

Dedicated to Global First Responders

CBRNE

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EDITOR'S CORNER





Editorial

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

Editor-in-Chief
CBRNE-Terrorism Newsletter

Dear Colleagues,

I feel so relaxed that July was a terror-free month for Europe and I hope to stay like this until the end of this month. Of course, this does not mean that the rest of the world was equally quiet –especially in the usual hot spots of Middle East and Africa.

I take the opportunity to refer to some other activities that we were involved or about to be involved. First is a new project called [SSEE](#) (Shielding South East Europe from CBRN threats) – a CBRN project focusing on first responders (mainly police) from Greece and Cyprus. Some of the products to be delivered by the end of 2018: A CBRN manual for front line response professionals; a theoretical/practical training for first responders (this will take place at the National CBRNE Training Center at Markopoulo, Attica – a parallel project in progress); some information days in Greece, Cyprus and Belgium and two exercises: a TTX in Cyprus and a live drill at Pireaus Port in Athens. We have a budget to buy specialized CBRN equipment for basic training because theory is nice but sweating in PPE is mandatory to understand what it takes to belong to the few and the proud! To be honest I was a bit (a lot) pissed when I read about the collection of cars Ronaldo – the football player – has (for now):



ASTON MARTIN DB9	180.000 euro
AUDI Q7	63.000 euro
AUDI R8	171.000 euro
AUDI RS6	72.000 euro
BENTLEY CONTINENTAL GTC	175.000 euro
BENTLEY GT SPEED	198.000 euro
BMW M6	91.000 euro
FERRARI 599 GTB FIORANO	279.000 euro
FERRARI 599 GTO	346.000 euro



FERRARI F430	270.000 euro
LAMBORGHINI AVENTADOR LP 700-4	286.000 euro
MASERATI GRAN CABRIO	126.000 euro
MERCEDES BENZ CLASSE C SPORTS COUPE	49.000 euro
PHANTOM ROLLS ROYCE	360.000 euro
PORSCHE 911 CARRERA 2S CABRIO	90.000 euro
PORSCHE CAYENNE TURBO	86.000 euro
BUGATTI VEYRON	<u>1.500.000 euro</u>
TOTAL	4.270.000 euro

With that money I could buy 4,641 sets of Level-C PPE (920€ per full set) or 610 sets of Level-A PPE (7,000€ per full set) – just to focus on personal protective equipment for first responders risking their lives for just 1000€ per month. Not to mention the new 6-year contract of the 25 yo Neymar that will pay him 30mil euro per year to kick a ball for Paris Saint-Germain – enough for the CBRN equipment of France...

Then it was a proposal for collaboration that came from a big Indian construction company specialized in hospitals. Editor was asked to be their CBRNE consultant for a dedicated CBRN hospital in Southern India (Chennai) – one out of four. A lot of preliminary job was made until one day an email ended our future collaboration without a profound reason. Perhaps it was the fact that the International CBRNE Institute is a non-profit organization and they wanted a firm that was paid to build CBRN hospitals – not existing as far as we know. Too bad because it was an innovative project and we tried to persuade them that it was the first time that a dedicated CBRN hospital was about to be constructed – not the usual CBRN receiving area outside the Emergency Department of a hospital. We will follow the project from a distance and hope that if it finally materialized to be towards the right direction. Nevertheless, this will consist a separate chapter in the book that the Editor is preparing since this solution provides a totally different approach of receiving contaminated mass casualties requiring specialized knowledge from many different sciences and experts.

Life already difficult, boring and dark in Greece – despite our fantastic sun and blue sky – was further compromised by a strong earthquake (6.6R) that hit the island of Kos – the land of Hippocrates – in the middle of tourism high season. Turkey also experienced the consequences of the earthquake. Disasters like these prove the level of preparedness of both the state and the citizens. The island did well despite the fact that two tourists were killed in a night bar and few more were injured (some in a critical condition). But the quake also revealed some insights of how you can do business without fulfilling regulations (the bar that collapsed was an old building modified to a bar for many years) and state norms etc. And this fact, adds more depression to the one we already bear by revealing a state totally incapable to govern and bring hope to the people. It is not my fault! It is your fault since your party ruled for 4 decades – the only argument you hear about almost anything going wrong! A week watching Greek news on television is more dangerous than live agent training itself!

Despite all the ugly thoughts, if you have not decided where to spend your vacations, consider Greece for a fantastic relaxing time in one of the most beautiful countries worldwide! For those who cannot afford to travel or have working obligations, keep on working and remember that the unexpected might happen in your shift! Take care First Responders!

The Editor-in-Chief

Cover photo

U.S. Marine Corps Lance Cpl. Jameel Pierre, an avionics electrician with Marine Aviation Logistics Squadron (MALS) 12, assembles a hose in order to conduct aircraft decontamination with an M26 Joint Transportable Decontamination System small scale with Marine Fighter Attack Squadron (VMFA) 242 at Marine Corps Air Station Iwakuni, Japan, April 11, 2017. CBRN Marines taught how to remove chemical agents from their aircraft, troops and surfaces. (U.S. Marine Corps Photo by Lance Cpl. Jacob A. Farbo)



Cambridge, UK



If you know Latin or Ancient

My favorite French MP – Valérie Boyer



When is a crime a hate crime?

Source: <https://www.aol.com/article/news/2017/06/22/when-is-a-crime-a-hate-crime/22583316/>

June 26 – **Why does it matter when we call a crime a hate crime?**

That's a major question after the kidnapping and killing of 17-year-old Muslim-American Nabra Hassanen. She was attacked after attending late-night prayers at a local mosque for Ramadan. Police say she was walking with a group of Muslim friends when one of them on a bike got into a dispute with a driver. A man came out of the car with a baseball bat and chased them. He struck Hassanen and kidnapped her. Later, her body was found in a pond.

Police haven't classified the attack as a hate crime, but the Council on American-Islamic Relations is looking into it. Corey Saylor, director of combating Islamophobia at CAIR, broke down the concern.

"Our role in particular is to act as a second set of eyes," Saylor said. "I think it would be irresponsible to call everything a hate crime immediately just as it's irresponsible to call every action a terrorist attack immediately."

[From 2014 to 2016](#), a CAIR report found recorded acts of anti-Muslim bias went up 65 percent and that hate crimes targeting Muslims jumped way up, by 584 percent. But proving a crime is a hate crime is a complicated process.

"It's extremely difficult because in many instances what the state statute requires is to see inside the mind of the perpetrator or you have a very clear statement," Saylor said.

"So why is the hate crime classification so important if it is a part of any of the motive of the crime that was committed?" Newsy's Noor Tagouri asked.

"Because it lets people know, 'You do not get to target me because I'm wearing a headscarf, you do not get to target me because I'm LGBT,'" Saylor said.

Police in Fairfax County, Virginia, said they're initially classifying the attack as road rage, not as a hate crime, but they say that could change.

Documentary "Halal certification – The Unpalatable Facts"

Source: <http://bit.ly/2t5OWrw>

Violence against Women: Some Inconvenient Data for the Corrupt UN

By Burak Bekdil

Source: <http://www.meforum.org/6786/violence-against-women-some-inconvenient-data>

June 28 – The United Nations panels lovingly practice hypocrisy all the time. In 2016, a UN debate revolved around the Commission on the Status of Women (CSW), which [voted to blame Israel](#) for Palestinian domestic violence. This year's show was hardly different in the content of nonsense. The executive director of UN Watch, Hillel Neuer, [asked Dubravka Simonovic](#), UN Special Rapporteur on Violence against Women, at a session on June 12: "Ms. Simonovic, in other words, what you are saying is as follows: **'When Palestinian men beat their wives, it's Israel's fault.'**"

At first glance it sounds like dark humor, but it is not. Not just one but two reports presented before the UNHRC by Simonovic argue that Israel is to blame for Palestinian violence against women, through "a clear linkage between the prolonged occupation and violence."

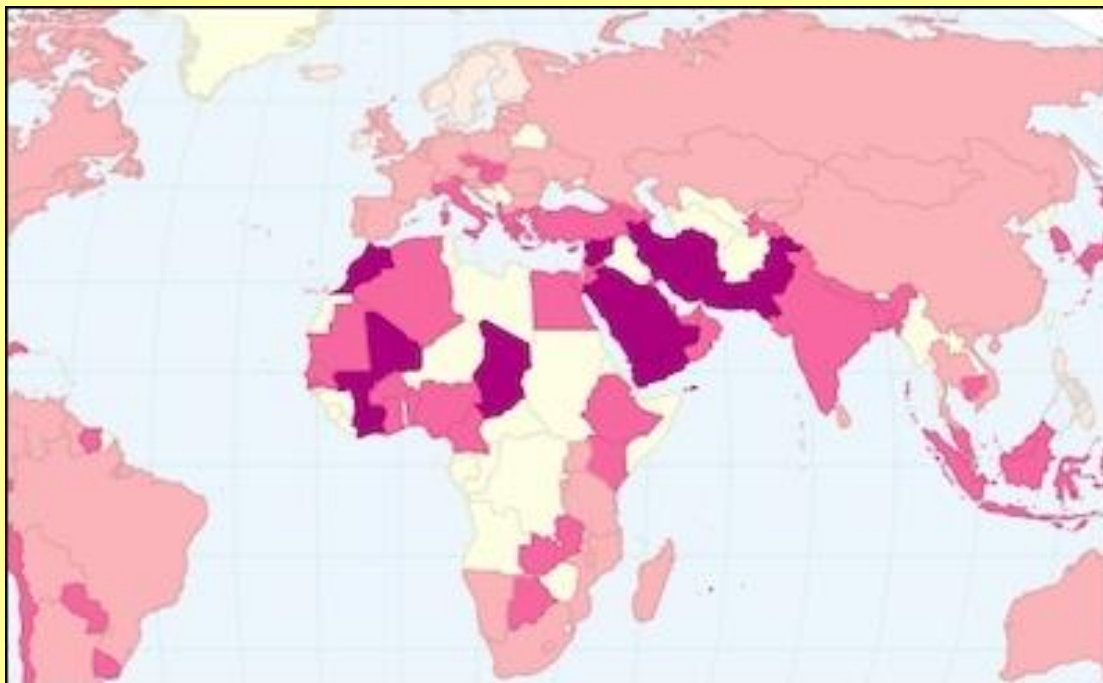
Where, Neuer asked Simonovic, is the data? There is data, but not the kind that Simonovic would prefer to believe exists.

According to the [Global Gender Gap Index](#) of the World Economic Forum, there is not a single overwhelmingly Muslim nation in the best 50 scoring list of countries. In contrast, the last (worst) rankings of the index, from 128th to 144th, are with one exception overwhelmingly



Muslim countries, including Turkey at the 130th place. Turkey's case is important to note, as the increasing supremacy of Islamist politics in daily life in the country has boosted patriarchal behavior and worsened gender equality since 2002, when President (then Prime Minister) Recep Tayyip Erdogan came to power. In other words Turkey, the 17th biggest economy in the world, is the 15th worst country in terms of gender equality.

The United Nations Population Fund grimly observed in a [report](#):



In this map from the 2012 Global Gender Gap Index, where the darker the red the lower the status of women, the only signs of light in the Islamic World are those countries left white for lack of data

Women and girls are still exposed to violence, being abused, trafficked, their access to education and political participation is refused and face with many other human rights violations ... The fact of violence against women as a concept emerged through gender inequality is widespread in Turkey.

A 2013 [Hurriyet Daily News survey](#) found that 34% of Turkish men think violence against women is "occasionally necessary," while 28% say violence can be used to discipline women; a combined 62% approval of violence against women.

In 2014, Turkey's Family and Social Policies Ministry [reported](#) that its domestic violence hotline received over 100,000 calls, and estimated that the number of unreported cases is three to five times that number. According to a [2016 study](#) by the same ministry, **70% of Turkish women report having suffered physical violence by their partners or family.**

Violence against women is a cultural practice, and culture here is a blend of derivatives including religion and politics. Frenchmen, for instance, did not develop a habit of beating their wives during the German occupation. Nor did the Cypriot men after Turkey invaded the northern third of their island.

Violence finds particularly fertile ground in societies where the dominant "culture" is derived from Islamist conservatism. At the beginning of the holy Muslim month of Ramadan, for instance, a Turkish professor of theology, Cevat Aksit, [said](#) during a television show that: "Women who are not fasting due to menstruation and eat on the street during Ramadan can get beaten."

How does Erdogan's government respond to that? Not by law enforcement but by gender-based segregation. Bursa, one of Turkey's biggest cities, recently launched a project to designate separate railway carriages for women on intra-city trains, to make women "comfortable" during their rides.





All that is normal in a country where the most popular political figure, Erdogan, is a man who once [said](#) that "women should know their place," [and](#) that "gender equality is against human nature," and his deputy prime minister once told women [not to laugh](#) in public.

So, tell us, Ms. Simonovic: Do Turkish men beat and sometimes kill their wives because of Israeli occupation? Is there "a clear link" between Turkey's rising numbers indicating violence against women and "Israel's prolonged occupation?"

Burak Bekdil is an Ankara-based political analyst and a fellow at the Middle East Forum.

“Smart Dubai” Initiative Continues to Shock The World

Source: <http://i-hls.com/archives/77337>



July 01 – Months after Dubai unveiled the first flying taxis in the world, Dubai Police recently unveiled another world's first — autonomous, self-driving miniature police cars that are expected to hit the streets by year-end. According to gulfnews.com, the robotic vehicles will be equipped with biometric software to scan for wanted criminals.

The driverless vehicles, about the size of a child's electric toy car, will patrol different areas of the city to boost security and hunt for unusual activity, all the while scanning crowds for potential persons of interest to police and known criminals. The new security system comes with its own [drone](#) which can be launched via a rear sleeve.

Dubai Police signed a new deal with Singapore-based OTSAW Digital to deploy the new autonomous outdoor security robots, O-R3, as part of the Smart Dubai initiative, making



Dubai the first city in the world to have O-R3 in operation, the police said.

The memorandum was signed by Major-General Abdullah Khalifa Al Merri, Commander of Dubai Police, and Ling Bing, CEO of OTSAW Digital, at Dubai Police headquarters. "Dubai Police is keen to get the latest technology to fight crime. We always search for the best technology to serve our police work for a safer and smarter city" Maj-Gen Al Merri said.





On its company website, OTSAW described its new driverless vehicle as groundbreaking for the future of police surveillance for large cities such as Dubai. OTSAW also noted that the O-R3 performs 360-degree surveillance and deters potential crime with its formidable presence on site. With self-charging capability, patrol and protection is provided 24/7, all year round. Brigadier Khalid Nasser Al Razooqi, director of the Smart Services Department in Dubai Police, said the new car has cameras and will be linked to the command room. "It can recognise people in any area and identify suspicious objects and can track suspects. It has a [drone](#) and the user [police officer] needs to access the car through fingerprint. It will be deployed at tourist destinations in Dubai," Brigadier Al Razooqi said.

Police will send a team headed by Lieutenant Salim Saqr Al Merri to the company to participate and supervise the final stages of building the car. The latest news from Dubai Police comes on the heels of word earlier this year at the World Government Summit that Dubai is also set to become the world's first city to use flying taxis.



Turkey Takes Over 50 Churches, Monasteries

By Meira Svirsky

Source: <https://clarionproject.org/turkey-takes-50-churches-monasteries/>

June 28 – Close to 50 churches and monasteries were taken over by the Turkish government in Mardin, a city located in the southeastern part of the country, reported the news outlet Agos.



The move was made during the time that the villages that comprise the city were turned into an official municipality. As per legislation that established the city, a "liquidation committee" was established to distribute institutions of the city whose legal permits had expired.

"For years, minority foundations could not acquire property in Turkey," explained Kuryakos Ergun, the chairman of Mor Gabriel Monastery Foundation. "Then legislative amendments were introduced in 2002 upon which we engaged in a number of initiatives." We were able to have



some of the title deeds registered in the name of our foundation. And for others, the legal process was ongoing.

“It was not possible for us to follow-up on all the title deeds ... we are (now) filing lawsuits to the extent possible. In places where we couldn't follow up the situation, some monasteries and other property were given to the legal entity of the village.”

In the latest move, the liquidation committee gave ownership of the village's churches, monasteries and cemeteries to the Treasury Department, which in turn transferred ownership to the *Diyanet*, the Religious Affairs Ministry.

Appeals have been filed but with no success to date.



Recipe for Disaster: Immigration Without Assimilation

By Shabnam Assadollahi

Source: <https://clarionproject.org/recipe-disaster-immigration-without-assimilation/>



A pro-Iranian demonstration in Germany on Al-Quds Day (Photo: JOHN MACDOUGALL/AFP/ Getty Images)

June 29 – **Many countries in the West are seeking to accommodate radical Islamism following the flow of Middle Eastern immigrants to Europe and the North America in the name of multiculturalism and cultural relativism.**

This sentiment is expressed, for example, in events such as [Hijab Solidarity Day](#), celebrated widely in the West, [attempts](#) to enshrine Islamic (*sharia*) law into the British legal system and passing what almost amounts to a blasphemy law in Canada ([Motion M-103](#)).

This trend in the West is problematic. Under Islamic law, in some countries, thieves face the punishment of having their hand and leg severed; females who commit “adultery” face death by stoning, beheading or hanging. Homosexuality is a crime punishable by death.

