protection protocol.



Harrier CBRN Protective Gloves

Source: <https://www.opeccbrne.com/product/harrier-cbrn-protective-glove/>

Utilising a highly protective yet comfortable NOMEX and leather combination, the Harrier affords 24- hour protection against vaporous Chemical Warfare Agents and gives qualified liquid protection.

Features and Benefits

- High dexterity for user
- **Fingertip 'Touchscreen' capability**
- Materials CWA chemical permeation data available on request.
- Fire retardant
- High comfort
- Available in sand and black



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BIO NEWS





FDA OKs first human monkeypox vaccine (also protective against smallpox)

Source: <http://www.cidrap.umn.edu/news-perspective/2019/09/fda-oks-first-human-monkeypox-vaccine-also-protective-against-smallpox>

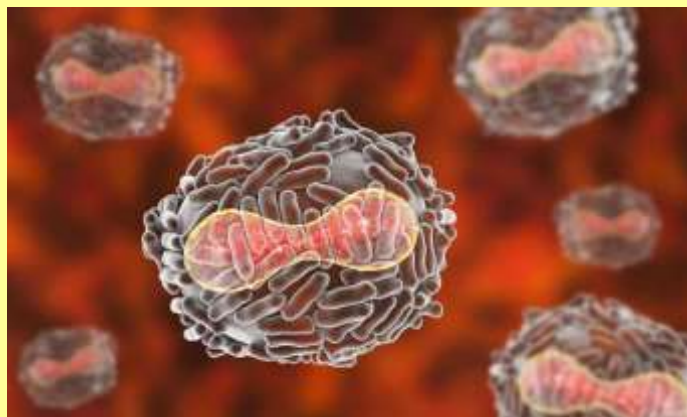
Sep 25 – The US Food and Drug Administration (FDA) approved Bavarian Nordic's new monkeypox and smallpox vaccine, **Jynneos**, for use in adults over the age of 18 who are at risk for either virus, the company said yesterday in a news release.

In addition to being the only US-approved vaccine for preventing monkeypox, Jynneos is also the first FDA-approved non-replicating smallpox vaccine.



"The FDA approval of JYNNEOS is a tremendous milestone for both our company and the U.S. Department of Health and Human Services," said Paul Chaplin, president and chief executive officer of Bavarian Nordic, in the release. "Together, we have shown that it is possible to develop a safe and effective medical countermeasure for national security threats like smallpox."

"Although naturally occurring smallpox disease is no longer a



global threat, the intentional release of this highly contagious virus could have a devastating effect, said Peter Marks, MD, PhD, director of the FDA's Center for Biologics Evaluation and Research, in an FDA press release yesterday. "Today's approval reflects the U.S. government's commitment to preparedness."

Jynneos, which took 15 years to develop, is safe for use in adults with eczema and compromised immune systems—people normally considered too high risk for the standard smallpox vaccine.

The vaccine, based on a live, attenuated vaccinia virus, will be injected in one dose, and has been proven to be safe and immunogenic in 22 clinical trials.

"The years of dedication working with Bavarian Nordic on this vaccine ultimately mean that the U.S. is better prepared to save lives if an emergency occurs involving one of the deadliest diseases the world has ever known," said Rick Bright, PhD, Health and Human Services deputy assistant secretary for preparedness and response and director of the Biomedical Advanced Research and Development Authority (BARDA), in the Bavarian Nordic news release.

Bavarian Nordic sees travel vaccine potential

Monkeypox is related to smallpox, and both viruses are part of the *Orthopoxvirus* genus in the Poxviridae family. Unlike smallpox, however, monkeypox is difficult to transmit via person-to-person. Most cases have been in humans who have eaten tainted animal meat and then fallen ill. The virus has about a 1% to 10% case-fatality rate, and patients experience an unsightly rash for several weeks after contracting the virus.

Monkeypox outbreaks are ongoing in Nigeria, but the disease has been documented in Nigerian travelers in the United Kingdom, Israel, and Singapore.

According to Bavarian Nordic, as many as 5 million people travel to countries affected by monkeypox in Central Africa each year, suggesting a market potential for a monkeypox vaccine for travelers.

Smallpox is much more deadly than monkeypox, and highly contagious. The virus was eradicated in 1980, but most of the world's population is now susceptible to infection, making the smallpox a bioweapon target, Bavarian Nordic said.

"Re-emergence of smallpox could occur as result of deliberate or accidental release of samples that are kept for research purposes or may be synthesized in a lab," the company said.

Smallpox has a 30% case-fatality rate.



Anthrax Redux: Did the Feds Nab the Wrong Guy?

Source: <http://www.homelandsecuritynewswire.com/dr20190924-anthrax-redux-did-the-feds-nab-the-wrong-guy>

Sep 24 – Finally, the investigation was over. The riddle solved. On 18 August 2008—after almost seven years, nearly 10,000 interviews, and millions of dollars spent developing a whole new form of microbial forensics—some of the FBI's top brass filed into a dimly lit, flag-lined room in the bureau's Washington, DC, headquarters. They were there to lay out [the evidence](#) proving who was responsible for the anthrax attacks that had terrified the nation in the fall of 2001.

Noah Shachtman writes in [Wired](#) that "It had been the most expensive, and arguably the toughest, case in FBI history, the assembled reporters were told. But the facts showed that Army biodefense researcher [Bruce Ivins](#) was the person responsible for killing five people and sickening 17 others in those frightening weeks after 9/11. It was Ivins, they were now certain, who had mailed the anthrax-filled letters that exposed as many as 30,000 people to the lethal spores."

No one involved that day expressed any doubt about Ivins' guilt. But things are not always as clear-cut as they may seem in an FBI presentation.

Schachtman writes:

It's been 10 years since the deadliest biological terror attack in U.S. history launched a manhunt that ruined one scientist's reputation and saw a second driven to suicide, yet nagging problems remain. Problems that add up to an unsettling reality: Despite the FBI's assurances, it's not at all certain that the government could have ever convicted Ivins of a crime.

Terrorists using genetically modified virus could 'wipe us off the face of the planet'

Source: <https://www.express.co.uk/news/science/1182505/terrorist-attack-pandemic-end-times-bioterror-terrorism-disease-outbreak-virus>

Sept 25 – Terrorists could use genetically modify diseases to attack their enemies, and the consequences would be devastating. If terrorists were able to obtain the biotechnology which allowed them to genetically modify a pathogen or virus, the consequences could be deadly for humanity. The virus would need to be altered in a way that scientists are unfamiliar with to truly maximise chaos.



Much in the same way as vaccines are created – by identifying the antigen which triggers the immune response which are then isolated and then injected it into humans – a similar process could happen by identifying the lethal traits in viruses to make them even more harmful.

Bryan Walsh, author of the book [End Times](#) which details the existential threats humanity faces, believes that if terrorists could obtain the technology to modify viruses, the consequences could be dire.

Mr Walsh wrote in his book: "We're scared of disease outbreak and we're scared of terrorism – put them together and you have a formula for chaos.

"As deadly and as disruptive as a conventional bioterror incident would be, an attack that employed existing pathogens could only spread so far, limited by the same laws of evolution that circumscribe natural disease outbreaks.

"But a virus engineered in a lab to break those laws could spread faster and kill quicker than anything that would emerge out of nature.

"It can be designed to evade medical countermeasures, frustrating doctors' attempts to diagnose cases and treat patients.

"If health officials manage to stamp out the outbreak, it could be reintroduced into the public again and again.

"It could, with the right mix of genetic traits, even wipe us off the planet, making engineered viruses a genuine existential threat."



The Prioritization of Island Nations as Refuges from Extreme Pandemics Matt

By Boyd and Nick Wilson

Department of Public Health, University of Otago, NZ

2019 Society for Risk Analysis

Source: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/risa.13398>



Island Nation	Population
Australia	24,598,930
New Zealand	4,793,900
Iceland	341,280
Malta	465,290
Japan	126,785,800
Cape Verde	546,390
Bahamas	395,360
Trinidad and Tobago	1,369,130
Barbados	285,720
Madagascar	25,570,900
Cuba	11,484,640
Mauritius	1,264,610
Fiji	905,500
Maldives	436,330
Sri Lanka	21,444,000
Comoros	813,910
Solomon Islands	611,340
Jamaica	2,890,300
Philippines	104,918,090
Vanuatu	276,240

Really?!

In this conceptual article with illustrative data, we suggest that it is useful to rank island nations as potential refuges for ensuring long-term human survival in the face of catastrophic pandemics (or other relevant existential threats). Prioritization could identify the several island nations that are most suitable for targeting social and political preparations and further investment in resiliency. We outline a prioritization methodology and as an initial demonstration, we then provide example rankings by considering 20 sovereign island states (all with populations greater than 250,000 and no land borders). Results describe each nation in nine resilience-relevant domains covering location, population, resources, and society according to published data. The results indicate that the most suitable island nations for refuge status are Australia, followed closely by New Zealand, and then Iceland, with other nations all well behind (including the relatively high-income ones of Malta and Japan). Nevertheless, some key contextual factors remain relatively unexplored. These include the capacity of the jurisdiction to rapidly close its borders when the emerging threat was first detected elsewhere, and whether or not large subnational islands should be the preferred focus for refuge design (e.g., the Australian state of Tasmania, the island of Hokkaido in Japan, or the South Island of New Zealand). Overall, this work provides conceptual thinking with some initial example analysis. Further research could refine the selection of metrics, how best to weight the relevant domains, and how the populations of prioritized island nations view their nation's selection as a potential refuge for human survival.