Are these cultural values morally equivalent to Western values? In Islamic countries ruled by *sharia* law, limits are placed on equality of women, such as prohibitions against driving, employment and education.

Is female genital mutilation, which is [practiced by](#) many Muslim-majority countries — a morally equivalent value? We will soon see when the [FGM case in Michigan](#) goes to trial. Lawyers in the case have said that the doctor accused of cutting girls will claim freedom of religion as her defense.



In Iran, the country from which I escaped, [women have resisted](#) over the past 39 years this barbaric legal framework that is incompatible with modern values and basic human rights. **Yet, some of these very same [sharia laws](#) are slowly being incorporated in the West in the name of multiculturalism.**

Iranian women have suffered much due to *sharia* law: 16 year-old [Atefeh Sahaaleh](#) was hanged for having had sexual relations with a 50 year-old married taxi-driver. (The cheating husband was supposed to be executed by the reprehensible act of stoning according to Iranian law; however, he was not punished.) Iranian women are forced to veil themselves in public and can be picked up by the brutal morality police for violating this rule. However, the West, instead of fighting against *sharia* encroachment and standing in solidarity with the victims of Islamist oppression, is actually celebrating this misogyny. Proponents of the multiculturalist doctrine didn't count on radical Islam taking hold in second generation immigrants.

In Canada, where I live, these kids not only don't want to be Westernized (although they like to enjoy the benefits of the Western world). They oftentimes do not even [identify as Canadians](#). Rather, they identifying as Muslims and are loyal to the country from which their parents came.

Most people think "diversity" when they think about Canada, yet there is no women's organization here that will take a hardline stand against *sharia*. They're not used to it. They are all so used to bending over backwards for minority groups.

The Western world has a moral obligation to stand up for the voiceless women – and men — whose human rights are systematically taken away from them by repressive regimes run by *sharia* law, not by adopting or condoning aspects of *sharia* in the name of multiculturalism.

The Western world must integrate Muslim immigrants rather than [bending Western culture to fit the Islamist worldview](#). In Europe alone, immigration without an emphasis on integration and assimilation is birthing disaster. Crime is skyrocketing like never before. The incidents of rape, murder, theft and bullying are increasing daily.

People are speaking out, but are being gagged for the agenda of a few. This is not moral in any way. This careless trend of elite political decision-making apart from the people, history tells us, is very dangerous and must be stopped.

The exercise of our individual consciences and the safety of our citizens must once again be preserved. We, the people, must hold our authorities accountable.

Shabnam Assadollahi is an award-winning Canadian human rights activist and freelance writer/journalist of Iranian origin who was locked up at age 16 for 18 months in Iran's most notorious prison, Evin. She has a Master's degree in Social Anthropology. Assadollahi has worked extensively helping newcomers and refugees resettle in Canada. Assadollahi's primary focus is on the Iranian community and world events affecting women and minority communities.

Immigration does not raise crime: Studies

Source: <http://www.homelandsecuritynewswire.com/dr20170630-immigration-does-not-raise-crime-studies>

June 30 – **Immigration has no effect on crime, according to a University of California, Irvine professor's comprehensive examination of fifty-one studies on the topic published between 1994 and 2014.**

The meta-analysis – conducted by UCI's Charis Kubrin, a professor of criminology, law & society, along with Graham Ousey of the College of William & Mary – is the first on the relationship between immigration and crime.

Appearing in the inaugural issue of the *Annual Review of Criminology*, [the review article](#) arrives at a time when debate about the subject has intensified.

"So many of the current executive orders and policies are based on this idea that immigration causes crime: building the border wall, adding thousands of Border Patrol officers. But that narrative is simply false. Overall, immigration does not cause crime. In fact, our analysis reveals that, if anything, immigration causes a drop in crime," Kubrin said.



UCI [notes](#) that the reviewed studies most frequently found no relationship between immigration and crime. But among those that did find a correlation, it was 2.5 times more likely that immigration was linked to a reduction in crime than an increase.

Additionally, it was the most rigorous studies that showed immigration lowering crime. For instance, those that controlled for more outside factors found a stronger negative relationship between immigration and crime, as did “longitudinal” ones, which looked at changes over time.

“These kinds of studies better reflect reality. Because of the strengths of longitudinal research, we think those studies should be given more weight,” Kubrin said. “If you’re going to hang your hat on any of the findings, you want to do so on the better ones.”

The analysis also revealed that location played a key role. Immigration was tied to lower crime in well-established, traditional immigrant destinations – such as Los Angeles and Chicago, which have welcoming enclaves and political support. **But in newer destinations, such as Phoenix, immigration was linked to higher crime.**

In new research funded by the National Science Foundation, Kubrin is examining the characteristics of immigrant communities that lead to decreased crime rates.

“For me, I’m done asking about whether immigration causes crime. In my mind, this meta-analysis closes the book on that question. We have the answer,” she said. “The public needs to be done with this question. Now we need to move on to more important questions of why crime is lower in immigrant communities.”

EDITOR’S COMMENT: What is missing from this article is the religion of the immigrants; the country of origin; legal or illegal and related small details. Also related references to the effects of newcomers to islands like Lampedusa (Italy) or Lesvos (Greece),



87 soldiers hospitalized at barracks after suffering from vomiting, nausea in Turkey’s Marmaris

Source: <http://www.hurriyetdailynews.com/87-soldiers-hospitalized-at-barracks-after-suffering-from-vomiting-nausea-in-turkeys-marmaris.aspx>



June 30 – A total of 87 soldiers at a military barracks in the southwestern resort district of Marmaris were hospitalized in the Aegean province of Muğla over a period of three days after suffering from nausea and vomiting, Doğan News Agency reported on June 29.

Some 84 of the soldiers were discharged from the hospital following treatment, while three soldiers' treatment is ongoing. None are reported to be in a life-threatening condition.



Initially seven soldiers at the Aksaz Naval Base Command applied to the Marmaris State Hospital's additional service building located inside the base on June 27 with complaints of vomiting, nausea, dizziness, and headaches. On June 28 and 29, some 80 more soldiers applied to the hospital with similar complaints.

In order to determine why the soldiers fell ill, officials have taken samples from water and food at the barracks, as well as blood samples

from the soldiers. The food is reported to have been prepared and cooked by the soldiers on the base. The incident comes after a series of similar cases of apparent food poisoning at barracks across Turkey. Some 731 soldiers in the First Infantry Training Brigade Command in the Aegean province of Manisa were hospitalized late on June 17 following suspected food poisoning. The catering firm's contract with the barracks was subsequently cancelled, while a number of employees of the company were arrested. The brigade commander at the barracks was also dismissed from his post on June 23. Colonel Şefik Güvenç was assigned to the Turkish Land Forces Training and Doctrine Command School (EDOK) in the capital Ankara.

Erdoğan 'Capable and Willing' to Destabilize Balkans and NATO Pretends Everything Is Fine

June 29, 2017

Source: <http://www.meforum.org/6791/daniel-pipes-erdogan-is-capable-and-willing-to>

Faktor.bg: Turkey has now openly sided with Qatar in its quarrel with Saudi Arabia, Egypt etc. How dangerous is this in terms of isolating Ankara from the Sunnis in the Sunni-Shia conflict?

Daniel Pipes: As I see it, the danger lies elsewhere: in [Ankara and Tehran joining together](#) to support Qatar. That potentially could precipitate a war between them and the Saudi-led alliance, and that in turn could jeopardize the Persian Gulf's oil and gas exports, possibly leading to a global economic crisis.

Faktor.bg: Turkey supports the Muslim Brotherhood, Hamas, the Nusra Front and other organizations which many Arab states have declared terrorist organizations; might those same Arabs designate Ankara a terror-supporting state?

DP: [Egypt's government](#) has already called for Turkey to be treated like Qatar, though no one else echoed this appeal. I would be surprised if this happened. Governments like the Saudi one would rather win Ankara over.

Faktor.bg: Moscow and Ankara maintain an uneasy alliance of sorts, but had incompatible interests with respect to Bashar Assad, Crimea etc. How do you see this relationship progressing?



DP: Bullies like Putin and Erdoğan can form tactical but not strategic alliances. They constantly look at the other with suspicion and, inevitably, issues will arise that will cause major friction between them. So, expect rocky relations.

Faktor.bg: Will Doha ultimately succumb to Saudi pressure or is it likely to become even more bonded to Tehran?

DP: That is the question of the hour. I hope for the former but expect the latter.

Faktor.bg: Concerning Erdoğan's neo-Ottoman ambitions in the Balkans: Are these likely to be pursued further and how successful will they ultimately be?

DP: The Balkan region has a special place in the Turkish imagination for it alone is the region to which the Ottomans brought Islam. The deep Turkish influence on the region is symbolized by the word *Balkan*, which means "mountain" in Turkish.

Further, the countries are small and more easily influenced than other neighbors of Turkey. For all these

reasons, I expect Ankara to pour substantial resources into gaining religious and political influence in Southeast Europe.



Ottoman Sultan Murad I was killed in Kosovo in 1389. In 2005, the Turkish government paid to refurbish his tomb. (Photo by author)

Faktor.bg: Is Erdoğan capable or willing to

destabilize the Balkans?

DP: He is both capable and willing. Islam offers one main tool – building mosques, sponsoring imams, inviting students to Turkey, and so on. Elections offer the other main tool. That Turkey's labor and social policy minister, Mehmet Müezzinoğlu, explicitly came out for [DOST](#), the party of Bulgaria's ethnic Turks ("We must support the DOST party") points to Turkish intentions.

Faktor.bg: What can the Western powers do to prevent this destabilization?

DP: Stand up to Erdoğan. Unfortunately, that does not seem imminent. It's much easier to pretend that all's (almost) well in NATO.

Faktor.bg: Will the European Union eventually stand up to Erdoğan's blackmail and what is Ankara likely to do then?

DP: The West, and NATO especially, have been achingly slow in their response to the massive shifts in Turkey over the past fifteen years. I am pessimistic about a truly robust stand, though incremental improvements continue to take place. Perhaps, eventually, a crisis will teach Westerners what the problem is.

At that point, depending on who is in charge in Ankara and what the circumstances are, the response could be very aggressive, including the seizure of Greek islands, the dispatch of illegal migrants, joining forces with Russia or Iran, and other hostile steps.

Faktor.bg: What will happen when Erdoğan's clients in Syria suffer military defeat?

DP: Tehran will control a territory from Afghanistan to the Mediterranean Sea. It will be a crisis for every state that resists Iranian influence, from Afghanistan to Israel.

Faktor.bg: How is Erdoğan responding to a referendum for Kurdish independence in Erbil?

DP: He [hates the prospect](#). The Kurdistan Regional Government is one of the few polities to sustain good relations with Ankara; these will not likely survive a Kurdish declaration of independence. Erdoğan worries about the effect of this move on Turkey's Kurds. It will rile up his allies, the Turkish nationalists. It will disrupt dreams of Turkish return to what is now northern Iraq. It threatens the breakup of Iraq and unpredictable regional instability.



Faktor.bg: What options does he have in response to the KRG declaring independence?

DP: He can apply economic and possibly military pressure on the KRG. He can reconcile with the Iraqi central government in Baghdad to pressure it, as well as with Tehran. I expect he will be unforgiving.

Faktor.bg: Is serious regime-threatening opposition to Erdoğan possible in Turkey?

DP: At this point, no. Erdoğan controls every lever of power – the executive, legislative, and judicial branches of government, the armed forces, intelligence services, police, banks, media, educational institutions, and so on. But if economic problems or foreign adventures become too much for the Turkish populace, they could certainly rise up against the regime. At that point, his many enemies will find each other and coordinate.

Daniel Pipes is an American historian, writer and commentator; he earned a doctorate at Harvard. In recent years, he established himself as one of the most prominent researchers and analysts of radical Islam. He is president of the Middle East Forum think tank and publisher of its specialized journal. His work focuses on U.S. foreign policy and the Middle East. Pipes is the author of sixteen books. He visited Bulgaria at the invitation of Bulgaria Analytica.

Barefoot and alone, children flee brutal S. Sudan war

Source: <http://www.dailymail.co.uk/wires/afp/article-4663402/Barefoot-children-flee-brutal-S-Sudan-war.html>



Unaccompanied children who arrive at the International Nguenyiel refuge camp in Gambela, Ethiopia have fled life-threatening situations in South Sudan

June 04 – Her feet bare and her hometown in flames, Nyadet walked east alone, eating food given to her by strangers and following trails left by others escaping war in South Sudan.

She is 12 years old.

Nine days after she fled bloodshed in the flashpoint town of Malakal last November, Nyadet reached the country's border with Ethiopia, and crossed over to safety.

"Maybe they are safe," is all she can say of her mother, father, sister and two brothers, whom she lost track of when the streets of her hometown transformed into a war zone.





Around 1.8 million South Sudanese have fled the country and of that number one million are children and of those, 75,000 have fled unaccompanied by their parents

South Sudan's civil war has raged on for the past three years with such viciousness that parts of the country are bereft of food and a third of the population has fled their homes, but few refugees present as vexing a problem as children like Nyadet who escape the conflict alone.



Unaccompanied children who have travelled alone from South Sudan are sometimes reluctant to be reunited with relatives, believing it could mean returning to the violence they fled



"They are fleeing definitely life-threatening situations," said Daniel Abate of aid group Save the Children, which helps reunite lost children with their families.

At the Nguenyyiel refugee camp near Ethiopia's lush western frontier, boys and girls who crossed the border unaccompanied tell tales of murdered families and childhoods shattered by the unrelenting violence in South Sudan.

"War happened," is the description Nyakung, 11, gives for the atrocities she witnessed in the capital Juba, where her mother was left to die inside a blazing hut and three of her brothers were gunned down on a road while running for the safety of a UN base.

Aid agencies are trying to get children like Nyakung back with their families, but humanitarians admit that with the conflict still raging in South Sudan, the odds of these children seeing their loved ones again are slim.

Tired and destitute

South Sudan's war, sparked when President Salva Kiir accused his former deputy Riek Machar of plotting a coup in 2013, has been marked by numerous atrocities against civilians despite the presence of thousands of UN peacekeeping troops.

Around 1.8 million South Sudanese have fled the country, making it the fastest growing refugee crisis in the world.

One million of those refugees are children, the UN says, and of that number about 75,000 were either separated from their parents or without any family at all.

Aid workers say they regularly see South Sudanese children straggling across the border, often with an adult stranger, but sometimes by themselves.

"You can tell they are very tired, their clothes (are) worn-out on them, they have not been showered for some time. So, you can see that they're destitute," Daniel said.

Nguenyyiel is home to nearly 2,900 children that arrived without any family, who pass their days attending school and playing in a tree-shaded jungle gym.

Chan, 13, escaped Malakal late last year when fighting erupted and the grass hut he lived in was torched. He then walked for a month until he crossed into Ethiopia.

"I just go the direction where I see a safe place," he said.

Some, like Nyadet, hope to one day reunite with their families.

Others hold no such hope.

Chan says he doesn't know where his parents are but believes they must be dead.

Slim odds

With neither the government nor the rebels honouring a peace deal made two years ago, locating family members of lost children in the chaos of South Sudan is difficult, says Hiwotie Simachew, emergency response manager for aid group Plan International.

Some parents have also likely joined the exodus that has distributed hundreds of thousands of South Sudanese refugees to Uganda, Kenya, Sudan and beyond.

Parents, if they are still alive, could be in refugee camps in any of these countries, or in other settlements in Ethiopia, Hiwotie said.

Plan International and Save the Children have managed to reunite hundreds of youths with their families, but that's just a fraction of the around 31,500 children Ethiopia's Administration for Refugee and Returnee Affairs says have arrived without their parents.

Even when family members are located, some don't want to take custody of the children.

In one case, aid workers found the uncle of three unaccompanied minors in Australia, but he declined to adopt them, Hiwotie said.

In other instances, it's the children themselves who resist reunion, because they believe that would mean a return to the violence from which they escaped.

"They are refusing to reunify with their family and thinking that, if they show their interest, they will return back to South Sudan," Hiwotie said.



EDITOR'S COMMENT: And the civilized world – all of us – what is doing to end the drama of these people? The UN? The mighty powers? Africans worth nothing in this life? Children without tomorrow mean nothing to all of us? NOTHING AT ALL? Not to mention the two point something million of children that have no access to water...

Erdoğan: French Words in Turkish Are Foreign, Arabic Ones Aren't

By Burak Bekdil

Source: <http://www.meforum.org/6797/erdogans-language-revolution>

July 04 – **What's in a name? A good deal. You would risk offending a Turk if you called his country's biggest city "Constantinople" instead of "Istanbul." Your Turkish friend would probably not know that the word "Istanbul" morphed from "Eis tin Polin," which means "to the city" – in Greek.**

Consider my own case. I was born in Ancyra, with a grandfather from Georgia, who settled first in Rhizios;



my mother was a proud Chalcedonian; my parents were laid to rest in Aivali. My childhood was spent in Smyrna and my military training in Amaseia; I was a conscript in Cevlik via El-Azez. Or consider President Recep Tayyip Erdoğan, who is from Potamia. His predecessor, another Islamist, is from Caesarea. His three predecessors, chronologically, came from Akroenos, Sparta, and Maldiye. The Turks owe their independence largely to a successful war at Gallipoli. Another great day in the history of the Turkish Republic was Atatürk's landing at Sampsus, where he launched the War of

Independence. And the first capital of the Ottomans was Prousa.

Not one of those town names is Turkish. Even the contemporary word for the Turkish homeland, "Anadolu," comes from the Greek word "Anatoli" ("east").

Nevertheless, in deeply polarized Turkey, language is not just language. **It has been part of Erdoğan's campaign to make Turkey more Islamic and more Turkish. Remarkably, in 2014, Erdoğan lectured on a language he does not understand, speak, read, or write.** "We once had a language [Ottoman] perfectly suitable for science," he lamented. "Then it disappeared overnight [Atatürk's alphabet revolution]." In 1923, only 2.5% of the Turks were literate, and only a fraction of them could speak Ottoman.

In many ways, Erdoğan's passionate longing for a dead language is both ideological and Orwellian. Today, with the Ottoman language long forgotten, Erdoğan wants to rid Turkish of "foreign words." Why? Because "Turkey faces a mortal threat from foreign 'affectations.'"

Erdoğan recently said, "Where do attacks against cultures and civilizations begin? With language." He then ordered the foreign word "arena" removed from sports venues across the country. Most "arenas" are now on their way to becoming "stadiums" or "parks" – both of which are also non-Turkish words.

Erdoğan's language revolution is problematic for a number of reasons. To start with, his understanding of "foreign" reflects his powerful Islamist ideology.

Wikipedia describes a foreign language or word as "a language or word indigenous to another country." By that definition, Erdoğan is right that "arena," "mall," "computer," "tower," and "check-up" are foreign words. But what about, for instance, "Tayeb," the president's own name, which means "good or kind" in Arabic?



In 2012, of the 27 first names belonging to ministers in Erdoğan's cabinet, 20 were common Arabic names, two were the Turkish version of a common Arabic name, and only five were Turkish. Even the first-ever indigenous Turkish drone built and exhibited with fireworks had a Persian name: the Anka ("phoenix").

So what is Erdoğan's problem with foreign names or words? They are fine if they come from certain Muslim cultures – but alien if they come from remote Muslim cultures, like the Hui in China and others in Indonesia, Malaysia, and India. Erdoğan does not view anything Arabic or, to a certain extent, Persian, as "foreign."

In 2011, Favlus Ay, a Turkish citizen of Assyrian origin, appealed to a court to change his surname (which is Turkish for "moon") to Bartuma, which has the same meaning in a Syriac language. The court refused his request, but Ay did not give up. Eventually, he appealed to the Constitutional Court to demand the cancellation of Article 3 of the Law on Family Names, the legal basis on which his appeal for the name "Bartuma" was denied. That article bans the use of surnames "belonging to foreign nations and races." The lower court cited this article when it ruled against Ay's appeal on the grounds that it was "against national unity." The Supreme Court also ruled that Ay's demand for the annulment of Article 3 of the Law on Family Names be rejected, again in order to maintain national unity.

One might think the ban and its legal basis are ridiculous. In fact, the whole story, when seen from a wider angle, is even more absurd than the ban itself. The president of the Supreme Court that ruled in favor of the ban on foreign names is named Haşim Kılıç. Hasim (Hashim) is a common Arabic male name. Thus, a Syriac name apparently belongs to a "foreign race," but an Arabic name does not. Are Turks Arabs? Do they speak the same language? Do they have the same ethnicity? We all know the answers to those questions.

The Turkish Islamist quest to rid the Turkish language of Western words is fundamentally hypocritical. Erdoğan and other important men in Ankara are driven about in Western-made cars; use Western mobile phones, applications, and software; buy Western-made weapons to defend their country; wear fancy Western suits and neckties – but hate Western words. As it happens, the Turkish word for "hypocrite" really is Turkish.

Burak Bekdil is an Ankara-based political analyst and a fellow at the Middle East Forum.

Psychopathic brains' wiring leads to dangerous and violent actions

Source: <http://www.homelandsecuritynewswire.com/dr20170707-psychopathic-brains-wiring-leads-to-dangerous-and-violent-actions>

July 07 – Josh Buckholtz wants to change the way you think about psychopaths — and he's willing to go to prison to do it.

An Associate Professor of Psychology, Buckholtz is the senior author of a study that relies on **brain scans of nearly fifty prison inmates to help explain why psychopaths make poor decisions that often lead to violence or other anti-social behavior.**



What they found, he said, is psychopath's brains are wired in a way that leads them to over-value immediate rewards and neglect the future consequences of potentially dangerous or immoral actions. The study is described in a paper in [Neuron](#).

"For years, we have been focused on the idea that psychopaths are people who cannot generate emotion and that's why they do all these terrible things," Buckholtz said. "But what what we care about with psychopaths is not the feelings they have or don't have, it's the choices they make. Psychopaths commit

an astonishing amount of crime, and this crime is both devastating to victims and astronomically costly to society as a whole.



“And even though psychopaths are often portrayed as cold-blooded, almost alien predators, we have been showing that their emotional deficits may not actually be the primary driver of these bad choices. Because it’s the choices of psychopaths that cause so much trouble, we’ve been trying to understand what goes on in their brains when they make decisions that involve trade-offs between the costs and benefits of action,” he continued. “In this most recent paper...we are able to look at brain-based measures of reward and value and the communication between different brain regions that are involved in decision making.”

Harvard [notes](#) that obtaining the scans used in the study, however, was no easy feat — where most studies face an uphill battle in bringing subjects into the lab, Buckholtz’s challenge was in bringing the scanner to his subjects.

The solution came in form of a **“mobile” scanner** — typically used for cancer screenings in rural areas — that came packed in the trailer of a tractor trailer. After trucking the equipment to a two medium-security prisons in Wisconsin, the team — which included collaborators at the University of Wisconsin-Madison and University of New Mexico — would spend days calibrating the scanner, and then work to scan as many volunteers as possible as quickly as possible.

“It was a huge undertaking,” he said. “Most MRI scanners, they’re not going anywhere, but in this case, we’re driving this inside a prison and then in very quick succession we have to assess and scan the inmates.”

The team ultimately scanned the brains of 49 inmates over two hours as they took part in a type of delayed gratification test which asked them to choose between two options — receive a smaller amount of money immediately, or a larger amount at a later time. The results of those tests were then fit to a

model that allowed researchers to create a measure of not only how impulsive each participant’s behavior was, but to identify brain regions that play a role in assessing the relative value of such choices.

What they found, Buckholtz said, was people who scored high for psychopathy showed greater activity in a region called the **ventral striatum** — known to be involved in evaluating the subjective reward — for the more immediate choice.

“So the more psychopathic a person is, the greater the magnitude of that striatal response,” Buckholtz said.

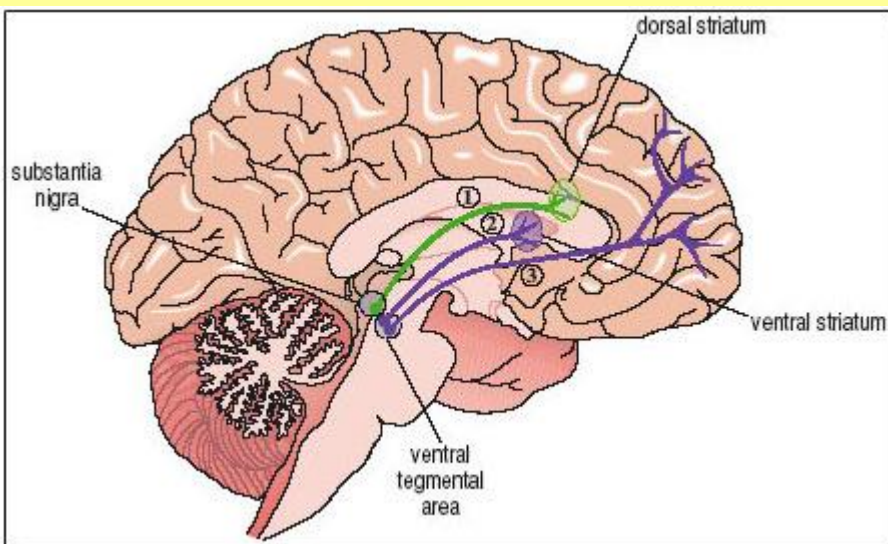
“That suggests that the way they are

calculating the value rewards is dysregulated — they may over-represent the value of immediate reward.” When Buckholtz and colleagues began mapping which brain regions are connected to the ventral striatum, it became clear why.

“We mapped the connections between the ventral striatum and other regions known to be involved in decision-making, specifically regions of the prefrontal cortex known to regulate striatal response,” he said.

“When we did that, we found that connections between the striatum and the ventral medial prefrontal cortex were much weaker in people with psychopathy.”

That lack of connection is important, Buckholtz said, because this portion of the prefrontal cortex role is thought to be important for ‘mental time-travel’ — envisioning the future consequences of actions. There is increasing evidence that prefrontal cortex uses the outcome of this process to change how strongly the striatum responds to rewards. With that prefrontal modulating influence weakened, the value of the more immediate choice may become dramatically over-represented.



“The striatum assigns values to different actions without much temporal context” he said. “We need the prefrontal cortex to make prospective judgements how an action will affect us in the future — if I do this, then this bad thing will happen. The way we think of it is if you break that connection in anyone, they’re going to start making bad choices because they won’t have the information that would otherwise guide their decision-making to more adaptive ends.”

The effect was so pronounced, Buckholtz said, that researchers were able to use the degree of connection between the striatum and the prefrontal cortex to accurately predict how many times inmates had been convicted of crimes.

Ultimately, Buckholtz said, his goal is to erase the popular image of psychopaths as incomprehensible, cold-blooded monsters and see them for what they are — everyday humans whose brains are simply wired differently.

“They’re not aliens, they’re people who make bad decisions,” he said. “The same kind of short-sighted, impulsive decision-making that we see in psychopathic individuals has also been noted in compulsive over-eaters and substance abusers. If we can put this back into the domain of rigorous scientific analysis, we can see psychopaths aren’t inhuman, they’re exactly what you would expect from humans who have this particular kind of brain wiring dysfunction.”

— Read more in Jay G. Hosking, “Disrupted Prefrontal Regulation of Striatal Subjective Value Signals in Psychopathy,” *Neuron* 95, no. 1 (5 July 2017): 221–31.

Forget robots — the **goats** are coming for our jobs

Source: https://www.washingtonpost.com/news/wonk/wp/2017/07/07/forget-robots-the-goats-are-coming-for-our-jobs/?utm_term=.5555f0194478



July 07 – **This goat is smiling because she's coming to steal your job.**

A Michigan chapter of the American Federation of State, County and Municipal Employees is warning that somebody is coming to take union jobs. Not immigrants, not robots — but goats.



After Western Michigan University rented a crew of 20 goats to clear weeds and brush this summer, AFSCME “filed a grievance contending that the work the goats are doing in a wooded lot is taking away jobs from laid-off union workers,” [according to the Detroit Free Press](#).

If you haven't been paying attention, goat rentals are [all the rage in landscaping right now](#). With their voracious appetites they can clear weeds and brush in areas that humans have a hard time reaching.

They're gentler on the environment than heavy landscaping equipment or chemicals. They will eat literally anything, including poison ivy.

If you're a union representing guys who mow or clear brush for a living, you can see the threat coming from a mile away — even if said threat has two horns, four legs and [looks adorable in a sweater](#).

AFSCME's warning got us thinking — just how many jobs are really at risk from the rise of goat-scaping? What follows is a heavily simplified, back-of-the-envelope, it's-Friday-afternoon-and-nothing-really-matters estimate of the potential impact of goat labor on the U.S. workforce. Are you ready?

The first thing we need to do is figure out how much land a goat and a person can clear in a given period of time. We're going to assume the human is operating a tractor with a [Bush Hog BH16 Single-Spindle Rotary Cutter attached](#). With a cutting width of 72 inches, the Hog can handle tree saplings up to 2 inches in diameter — perfect for the kind of rough undergrowth that goats are often deployed to.

We'll assume our employee is running the tractor at about 3.5 mph, the middle-of-the-ground-speed-range



[recommended in the Bush Hog's manual](#).

According to [the mowing calculator](#) at tractordata.com, an information repository for [all things tractor-related](#), that setup should be capable of clearing about **18 acres of land in an eight-hour workday**.

There are, of course, literally hundreds of external factors that could influence this number. A worker using only a handheld trimmer — say, a guy working for a landscaping company — wouldn't be able to clear nearly as much. Rough or varied terrain might require

using a smaller cutter. Easier terrain could let you get away with going faster.

But this number seems like a good, middle-of-the-road estimate for what one person could reasonably accomplish. It's also more or less in line with rough estimates for brush-clearing rates given in [various online forums](#) by [people who do this type of thing](#) for a living.

On to goats then. According to the pamphlet [“Using Goats for Brush Control as a Business Strategy,”](#) published by the Cooperative Extension at the University of Arkansas, **“a general rule of thumb is that 10 goats will clear an acre in about one month.”** Sometimes it takes more goats, sometimes fewer. But that seems to be the average.

Now we need to standardize the time period to make the goat and human numbers comparable. If one person can clear 18 acres in a day, how many acres can they clear in 30?

We're going to assume a normal worker who takes weekends, so call it 20 days of actual labor (or four 5-day weeks). That works out to 360 acres cleared in a month

by one person, compared to 1 acre cleared by 10 goats. Multiply 360 by 10 to get the per-goat work equivalent, and you get something like this.

In a month, our typical human can do the brush-clearing work of about 3,600 goats. Take that, goats! Humans rule! But wait: Exactly how many worker-goats are there in the United States?

The unfortunate answer to that question is, “we don't know.” The USDA [does issue annual head counts of the nation's goat population](#). But it only tracks subcategories such as meat and dairy, the products goats have traditionally been used for. It doesn't include newer innovations such as weeding goats, [yoga goats](#), [therapy goats](#) or [pack goats](#).



However, [a September 2005 report from the USDA](#) notes that goats can be multipurpose. “Since producers can be paid for grazing their goats in troubled areas, there appears to be a synergy to this type of operation with either dairy or meat (market kid) production,” according to the report. “Producers could receive payment for grazing and then sell kids or dairy products, thereby benefiting twice from their goat herd.”

So let's assume worst-case scenario: How many jobs would be at risk if each one of the nation's meat and dairy goats also had a side job clearing brush? [Per the USDA](#) there are about 2.5 million meat and dairy goats in the U.S. as of 2017. Divide that by 3,600 to determine how many human brush-clearing jobs they could replace.

Further divide that number by 2, since we assume that brush-clearing only happens during the growing season (May through October, or half of the year), and we have an estimate of how many full-time-equivalent human jobs are threatened by goats in a typical year.

That's ... actually not a lot of jobs. If you consider that only some unknown fraction of the nation's meat and dairy goats are actually currently being used to clear brush, the number gets even smaller.

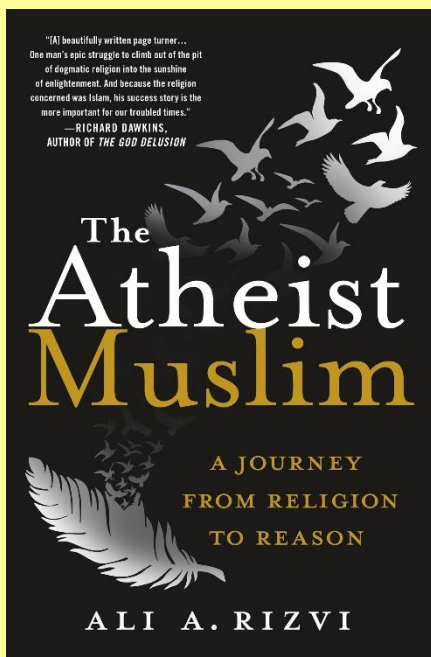
Again, this is a wild, back-of-the-envelope calculation subject to who knows how much error. (If you have a better one [I'd love to hear it!](#)) It relies heavily on the assumptions above, which are probably wildly inaccurate in certain circumstances. If tractors aren't available, for instance, humans lose a good portion of their advantage over goats.

But the overall degree of magnitude, or lack thereof, of the final number suggests that goats won't be taking a bite out of the national jobs numbers anytime soon.

None of which is any comfort if you're a laid-off union worker in Michigan watching a goat do a job that was once yours.

An atheist Muslim on what the left and right get wrong about Islam

Source: <https://www.vox.com/conversations/2017/7/7/15886862/islam-trump-isis-terrorism-ali-rizvi-religion-sam-harris>



July 07 – “The left is wrong on Islam. The right is wrong on Muslims.”

These words were [tweeted](#) by Ali Rizvi, author of the new book [The Atheist Muslim](#). Rizvi was born in Pakistan in 1975 into what he calls a “moderate to liberal Muslim family.” He was raised in Libya and later moved to Saudi Arabia, where he lived for more than a decade. He’s now a writer and physician based in Canada.

Rizvi’s book is partly a plea for secularism and partly a defense of Islam as a culture. It’s also an internal challenge to Islam as a body of doctrines. Rizvi speaks directly to agnostics, atheists, and humanists living in the Muslim world, enjoining them to embrace secular culture without abandoning their Muslim identity.

This is a difficult line to walk, and Rizvi does an admirable job of it.