EDITOR'S COMMENT: Madagascar and Malta – really??? Never heard of plague epidemics in Madagascar? Malta is the only European country and is very close to African coasts and they are supposed to accept refugees from pandemic areas (the moment they are reluctant to host a few hundred illegal immigrants from sub-Saharan area)? And all the other countries mentioned in this paper, with the exception of Australia, New Zealand, Japan and (perhaps) Iceland, do they have the medical force and capabilities to host refugees from other nations hit by a pandemic? And even Australia and New Zealand, can they absorb neighboring Asian nations peacefully and without the use of excessive force? What an odd paper!

CRISPR flies have been gene edited so they can eat poison

Source: <https://newatlas.com/biology/crispr-flies-gene-edited-eat-poison/>



Oct 02 – Scientists at the University of California, Berkeley have used the CRISPR gene-editing tool to give fruit flies an evolutionary advantage they've never had before. **By making just three small changes to a single gene, the team gave the flies the ability to effectively eat poison and store it in their bodies, protecting themselves from predators in the process.**

Milkweed is a common plant that's toxic to most animals and insects – but the monarch butterfly (photo) flies in the face of that plant's defenses. The bug has evolved the ability to not only thrive on the poisonous plant, but turn it to its own advantage. It stores the toxins in its body, making it poisonous to any predators that might try to eat it.

And now, the UC Berkeley researchers have given fruit flies that ability for the first time. CRISPR has been used to edit the genes of [insects](#), [mammals](#) and even [humans](#), but the team says this is the first time a multicellular organism has been edited to endow it with new behaviors and adaptations to the



environment. In this case, that means a new diet and a new defense mechanism against predators.

The researchers first looked at the butterfly genes that are believed to let them dine on milkweed, and then tried to recreate those specific mutations in the fruit flies. They found that a single gene is responsible, and they only had to substitute three nucleotides in that gene to give the flies the same superpower.

The edited fruit fly maggots were able to thrive on a diet of milkweed, storing those toxins in their bodies, and these abilities stayed with them even after they underwent metamorphosis and became adult flies. The mutation allowed the insects to be 1,000 times less sensitive to the milkweed toxin than wild fruit flies.

“All we did was change three sites, and we made these superflies,” says Noah Whiteman, lead author of the study. “But to me, the most amazing thing is that we were able to test evolutionary hypotheses in a way that has never been possible outside of cell lines. It would have been difficult to discover this without having the ability to create mutations with CRISPR.”

The gene at the center of the study builds the flies’ sodium pumps, a vital part of the cell that maintains the right balance of sodium ions. The milkweed toxin is known to clog this mechanism with deadly consequences, but the monarch butterfly (and now the fruit fly) has mutations that allow it to get around this problem.

Interestingly, the three mutations have to happen in a certain order to work. The team found that two of the mutations gave the insects a strong resistance to the poison, but also seriously affected their nervous systems. The third mutation cancels out the negative effects, leaving just the toxin resistance.

The study has important implications not only for our understanding of how evolution works, but also potentially widening the use of the CRISPR gene-editing tool as a way to direct evolution of new traits and behaviors.

The research was published in the journal [Nature](#).

The Art and Science of Biological Detection

By Rob Schnepf

Source: <https://www.domesticpreparedness.com/preparedness/the-art-and-science-of-biological-detection/>

It is no secret to anyone in the hazardous-materials response field that the detection of biological agents is a complicated process. The detectors themselves are complicated, at least in terms of the sciences and operating principles involved. The biological agents that may or may not be present also are complicated, as is the determination that a suspicious white powder or other substance poses a credible health threat. Finally, the processes of sampling a biological agent and running a reliable and trustworthy test, or series of tests, add a completely different set of complications. Practically speaking, therefore, everything must go exactly right in order to run a dependable test and feel confident about the results. Moreover, even when everything is done right, a negative reading does not always mean that a biological agent is completely absent; on the other hand, a positive reading does not absolutely guarantee that the suspected agent is present. From a broad perspective, responders should look at effective biological detection as a multi-faceted operation, not reliant on a single test or detection technology. Monitoring for radiation hazards, flammability, corrosivity, and the presence of volatile organic compounds should be automatic, of course. In addition, any suspected biological agent should initially be tested against a protein screen and/or other “rule out” systems or devices. Determining whether or not a sample contains a protein (which may indicate the presence of a microbe) is a good first step. Basically, if a sample turns up negative for proteins, and the overall situation does not appear to be a

credible threat, there usually is a low probability that the substance poses a significant health hazard.

The next step should include an attempt to identify the substance. This is where the selection of current biological-detection systems comes into play. There are a number of detectors on the market, each employing a slightly different testing methodology. Regardless of what technology – PCR or immunoassay, for example – is selected, a few basic features of the machine should be understood.

Polymerase chain reaction (PCR) technology involves genetic-based detection, which identifies the specific DNA or RNA of a suspected biological agent.

Immunoassay tests are based on an antigen-antibody response. Antigens are molecules present on the surface of foreign microbes; antibodies of various types form strong and specific interactions with antigens. The use of known antibodies to determine the presence of specific antigens is one of the most effective detection tools available to the scientific community.

The user of the machine should understand two things from the beginning: First, that each monitor is unique in terms of sensitivity—*sensitivity* refers to the detector’s ability to determine the presence of even a small amount of biological agent in a sample.



Second, the monitor should not only be sensitive enough to pick up a biological agent below what is considered an “infective dose,” but also specific enough to rule out so-called neighbor organisms (thereby reducing the instances of false positive readings). If an assay is not sensitive enough, or if there are not enough microorganisms in the sample, a false negative reading may occur. If a detector is not specific enough to identify a particular agent, a false positive reading is likely.

Prerequisites to Understanding

The sampling aspect of the operation can be thought of as the Achilles’ heel of biological detection. In many situations, if the responder does not completely understand the particular parameters the machine requires to run a test, the test may not be valid. There may be too much powder put into a buffered solution, for example, thereby making the machine incapable of processing the sample. On the other hand, if the sample is too diluted – i.e., there are not enough organisms present – the test may come up negative, leading the responder to believe there is no agent present. Either way, the results may be questionable, causing additional stress at the incident scene. It is important, therefore, to ensure that all samples are taken in strict accordance with the guidelines established by the manufacturer of the biological detector.

If a suspected substance comes up positive for the presence of protein and is specifically identified by a reliable detector, the testing process should move toward confirmation by a public health laboratory, the commonly accepted “gold standard” of biological detection. Anthrax, to cite but one example of several biological agents now in the news, is not considered to have been truly identified as anthrax until a high-level public health lab has confirmed it by culturing. The process of culturing includes: (a) growing a colony of spores on a nutrient surface such as blood agar; and (b) visually observing the results through a microscope. In this instance, identifying a biological agent is considered by many to be as much of an art form – based on the observations and experience of the microbiologist running the test – as it is a science.

Most biological agents, even those at or above lethal concentrations, would be invisible to the naked eye and therefore might require a responder to sample numerous areas of potential presence – e.g., any and all surfaces, liquids, and/or airborne environments – to obtain a sufficient quantity of the agent to run a test. This requirement adds a few additional complications. A slight breeze or air current created by a ventilation system, for example, may push or pull an aerosolized biological agent throughout a building, forcing responders to sample air-handling systems and secondary locations far removed from the original release location.

A Simple Enough Challenge

Essentially, the accuracy of a biological-detection operation depends first on taking a sample in the right place with the right tools, and then on using a machine with a proven track record of reliability – i.e., sensitive enough to detect the suspected agent, but not prone to false positives. “To run a reliable test for a bio agent,” said Rick Thomas, Vice President of Government Programs for Sceptor Industries Inc., “you need to collect enough material to run a test. That may seem simple enough, but in reality, especially with an aerosolized release, collecting enough agent is a challenge.”

Thomas, who has over 25 years of experience in the chemical and biological instrumentation field, recommends that responders adopt a “collect to detect” philosophy when it comes to positively identifying a biological agent. In situations where responders suspect an airborne release of a biological agent, or where powders may have become airborne, Thomas recommends the use of a concentrator and collector as an adjunct to a biological detector. “Our machine helps to concentrate air samples,” Thomas said. “We manufacture high-volume air samplers, intended to draw in and collect larger quantities of a suspected material and concentrate those substances in a solution. A responder can then remove that vial of solution, withdraw whatever amount the detector requires, and run a test.”

Sceptor Industries, the manufacturer of the Omni 3000, a rugged and portable air sampler, has supplied aerosol sampling equipment for such major public venues as the Super Bowl and World Series, various Mardi Gras festivities, and other high-profile events. It is important to understand, Thomas said, that a sampler such as the Omni “is not a biological detector—it is designed to expand the ability of a responder to detect an aerosolized biological release by providing a highly concentrated sample of the ambient air. At events like the Super Bowl, for example, these air samplers can be strategically placed throughout the venue, and run for specific periods of time. The sample vials can be removed at certain intervals, and responders can use whatever amount of the solution they need to run a test with their own bio detector. It provides a unique opportunity to do biological detection at a large venue.”

When it comes to sampling a suspect powder, Thomas said he believes that responders often neglect to consider the potential for an airborne hazard. “Responders should keep in mind that powders like anthrax are very easily blown around. If an agent happens to be dispersed into the ventilation system of a building, or otherwise released or blown into the air, the only way to retrieve those particles is by using an air sampler like the Omni. The way I



see it, if you don't sample the aerosol component, you may be missing something critical."