I talked to him by phone about his book, what he hopes to accomplish, and what he meant when he wrote that the left is wrong about Islam and the right is wrong about Muslims. We also discussed what an “honest conversation” about Islam looks like and why the current political climate makes that conversation all the more difficult.

Our lightly edited conversation follows.

▶▶ [Read the interview at source’s URL.](#)

EDITOR’S COMMENT: Be careful when using foreign words like “atheist” (from “a” (no) and “theos” God – in Greek).



UK's £3bn aircraft carrier could be sunk by cheap missiles – security think-tank

Source: <https://www.rt.com/uk/395968-warship-vulnerable-cheap-missiles-elizabeth/>



July 11 – The HMS Queen Elizabeth, Britain's new aircraft carrier, could be sunk by a volley of missiles that cost a tiny fraction of what she is worth, according to a report from the Royal United Services Institute (RUSI) security think-tank.

The [report](#) argues that international rivals like Russia and China have focused their energy on finding ways to counter the West's obsession with large, marquee projects like the HMS Queen Elizabeth.

"Missiles costing (much) less than half a million pounds a unit could at least disable a British aircraft carrier that costs more than £3 billion," the report suggests. "Indeed, a salvo of ten such missiles would cost less than £3.9 million."

The authors argue that the UK and her allies face an *"increased peer and near-peer threat from Chinese and Russian long-range precision missiles, which threaten large land, maritime and air platforms."*

They added that these potential enemies also had *"the potential to make space-borne communications and navigation capabilities susceptible to denial."*

"It has become much cheaper to destroy major systems and platforms than to develop and build them, making large-scale attacks on a single target more likely," the report argues.

Defence Secretary Michael Fallon recently caused an international spat by mocking the Russian aircraft carrier Admiral Kuznetsov, which sailed through the English Channel in 2016, as *"dilapidated."*

He told reporters that the Russians would be looking at Queen Elizabeth's sea trials with *"a little bit of envy."*

The Russian Defense Ministry said in a statement that the vessel was *"merely a large convenient naval target."*

"It is in the interests of the British Royal Navy not to show off the 'beauty' of its aircraft carrier on the high seas any closer than a few hundred miles from its Russian 'distant relative,'" it added.



UAE 'closes the gate' on drone imports that fail to meet new criteria

Source: <https://www.thenational.ae/uae/uae-closes-the-gate-on-drone-imports-that-fail-to-meet-new-criteria-1.486053>

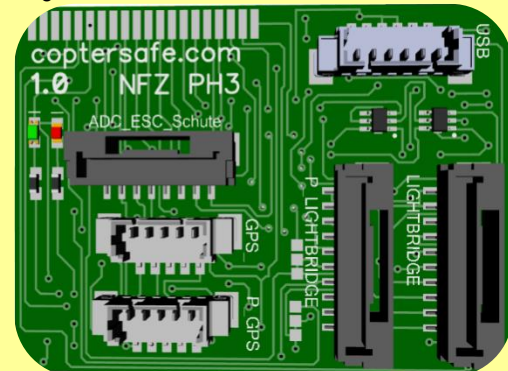
July 11 – Every imported drone will be halted by UAE customs and tested to ensure it matches new specifications for unmanned aerial vehicles.

Aviation officials said devices will be stopped at the point of entry and checked to determine if they are fitted with a number of safeguards.

These include a **unique serial number** that could be used to track the owner in the event of an accident and a **'geo-fencing' chip** that would prevent it from being flown close to sensitive areas, such as an airport.

The move detailed by the General Civil Aviation Authority (GCAA), came amid broader moves to make private ownership in particular more controlled, following a number of incidents at Dubai International Airport last year.

"We are putting the control at the gates, and if a drone doesn't meet the new standards then it can't enter the country" said Ismail Al Balooshi, assistant director general of the GCAA.



It has also emerged that private owners, usually hobbyists, will either need to retrofit their drones so they comply with the new rules or buy new ones that have a serial number.

Tougher regulations are due to come into force in September but this is the first time officials have outlined the criteria devices will need to match. Last year, Paul Griffiths, CEO of Dubai Airports, said that "drones should not be sold or operated without a geofence in place" after three airspace shutdowns. Last week, London Gatwick had to divert five aircraft when a drone was seen near a runway.



The Emirates Authority for Standardisation and Metrology along with the Ministry of Interior, Telecommunications Regulatory Authority and the General Civil Aviation Authority have collaborated together to set out new regulatory standards for the use of drones.

The new specifications approved by the Emirates Authority for Standardisation and Metrology (ESMA) will include a surveillance system for deducting unmanned aerial vehicles.

They will demand that all drones must have a serial number which will be regulated by a surveillance system to track their location.

The UAE's import requirements will be based on "technical specifications such as size, power- depending on its use of purpose, radio frequency, serial number and if it has a geo-fencing program" as well as many other elements, explained Mr Al Balooshi.

There are three vital stages that will determine whether or not a drone can enter UAE territories, the first is by distributor transparency, second is customs - the drone must comply with the certificate importing standards and thirdly the outlet must fulfil the conditions otherwise the drones will be sent back, said Mr Al Balooshi.

Under the new law, drones owned by individuals will not be allowed to have features to film or record. Only those used for research, development and security purposes will be exempt. Commercial companies that use drones for filming have their own regulations to meet.

Airports worldwide have suffered financial losses as the costs of closure are very high, said Saj Ahmad, chief analyst at the London-based StrategicAero Research.

"Even a 30 minute disruption at somewhere like Dubai International can run into millions because of the cost of displaced airplanes, staff and re-scheduled flights to alternate airports".

The UAE announced new measures, earlier this year to make it more difficult to buy a drone.

Authorities urged that the devices must be registered and users must complete a training course. This is intended to ensure only qualified hobbyists and professionals are using the devices.

Fines of up to Dh20,000 (approx. 4,759 euro) for unregistered drone users came into effect in May, but rules are also needed to tackle misuse.

'Defend Europe': Far-right activists launch mission to rescue, send back illegals from Libya

Source: <https://www.rt.com/news/396045-far-right-mission-libya/>



July 12 – Far-right activists from the Identitarian movement have charted a ship to fight illegal migration off the Libyan coast and to expose what they describe as alleged collaboration between European NGOs operating in the area and human traffickers.



A 40-meter-long ship called the **C-Star**, which was chartered by the group, set sail from the African port of



Djibouti on July 6 and is expected to take the far-right activists via the Sicilian port of Catania next week before reaching the relief zone of the Libyan coast.

Who is paying

for these \$10,000⁺ fifty-foot inflatables, which are purpose-built for short-range, one-time delivery of African migrants to "rescue ships" waiting only a few miles off the Libyan coast?

Thousands of African migrants are being carried to Europe EVERY DAY by Leftist open-border globalist "NGOs."

4:48 / 13:17

Migrant crisis levels have now become unsustainable

I Am Incorrigible

**Where are they built?
Who is paying to
ship them to Libya?**

The operation, called "*Defend Europe*," is run by the pan-European Identitarian Movement – a vast network of nationalist, far-right, nativist and populist movements across several European countries, including France, Germany, Austria and Italy.



In this particular case, the French, German and Italian branches of the movement participated in the initiative that was launched as the activists managed to raise more than \$ 91,000 in an online fundraiser campaign they launched in mid-May.

The fundraising campaign was successful, even despite the fact that the online payment system Paypal froze the activists' accounts after a massive opposition campaign, as reported by the France's Liberation newspaper.

The funds were eventually used to lease the C-Star and its crew. On the campaign's website, the far-right activists wrote that the goal of the mission was to *"save Europe, to stop illegal immigration, and end the dying in the sea."*

They went on to say that, once they reach the relief zone off the Libyan coast, they will *"document the doings of the NGOs, expose their collaboration with the human smugglers, and intervene if they do something illegal."*

The activists also pledged support to the Libyan Coast Guard by saying that their vessel could serve as a *"recon ship."*

The Identitarians also branded their initiative as a *"search and rescue mission"* and said that if they get a SOS signal they will *"of course save the people in distress - and hand them over to the Libyan Coast Guard to make sure that they are brought to the closest harbour, according to international law."*

They further said that their *"No Way" policy for illegal immigration will discourage human traffickers and NGOs to lure people into the sea."*

The far-right activists also said that the activities of the NGOs operating off the Libyan coast and saving migrants trying to cross the Mediterranean Sea to Europe only stimulate human traffickers to send refugees and migrants to the sea in small overloaded and poorly equipped boats, thus exposing them to a greater risk.

The initiative has already provoked concerns among some NGOs engaged in sea rescue operations, and they have said that the arrival of the vessel chartered by the Identitarians could disrupt their operations. The French authorities also criticized the move as a *"provocation"* and a *"hindrance"* to relief efforts, French media report, adding that the issue was already referred to a court.

The Identitarian movement is known for its staunch anti-immigrant position and protests against what it describes as *"Islamization of Europe."* In one such action, the members of the Austrian branch of the movement covered a statue of the 18th-century Empress Maria Theresa in Vienna with a huge burqa in December 2016.

A sign reading *"Islamization? No thanks!"* was placed next to the statue.

In May, some 50 activists from the German branch of the Identitarian Movement attempted to *"raid"* the Justice Ministry building in Berlin using a 10-meter-long ladder in a protest against a proposed law designed to fight hate speech on social media.

EDITOR'S COMMENT: In Greece we say: *"Whoever mixes with the bran is eaten by the hens".*

Greek Police Dismantle Innovative International Cocaine Smuggling Ring

Source: <http://greece.greekreporter.com/2017/07/13/greek-police-dismantle-international-cocaine-smuggling-ring/>

July 13 – Greek police have dismantled an international ring of drug smugglers who were using an inventive way to move large quantities of cocaine from Latin America to Greece.

Specifically, the Hellenic Police (ELAS) have arrested over 20 people from Greece, Europe and Latin America, following an operation that started a year ago. Some members of the ring had criminal records.

According to police, the cocaine cartel was using an inventive way to smuggle the drug.

The cocaine was chemically processed and then was infused into printed advertising material. The flyers that were steeped with cocaine were sent to Greece. After the advertising

BRAVO!



material had arrived to Greece, a Colombian “cook” would come to Greece to process the printed material and extract the cocaine. After that, the drug was distributed to European countries.



The cocaine ring was operating in several countries worldwide and Greek police were the first to decrypt the method they were using to smuggle the drugs to Europe. Greek authorities have informed Europol and Interpol about the traffickers.

Why an Islamist Charity Aids London's Homeless, Elderly

By Denis MacEoin

Source: <http://www.meforum.org/6806/why-an-islamist-charity-aids-londons-homeless>

June 09 – ... Many Salafi fundamentalist Muslims today engage in charitable and social work to assist their non-Muslim fellow citizens, stress their love for Jesus, and hold meetings to which they invite non-believers in order to learn what Muslims are really like. If you look at the [community section](#) of the website of the London-based [Islamic Education and Research Academy](#) (IERA, as the acronym is commonly rendered), you will find links to the organization's several charity enterprises: "Helping the Homeless in London," "Warming up the Elderly in London," "Ongoing Neighbourhood Cleanup Efforts," "Good News from the 'Love Your Neighbour'



campaign," "The Elderly Care Project: Winter Warmth Campaign," and "iERA at the Refugees Welcome here Rally."

My local Church of England vicar takes groups of his parishioners to visit Newcastle Central Mosque ([a Salafi/Ahl-e Hadith institution](#)), where they are regaled with warmth and good food. In return, members of the mosque have visited St. George's Church despite the presence of crosses and crucifixes and the vain images on the beautiful stained-glass windows. All buddies on the surface. But the real reason the Muslims are acting like this is in order to attract Christians to Islam. They do not, however, invite the rabbi and his congregation from the local Orthodox synagogue near where I live.

The UK alone hosts a number of organizations that present a seemingly friendly face to the public while harbouring beliefs and supporting individuals whose hatred for non-Muslims is palpable.

I do not wish to condemn this charitable work: quite possibly they do much good. It is quite likely that many homeless, elderly, and refugee people benefit from what they do, or that local neighbourhood campaigners appreciate their cleanup efforts. Superficially, their devotion to the needy is commendable, and much the same as the devotion shown by Christian charities such as the Salvation Army. In fact, a [2013 poll by ICM](#) found that Muslims are far ahead of Atheists, Christians and Jews in the amounts they give to charity, something they deserve to be proud of. At the same time,

JustGiving said religious charities such as [Muslim Aid](#) and [Islamic Relief](#) benefited most from money donated by Muslims, but many of their donations also went to the likes of Cancer Research, Macmillan and the British Heart Foundation.

Here, though, is the problem: Muslim Aid and Islamic Relief have been closely linked to funding Islamic terrorism around the world. Giving to cancer research is one thing, but giving to Hamas and other groups is quite another.

iERA, a British charity, was set up in 2009 by a Muslim convert called [Abdur Raheem Green](#) (formerly Anthony Green)^[1], and its purpose from the beginning was to carry out *da'wa*, or proselytization, to win



converts for Islam. That remains its primary purpose. On their [website](#), where you will find references to "Dawah Training" and "Dawah Campaigns." A range of visual images appears on the screen, showing various missionary activities, notably giving out literature to Christians, with a link to "Giving Dawah to Christians." There is a photograph of a group of iERA workers sporting bright blue hoodies with the name "Jesus" prominently displayed next to a large box containing the book *Jesus: Man,*

Messenger, Messiah, part of a Prophetic Legacy Series featuring books on Abraham and Moses.

This is itself disingenuous. The implication is that Muslims too love Jesus -- an approach that is bound to attract Christian passers-by (including priests and nuns, as shown in photographs) if only out of curiosity. But the Jesus of the Qur'an is not the Jesus of the New Testament. For Muslims, he is not the Son of God, not one third of the Trinity, did not die on the cross, was not resurrected after death, and is not God incarnate. He is simply one of a long line of prophets, important -- yet inferior to Muhammad.

If the deceptions used in *da'wa* work were the only cause for concern about iERA, it might not appear worrying; but iERA has long been censured for its extremist Salafi/Wahhabi basis. The several preachers who sit or have sat on its advisory board or its board of trustees are among the most hardline exponents of radical Islam in the UK and abroad. Many have been banned from the UK and other countries.

Green himself (chair of the Board of Trustees) is [an anti-Semite](#) who [urges the death penalty](#) [pp. 12-13] for homosexuality and adultery, has stated that we should not argue with al-Qa'eda's methods because "[terrorism works](#)." Hamza Tzortzis, a co-founder of iERA, [has said that](#) "we as Muslims reject the idea of freedom of speech, and even the idea of freedom." [And [here](#), p. 16] [He also wishes](#) to criminalise homosexuality, which he compares to



paedophilia and cannibalism. [He was originally a member](#) of the Islamist group Hizb ut-Tahrir[2]. [He also supports](#) the death penalty for apostasy and blasphemy. [Also [here](#), with a video; and [here](#) quoted by Nick Cohen.] He has [supported child marriage](#) under certain conditions. [Also [here](#), with a transcript; [here](#) with a video.] [In a Birmingham University debate](#), he refused to condemn shari'a punishments such as stoning and amputation.



A former member of iERA's board of advisors, [Bilal Philips](#), has been [deported or banned](#) from the US, Britain, Kenya, Germany, Australia and the [Philippines](#) for his terror connections, including [his support](#) for the Taliban and Hamas. He justifies [child marriage](#)[3], [severe punishments](#) including execution for apostates and homosexuals[4]. It is worth adding that [Philips is an unindicted co-conspirator](#) in the 1993 World Trade Center bombing and [in the 1995 prosecution U.S. v. Omar Abdel Rahman](#), "in which almost a dozen people -- including Clement Hampton-El, an associate of Philips -- were

convicted of conspiring to blow up the Lincoln and Holland tunnels in New York City, among other terrorism-related activities."

Other well-known names include [Haitham al-Haddad](#), [Zakir Naik](#), and [Hussein Yee](#), some of whom are on record for their support of terrorism[5], some for their advocacy of extreme punishments[6]; and some for their hatred of non-Muslims[7]. These men and others stand out among the most problematic hate preachers in the Western world and occasionally elsewhere. Their motives are thoroughly questionable[8].

It could not be clearer that the "good works" of iERA have not seemed to revolve around true motives of care for human beings in need. Those who ran and still run the organization were perfectly happy to throw homosexuals off high roofs, stone adulterers, order suicide bombings of Jews in Israel, wage jihad against non-Muslims in general, treat their own women badly, and preach violence to young Muslims and Muslim converts. [Writing in London's Daily Telegraph](#) in November 2014, Andrew Gilligan stated:

Others paid thousands of pounds of public money in Gift Aid [i.e. from the UK government] include IERA (sic), a charity closely linked to a number of the 'Portsmouth jihadis' - six young men from the Hampshire city who travelled together to fight for Islamic State (Isil) in Syria. At least two of the six, Mehdi Hassan and Ifthekar Jaman, and possibly as many as five, were members of the 'Portsmouth Dawah [Prayer] Team,' a group which proselytises in the streets of the port." Naturally, iERA denied this connection, but Gilligan added, "The group was last year described by Mission Dawah, part of IERA, as 'our team from Portsmouth.'

Many unsuspecting people, little understanding just what and who stand behind the movement but impressed by the appearance of disinterested good works on behalf of the needy, given handouts on Muslim love for Jesus, or invited to iERA barbecues and get-togethers, will take everything at face value. A number of them will convert, assuming they have joined a religion of love, peace and charitable works. Some sociologists of religion have pointed out that neophytes attracted by friendly faces and warm words convert with little or no knowledge of the cults or faiths they join. But once inside, they are introduced slowly to the new beliefs they must hold, the rituals they must perform, and the laws they must obey[9]. This is one of the several paths that lead to radicalisation and all it entails. Charity may begin at home, but in instances such as these, it not infrequently leads to death.

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What's happening on British bases in Cyprus?

Source: http://www.pravdareport.com/opinion/columnists/14-07-2017/138170-british_cyprus-0/

July 14 – When it comes to Cyprus, many people think of it as one of the most popular tourist areas of the Mediterranean due to its

the first time, the world discovered what was going on behind the closed doors of the British bases in Cyprus. As a high-ranking intelligence



famous vacation spots. However, the truly unique characteristic of Cyprus is its strategic location in the Middle East. That is the reason why Britain kept the island under its rule from 1878 to 1960 and has maintained its presence on the island by way of its military bases since then. The fact that these bases are of indispensable importance for Britain is a reason that goes beyond simply enabling air operations in the Middle Eastern countries: Intelligence activities.

The **Akrotiri and Dhekelia military bases**, which are outside the jurisdiction of both the Greek Cypriot Administration and the Turkish Republic of Northern Cyprus, are entirely controlled by Britain. The area is quite small, making up about only three percent of the total area of the island. Nonetheless, after 2013, it became evident that this small area was at the center of developments that are relevant to the whole world. The documents leaked to the press and the media by Edward Snowden, a computer expert, former employee of the Central Intelligence Agency (CIA) and the National Security Agency (NSA), marked a turning point in the history of intelligence gathering. Thus, for

officer told the BBC, Mr. Snowden's disclosures were the greatest catastrophe of all time for British intelligence.

One of the three most important centers of the British secret service (GCHQ) is still in Cyprus: The Ayios Nikolaos intelligence station located on the eastern side of the island. This station has a function that differentiates it from the others; secretly listening and recording all kinds of communications originating from Turkey and the Middle Eastern countries. According to the allegations, e-mails, phone calls, messages, social media accounts, Internet traffic, passwords; in short, all communications and correspondence metadata are secretly collected without the knowledge and permission of the users.

The communication between the Eastern Mediterranean and Middle Eastern countries is largely made available by fiber optic cables going under the Mediterranean Sea. According to the information received, the function of the GCHQ Cyprus SIGINT (Signals Intelligence) station is listening and storing all the information that goes through



these telecommunication cables. Again, according to the allegations, the station is picking up information going through not only the cables, but also through satellite systems

Department of Defense but has an autonomous management system and its own laws. In short, regardless of whether the bases are legal or illegal, they have tremendous power and



with special spy antennas on the island. The enormous amount of information gathered by the collection activities in question pushes the limits of human comprehension.

It is noteworthy that the gathering of intelligence on the most strategic - and toughest - region in the world is not carried out by American NSA, but by British GCHQ. As it is known, the geography of the Middle East has been the specialty of British Secret Services for almost 200 years. However, as it was made apparent by the current allegations, this is not just the usual intelligence gathering activity. Because, under the pretense of fighting against terrorism, GCHQ is secretly listening to the presidents of the countries in the region, the executives, businessmen, ordinary citizens, and collecting information and data on military, political, administrative, commercial, economic and social matters; in short, all kinds of information. What is surprising is that such dubious, contentious and illegal practices are taking place on an EU member island. However, the legal status of British bases in Cyprus allows them to be exempt from judicial control. These are the "Sovereign British Bases", outside EU territory and part of the British Overseas Territories. It is a subministry of the UK

authority yet they bear no liability.

According to the information revealed, the eavesdropping scandal in Cyprus is part of a \$ 1.25 billion top-secret program, codenamed "Tempora". As the files Snowden disclosed revealed, Tempora is a computer program developed by GCHQ in 2008. It has two main purposes: "Mastering the Internet" and "Global Telecoms Exploitation". In other words, secretly listening to all Internet and phone communications.

Britain shares the secret information it obtains through its bases in Cyprus with the United States. However, intelligence cooperation between the two countries is not, as is expected, a partnership from which both parties benefit equally. It is a system designed to serve the interests of Britain more than the United States. GCHQ's former president David Omand's statement reveals the true nature of the intelligence bond between the two countries: "We have the brains. They have the money. It's a collaboration that's worked very well."

Fighting against terrorism absolutely can't be a justification for the fact that GCHQ is secretly listening and recording everything. This information can easily be misused



by the British Deep State or put into the hands of malicious agents as we have seen many such examples in the past. Provocations, propaganda, misguidance, coups, revolutions, wars, assassinations and illegal secret operations are some of the possibilities that immediately spring to mind. All of these are major threats that should not be ignored, especially in the Middle East.

Undoubtedly, it is the most natural right of every country to ensure the security of the country and its citizens against terrorism. Intelligence

gathering, monitoring and surveillance activities are also an important part of this. However, it is essential that the methods used in carrying out these activities are not in conflict with the principles of democracy, human rights and freedoms, and most importantly, these activities should not be utilized for conflict, but for securing and protecting peace. Intelligence should be a force used in the fight against evil by sincere and honest people instead of being used by malevolent individuals to create further suffering.

No-go zone? Here's how one of Sweden's roughest areas edged out its drug gangs

Source: <https://www.thelocal.se/20170607/heres-how-one-of-swedens-roughest-areas-edged-out-its-drug-gangs-seved-malmo-crime>

July 16 – The lilacs are in bloom. The air is soft and warm on one of Malmö's first summer days after a long winter, and in the square in the Seved area a group of people, with children, are chatting quietly. If you weren't familiar with these streets' reputation as one of Malmö's worst trouble areas, grabbing headlines over [shootings](#), [car burnings](#) and open drug trade for years, you would almost find it hard to believe.

"This is the famous Rasmusgatan street and these blocks are what is known as Seved, but Seved is really just this little neighbourhood, we're talking six streets," says Hjalmar Falck, a council development officer

who's worked in the area for years and is managing a scheme to boost the district, pointing it out on a map.

These six streets consist of the two parallel streets Rasmusgatan and Jaspersgatan, joined together by a square and four side streets. It is part of the larger Sofielund area, a mixed area of apartment blocks and quaint, detached houses with gardens on flagstone streets. When The Local visits, everything is calm, quite pretty, and based on looks alone it could be any area of any city. But that has not always been the case.

Falck is used to talking about Seved to Swedish and international media, who have been taking an increased interest in one of Sweden's most infamous "[no-go zones](#)". The term [caught on after it was used by a](#)

[columnist](#) to label 53 areas described as "vulnerable" in an official police report, but was rejected by police themselves. But if any part of Sweden ever did come close to claiming the title, it was Seved. The postal company has not delivered parcels directly to homes here since 2014, residents have spoken of open drug trade, and many others in Malmö would rather walk around than take a shortcut through the area.



The number of vulnerable areas has been updated after this article was first published. [Read more here](#). From a purely aesthetic perspective, it's an attractive and conveniently located area near central Malmö. But it is also among 15 districts listed by police as "especially vulnerable" in the above report. These are socio-economically vulnerable areas where crime and poverty rates are generally high, where police regularly have to adapt their methods and equipment to the volatile situation, and where residents often do not report crimes to the police, either out of fear of retaliation or because they think it will not lead to anything.

In Seved some of the most high-profile problems in the past few years have been drug trafficking and groups of young men loitering in the street, harassing passers-by and threatening property owners. "The



gangs have taken over Seved," Swedish media headlines have shouted for years, [as late as last summer](#).

The Local speaks to Jonatan Örstrand, a police officer working in the area, as well as in other parts of central Malmö, on the phone. His particular role specifically involves liaising with Malmö City Council.

"There are certain requirements for an area to be classified as 'especially vulnerable', and Seved meets these," he explains. "We're talking about open drug trade, a certain parallel society, other structures than the usual social structures... and it's been like that for some time in Seved, with a local criminal network running the show, trading drugs in the open, threatening residents and making their own rules."

But, he says, the situation is slowly improving. Falck agrees: "There was a period when it was rather unpleasant. You could not really walk around there with cameras and other things or you would get threatened and harassed – and you could get exposed to some pretty tough verbal attacks. The postal company, security guards and property contractors did not dare to go there, and I didn't encourage them." "But today, since about a year ago, it is like day and night."

Sweden is trying to crack down on what is often referred to as gang violence, but which [experts](#) say is better described as more fluid criminal networks. Justice minister Morgan Johansson spoke warmly about the police and civil society's work in Seved and Sofielund on a visit to Malmö in March. The government's new [crime prevention scheme](#) emphasizes the need for police and other authorities to work together.

The reasoning is that police measures are not enough to stop crime. The whole of society needs to step up. One example of how such efforts may have contributed to some of the changes in Seved is Hjalmar Falck's '[Fastighetsägare Sofielund](#)' organization (Property Owners Sofielund). The scheme was launched in 2014 with building owners in Malmö and the city council as the driving forces, and with Falck as a coordinator.

He had already worked in the area for some time and had already singled out the housing situation as a major factor. Rental housing is heavily regulated in Sweden, in theory, but Seved had struggled for decades with an unmanageably large number of landlords renting out apartments without carrying out proper building maintenance. The area still has a turnaround of tenants of more than 25 percent a year.

"I had begun looking into the property situation, because I understood some of it was pretty nasty, and I found a handful of eight, ten really dodgy landlords. You had everything: cockroaches, poor wiring, people sitting in basements without electricity and all of these classic things that characterize dodgy landlords."



The majority of them have since been forced to leave ("there are still a few left") and facades of previously rusty balconies and broken window ledges have been replaced by modern, bright street art.

Those property owners that remain have been asked to join Fastighetsägare Sofielund and sign a voluntary pledge to work together to invest in their housing and in the area. The association is based on the so-called BID model, [Business Improvement District](#), a model developed in the US and spread across the world.

"Seved is so damn stigmatized, we have to get away from that label," says Falck.

"We want to increase the attractiveness of this area to create a safe and clean and nice area," he adds, arguing that it will convince more businesses to set up shop in Sofielund, convince more residents to stick around in the area and not move out, which will in turn create stability and a better neighbourhood.

Norra Grängesbergsgatan, a few blocks from Seved, is another Sofielund street that has been on authorities' radar for years with a reputation as a hub for unlicensed clubs often funding criminal activity. It is next in the pipeline for a potential revamp, says Falck.

"This entire area could become a new destination in Malmö. We want to turn it into a business area. Could we get restaurants that can attract people with micro breweries, culture and art... who knows?"

But if the area improves and the market value of the homes goes up, will all residents even be able to stay? The gentrification process is one of the main arguments used by critics of the Business Improvement District model.

"We want to do it with a great deal of sensitivity," Falck is keen to stress.

"We have to be very careful not to push people out of the area but keep all those activities and associations that create value for the area. That is very important to us, so we are mapping the whole area to see what Sofielund has which we will help develop and what Sofielund needs."

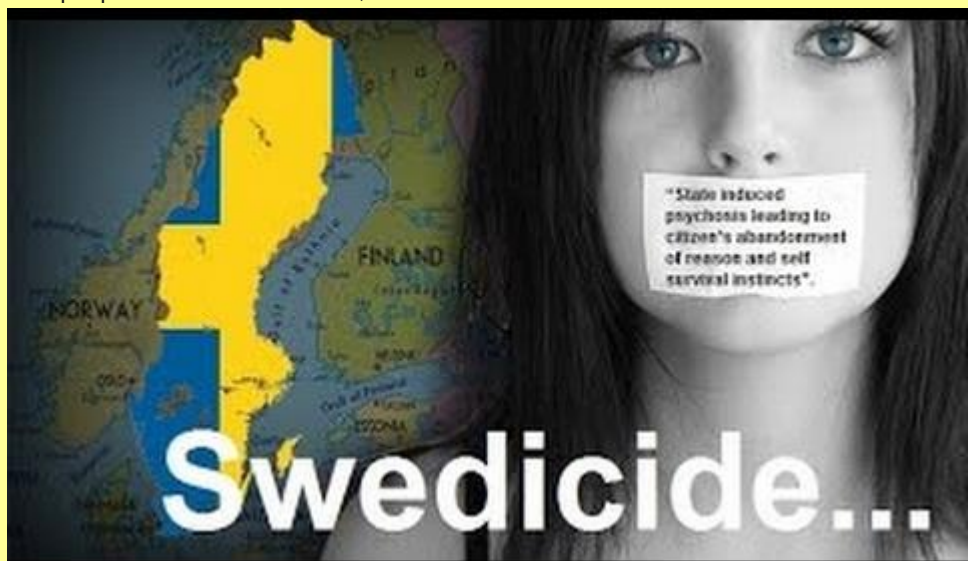
Not everyone agrees that the objective to involve the entire community and not push people out is being met. [Kontrapunkt](#), a social and cultural centre right next to Norra Grängesbergsgatan and a well-known voice at grassroots level in Malmö, criticized a street festival organized by Fastighetsägare Sofielund and a number of other local players in September for trying to attract outsiders to the street rather than building on those already there.

Kontrapunkt was invited to take part in the festival, but declined, initially because the group and its volunteer workers were still recovering after having provided emergency housing for 17,000 asylum seekers during four months at the peak of the 2015 refugee crisis, spokesperson Johanna Nilsson tells The Local.

"We felt we didn't have time, we needed the rest. Then there was more pressure from the property owners that we should take part, so we started looking into it. But when we spoke to our neighbours they didn't know anything about it, but all important cultural players were involved. We felt that more efforts were being put into attracting people to the area rather than talking to those already here. We said it's a process which could lead to those who are here being pushed out," she says.

Ironically, Kontrapunkt itself could now be forced to leave.

The organization closed its doors last month after a row with the property owner, a member of Fastighetsägare Sofielund, about a missing building permit, among other things. The landlord has declined to speak about the conflict to media; Kontrapunkt says it started after they criticized the festival.



"He took it very personally. He took our criticism of the festival as criticism of him, and as a consequence he has since then stated that if we don't promise to not speak about the festival again, he will make sure we have to leave," says Nilsson.

Falck is not able to get involved in the conflict, but hopes it will get resolved eventually.

"We need these critical voices, I think they are extremely important. I'd rather they be part of the process and examine us to highlight things they think are wrong, because that makes us stay alert. Critical voices are very important, there are many critical voices. I fully respect that, we have had many projects here that have started and ended," says Falck.

"But when people ask about gentrification and raised rents, I usually answer that we started by getting rid of those who charged extortionary rents and exploited people and so on, and we definitely don't want to end up in the same situation again," he adds.

"Because if people want to stay here, if businesses want to stay in the area, the area will become more stable, everyone takes responsibility and that's the win-win situation."

At a sports field near Seved, Mohamed Abdulle and Ahmed Warsame, the chairman and football manager of the local club Seveds FK, are preparing for Tuesday training. They both grew up here and admit the area has challenges, but argue that its image in the media is on the whole somewhat unfair and imbalanced.

"It feels like everyone has an opinion but not the insight. Does the area have its problems? Yes. But most cities have parts that get less positive attention, don't they?" says Warsame.

"I remember that maybe ten years ago there used to be a lot of young people hanging out on the streets of Seved. And I can understand then why people say 'don't go there' because there are a lot of youth gangs, but much of that has disappeared," adds Abdulle.

"There are a lot of people on low incomes with immigrant backgrounds you know, but most young people, the children of parents who have come here, are studying and have jobs. But there's also those who went wrong and ended up outside of society, and then they get all the headlines because no one goes to interview an average young person studying at university. So it's a little bit of seeing what you want to see."

They have also worked hard to turn the area around. They co-founded Seveds FK in 2014 in an effort to create activities for local youngsters – and to play football. In three years they have advanced to Division 6 in the tables, and their matches have become a staple in the local calendar.

The club is sponsored by Fastighetsägare Sofielund, and it also organizes late evening walks through Seved to help residents feel safe and reclaim the streets from criminal groups. And if nothing else, they have managed to give neighbours in the area something to rally around and feel proud about.

"One nice thing is that the young guys in the area but also older people, even women, often come to the matches to cheer us on. I think it's nice that it's got two different groups cheering for something together. I think that's a really great aspect," says Warsame.

When neighbours come together like this it helps create what criminologists call collective efficacy, the ability of a community to together control the bad behaviour of individuals by almost subconsciously agreeing on a common set of norms and values. Malmö University researchers Anna-Karin Ivert and Karl Kronkvist have studied the BID process in Sofielund since it started, and have noted an improvement.

"I think a big problem may be that those who have handled the drug trade have had such a major influence and that affects those who live there. Even if they are not targeted, it creates a certain feeling of being unsafe, and it's not much fun to do the laundry in a communal laundry room that is also being used for drug trafficking," Ivert tells The Local.

"It looks like there's a positive trend. We have to hope that it is not just temporary, but there are indications that residents are feeling somewhat safer and that the problem level has gone down. When we look at crime there are some crimes that have gone down, others which have gone up, for example drugs. But that is not particularly strange and could actually be something positive, because at the same time the police have targeted drug trafficking, which explains why it has increased in the statistics."



Falck adds: "I believe that if the police keep pushing and trust in police and the council increases, then perhaps this collective efficacy also increases, and I think that could put enormous pressure on the criminal operations."