Differences and Distinctions in Detection

To a large degree, biological detection is a unique science – considerably different from the standard principles and practices of gas detection that most hazardous-materials responders are accustomed to. The primary difference is that biological detectors do not, as the typical gas detector does, sample the suspected environment and provide the user with real-time results. Similarly, in the field of chemical detection, if the proper detector is used and the released substance is within the detectable range of the machine, the user will receive an immediate reading that does not require validation by a laboratory or a public health agency.

Another critical distinction lies in the fact that chemical substances (gases and vapors) do not need to be prepared or handled in any way in order to detect them. If a gas is present,

and the detector is capable of "seeing" it, a reading will be obtained. In contrast, biological detection, because of the nature of the agents themselves and the limitations as well as capabilities of current detection technologies, will be effective only when all facets of the sampling and detection processes are performed correctly. To that end, it is incumbent on all responders both to understand the operational principles of their particular machines and to be fully trained to sample all potential environments with a wide array of tools and equipment.

It is in that context that Thomas again cautions responders to consider the entire environment when sampling for a biological agent: "If you swab a desk, for example, and get a negative test result, you may not really have a 'clean' room," he noted. For that reason alone, it is "imperative," he added, "to look not only at the surfaces, but also at the air. If you don't know what's in the air you may not be truly safe."

Close-Knit, Vaccine-Reluctant Communities Stoked Measles: CDC

Source: <http://www.homelandsecuritynewswire.com/dr20191009-closeknit-vaccinereluctant-communities-stoked-measles-cdc>

Oct 09 – From 1 January to 1 October of this year, the United States tracked 22 measles outbreaks and 1,249 cases, according to a new overview published today by the Centers for Disease Control and Prevention (CDC) in [Morbidity and Mortality Weekly Report](#) (MMWR).

The large number of cases nearly caused the country to lose its measles elimination status, obtained in 2000, the CDC said, and close-knit communities that eschewed the vaccine played a major role.

Fully 93 percent of measles cases were associated with an outbreak—defined as three or more related cases. The overview offers the most comprehensive picture of these outbreaks, and the forces that made 2019 the worst measles year the U.S. has seen since 1992.

Three Fourths of Cases in Orthodox Jewish Areas

"Eight outbreaks that occurred in underimmunized, close-knit communities accounted for 85 percent of all cases," the CDC said. And 75 percent of all cases in 2019 were part of outbreaks among Orthodox Jewish populations in New York State and City.

Under-vaccinated and unvaccinated people were the most likely to contract the virus; 89 percent of patients were not vaccinated with measles, mumps, and rubella (MMR) vaccine, and 11 percent received only one dose of the two-dose regimen. No deaths have been attributed to measles this year, but 119 case-patients (10 percent) required hospitalization. Twenty percent of the hospitalizations occurring in infants under the age of 1.

The median patient age was 6 years, with 13 percent of cases occurring in infants under 1 year, 31 percent of cases in children ages 1 to 4, 27 percent of cases in children ages 5 to 17, and 29 percent in adults.

Eighty-one cases were internationally imported measles cases, linked to ongoing outbreaks in Israel, Ukraine, and the Philippines. Of the 81 international cases, 52 were in US residents who contracted the virus during their time abroad.

New York Outbreaks Tied to Foreign Travel

While most outbreaks in 2019 were small and short-lived, the two New York-based outbreaks were persistent and lasted more than 1 year, the CDC said.

Both New York-based outbreaks had links to international travel. A Brooklyn outbreak that began in September 2018 started with a returning US traveler, and an outbreak in Rockland County began with an internationally imported cases in a foreign visitor on 1 October 2018.

The CDC said these two outbreaks were sustained "because of a combination of three important risk factors for measles transmission: 1) pockets of low vaccination coverage and variable vaccine acceptance; 2) relatively high population density and closed social nature of the affected community; and 3) repeated importations of measles cases among unvaccinated persons traveling internationally and returning to or visiting



the affected communities.”

Last NY Outbreak Called Over

Yesterday New York State Health Commissioner Howard Zucker, MD, JD, [announced](#) that 42 days—two measles incubation periods—had passed in Sullivan and Orange counties without any new cases of measles.

“Reaching this milestone, as Rockland County did last week, means there are no longer any active cases in New York State

associated with the initial measles outbreak from October 2018,” Zucker said. “The threat, however, for vaccine-preventable diseases remains, and the Department is not letting down its guard.”

To combat measles and end the outbreaks, New York state took several steps, including administering 75,000 doses of MMR in affected communities, and eliminating non-medical vaccine exemptions in public schools.

Bacteriophages, superbugs and the US soldier

Source: <http://outbreaknewstoday.com/bacteriophages-superbugs-and-the-us-soldier-29164/>



Oct 10 – Antibiotic resistance is a one of the world’s most pressing public health problems. Army scientists have developed a new weapon to combat super-bugs, which could protect Soldiers and fight resistance.

Bacteriophage, a virus that infects and replicates within bacteria, kill bacteria through different mechanisms than antibiotics, and they can target specific strains, making them an appealing option for potentially overcoming multidrug resistance. However, quickly finding and optimizing well-defined bacteriophages to use against a bacterial target is challenging.

Researchers at the MIT Institute for Soldier Nanotechnologies, identified a way to do just that. The U.S. Army established the institute in 2002 as an interdisciplinary research center to dramatically improve protection, survivability and mission capabilities of the Soldier and of Soldier-supporting platforms and systems.

“This is a crucial development in the battle against these superbugs,” said Dr. James Burgess, program manager,

Institute for Soldier Nanotechnologies, Army Research Office, an element of the U.S. Army Combat Capabilities Development Command’s Army Research Laboratory. “Finding a cure for antibiotic-resistant bacteria is particularly important for soldiers who are deployed to parts of the world where they may encounter unknown pathogens or even antibiotic-resistant bacteria. Wounded Soldiers are even more susceptible to infections, and they may come home carrying these drug-resistant bugs.”

In this study, [published in Cell](#), MIT biological engineers showed that they could rapidly program bacteriophages to kill different strains of *E. coli* by making mutations in a viral protein that binds to host cells. The results showed that these engineered bacteriophages are also less likely to provoke resistance in bacteria.

“As we’re seeing in the news more and more now, bacterial



resistance is continuing to evolve and is increasingly problematic for public health,” said Timothy Lu, an MIT associate professor of electrical engineering and computer science and of biological engineering and the study’s senior author. “Phages represent a very different way of killing bacteria than antibiotics, which is complementary to antibiotics, rather than trying to replace them.”

The researchers created several engineered phages that could kill *E. coli* grown in the lab. One of the newly created phages was also able to eliminate two *E. coli* strains that are resistant to naturally occurring phages from a skin infection in mice.

The Food and Drug Administration has approved a handful of bacteriophages for killing harmful bacteria in food, but they have not been widely used to treat infections because finding naturally occurring phages that target the right kind of bacteria can be a difficult and time-consuming process.

To make such treatments easier to develop, Lu’s lab has been working on engineered viral scaffolds that can be easily repurposed to target different bacterial strains or different resistance mechanisms.

“We think phages are a good toolkit for killing and knocking down bacteria levels inside a complex ecosystem, but in a targeted way,” Lu said.

The researchers wanted to find a way to speed up the process of tailoring phages to a particular type of bacteria. They came up with a strategy that allows them to rapidly create and test a much greater number of tail fiber variants.

They created phages with about 10 million different tail fibers and tested them against several strains of *E. coli* that had evolved to be resistant to the non-engineered bacteriophage. One way that *E. coli* can become resistant to bacteriophages is by mutating LPS receptors so that they are shortened or missing, but the MIT team found that some of their engineered phages could kill even strains of *E. coli* with mutated or missing LPS receptors.

The researchers plan to apply this approach to target other resistance mechanisms used by *E. coli* and to develop phages that can kill other types of harmful bacteria.

“Being able to selectively hit those non-beneficial strains could give us a lot of benefits in terms of human clinical outcomes,” Lu said.

China’s Military Biotech Frontier: CRISPR, Military-Civil Fusion, and the New Revolution in Military Affairs

By Elsa Kania and Wilson VornDick

Source: <https://jamestown.org/program/chinas-military-biotech-frontier-crispr-military-civil-fusion-and-the-new-revolution-in-military-affairs/>



A November 10, 2017 article from the PLA Daily titled: “How Gene Weapons Could Affect Future Warfare” (基因武器如何影响未来战争, Jiyin Wuqi Ruhe Yingxiang Weilai Zhanzheng). (Source: Baijiahao)

Oct 08 – China’s national strategy of military-civil fusion (军民融合, *junmin ronghe*) has highlighted biology as a priority. [1] It is hardly surprising that the People’s Republic of China (PRC) is looking to leverage synergies among defense, scientific, and commercial developments in biological interdisciplinary (生物交叉, *shengwu jiaocha*) technologies. Chinese military scientists and strategists have consistently emphasized that biotechnology could become a “new strategic commanding heights of the future Revolution in Military Affairs” (军事革命, *junshi geming*) (PLA Daily, October 2015). Certainly, the PRC is not alone in recognizing the potential of biotechnology on the future battlefield, but the ways in which Chinese research is

seeking to integrate developments among industry, academic institutions, and military-oriented programs—including through research collaborations and the procurement of dual-purpose commercial technologies—may prove striking. In particular, China is at the forefront of today’s breakthroughs in CRISPR-Cas, a new technique for gene editing that has demonstrated unique potential and precision despite its current limitations. [2]