Ivert and Kronkvist's report does not confirm to what extent Fastighetsägare Sofielund's efforts have contributed to improving the situation and how much is thanks to the police crackdown, which among other things saw surveillance cameras installed two years ago. But Örstrand speaks highly of the project. "I see big benefits in that it is clean and tidy and that the locks are working, and thanks to this cooperation we're discussing these things with the property owners," says the police officer.

If Seved holds this course, Örstrand believes it may very well be removed from the police authority's list of 'especially vulnerable' areas in just a couple of years.

"The criminal network is still there, but they are becoming fewer and fewer and we are very happy that we're not seeing any new recruitment. There are no younger members connected to this network, so they are getting older and older and fewer and fewer," he says.

"But it all depends on the course of the future. If we continue, as today, with the criminal network getting smaller and smaller and not growing, then it's in the foreseeable future, in a couple of years. But if it starts to build up again from the bottom then we're talking many years. At the same time the problem in Seved is not just the criminal network there, but also widespread exclusion and other crime."

"It was a lot worse six, seven years ago. It was completely different then. In those days there could be 50 people out in the street when you drove into the area who were hostile to the police. And today there is maybe 10-20 of them. So it is manageable in a completely different way to what it was before."



This does not mean that the area is problem-free, not by any standards. The postal company confirms to The Local that its policy not to deliver parcels to individual addresses at Seved remains in place, although there has been talk of easing it. In the past year there have been several instances of car burnings, and the drug trade moved from the street inside the buildings to avoid surveillance cameras. In November a man in his 30s

was shot dead, one of 11 fatal shootings in Malmö last year (there were three in 2015).

While some may argue it seems far-fetched to claim that street festivals and cleanliness help prevent crime, Ivert explains that there is more to soft power than meets the eye. "To get collective efficacy those who live there have to be able to meet, and if the square is clean and nice and fresh, that you actually want to spend time there with your children, perhaps you meet and discuss things rather than going up to your apartment as quickly as you can. It also sends an important signal that the city shows that it cares," she says.

Anders Helm runs Sofielundspatrullen, which is made up of around a dozen workers picking litter from streets in the area to help keep it clean. It is one of the projects thought up by Fastighetsägare Sofielund. "This project is probably one of the best Malmö has ever done. We're getting so much praise. When we started in this area there was even a lady who came down in her bathrobe and hugged one of the guys. An old man who lived there for 32 years said he had been about to move because it was so dirty 'but then I've seen how you've started cleaning and now it's starting to get nice living here again'." he tells The Local.



Falck emphasizes that Fastighetsägare Sofielund is not a temporary project that will end when it runs out of money. It is a “process”, he says, a vision to show that Malmö is not giving up on Seved and Sofielund. “There's still a little shouty group there of adult men in their 20s and 30s, and when I go there they call me all sorts of names, but from there to what it was like before is a huge difference. Malmö residents can use their streets again, and it was bloody well about time.”

“When German media and some American news site were here they absolutely wanted to see these areas, so I said 'let's go to these no-go zones, Norra Grängesbergsgatan and Rasmusgatan'. They were like 'there's no litter here, there's nothing, not even paper waste on the ground, what is this?'” he laughs. “Well, I said, those are your 'no-go zones'!”

Jordan's KASOTC: Privatising anti-terror training

By Benjamin Schuetze

Source: <http://www.aljazeera.com/indepth/opinion/2017/07/jordan-kasotc-privatising-anti-terror-training-170717074832979.html>



As the Syrian civil war has entered its sixth year, US military aid to Washington's key ally in the region - Jordan - has risen to a [staggering \\$463m](#) in 2016 alone. But little is known about how this money is spent. Who benefits? And who or what is secured by US military funding?

The King Abdullah II Special Operations Training Centre (KASOTC) is the centrepiece of US-Jordanian counterterrorism and intelligence cooperation. It not only offers a base for the training of international Special Forces and Jordanian border guards, but also for military adventure holidays, corporate leadership programmes, and stunt training for actors. While war at KASOTC is an interactive and consumable event for affluent customers, it engenders deadly realities for others.

Following Jordanian approval of a political-military agreement concerning the use of the facility, the US [provided \\$99m](#) of military assistance for the construction of the centre, accounting for a third of the [total US military aid to Jordan](#) in 2005. While KASOTC was built by the Army Corps of Engineers Transatlantic Programs Center, it is owned by the Jordanian Armed Forces (JAF), and managed by the Maryland-based limited liability company ViaGlobal.

The ViaGlobal staff based at KASOTC have US military background. Also the board of the company almost exclusively consists of retired US military personnel. Although KASOTC thereby comes close to operating as a US army training centre, its business structure allows both the US and the Jordanian governments to insist that there are indeed no foreign military training centres in the country



According to one ViaGlobal employee, in 2013, 60 percent of the revenues earned at KASOTC came from the training of US soldiers and 20 percent from the training of Jordanian forces. As all Jordanian border guards and law enforcement units have received compulsory training at KASOTC since 2014, the latter figure is likely to have increased further.

KASOTC offers its customers what its construction manager [imagined](#) to be an environment that is just like what soldiers might encounter with terrorists. Besides a fake [Afghan village](#), a real Airbus 300, a mock city, and a sniper range, KASOTC also features its own artificial refugee camp. The simulation of a typical terrorist environment is further enhanced by the use of thousands of sound and smell effects, fog generators, and rooftop explosions.

Practically unknown to most Jordanians, the centre openly markets itself to international Special Forces units as a state-of-the-art training hub in the global fight against terrorism. As part of its Annual Warrior Competition, KASOTC for instance [invites](#) Special Forces units from all over the world to what its business manager, a former US marine, in 2013 aptly called the Olympics of Special Forces.

The event itself primarily serves PR purposes and is sponsored by international weapons producers. In return for their sponsoring, the latter can directly showcase their products to the participating units.

Besides teams from various international security and military agencies, the US company International Defense Systems has already registered [a corporate team](#). Although KASOTC is owned by the JAF, its commercial business structure implies that Jordanian military units who wish to train at the centre need to pay like any other customers. However, they do get a discount, according to a ViaGlobal employee I talked to.

Staff and profit structures are clearly skewed in favour of private commercial interests. In addition to the centre's dozen ViaGlobal staff, around 100 Jordanian soldiers assist in the everyday running of the centre. The earned profits, however, flow to the Jordanian private company KASOTC, and the US private company ViaGlobal.

Owing to KASOTC's operation as a private for-profit company, the services on offer are also open to other private companies. The customer base of the centre includes MissionX, among others. MissionX was established by CK Redlinger, the former Baghdad security manager of US General David Petraeus, who after his work in Iraq moved on to become KASOTC's business development manager. MissionX offers what it calls a Special Operations Adventure Experience. This is [conducted](#) at KASOTC and allows participants, who are issued with Special Forces equipment, combat uniforms, and weapons, to play war in the [Middle East](#).

Partnering with London-based Fieri, MissionX also [markets](#) the programme as a corporate learning experience. Participating managers and employees can thus, according to the description, explore a new and unique approach to commercial leadership development by, for instance, learning how to handle a shotgun and seek cover in an Afghan village or a bazaar. Finally, MissionX has also provided technical advice and training to Hollywood films such as The Hurt Locker and Zero Dark Thirty.

Without doubt US military aid has helped to prevent a spillover of the Syrian civil war into neighbouring Jordan. However, the effects of US military assistance do not end there. While it is not known whether other US-funded facilities in the country are managed similarly, the case of KASOTC clearly demonstrates that commercial actors such as ViaGlobal and KASOTC have gained considerable influence in the Jordanian security sector as a direct result of the provided assistance.

In fact, the US preference for a strong role of private firms in the security sector seems to be met by [an equal level of enthusiasm](#) on the side of Jordan, which in 2005 contracted Blackwater to train Jordanian helicopter pilots. The helicopters were bought using US foreign military funding.

With a JAF-owned facility managed by a US private business and Jordan's military budget heavily dependent on foreign aid, the likelihood that the Jordanian military sector may ever come under effective public control is rather meagre. A better understanding of the dynamics briefly analysed here is key to understanding why US military assistance to Jordan, despite helping to protect the country against potential attacks by the so-called [Islamic State](#), nevertheless remains so controversial.



Benjamin Schuetze is a postdoctoral research fellow at the University of Freiburg and a research associate with the Arnold-Bergstraesser-Institute.

Americans' No. 1 enemy is **ignorance**, based on election results, surveys like this one

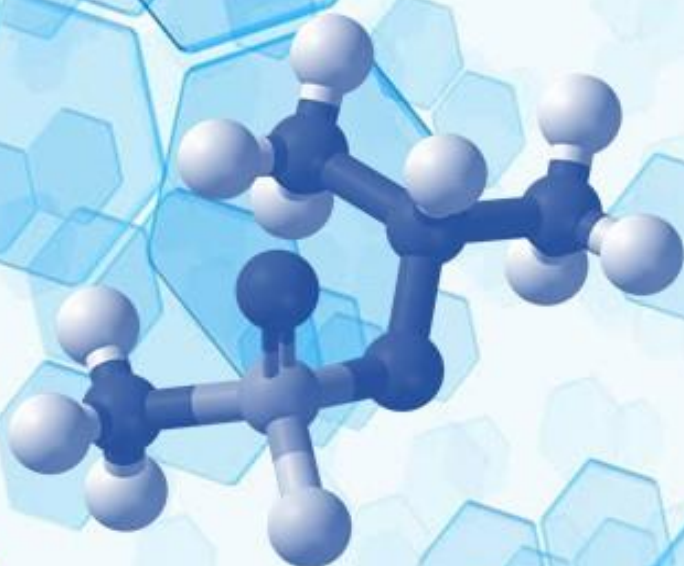
By Dan Jackson

Source: http://www.parispi.net/opinion/columns/article_4a010652-6c8e-11e7-9d6a-b78ed535e8ba.html

Dan Jackson is a self-employed Paris businessman.

Greek summer!





CHEM NEWS



New Decontamination Agent RD50: Decontamination of Electronic Equipment and Sensitive Material

Source: <http://www.hispanovema.com/en/cbrn-decontamination-cbrn-decontamination-portable-light-decon-/smd-portable>



Chemical agents (TICs or CWAs) attacks which affect to Sensitive Material and Electronic Equipment create a **double challenge** to Decontamination operations: decontamination of the equipment and **preservation of Electronic Device functionality**.

New Decontamination Agent RD50 is developed to solve this problem, providing an effective decontamination but without damaging or altering contaminated equipment functionality. RD50 means a significant advance in **development of more efficient and effective decon procedures**, applying Surface Adsorption technology in Chemical Modified Silicas and Complex Organic compounds transporting in volatile media technology to CBRN Decontamination field.



This makes it possible to overcome limitations of water-based decontamination agents, which while allowing decontamination of electronic devices, can damage its functionality.



Chemical burns: Symptoms, diagnosis, and treatment

Written by Lana Barhum

Reviewed by Elaine K. Luo, MD

Source: http://www.medicalnewstoday.com/articles/318084.php?utm_source=newsletter&utm_medium=email&utm_campaign=weekly-hcp

June 25 – A chemical burn can occur when a person comes in direct contact with a chemical or its fumes. Chemical burns can happen to anyone at any place - at home, at work, at school, when outdoors, or in an attack.

Chemical burns will cause some skin damage, but most people recover fully without any serious health consequences. Severe chemical burns do require immediate emergency care to prevent complications and, in some cases, death.

Contents of this article:

1. [Common causes of chemical burns](#)
2. [Symptoms](#)
3. [Seeking medical care](#)
4. [Treatment of chemical burns](#)
5. [Who is at risk?](#)
6. [Outlook](#)

UN: Terrorists Using 'Dark Web' in Pursuit of WMDs

Source: <https://www.voanews.com/a/terrorists-dark-web-weapons-mass-destruction-united-nations/3920135.html>



Tokyo Fire Department special rescue unit in an anti-terrorism drill in Japan, May 11, 2016.

EDITOR'S COMMENT: My favorite! Love to see first responders in Level-A PPE to carry a stretcher with a victim! It is for sure that the planner of this specific drill have NEVER been inside a PPE ever in his/her life!



June 28 – The U.N.'s disarmament chief warned Wednesday that terrorists and non-state actors are using the so-called dark web to seek the tools to make and deliver weapons of mass destruction.

"The global reach and anonymity of the dark web provides non-state actors with new marketplaces to acquire dual-use equipment and materials," U.N. High Representative for Disarmament Affairs Izumi Nakamitsu told a meeting of the U.N. Security Council.

The dark web is a part of the internet that requires special software to access and allows users and website operators to remain anonymous or untraceable, making it appealing to criminals, terrorists and pedophiles.

Nakamitsu said that dual-use items are complicating their efforts to address the risks posed by WMD.

"We must keep in mind that many of the technologies, goods and raw materials required for developing weapons of mass destruction and their means of delivery derive from legitimate commercial applications that benefit many people," she said. Nakamitsu added that it is important to strike the right balance between collective security and commercial opportunity with preventing proliferation.

Weapons of mass destruction include nuclear, chemical, radiological and biological weapons.



FILE - A still image taken from a video posted to a social media website on April 4, 2017, shows people lying on the ground, said to be in the town of Khan Sheikhoun, after what rescue workers described as a suspected gas attack in rebel-held Idlib, Syria.

"While there are still significant technical hurdles that terrorist groups need to overcome to effectively use weapons of mass destruction, a growing number of emerging technologies could make this barrier easier to cross," Nakamitsu said.

In addition to the dark web, she said the use of drones and 3-D printers by non-state actors are also growing concerns. Nakamitsu urged intensified international cooperation to make it harder for terrorists and criminals to illegally traffic sensitive materials.

Chemical weapons

Terrorists have already used poison gas in at least one deadly attack.

In Syria, Islamic State used mustard gas on civilians in the town of Marea in August 2015, according to a U.N.-authorized investigation last year. (The same investigators also concluded that the Syrian government carried out at least two chemical weapons attacks on civilians living in rebel-controlled areas in 2014 and 2015.)



"The use by non-state actors of chemical weapons is no longer a threat, but a chilling reality," Joseph Ballard, a senior official with the Organization for the Prohibition of Chemical Weapons (OPCW) told council members.

Ballard said the OPCW is working to enhance the security of the global supply chain of dual-use materials and technologies, including working with international customs officials. He said the organization also works closely with the international chemical industry, to ensure that toxic chemicals do not fall into the wrong hands.

EDITOR'S COMMENT: I will not comment on the second photo – off gassing possibility; no PPE used etc. Not a good photo to support the content of this article (but a good photo for the mass that have no idea about CWAs).

Defence Chemical Biological Radiological and Nuclear Centre

Winterbourne Gunner, UK

Source: <https://www.gov.uk/government/publications/defence-chemical-biological-radiological-and-nuclear-centre-dcbmnc/defence-chemical-biological-radiological-and-nuclear-centre>



►► [Click on source's URL for 2017 DCBRNC training modules](https://www.gov.uk/government/publications/defence-chemical-biological-radiological-and-nuclear-centre-dcbmnc/defence-chemical-biological-radiological-and-nuclear-centre)

Chemical, biological, radiological and nuclear training issues in India: A fresh perspective

By Mudit Sharma

J Pharm Bioallied Sci. 2010 Jul-Sep; 2(3): 275–280.

Source (full paper): <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3148632/>

Abstract

Appropriate training is the key to the right level of preparedness against any disaster, and Chemical, Biological, Radiological and Nuclear (CBRN) disasters are no different. The



presence of contamination precludes rescue operations to commence soon after the event and it takes a systematic approach to detect and decontaminate the CBRN hazard. Achieving such interventions poses a critical challenge because humans do not possess any inborn, natural sensors with which to recognize these dangers early enough. This requires special training besides the right tools to achieve the objective. CBRN training in India has evolved over the years as a pure military-related concept to a disaster-level response training involving the first responders. The complex nature of CBRN agents requires a methodical and systematic approach to counter the response successfully, and the training for this necessitates adoption of proven modern principles of education management, like training needs analysis, operational research, etc. Simulation as a training and planning offers repeatability, controllability and the possibility for evaluation and is being successfully used in some advanced countries for training responders in the relatively unknown and mysterious domain of CBRN disaster management training. There is also a perceived need to integrate and standardize the curricula to suit the respective first responder. It is strongly felt that with the able support of apex agencies like National Disaster Management Authority and guidance of the Defense Research and Development Organization, the training effort in CBRN disaster management will get the right impetus to achieve a stature of a modern, progressive and mature endeavor. This will enable India to develop a strong CBRN defense posture very much in line with the country's emerging status globally as a technological power. Mudit Sharma is Commanding Officer, Air Force Institute of NBC Protection, Air Force Station, Arjangarh, New Delhi - 110 047, India.

CBRN POL Project

Source: <http://cbrn-pol.uni.lodz.pl/english-o-projekcie/>

Terrorist activities involving the use of chemical, biological, radiological and nuclear (CBRN) materials are the latest threat to the European public. The use of any of these types of weapons in a terrorist act could lead to undermining of the economic stability, public security and social integrity of the



European Union. The risk of use of CBRN materials as a tool has evoked an urgent need for numerous countermeasures. According to the May 2016 briefing of the European Parliament in their next attacks ISIL/Da'esh terrorists might use non-conventional weapons, most probably improvised explosive devices containing chemical or radioactive materials.

Police officers from regular patrol units are most frequently the first-responders to the scenes of terrorist attacks. There, facing the unknown, they are the most exposed to the after effects. While the world's police forces do provide some training for conducting operations in CBRN activities to their special anti-terrorism units, these units only arrive on the scene after some time has elapsed. The training for basic patrol units is missing or marginal, so the need to rectify this is clear. These officers may need to

detect and identify threats, secure the scene, and call the appropriate specialised forces. Additionally, according to their central mandate of 'preserve and protect life', police officers may also need to participate in subsequent rescue operations.

As such, the general aim of the CBRN-POL project is to create a modern, multidisciplinary CBRN training curriculum and training educational materials, dedicated to police officers and universally applicable in all EU Member States.

The scope of the educational programme should meet the demand for safe, responsible and effective responses by front-line police officers attending the scenes of intentionally-induced incident involving CBRN materials.

The CBRN-POL project represents a novel concept in interdisciplinary education on CBRN terrorism, based on a deep analysis and overview of the most realistic threats to civilization. To the best of our knowledge, at present there are no comprehensive training courses for police officers that cover all aspects of CBRN terrorism. Although specialized training materials do exist for each kind of CBRN threat, they are separate and intended for the military, special anti-terrorist



units or fire brigades. The tasks of police patrol units in CBRN first-response actions are defined differently from those of such specialized units. For the CBRN-POL project we put together a multidisciplinary team of specialists experienced in various fields of CBRN expertise, as well as in educational methodology, who will be sharing their experience and professional knowledge of CBRN risks. The experts of the CBRN-POL project have been drawn from five complementary partners across three European countries – Poland, Belgium and Cyprus. The project's goal is to exchange and spread rules of good practice in all areas of CBRN threats, through study visits by experts and training at the partners' sites, with each partner bringing its own speciality to the table. The University of Lodz (UL) will be responsible for biological threats; the Industrial Chemistry Research Institute (ICHP) for chemical threats; the Belgian

Nuclear Research Centre (SCK•CEN) in the radiological/nuclear domain, and the Polish Police Headquarters (KGP) will specify the input and output requirements and create the overall structure of the course, as well as create management schemes for it. The Centre for the Advancement of Research and Development in Educational Technology (CARDET) will take care on the didactic/methodological aspects of preparing the curriculum and educational materials.

We assume that this project will increase the capacity for detection, management and mitigation of CBRN attacks, not only on the territories of the countries partnering the project, but also across the entire European Union – other member states will also be able to use the educational materials created by CBRN-POL for their own training needs.

CBRN Response Simulator

Source: <http://www.prometech.eu/products/cbrn-response-simulator/>



First responders face huge challenges while responding to CBRN incidents. To be able to overcome these challenges they need to conduct regular training with CBRN scenarios. But how can first responders realistically train for scenarios that deal with toxic substances? Live-agent training is expensive and difficult to organize. So what would an ideal CBRN training environment look like? Firstly, the CBRN exercise should be realistic and dynamic. An exercise should be based on a simulated threat that is calculated in real-time, while allowing for flexibility with regard to location and scenario setup. Secondly, train as you fight. And finally, trainees should be focused on performing their duties and should not be concerned with the training system. A training tool is needed that is easy to set up and is capable of simulating threats in the real world while being unobtrusive in use. This is the Prometech CBRN Response Simulator.

Prometech uses an innovative approach to tackle the aforementioned issues. The REALM platform models CBRN sensors on mobile devices. Off-the-shelf proven technology is used – such as tablets/smartphones and their built-in positioning and networking capabilities – to organize exercises. One such mobile device can be used to simulate different types and brands of sensors, without requiring additional (and costly) hardware. To make the training exercise realistic, the actual threat must be properly simulated. Prometech accomplishes this by modeling a CBRN source, which produces an agent during the exercise. An instructor can determine the location and size of the source and is able to change these properties on-the-fly. The training tool will let



the agent disperse over the training area, while taking into account local concentration fluctuations, urban terrain and heavy gasses (when required).

Using the location of the first responders and the simulated CBRN source, it is possible to calculate what concentration they encounter during the exercise. The sensor simulated on the mobile device carried by field users will display this concentration reading. The first responder can then perform his duties based on these sensor readings. Furthermore it is possible to predict whether the first responder (or civilians in the training area) would get toxic effects because of the dose of agent he or she encountered during the training. The mobile device can display what his physical well-being should be during the training. The training tool incorporates GIS-based instructor and debriefing tools with playback capability.

This is a first step towards the development of a true augmented reality training simulator. By using augmented reality, the simulation is able to manipulate the trainee's perception of reality through the use of hand-held or wearable technology. For example, by wearing a heads-up display (HUD) the trainee would not only see his environment, but also another 3D reality projected on top of it. This is the future of disaster management training.

Head-Up Display for First Responders

Source: <http://www.prometech.eu/products/head-up-display-for-first-responders/>

Prometech has experience with the integration and use of head-up display systems in the field of emergency response in two specific applications aimed at CBRN specialists operating in and around the hotzone.



Situational Awareness

For a first responder to act effectively during a CBRN incident, it is of paramount importance to be aware of their surroundings. Maximizing situational awareness entails optimizing the perception and understanding of a first responder of their own situation, their immediate

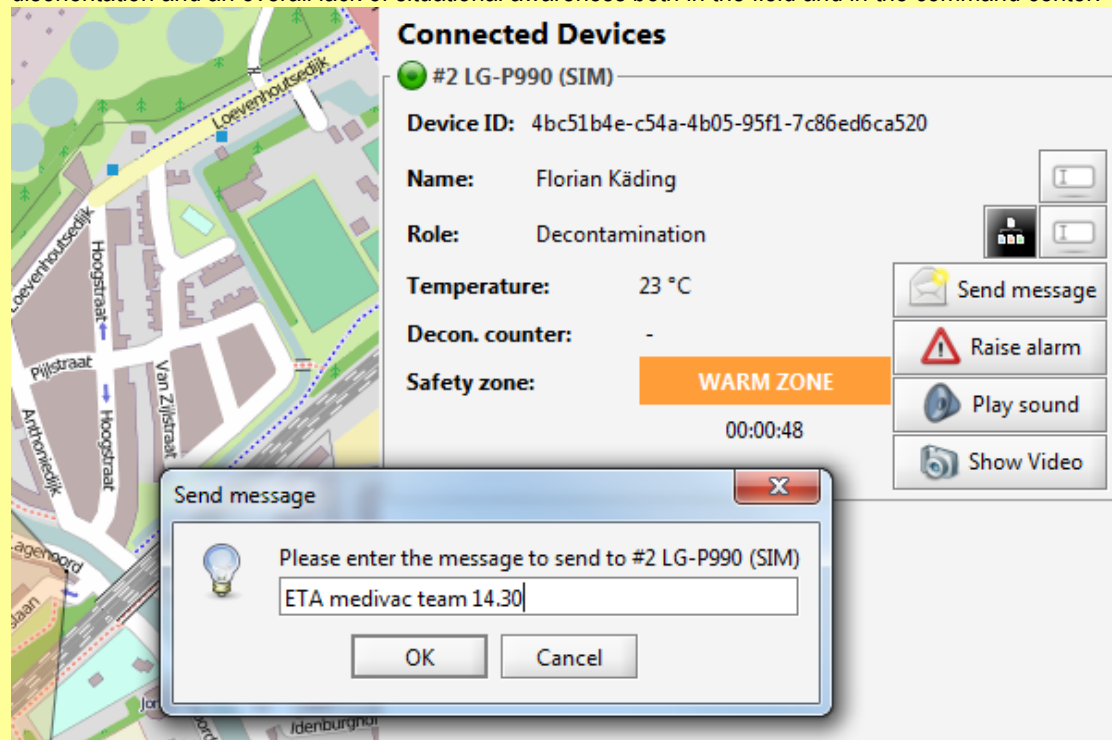
surroundings and the incident at large. Increased situational awareness improves their ability to forecast events, execute tasks based on that perception and keep themselves safe.

In large CBRN-related responses situational awareness is often lacking. At the HQ there is generally a decent understanding of the incident at a strategic level, but no direct view on what is happening in the field. On the other hand, first responders in the field are wearing



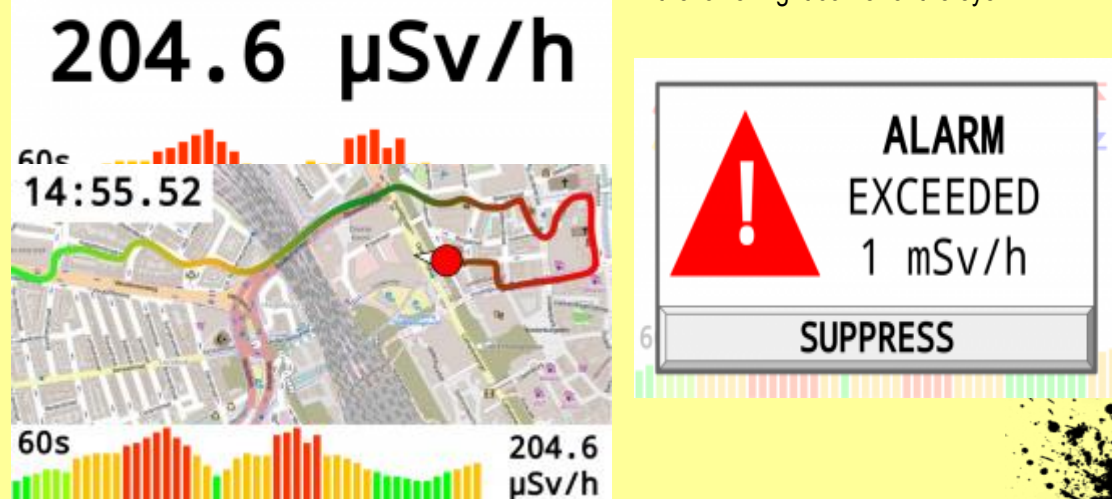
personal protective equipment (PPE) consisting of suits, gloves, and gas masks, which are likely to make them feel isolated. In addition, they have limited context, due to the nature of CBRN incidents, which often affect a larger area.

As a result, both of these groups do not always possess all information they need to properly carry out their tasks. This is partly due to the fact that many procedures and systems still overwhelmingly rely on voice communication to transmit information. Voice communication can be very valuable, but it is not particularly well suited for the transmission of geo-spatial information. Giving directions or explaining the size and shape of a certain hazard area is difficult using only voice. This may result in confusion, disorientation and an overall lack of situational awareness both in the field and in the command center.



Sensor Integration

Prometech has also integrated a radiological sensor with its COTS head-up display solution as a proof-of-concept. Radiation readings and dosage are immediately accessible to first responders as they are projected on the head-up display in the lower-right corner of the eye.



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ici-belgium.be/en/

Syria not using chemical weapons against terrorists: Iran's defense minister

Source: <http://www.presstv.ir/Detail/2017/07/02/527213/Iran-Syria-Sardasht-Hossein-Dehqan-weapons-mass-destruction>

July 02 – **Iran's defense minister says despite Western countries' propaganda, Syrian forces have never used chemical weapons against terrorists, who are using weapons of mass destruction in their war against Damascus.**

Addressing a ceremony held to mark the 30th anniversary of a chemical attack against the Iranian city of Sardasht, Brigadier General Hossein Dehqan said during the past few days, 3,000-4,000 sorties have



been conducted over the region by countries like the UK and Italy, who have announced that the Syrian government is planning to use chemical weapons in its future operations.

"The Islamic Republic of Iran announces that the Syrian government is not after using chemical weapons and this claim (that the Syrian government has used chemical weapons) by some individuals who regard

themselves as the rulers of the world is questionable," he added.

Dozens of people were killed in a chemical attack in the Syrian town of Khan Shaykhun in Syria's northwestern province of Idlib on April 4.

The United States and its allies were quick to accuse the Syrian government forces of carrying out the attack. The Syrian army, however, said that "it has never used them (chemical weapons), anytime, anywhere, and will not do so in the future."

Pointing to the US support for terror groups in the Middle East, the Iranian defense minister said the world is concerned that terrorists have combined terrorism and war with weapons of mass destruction.

He added that Takfiris are using weapons of mass destruction; however, some countries are cooperating with these terrorists instead of countering them.

The Iranian minister criticized some countries for claiming that they were countering terrorists at a time that terror groups were provided with financial support.

The Islamic Republic is a victim of terrorism and chemical weapons, Dehqan said, adding, "We have always expressed our objection to producing, stockpiling and use of weapons of mass destruction."

He emphasized that during the Iraqi imposed war on Iran in the 1980s, the Islamic Republic never used weapons of mass destruction and Iran's stance in this regard was unchanging.

Dehqan said 111 civilians lost their lives and more than 8,000 people were injured in the chemical attack on the Iranian city of Sardasht on June 28, 1987 by Iraq during the rule of the executed Iraqi dictator, Saddam Hussein.

Sardasht was the third populated city in the world, after Japan's Hiroshima and Nagasaki, to be deliberately targeted with weapons of mass destruction. It was also the first city in the world to be attacked with poisonous gas.

The Iranian defense minister further expressed concern over the ongoing situation in the region and warned that acts of terror would result in "terrible consequences" for the international community.

Dehqan added, "Weapons of mass destruction have never brought about security, but are used for killing and creating human catastrophe."



Russia has destroyed 99% of its chemical weapons – supervising general

Source: <https://www.rt.com/news/394103-russia-chemical-weapons-destroy/>



June 26 – Russia only has only one percent of its chemical weapons stockpile left. The rest has been destroyed, according to the head of the country's Federal Administration for the Safe Storage and Destruction of Chemical Weapons, Major General Valery Kapashin.

Some "99 percent of the chemical weapons stored in Russia have been destroyed," the high-ranking official said.

The remaining 400 tons of weaponized chemicals is currently "at the last facility in operation to store and destroy the chemical weapons, in the Kizner village in the Udmurt region," Kapashin added.



Consequently, Russia meets the conditions stipulated in the Chemical Weapons Convention (CWC), which it joined 20 years ago.



In compliance with the document, Russia got rid of the first batch of its chemical weapons, one percent, in 2003. Four years later, 20 percent had been destroyed and, by 2009, Russia was ahead of schedule, having disposed of 45 percent of its chemical weapons.

"We're finishing Stage Four a year earlier, too, and will destroy all 100 percent of the chemical weapons stockpile by the end of 2017, not 2018," Kapashin concluded, speaking to Interfax.

The Federal Administration for the Safe Storage and Destruction of Chemical Weapons is in no rush, however, the official said, noting that it won't *"allow any breaches in the process discipline"* when eliminating the remainder.

According to Kapashin, accumulating experience, making suggested improvements, and reliable state technology have all sped up the process used for destroying the weapons.

Army Issues New Counter-WMD Doctrine

Source: <https://fas.org/blogs/secrecy/2017/07/counter-wmd/>

July 05 – Countering weapons of mass destruction is "an enduring mission of the U.S. Armed forces," the US Army said last week in [a new doctrinal publication](#).

Counter-WMD operations are defined as actions taken "against actors of concern to curtail the research, development, possession, proliferation, use, and effects of WMD, related expertise, materials, technologies, and means of delivery."

The Army document does not refer to any specific countries such as North Korea.

Instead, it says generally that "Conventional forces and SOF [special operations forces] capabilities may be necessary to stop the movement of CBRN materials, WMD components and means of delivery, WMD-related personnel, or functional weapons into or out of specified areas or nations. Such actions may require boarding vessels and using search and detection capabilities to secure and seize shipments."

Counter-WMD activities are directed not only at the weapons themselves but at the networks that produce, sponsor, fund and utilize them.

"Interacting with and engaging networks requires the use of lethal and nonlethal means to support, influence, or neutralize network members, cells, or an entire network. As part of this effort, commanders select, prioritize, and match effective means of interacting with friendly networks, influencing the neutral network, and neutralizing threat networks," the new Army publication said.

"Commanders and staff utilize the targeting process to identify targets, determine the desired effects on those targets, predict secondary and tertiary effects, and plan lethal and nonlethal effects. This process enables the prosecution of targets to capitalize on and exploit targets of opportunity."



Syria Chemical Weapons Fake News. How the U.S. and Al Qaeda Attempted to Undermine the Astana Peace Talks

Source: <http://www.globalresearch.ca/breaking-how-the-u-s-and-al-qaeda-terrorists-attempted-to-undermine-the-syria-peace-talks-in-astana/5597902>

July 07 – The First Deputy Foreign Minister of the Syrian Arab Republic Faisal Mekdad said on July 4, that the United States had carried out a missile strike at the Shayrat airbase guided by one more White Helmets' fake made specifically to compromise the Syrian authorities.

Deputy Minister stressed the government of Syria has a report photo and video materials of which confirm the guilt of the militants. Mekdad also noted that Washington should carefully study the possible actions of the official Damascus and its allies in response to any new aggression.



Against the backdrop of the fighting terrorists in Raqqa and Mosul, the Syrian Arab Army's (SAA) offensive and the overall situation in Syria have been developing positively for Damascus. The parallel process of peaceful settlement in Astana and Geneva is also bearing fruit. Such tendencies in the military-political and the military-diplomatic spheres cause a very serious negative reaction among the enemies of the Syrian people. Therefore, the U.S. is trying to take the initiative away from the Government of Syria by the brute force and the military intervention.