The Biological Revolution in Military Affairs

Chinese military officers and scientists anticipate that current advances will contribute to an ongoing transformation in the character of conflict. Indeed, senior officers and academics in the Chinese People's Liberation Army (PLA) have not only highlighted concerns about "national biological security (and) defense" (国家生物安全防御, *guojia shengwu anquan fangyu*) in response to the threats of infectious diseases, but also emphasized the importance of exploring the military potential and even offensive applications of biotechnology ([China News Network](#), February 15, 2012; [Ministry of Science and Technology](#), April 18). [3] For instance, Senior Colonel Guo Jiwei (郭继卫) of the PLA's Third Military Medical University co-authored *War for Biological Dominance* (制生权战争, *Zhishengquan Zhanzheng*), which examined the impact of biotechnology on the Revolution in Military Affairs. [4] The concept *zhishengquan* (制生权), which might be translated variously as "biological dominance" or "command/superiority in biology," is starting to become more prevalent in PLA writings on future warfare of varying degrees of authoritativeness. [5]

Notably, Major General He Fuchu (贺福初), former president of the Academy of Military Medical Sciences (AMMS) and now vice president of the Academy of Military Sciences, has long been a prominent proponent of the militarization of biotechnology ([PLA Daily](#), October 6, 2015). Maj. Gen. He has anticipated that "Modern biotechnology and its integration with information, nano(technology), and the cognitive, etc. domains will have revolutionary influences upon weapons and equipment, the combat spaces, the forms of warfare, and military theories" ([Reference News](#), August 24, 2017). Consequently, pursuant to this new "Revolution in Military Affairs," success on the future battlefield will require achieving "biological dominance," and this "biological frontier" (生物疆域, *shengwu jiangyu*) of warfare will emerge as a new domain for new methods of confrontation. In the course of this transformation, the progress of such techniques as brain-machine interfaces

could render human-machine integration (人机一体化, *renji yitihua*) a reality for future combat platforms. For instance, AMMS researchers have engaged with a commercial enterprise known as Cogrowth (酷成长, *ku chengzhang*) that specializes in the development of a line of products involving electroencephalograms (EEG) for brain-computer interfaces, which is exploring leveraging artificial intelligence to interpret bio-signals ([Economics Daily](#), December 25, 2017; [Sina](#), December 28, 2017).

Chinese military researchers have closely examined American initiatives and international advancements, which have seemed to inform and inspire the direction of developments underway in China today. For instance, DARPA's launch of the Biological Technologies Office has drawn attention, and PLA scholars have also examined exotic accounts Russia's "zombie gun" (僵尸枪, *jiangshi qiang*), based on electromagnetic radiation, and referenced supposed Israeli programs to target Arabs with genetic weapons ([Sohu](#), 2012). [6] The salience of these concerns about foreign programs and the tragedy of China's own history does not appear to have resulted in restraint against considering the potential operational advantages of such offensive applications. [7] For instance, although writings about "genetic

weapons" should not be interpreted as official doctrine or formal concepts of operations, it is noteworthy to see striking parallels in themes repeated by a number of PLA scholars and scientists from influential institutions.

Certain discussions about the future of "military struggle in the domain of biology" are troubling. For instance, seemingly authoritative textbooks have included references to the possibility of "specific ethnic genetic attacks" (特定种族基因攻击, *teding zhongzu jiyin gongji*), while other military experts characterize the notion of a "ethnic bionation" as erroneous ([China News](#), July 19, 2018). [8] According to Gen. Zhang Shibo (张仕波), former president of the PLA's National Defense University, today's biotech advances unlock the possibility to create new synthetic pathogens that are "more toxic, more contagious, and more resistant." [9] "Obviously, genetic weapons possess many advantages over traditional biological weapons," as one researcher from the Academy of Military Medical Sciences has argued ([China Military Network](#), November 10, 2017). In particular, the weaponization of CRISPR is expected to prove more lethal and more precise in ways that could cause major changes in the dynamics of future warfare, despite the risks that would be inherent in its employment and the current limitations of this nascent technology. In the long term, genetic weapons are anticipated to have more of a "strategic deterrent function," and the AMMS researcher has warned that "willful abuse of genetic weapons will bring unpredictable disasters to all mankind" ([China Military Network](#), November 10, 2017). Such theories and speculation about future capabilities could become actual possibilities for the PLA pursuant to academic and commercial research that is currently underway.



CRISPR at the Frontier in China

At the most basic level, “CRISPR” is a tool for gene editing that possesses immense potential for precise and efficient modifications. [10] Chinese scientists across academic institutions and commercial enterprises have been at the forefront of experimentation with this technique from the start, including the company BGI (formerly known as “Beijing Genomics Inc.”), which also manages China’s National Genebank. [11] PRC research in CRISPR has rapidly progressed into clinical trials that involve the application of these gene editing techniques to animals and to humans, including because some of the regulatory requirements for medical research in China have been less strict and demanding. [12] For instance, there are currently at least fourteen trials of CRISPR underway across Chinese hospitals, which are primarily exploring its potential to treat cancer. [13] Strikingly, PLA medical institutions, particularly the PLA General Hospital and also the Academy of Military Medical Sciences, are involved in five of the trials known to be underway at present. [14]

To date, the use of CRISPR in animals has been a very prominent element of Chinese research. [15] For example, the use of gene-edited animals to grow human-like organs for use in transplants may prove not only lucrative but also medically promising, given continued shortages of organs ([Bloomberg](#), August 10). The creation of highly muscular dogs for use in policing illustrates the potential for gene-edited animals to contribute to state coercion ([MIT Review](#), October 19, 2015). Meanwhile, BGI has attempted to market cloned or gene-edited animals, including ‘micro-pigs’ as pets, and another company, Beijing Xinuo Valley Biotechnology Co. Ltd. (北京希诺谷生物科技有限公司) has cloned a number of dogs as pets and for policing ([Netease S&T](#), August 22). Chinese researchers have leveraged gene editing of animals to optimize their use as models for human diseases or characteristics, such as the study of intelligence. For instance, Mu-Ming Pu (蒲慕明), who has been a leader in designing the “China Brain Plan,” has pursued cloning and genetic alteration of macaque monkeys at the Institute of Neuroscience (ION) in Shanghai to “customize” them for specific research requirements. [16] For instance, by rendering the gene BMAL1 (which is linked to the circadian sleep rhythm) inoperable with CRISPR, the ION team has sought to create and study circadian disorders, such as sleep disorders and depression. [17]

Although CRISPR has numerous exciting, clearly beneficial applications, particularly in medicine and agriculture, other aspects of **Chinese research in CRISPR raise ethical or security concerns**. [18] Infamously, the first humans to be subject to genetic engineering were also born in China as a result of the research of He Jianqui, who removed the gene CCR5 to give twin babies immunity to HIV. [19] However, some scientists speculate that He may have removed the gene to boost the babies’ cognitive power, which is believed to be an added bonus of that modification. ([MIT Review](#), February 21). This breach of ethics has been condemned by the scientific community within China and worldwide, while also prompting the development of a new law on human gene editing. [20] Meanwhile, there appear to be relevant synergies among military, academic, and commercial research directions. BGI’s collaboration with researchers at the PLA’s National University of Defense Technology (NUDT)—as evident across co-authored publications, including the design of tools for the use of CRISPR—is hardly unexpected but nonetheless noteworthy. [21] For instance, one former professor who remains affiliated with NUDT also holds a position with BGI as a specially-appointed professor concentrating on research in bioinformatics (which leverages supercomputing for the processing of large-scale genetic information). While the potential leveraging of CRISPR to increase human capabilities on the future battlefield remains only a hypothetical possibility at the present, there are indications that Chinese military researchers are starting to explore its potential. Of course, genetic engineering has numerous military applications in materials science, such as those that can involve maritime and aerospace applications. However, at a time when the Central Military Commission (CMC) Science and Technology Commission is also supporting research in human performance enhancement and “new concept” biotechnology, the potential intersections of these interests’ merit concern and consideration. For instance, a doctoral dissertation titled “Evaluation and Research on Human Performance Enhancement Technology,” published in 2016, envisions CRISPR as one of three primary “human performance enhancement technologies” (人效能增强技术, *ren xiaoneng zengqiang jishu*) that can be utilized to boost personnel combat effectiveness. The researcher argues that because CRISPR holds such “great potential” as a “disruptive” technology, China must “seize the initiative.”

Conclusion and Implications

Ultimately, today’s advances in biotechnology may prove revolutionary, and the strategic implications, whether for medicine or the military or aggregate national competitiveness, are only just starting to be appreciated. [22] Today, the PRC is actively exploring new frontiers of such biological cross-disciplinary technologies: from these prominent developments in CRISPR to bionic robotics, intelligentized exoskeletons, and techniques for human-machine collaboration. So too, at a time when Chinese universities and enterprises are pursuing investment and expanding global research collaborations in



such fields, it is important that their foreign partners remain cognizant of the interests and involvements of their counterparts. For instance, although biomedical research involves numerous promising applications in medicine and therapeutics, there are also reasons for concern about some of the ethical and security externalities of these research engagements. [23] Going forward, these trends will merit continued analytic attention.

►► References are available at source's URL.

■ Read also: <https://www.defenseone.com/ideas/2019/08/chinas-military-pursuing-biotech/159167/?oref=d-river>

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One in 10 countries have adequate protection against a 'catastrophic' biological event

Source: <https://www.telegraph.co.uk/global-health/terror-and-security/one-10-countries-have-inadequate-protection-against-catastrophic/>

November 2018 – Fewer than one-in-10 countries have met global standards for securing killer germs, increasing risks of an accidental disease outbreak or bioterrorism, a campaign group has warned.



Just 19 countries completing a United Nations safety check have built or shown strong biosecurity safeguards. No countries meet the highest standard for biosecurity.

The lack of robust controls increases the chances of a "catastrophic" biological event, according to NTI, a campaign group tracking [nuclear, biological and chemical threats](#).

A large-scale disease outbreak is judged one of the most serious threats to both the UK and America.

While a naturally occurring disease outbreak such as the 1918 flu pandemic is considered the most likely risk, security experts are also worried about the possibility of bioterrorism, or an accidental release of a microorganism from a laboratory. Lax standards were highlighted in 2015 when it was disclosed the Pentagon had both accidentally posted live anthrax samples to dozens of laboratories.

An NTI review of countries who have undertaken a World Health Organization voluntary check of their biosecurity found only 19 countries had developed or demonstrated security that meets global standards.

"When countries do not have robust systems to protect their dangerous pathogens from being stolen, from being released as a result of a laboratory accident, or from being manipulated during research absent a risk assessment, they increase the potential for a catastrophic biological event," said Dr Beth Cameron of NTI.

Dr Cameron, a former US national security council adviser on biosecurity, said global travel, urbanisation, [terrorists' interest in weapons of mass destruction](#) and rapid advances in genetic engineering were all adding to the threat.

"If we don't develop biosecurity and biosafety systems at pace with these threats, we run the risk for an accidental or intentional disease outbreak that could degrade the health, economic stability, and security of our global community," she told the *Telegraph*.

So far 87 countries out of 196 have completed, and 75 have published, a WHO checklist to measure if nations can spot and deal with public health crises like [disease outbreaks](#).

Part of the checklist is how well countries can identify and secure harmful micro organisms in laboratories, as well as safely overseeing potentially dangerous research into them.

Only 19 countries scored level three or four out of five in the assessment, showing they had developed or demonstrated capacity.

"There are likely some countries that haven't been assessed but which that do have capability in place – however, without the assessment we won't know," said Ms Cameron.

The UK has yet to complete the checklist, but the Department for Health said it had completed a pilot version in 2015 and been found to have "a strong baseline position".

Rapid advances in biotechnology and genetic engineering mean experimenting on and manipulating dangerous germs is no longer the



preserve of top laboratories.

Hamish de Bretton-Gordon, former head of the British military's joint chemical, biological, radiological and nuclear unit, said biosecurity was an area of "huge concern".

Many countries only paid "lip service" to biosecurity, and terrorists have always looked at [biological weapons](#) as "the ultimate weapon to cause mass casualties and terrorise millions", he said.

"The terrorist intent is definitely there and lax standards and unscrupulous or rogue governments or organisations may be willing to sell pathogens at very high prices," he suggested.

"Having said that bio terror is not easy and there are effective medical counter measures for most bio weapons. But they are a massive psychological weapon and perfect for terrorists if they can pull it off."

EDITOR'S COMMENT: Once more, the moto "it will not happen to us" prevails! What is wrong with us? And to be more specific, what is wrong with the people responsible for public health policies? Are they so ignorant to believe that they can take care of the problem after an outbreak or a pandemic emerges? They are supposed to be scientists and in their majority relevant to medical profession; so, they know very well what the consequences might be – and they do nothing in advance!

A Cure for Ebola? Two New Treatments Prove Highly Effective in Congo

Source: <https://www.nytimes.com/2019/08/12/health/ebola-outbreak-cure.html>



Aug 12 - In a development that transforms the fight against Ebola, two experimental treatments are working so well that they will now be offered to all patients in the Democratic Republic of Congo, scientists announced on Monday.

The antibody-based treatments are quite powerful — "Now we can say that 90 percent can come out of treatment cured," one scientist said — and they raise hopes that the disastrous epidemic in eastern Congo can soon be stopped and future outbreaks more easily contained.

Offering patients, a real cure "may contribute to them feeling more comfortable about seeking care early," said Dr. Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases, who joined the World Health Organization and the Congolese government in making the announcement.

That prospect should greatly lessen the aura of terror that surrounds Ebola, a hemorrhagic fever virus whose reputation has been shaped by its deadliness and its incurability. Since its discovery 40 years ago, the virus has haunted Africa. Until now, many believed that anyone catching Ebola was doomed to die alone among space-suited strangers and to be buried without ceremony in a bleach-misted body bag.

Fear of the virus and mistrust of health workers have been major obstacles to combating Ebola's spread in eastern Congo, where terrified families often hide their sick and even attack health teams.

If word spreads that a cure exists, people may begin to summon help early in the disease's progress, which would be crucial to saving lives and preventing further spread.

"The more we can learn about these two treatments, the closer we can get to turning Ebola from a terrifying disease to one that is preventable and treatable," said Dr. Jeremy Farrar, director of the Wellcome Trust and a co-chair of a W.H.O. committee evaluating Ebola therapeutics.

The epidemic, which was [declared a public health emergency](#) last month, [has now infected about 2,800 known patients](#), killing more than 1,800 of them, according to the W.H.O.

The new experimental treatments, known as REGN-EB3 and mAb-114, are both cocktails of monoclonal antibodies that are infused intravenously into the blood.

REGN-EB3 is made by Regeneron Pharmaceuticals of Tarrytown, N.Y., which also makes other antibody treatments. Dr. Fauci's institute, which is part of the National Institutes of Health, developed mAb114 and licensed production last year to Ridgeback Biotherapeutics, a Miami company.

Antibodies are Y-shaped proteins normally made by the immune system that clump onto the outer shells of viral particles, preventing them from entering cells. **The two new treatments are synthetic versions grown under laboratory conditions.**

The two new therapies were among four that were tested in a trial that has enrolled almost 700 patients since November. The two worked so well that a committee meeting on Friday to look at preliminary results in the first 499 patients immediately recommended that the other two treatments, ZMapp, made by Mapp Biopharmaceutical, and remdesivir, made by Gilead Sciences, be stopped. All patients will now be offered either the Regeneron or the Biotherapeutics drug.

Among patients who were brought into treatment centers with low viral loads — which suggested that they had been infected only days before — only 6 percent of those who got Regeneron drug died, and only 11 percent of those who got the Biotherapeutics drug died, Dr. Fauci said.

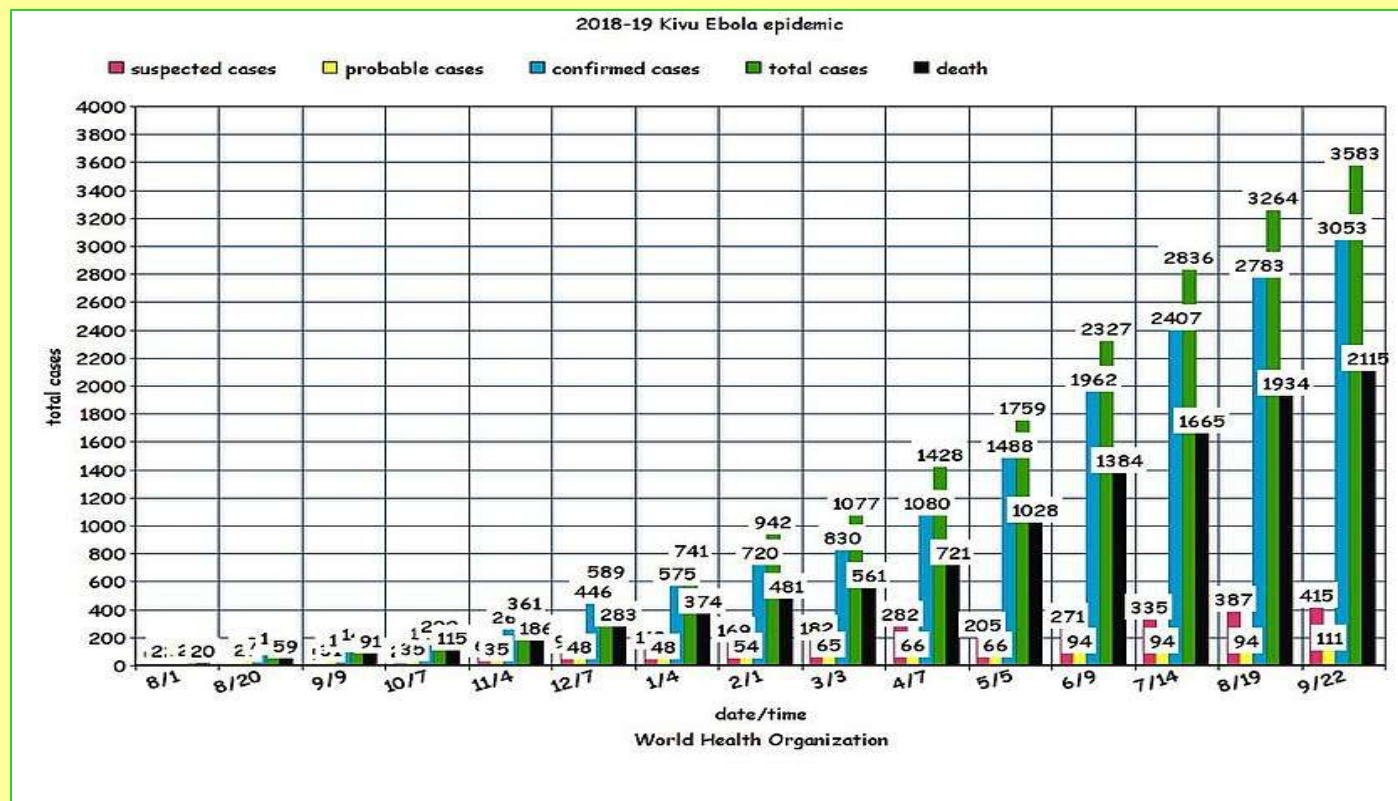
By contrast, 33 percent of those who received the antiviral drug made by Gilead



C²BRNE DIARY – October 2019

died, as did 24 percent of those who got ZMapp, an older monoclonal antibody cocktail that was tested briefly during the

"Now we can say that 90 percent can come out of treatment cured, they will start believing it and developing trust," Dr.



Ebola outbreak in West Africa in 2014.

The death rate among untreated and unvaccinated patients in this outbreak is thought to be over 70 percent, said Dr. Michael J. Ryan, director of emergency response for the W.H.O.

The difference in mortality rates between the Regeneron product and the Ridgeback one was considered too small to be statistically significant, so both are still being used, Dr. Fauci said.

Regeneron and Ridgeback have said they can make enough doses to treat all patients, Dr. Fauci said. It is helpful to have two options in case supply problems develop with one drug or the other, said Dr. Michael J. Ryan, the W.H.O.'s chief of emergency response.

Dr. Jean-Jacques Muyembe, director of Congo's National Institute for Biomedical Research, joined Dr. Fauci and Dr. Ryan in announcing the trial results.

Psychologically, Dr. Muyembe said, news of a cure could change the course of this outbreak, which is the worst of the 10 that Congo has endured.

Residents of eastern Congo, many of them traumatized refugees from wars and genocides in the region, are deeply distrustful of the government in the capital, Kinshasa. Rumors have spread that Ebola does not exist, or that treatment teams steal blood and body parts for witchcraft. Treatment centers have been shot up or burned down.

Muyembe said. "The first ones to transmit this information will be the patients themselves."

Dr. Muyembe, 77, whom Dr. Fauci referred to as a "true hero," has been fighting Ebola since it first appeared in what was then Zaire in 1976.

Decades ago, he pioneered the use of survivors' blood serum — which contains antibodies — in order to save patients. The two experiment treatments that proved successful last week descend in part from his original research.

Asked how he felt about that during a telephone news conference, Dr. Muyembe said through a translator: "I'm a little sentimental. I had this idea a long time ago, and I've waited patiently for it. I'm very happy, and I can't believe it."

The Regeneron treatment — the one with the best results — was added to the clinical trial at the last minute only after reconsideration by a W.H.O. panel of experts, the company said.

"We're extremely moved to know our therapy is helping save lives," said Neil Stahl, the company's executive vice president of research. "Our team worked tirelessly to discover, develop and produce REGN-EB3 in record time."

The four treatments were tested in units run by three medical



charities: Doctors Without Borders, Alima and the International Medical Corps.

Formal testing, which began in November, was known as the PALM trial, for Pamoja Tulinde Maisha, which means “Save Lives Together” in Swahili. Patients were assigned at random to get one of the four treatments.

Before that, some patients were being given whatever was available. Early testing on 113 patients released in October [suggested that the treatments could substantially cut mortality rates if given early](#), but there was not enough data to tell which ones were working the best.

Development of the new treatments was supported by the Biomedical Advanced Research and Development Authority, a division of the Department of Health and Human Services concerned with fighting chemical, biological, radiological and nuclear threats, and pandemic diseases.

A spokeswoman for Regeneron said the company had “not considered pricing yet” but was currently offering the treatment for free for “compassionate use” purposes.

Despite the availability of a highly effective vaccine and hints that treatments work, the epidemic has spiraled out

of control in Congo because of violence in the hot zone where the virus was entrenched.

The State Department forbade American government personnel from working on the front lines, including experts from the Centers for Disease Control and Prevention who have played vital roles in beating previous Ebola epidemics. The response was also severely hampered by [a power struggle within the Congolese government](#) itself.

That appeared headed for resolution on July 26, when the health minister, Dr. Oly Ilunga, [resigned in protest](#) over a decision by President Felix Tshisekedi to put responsibility for fighting the outbreak in the hands of a committee of experts headed by Dr. Muyembe.

In April, a different committee headed by Dr. Muyembe had delivered a scathing report on Dr. Ilunga’s handling of the epidemic and suggested many changes, including the rolling out of a second vaccine and efforts to win the trust of residents by offering food, routine medical care and vaccines against other diseases, like measles.

Are we doing enough about biosecurity? Looking to tech and one another for how to protect human health and prosperity in the bioeconomy

Source: <https://synbiobeta.com/are-we-doing-enough-about-biosecurity/>

Oct 15 – Since its inception, synthetic biology has inspired new promises but caused some to fear the threat of potential new dangers. Discussions about both the potential benefits and the potential harms of synthetic biology are constantly fed and expanded by the stream of new capabilities and applications it enables. Recent months have seen a slew of controversial discussions around synthetic biology applications in development. Last year, [DARPA’s Insect Allies program](#) — designed to develop insects that could spread pathogen-fighting viruses to crops — set off a [heated debate](#) about its dual use potential. A month later, He Jiankui sparked international outrage when he claimed to have created the first CRISPR-edited human babies. And this September, UK company [Oxitec](#) was facing [questions](#) about whether its genetically modified mosquitos — designed to reduce serious public health diseases like malaria — were surviving in the wild longer than expected.

Discussions of biosecurity issues in synthetic biology bring together many different fields and perspectives, including the biotechnology industry, academics, government officials and members of the wider public. This diversity was on display at SynBioBeta’s 2019 breakout panel discussion on biosecurity, which brought together Sarah Carter from Science Policy Consulting, Jason Gammack from Inscripta, Milana Boukhman Trounce from Stanford Medical School, Gabriel Lopez from Synvivia, and Renee Wegrzyn from DARPA.

Sarah Carter kicked off the panel by emphasizing that biosecurity means “a whole lot of different things to a whole lot of different people.” For international organizations such as the WHO and the Biological Weapons Convention, biosecurity is often associated with biological weapons, produced intentionally by state and non-state actors alike. Other organizations think of biosecurity as the misuse of biology on a much smaller scale, like unintentional release of harmful biological agents by biohackers and the DIYBio movement.

In industry, biosecurity is often associated with the need to protect a company’s assets, such as intellectual property and biological materials. Carter shared some of the approaches used by the [Defense Threat Reduction Agency](#) (DTRA) to analyze the emerging synthetic biology “ecosystem.” This includes assessing what the most potent capabilities are, both beneficial and harmful, and who has access. Many of the most powerful capabilities currently remained in reach of only a small group of individuals and organizations.





“The most impressive and ambitious capabilities are really not available widely,” said Carter.

Carter also highlighted the increasingly international nature of industrial synthetic biology and its implications for biosecurity. There are now companies all over the world working in the field, and supply chains often stretch across many borders. This makes controls and regulations more challenging to establish. Carter described the work she had been doing to understand what best practices in industry look like, given the rapidly evolving

landscape of synthetic biology and biosecurity. Such best practices include robust customer screening, IP and data protection, and cybersecurity. According to Carter, these practices are “both beneficial to the industry but also... help biosecurity more broadly.” Carter also raised the importance of efforts to identify potential risks. Indeed, this last point was a recurring theme in the session, with a clear consensus amongst panelists that doing both is essential but difficult.

“It’s really hard for people to even understand what we’re securing against,” said Carter, with Boukhman later adding: “It’s incredibly difficult to do an accurate assessment of the risk.”

Milana Boukhman took the stage next, sharing her perspective on biosecurity as an emergency doctor by training who had been teaching biosecurity at Stanford for over a decade. She presented three case studies where biotech means were used for dubious ends: the synthesis of Horsepox virus *de novo* by Canadian researchers, the development of human-transmissible H5N1 in the Netherlands, and the creation of a more virulent Mousepox strain in Australia. All of these projects had been carried out by well-meaning academics, not state-level programs, showing how few resources are needed to make something scary.

Boukhman drew a parallel between the current situation in biosecurity and cybersecurity in the 70s. Much like synthetic biology today, people then were only starting to grasp the full potential of the technology and realising how important cybersecurity was going to be.

“In the 1970s people didn’t really think about cybersecurity,” she said, “and now it’s a really big deal. I feel like that’s where biosecurity is now.”

Renee Wegrzyn then took the floor to talk about her work with DARPA. She introduced [DARPA’s Safe Genes Program](#), one of their flagship biosecurity projects. Wegrzyn explained that DARPA thought of biosecurity not only through the lens of preventing threats to human health, but also considered how to mitigate economic threats. To illustrate the link between biosecurity and economics, she showed how publications about the off-target effects of CRISPR resulted in share devaluations at gene therapy companies equivalent to losses of hundreds of millions of dollars.

As an example of biosecurity done right, Wegrzyn talked about a researcher working for DARPA who had found off-target CRISPR effects in mRNA. Rather than publish these results immediately, the researcher successfully requested that DARPA extend their funding so they could also learn how to prevent these off-target edits. In yet another parallel to cybersecurity — where it is common practice not to reveal a vulnerability until after it has been patched — the researcher published their work showing the “vulnerability” of CRISPR off-target mRNA editing only after they could also show how to “patch” this problem.

Wegrzyn was followed by Gabriel Lopez, who described Synvivia’s take on biosecurity. Synvivia creates protein switches to control GMOs and their functions, including their survival. Like many of the other speakers in the panel, Lopez drew parallels to the tech world, particularly information security. Encryption was once widely used only by governments, but has been adopted en masse in recent years by companies realizing the value of their information. Lopez described how cybersecurity is now driven not by governments but by industry and its needs. He argued that the same would happen to biosecurity. Eventually this would not be driven by government regulators anymore but instead by the biotech industry, once its importance was understood — like data encryption before it.

“Biosecurity is inevitable and will be a market-driven element to the future of the bioeconomy,” Lopez remarked.

Jason Gammack from Inscripta agreed with Lopez about the role of industry in driving biosecurity. “Biosecurity at Inscripta is part of our core DNA,” he said. Inscripta’s philosophy



is to tackle biosecurity cooperatively with their customers, to help them make sure they didn't create dangerous organisms. "This is a partnership."

Gammack also talked about how often Inscripta had been frustrated by the "silos" they had encountered when trying to promote biosecurity. In their experience, important information and skills that need to be brought to bear are spread across many people and fields. Often, these entities don't communicate enough, hindering the implementation of robust biosecurity.

In the Q&A, several of the panellists again alluded to the difficulty of identifying and assessing biosecurity threats. The effect of this problem was immediately highlighted by the first question, which asked what the biggest threats to our biosecurity are, and elicited different answers from each of the panelists. It was clear there were no right or wrong answers, just different perspectives based on the background and point of view of each participant.

One worry was about new scientific and technical capabilities to enhance virulence and transmissibility, which could make existing treatments and vaccines useless. Another big issue was the potential for indirect attacks targeting agriculture, water supplies, and the environment more broadly.

The issue of collective responsibility was raising, with Dr. He's work as an example. This had been supported not only by academics outside of China but also by equipment and reagents supplied to him by US companies. "All of those supplies were freely available," said one attendee. Gammack described how Inscripta was approaching these issues in part by making their machines "always online." This ensured they could not be used without reporting back to Inscripta what they were doing, giving the company oversight about what their equipment was being used to do.

The session wrapped up with a discussion between panelists and audience members about how to improve biosecurity. One consensus that emerged: the bedrock for protecting populations from new (or revived) pathogens was to strengthen our ability to respond to 'conventional' outbreaks. Preparing for one would prepare us for the other.

"We can't build a tall enough wall that will ensure that there is no bioterrorism, but what we can build are a series of hurdles," said Gammack. With enough hurdles, anybody intentionally creating something dangerous would be spotted by tripping over at least one of them.

How could all this be put in place? Panelists agreed that it was never too early for companies to start thinking about this, and that incentives should exist right from the start, including at the investor level.

Paul Rutten did his undergraduate degree in Biochemistry at University College London, followed by a Masters in Systems and Synthetic Biology at Imperial College London. He is a DPhil student on the Interdisciplinary Bioscience DTP. Paul's work looks at the mechanisms controlling nitrogen regulation in symbiotic bacteria such as Rhizobium leguminosarum. A particular focus is how cells respond to changes in oxygen concentration, a key signal for nitrogen fixation in part because oxygen is toxic to the nitrogenase enzyme. Beyond understanding how these regulatory mechanisms function, the aim of his project is to modify them through Synthetic Biology approaches to build tools that can be used to engineer nitrogen fixation.

Bioweapon Threat Didn't End in Cold War, Experts Warn House

Source: <http://www.homelandsecuritynewswire.com/dr20191018-bioweapon-threat-didn-t-end-in-cold-war-experts-warn-house>

Oct 18 – Picking apart flaws in the government's system of monitoring for bioweapons, a panel of scientists warned House lawmakers Thursday that America is grossly unprepared for a bioterrorist attack.

Megan Mineiro writes for [Courthouse News Service](#) that Asha George, executive director of the Bipartisan Commission on Biodefense, noted that U.S. funding for bioweapons protection has been on the decline since the end of the Cold War — this in spite of the relative ease by which terrorist groups can weaponize biological agents or, even more easily, get their hands on materials that have already been weaponized by the former Soviet Union.

She writes:

Both al-Qaida and the Islamic State group have publicized their pursuit of biological weapons, and North Korea is suspected to be actively developing a program to roll out bioweapons.

Faced with the risk of a strike that would hit the country with deadly disease on a massive scale, or cripple the economy with a pathogen-induced crop failure, Democrats and Republicans alike at today's hearing of the Subcommittee on Emergency Preparedness, Response, and Recovery called on the Trump administration to take such threats seriously.



Experts testifying in the hearing warned meanwhile that the various faults with the Department of Homeland Security's system of collecting and testing air samples for biological agents has resulted in false alarms or delayed notification on lethal pathogens.

Mineiro notes:

The Department of Homeland Security has so far deployed a dozen detectors known as BD21, short for Biodetection 21. George said they go off at least once a day.

One flaw the experts flagged in the new system is the government's failure to integrate environmental data, ignoring factors like pollen count and air quality.

Meanwhile the alarm itself actually causes little response because there is no operational plan in place to direct state or local officials, or federal agencies like the Defense Department or FBI, to properly respond to an attack.

The Risk of Lab-Created Pandemic Pathogens

Source: <http://www.homelandsecuritynewswire.com/dr20191018-the-risk-of-labcreated-pandemic-pathogens>

Oct 18 – In 2017, considerable new data became available which calls for a new estimation of the risk of release into the community of lab-created potential pandemic pathogens.

Lynn C. Klotz, a Senior Science Fellow in the Biological and Chemical Security Program at the Center for Arms Control and Non-proliferation, has just published a [study](#) which focuses on lab-created avian-influenza viruses – viruses which have been modified to be transmissible in mammals through the air.

Klotz writes that these are “the most worrisome potential pandemic pathogens because a highly transmissible strain released from a lab into the community could seed a pandemic with substantial worldwide fatalities.”

There are at least fourteen facilities around the world which have created such viruses (Klotz calls these facilities “Research Enterprise”). Klotz says that it is calculated that there is about a 15.8 percent probability of a release into the community from the Research Enterprise for five years of research.

“Combining the likelihood of community release with the estimated not-insignificant probability of 5 percent to 40 percent such a virus could seed a pandemic if the released virus is highly transmissible in humans, we have an alarming situation with a real risk to human lives,” Klotz says.

Those who support such research argue either that the probability of community release is infinitesimal, or that the benefits in preventing a pandemic are great enough to justify the risk. Klotz says that in his opinion, “it would take extraordinary benefits and significant risk reduction via extraordinary biosafety measures to correct such a massive overbalance of highly uncertain benefits to potential risks.”

Klotz says:

No one can be sure how virulent or airborne transmissible in humans these potential pandemic viruses would be if released into the community. In the best-case scenario, they would soon die out with little to no sickness and no deaths; however, just the possibility of a pandemic dictates that we must proceed with the utmost caution. Put another way; the Precautionary Principle should apply.

Experts testify United States is underprepared for bioterrorism threats

Source: <https://homelandprepnews.com/countermeasures/38238-experts-testify-united-states-is-underprepared-for-bioterrorism-threats/>

Oct 18 – Terrorist threats against the United States continue to grow and evolve, including the use of non-conventional weapons, begging the question of whether this country is well-equipped for such attacks.

The conclusion of experts who testified Thursday before the U.S. House Homeland Security Subcommittee on Emergency Preparedness, Response, and Recovery was that the country is not equipped. The hearing was entitled, “Defending the Homeland from Bioterrorism: Are We Prepared?”

“I think it's important to remember that the nation is not adequately prepared and has not been adequately prepared for more than a decade now,” said Asha George,

executive director of the Bipartisan Commission on Biodefense. “And the hearings this committee has had numerous times have demonstrated that. Worse, current efforts to develop new technologies to detect the threat are insufficient and are going in the wrong direction.”

One such program George referred to is BioWatch. Launched by the Department of Homeland Security in 2003 in the wake of anthrax attacks that killed five Americans following 9/11, the program disseminates



detectors of biological agents throughout the country. The program should be replaced with better detectors, George said, but she cautioned the new initiative the Department of Homeland Security (DHS) has in place, Biodetection 21, or BD21, as not adequate technology.

Jennifer Rakeman, assistant commissioner and director of the Public Health Laboratory at the Department of Health and Mental Hygiene in New York City, told the committee the detection of agents by national agencies falls short.

"You can't approach biological agents and the detection of biological agents the same way as you do radiological and chemical," Rakeman said, adding that a biological agent must be detected among a mix of other biological material found in the environment, both good and bad.

The experts agreed one better way to replace the BioWatch system, which takes up to 36 hours to confirm that a biological agent is present, would be to provide portable sampling units that offer faster turnaround times. This may mean partnering with the private sector to develop the technology for the government. The panelists said the technology exists but that it doesn't yet meet the gold standard.

And even when state-of-the-art technology is being deployed for detection, it may be technology used for a military setting and not appropriate for an urban center like New York City, Rakeman added.

"Again, it's a technology that's being pushed on locals without any input," she said.

Local public health departments are sometimes invisible when it comes to the process of adopting new technologies, the panelists agreed. This was the argument Umair Shah, executive director of Public Health for Harris County, Texas, made before the committee.

"There's a science and an art to public health just as in medicine and we must have access and availability to as much information as possible to make decisions," Shah said. "This means that federal, state and local partners must plan together today in order to protect our communities more effectively for tomorrow... Ultimately a biodetection hit must be a shared one involving local decision-makers and responders, front and center. This means federal, state and local partners must work together as do public health and emergency management, law enforcement, and health care delivery. Ultimately we are all part of the same team and our communities expect it."

U.S. Rep. Peter King (R-NY) repeated those sentiments.

"It's imperative that our communities are well-positioned to detect, protect, and decontaminate biological warfare agents. As the sophistication of biological weaponry improves, we must be ready," King said.

FDA Allows Marketing of First Rapid Diagnostic Test for Detecting Ebola Virus Antigens

Source: <https://www.hstoday.us/subject-matter-areas/pandemic-biohazard/fda-allows-marketing-of-first-rapid-diagnostic-test-for-detecting-ebola-virus-antigens/>



Oct 18 – The U.S. Food and Drug Administration allowed marketing of a rapid diagnostic test (RDT) to detect Ebola virus antigens (proteins) in human blood from certain living individuals and samples from certain recently deceased individuals suspected to have



died from Ebola (cadaveric oral fluid). The **OraQuick Ebola Rapid Antigen Test is the first rapid diagnostic test the FDA has allowed to be marketed in the U.S.** for the Ebola Virus Disease (EVD). The test provides a rapid, presumptive diagnosis that must be confirmed.

"Today's marketing authorization provides another important tool in the effort to fight Ebola, which continues to be a priority of the U.S. Government, especially as we work with our partners, including the World Health Organization, to help address the current Ebola outbreak in the Democratic Republic of Congo (DRC)," said Acting FDA Commissioner Ned Sharpless, M.D. "The current outbreak in the DRC has already killed thousands and the outbreaks in West Africa that began in 2014 tragically killed more than 11,000.

Investigational vaccines and therapeutics have shown promising results, but one of the most important tools in stopping these outbreaks is quickly diagnosing patients and supporting safe and dignified burials. This marketing authorization may provide additional assurances to health care



professionals seeking to use these types of rapid diagnostics. The ability to use this test to promptly make a presumptive Ebola diagnosis could help providers to more quickly isolate patients and begin treatments that can be potentially life-saving. Additionally, this device could be used to support safe and dignified burials while helping to reduce the risk of transmission during those burials.” EVD, which is caused by the Ebola

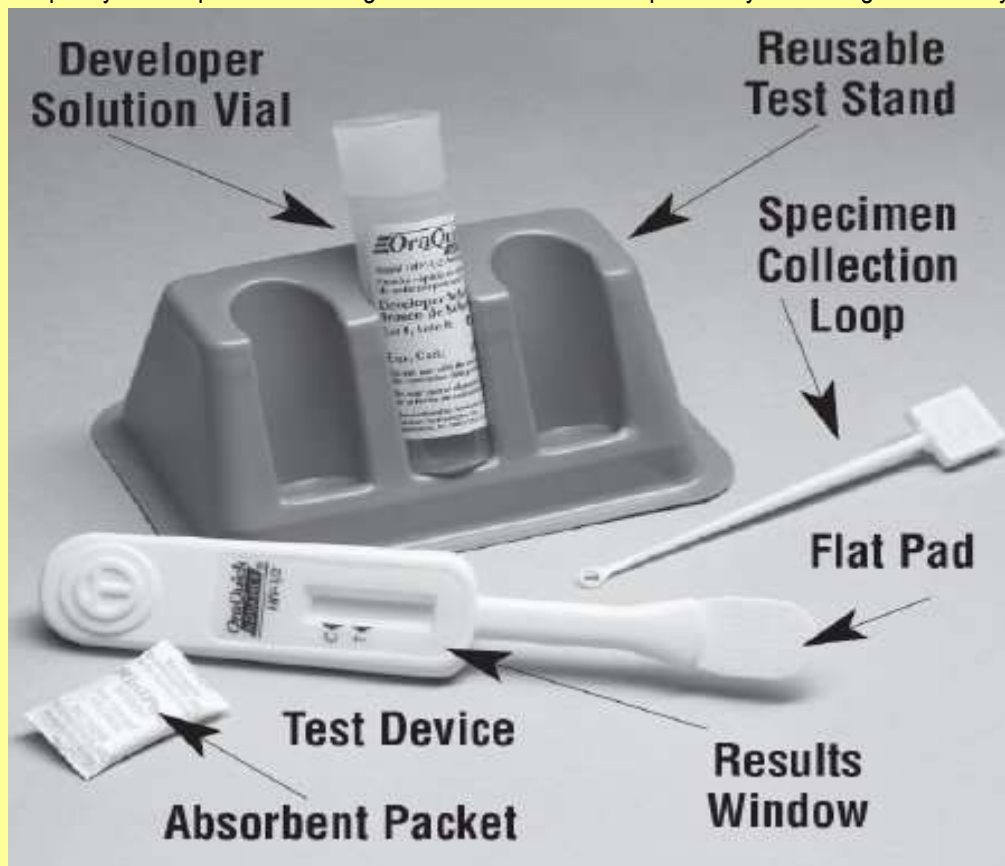


virus, is a severe, often fatal disease in humans that can spread through direct contact with

blood or body fluids or objects contaminated with body fluids, as well as from the bodies of those who have died from the virus. EVD has led to several large outbreaks in Africa, including the West African Ebola epidemic that began in 2014 and was the largest outbreak of EVD in recorded history, and the ongoing outbreak in the DRC, which is currently the second largest outbreak. Extensive efforts are underway by the Ministry of Health in the DRC to contain the current outbreak with support from the World Health Organization, the U.S. government, and other partners. These measures include campaigns to promote good hygiene, large-scale vaccination campaigns, specialized Ebola treatment centers where those infected or exposed to the virus can receive investigational therapeutics, and comprehensive efforts to trace and prevent the spread of EVD through vaccination campaigns, monitoring for symptoms, diagnostic testing, and implementation of infection prevention and control measures, such as safe and dignified burial procedures.

During the 2014 outbreak, the Secretary of the Department of Health and Human Services declared that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection of Ebola virus. At the time, the FDA worked with CDC and test developers to make diagnostic tests, including the OraQuick Ebola Test, available through the [Emergency Use Authorization](#) (EUA) pathway. This pathway allows the FDA to temporarily authorize the use of unapproved medical products to address a public health emergency when specific conditions are met, including that there are no adequate, approved and available alternatives to the product for diagnosing, preventing, or treating the disease or condition. The FDA has authorized a number of diagnostic tests for EVD under the EUA pathway to assist with the public health response. Today's marketing authorization of the first EVD presumptive rapid diagnostic test for Ebola virus antigens through the De Novo review pathway reflects the ongoing collaboration between the U.S. Government and test developers to gather additional data on EUA products.

For the OraQuick Ebola Test submission, the FDA reviewed data from multiple clinical studies of blood samples and cadaveric oral fluid from the 2014 West African outbreak and from a variety of analytical studies. Based on these data, the FDA determined that general and special controls were necessary to provide a reasonable assurance of the safety and effectiveness of the OraQuick Ebola Test when intended to identify antigens associated with Ebola virus in blood from symptomatic patients and oral fluid of cadavers. The amount of Ebola virus when patients have severe symptoms



of EVD is usually high; however, the amount of virus in samples taken early after infection when symptoms are not present yet or taken early during the course of EVD when symptoms are mild can be very low. The studies demonstrated the importance of testing only symptomatic individuals so that the amount of virus is high enough to be detectable by this test. Therefore, the OraQuick Ebola Test is intended for use in patients suspected of and with signs or symptoms consistent with EVD, and when the patient meets the [CDC's Ebola virus epidemiological criteria](#), such as history of residence in or travel to a geographic region with active EVD transmission at the time of travel. The OraQuick Ebola Test is not intended to be used for general Ebola infection screening (e.g., airport screening) or testing of individuals at risk of exposure without observable signs of infection.

The OraQuick Ebola Test may also be used in recently deceased individuals (cadaveric oral fluid) with epidemiological risk factors (including geographic locations with high prevalence of EVD) suspected to have died of EVD to inform decisions on safe handling of cadavers to prevent disease transmission.

Negative results do not rule out Ebola virus infection. The definitive identification of EVD requires additional testing and confirmation procedures (such as by a more sensitive but less rapid polymerase chain reaction test) and in consultation with public health and/or other authorities to whom reporting is required.

The OraQuick Ebola Test was reviewed under the [De Novo premarket review pathway](#), a regulatory pathway for low-to-moderate-risk devices of a new type. Along with this marketing authorization, the FDA is establishing criteria, called special controls, that determine the requirements for demonstrating accuracy, reliability and effectiveness of tests intended to identify Ebola virus antigens. These special controls, when met along with general controls, provide a reasonable assurance of safety and effectiveness for tests of this type. This action also creates a new regulatory classification, which means that subsequent devices of the same type with the same intended use may go through the FDA's 510(k) pathway, whereby devices can obtain clearance by demonstrating substantial equivalence to a predicate device.

The OraQuick Ebola Test was granted [Breakthrough Device](#) designation, meaning the FDA provided intensive interaction and guidance to the company on efficient device development, to expedite evidence generation and the agency's review of the device. To qualify for such designation, a device must provide for more effective treatment or diagnosis of a life-threatening or irreversibly debilitating disease or condition, and meet one of the following criteria: the device must represent a breakthrough technology; there must be no approved or cleared alternatives; the device must offer significant advantages over existing approved or cleared alternatives; or the availability of the device is in the best interest of patients.

The FDA granted marketing authorization of the OraQuick Ebola Test to OraSure Technologies, Inc.