The provocations that have been taking place since 2011 throughout almost the entire period of the military operations in Syria, unfortunately lead to a negative reaction and unreasonable aggressive actions on the part of the United States very often.

It is especially outrageous from the U.S. to declare a possible preparation for a new chemical attack by the SAA and subsequent White House's response against the background of [the use of white phosphorous munitions](#) by the U.S.-led International Coalition in Raqqa which is prohibited by the international law. It is also worth noting [the recent terrible airstrikes](#) of the still the same coalition in the village of Kishik Zyyanat in the southern countryside of Hasaka province on July 4, which resulted in death of nine civilians.

At the same time, the militants of various terrorist groups helped the U.S. to increase tensions by [carrying out terrorist attacks in](#) Damascus. Such actions can only be described as an attempt to disrupt the peace process. It looks like 'someone' stubbornly does not want to sit at the negotiating table and to return to a peaceful life. It is obviously in the interest of terrorists, some representatives of the so-called moderate opposition and the United States to continue to torment Syria with the war in the hope that the official Damascus will surrender.

On the contrary, the Syrian Arab Army on Monday [announced a ceasefire](#) in the southern provinces of the country until July 6. In order to support the peace process, military operations in Daraa, Kuynetra and Suwayda were stopped. Such actions prove the fact that, Damascus seeks peace and negotiations no matter what, unlike the U.S. and rebels. In so doing, these acts of terrorism and information warfare generated in tandem are unlikely to frighten the will of the Syrian people for peace. It is because of these efforts that the talks in Astana were held quite successfully, no matter what.

Kazakh Foreign Minister Kairat Abdrakhmanov [noticed](#) that the participants had taken yet another important step towards peace and stability on the Syrian land. The guarantor countries, in turn, expressed their satisfaction with the process of determining the boundaries of the de-escalation areas and decided the joint working group would finalize all the operational and technical conditions of all the de-escalation areas. Thus the process of the political settlement continues.

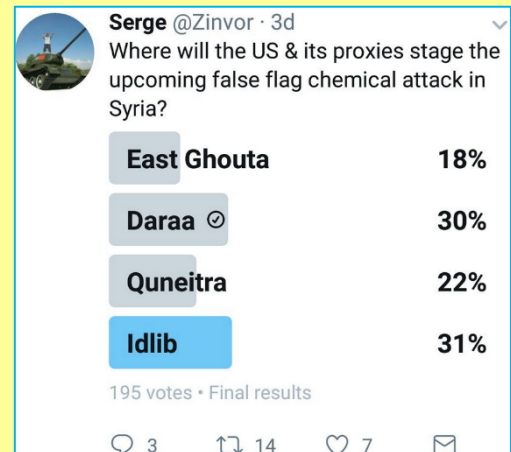
Apparently, in order not to increase the already serious flows of disinformation aimed at disrupting the process of the peaceful settlement the reliability and validity of information received from all the sources including notorious international organizations and Governments must be carefully weighed and analyzed by the U.S. The White House should work out more peaceful strategy of their behavior in the Middle East and Syria in particular if they really want to highlight their commitment to peace as they usually declare. The actions of the U.S. and their allies below therefore address this issue:

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

Bolstering counter-WMD capabilities in the southeast Europe and Black Sea regions

Source: <http://www.homelandsecuritynewswire.com/dr20170707-bolstering-counterwmd-capabilities-in-the-southeast-europe-and-black-sea-regions>

July 07 – Army Reserve Maj. Dana Perkins, PhD, an assistant professor in the Global Health Division of the Uniformed Services University of the Health Sciences (USU) preventive



medicine and biostatistics department, recently traveled to Tblisi, Georgia, to participate in the Defense Threat Reduction Agency's (DTRA) DIABLO SHIELD training event and field exercise, in collaboration with the FBI Weapons of Mass Destruction (WMD) directorate.



USAR [says](#) that Perkins served as a subject matter expert during the exercise, 24-28 April. DIABLO SHIELD emphasizes countering biological threats, and is part of the U.S. European Command's (USEUCOM) Diablo Pathways series of engagements that support the development of counter-WMD capabilities in the southeast Europe and Black Sea regions. Working with DTRA, the FBI, and CBRN Military Advisory Teams (CMATs), Perkins observed and provided feedback on the training, which was previously

provided by US-trained Georgian instructors from the Department of Emergency Management of Ministry of Internal Affairs (MoIA), via classroom and hands-on training to other MoIA contingency response teams, primarily SWAT and Hazmat response units.



As part of the exercise, Perkins also played a "bad guy," setting up a "clandestine bio lab," in which she made fake anthrax, before the lab was "raided" by SWAT. She also provided a brief demonstration on microbial contamination and human-to-human transmission, and helped answer trainees' questions about

biological threats.

In reality, she said, terrorists might use clandestine labs to produce biological or chemical weapons, or explosives – materials that pose unique risks to first responders, so it's important to recognize that a warning of an imminent threat or impending bioterrorist attack might not arrive in time to deter it.

Therefore, she continued, it's critical that all countries strengthen their public health systems to be prepared for and to be able to respond to these potential biological incidents, whether natural, deliberate, or accidental.



USAR notes that Perkins is an individual mobilization augmentee as well as a DTRA instructor, regularly teaching the Federal Response to Biological Incidents course. She's also dually certified by the Board of DTRA's CMAT as a master and senior CBRN Consequence Management Specialist. She regularly organized workshops in Georgia to strengthen their biodefense and public health system capabilities. Her participation in these efforts reinforces USU's strategic objective to expand the university's support for uniformed services and operation forces around the world.

New UTSA study describes method to save lives in chemical attacks

Source: https://www.eurekalert.org/pub_releases/2017-07/uota-nus071017.php

July 10 – A new study by Kiran Bhaganagar, associate professor of mechanical engineering at The University of Texas at San Antonio, and her research group, Laboratory of Turbulence Sensing & Intelligence Systems, is taking a closer look at the damage caused by chemical attacks in Syria. The Syrian Civil War, ongoing since 2011, has seen hundreds of people killed through the use of chemical weapons.

Chemical agents are different from explosive chemicals, which cause localized destruction through force. Sarin gas, for example, a nerve agent which has been used in many attacks in Syria, can **diffuse** into the atmosphere and **spread** for hundreds of miles.

Turbulence is also an important player in diffusing the released chemical to kilometers away from the source of release. Bhaganagar's expertise in "taming turbulence" is making a difference in predicting this very critical problem of chemical terrorism facing the world.

With the world moving towards smart buildings and smart cars, the concept of developing an intelligence system for chemical plume trajectory is critical for national safety against impending chemical threats. Funded by US Department of Army Edgewood Chemical and Biological Center (ECBC), Bhaganagar's team is developing an early warning prediction system for these attacks. This is an intelligence system that uses a weather research forecasting model (WRF) with local sensor data to predict air-borne release chemical plume. Local turbulence and the type of the gas dictates the direction of the plume path.

Bhaganagar and her team simulated on a supercomputer the same conditions as a recent Syrian gas attack on a small town of Khan Shaykhun, in which as many as 100 people may have been killed.

The intelligence system relies on solving an intricate set of thousands of mathematical equations and processing millions of data within few minutes. This is done on supercomputing processing systems with 50,000 graphical core units working simultaneously to predict the plume path in real-time. Using this intelligence system and local conditions in Khan Sheikhoun, the team was able to predict exactly how far and high the gas would spread, and at what speed. When they compared the simulation data to the actual details of the real attack, they found that they matched. The model worked and could realistically warn potential victims of a chemical attack to flee the area.

Bhaganagar's study demonstrates that local wind and terrain conditions and atmospheric turbulence make chemical attacks even more deadly than previously understood, and proposes that analysis of the wind and the use of data-collecting drones could make for an early warning system that would allow people in potentially deadly areas to evacuate before the gas reaches them.

The challenge in developing the intelligence systems is to obtain the local wind, turbulence surface and chemical gas sensing data. Currently, the team is demonstrating using aerial drones that scan the region in the vicinity of the chemical source and get point-point sensing data. This is what is known as mobile sensing.

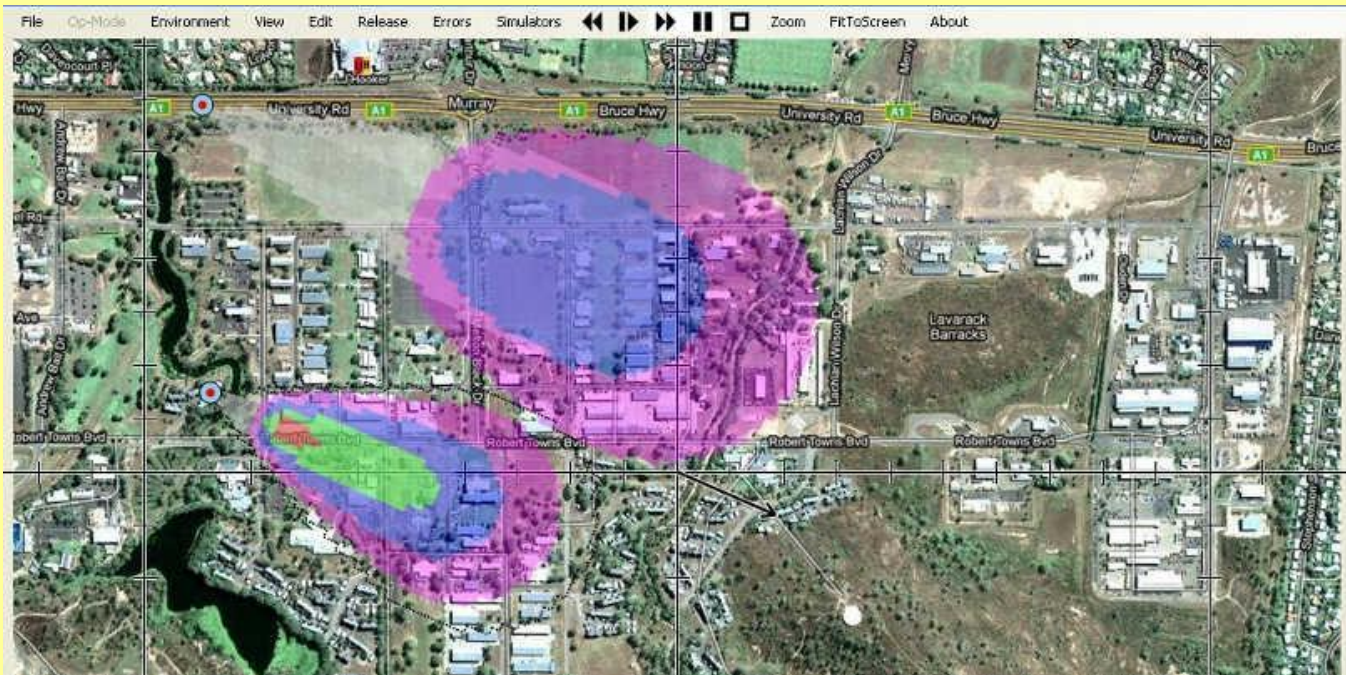
"We are moving from traditional single-point stationary sensors to novel concept of mobile sensing which is low cost, fast collection of sensing data and very accurate," said Bhaganagar. "This is the next step. We will deploy low-cost aerial drones to collect wind and gas concentration sensing data. We can alert people to danger within minutes."



"The human cost of this conflict is rising daily, and it doesn't have to," she said. "Through collaboration and innovation, we can save lives."

How to enhance CBRN training with virtual / table top simulation

Source: http://www.argonelectronics.com/blog/how-to-enhance-cbrn-training-with-virtual/-table-top-simulation?utm_campaign=June%20newsletter&utm_source=email



A 2014 paper detailing the EU's approach to the [detection and mitigation of CBRN](#) (chemical, biological, radiological, and nuclear) risks is unequivocal that there is work to do if we are to maximise protection for the public against the CBRN threat.

The paper begins, "The EU, its Member States and other key partners have undertaken numerous activities to improve the ability to prevent CBRN and explosives incidents and protect citizens, institutions and infrastructure against such incidents." However, it goes on to say that, "More needs to be done..." and that the EU, "aims to bring about progress in the area of detection of CBRN threats, and put effective measures in place for detecting and mitigating these threats and risks."

One reason why more needs to be done is that traditional methods of response training have fallen some way short of replicating real-life situations. Creating the most realistic exercises for emergency service personnel to learn how to deal with call outs involving toxic chemicals and/or radiological materials, without actually releasing such substances into the environment,

is an issue that has been a perennial problem. Increasingly, the solution has been to use electronic simulation equipment, which now takes the training terms 'realistic' and 'challenging' to a new level.

Modern CBRN response training

Highly challenging CBRN simulation exercises using state-of-the-art [simulation equipment](#) are now able to take place. Police and fire fighters can safely simulate the release of chemical and radiological hazards, and, equipped with simulators in place of the real detectors, participants are able to realistically carry out their roles.

These detector simulators respond to electronic simulation sources that represent chemical vapours, toxic industrial substances or false positives, enabling trainers to run realistic exercises without risk of harm or damage to personnel, their equipment, or the environment.

To further enhance their response readiness, instructors are able to manage the hands-on detection



instrument training of multiple personnel using [virtual / table top CBRN / HazMat training simulation systems](#). These systems provide enhanced flexibility and ease-of-use in field exercises and classroom training for counter terrorism, HazMat or nuclear incidents by allowing instructors to select the parameters for the activation of detector simulators.

The best virtual/table top simulation systems allow multiple trainees to be managed and monitored from a computer at a central location. The software enables users to plan exercises on a Personal Computer or laptop without additional system hardware, offering a portable simulation system with easy-to-use menus that can be swiftly set up and used to create a diverse variety of virtual emergency scenarios.

CBRN scenario setting with virtual / table top solutions

Instructors are able to plan scenarios that involve either single or multiple releases of hazardous materials and to define a series of release characteristics, such as duration,

persistence and deposition, for an extensive choice of substances. The instructor setting the CBRN training exercise can even define the environmental conditions that would affect the movement and/or state of the virtual plume during the timespan of the operation.

Thus, in only a matter of minutes, a complex training exercise rich with variables can be set up, that will truly challenge the trainees to think and act as they would in a real life situation.

In addition to their flexibility and ease-of-use, modular virtual/table top systems are also cost-effective for end-users, since the number of simulation tools used can be expanded as and when budgets permit. And, because the simulators can be used independently of the virtual / table top system there is no redundancy of equipment.

These new technologies mean that greater security on local, national and global scale is now much closer, with detection and mitigation available on a more regular, achievable and practical level.

CBRNe training - how 3 types compare

Source: <http://www.argonelectronics.com/blog/the-three-types-of-cbrne-training>



May 19 – Chemical Biological Radiological Nuclear and Explosives (CBRNe) training provides individuals with the technical knowledge and practical expertise to detect and avoid chemical threats, helping them to protect themselves and carry out decontamination.

In addition, CBRNe training can act as a deterrent – an adversary may be less inclined to use chemical or radiological warfare agents if they know their opponents are well-prepared to deal with and mitigate the consequences.



Delivering CBRNe training has become more challenging. Training scenarios must be able to realistically replicate the ability to detect and monitor a near-invisible or invisible hazard as it moves through the air or contaminates equipment, infrastructure or terrain.

Good training increases protection of organisations and personnel, builds confidence, and improves decision-making and communication skills, and currently comes in three main forms:

CBRNe live agent training (LAT)

Live agent training (LAT) utilises real hazardous material, making it the closest experience one can have to detecting CBRNe hazards in [real-life scenarios](#). It allows trainees to detect chemical and radiation hazards, monitor levels of contamination and carry out decontamination exercises. LAT is intensive, both in terms of staff and the associated costs and time investment. However, it provides invaluable experience and leads to 'combat readiness'.

LAT is subject to strict rules and regulations and is overseen at the highest level. It is conducted in allocated areas (both indoors and outdoors), usually found within the perimeters of military or government establishments in specially constructed containment sites where environmental regulations are adhered to and training is carefully controlled.

While there are a host of benefits associated with this type of training, there are several very real risks. The live agents used are high-grade – usually in the 90-95 per cent purity range – meaning that highly-trained safety staff need to be available on-site, to strictly monitor trainees and to respond in case of incident. Unfortunately, this can lead to a level of unrealism that affects the learning experience of students.

Another disadvantage of LAT is that, while it represents the most realistic portrayal of the hazard environment, it also involves the greatest amount of control, meaning there is less freedom when creating training scenarios. LAT is also expensive to implement. Nevertheless, LAT is the peak of CBRNe training – having undertaken it, an individual can regard themselves as ready (as far as it is possible to be) to deal with an attack or incident.

Simulant agent training (SAT)

Simulant agent training (SAT) isn't as comprehensive as LAT. SAT follows the same principles as LAT, but uses simulant agents, as opposed to live agents. These are substances that can model the properties and behaviour of real hazards without the same level of risk associated with live agents while still allowing the use of actual CBRNe detectors.

On the plus side, the relative safety (compared to LAT) of simulants means it is easier to generate more involved and realistic scenarios. And using "wet simulants" with operational detectors and monitors provides the closest resemblance to how real agents react.

However, those simulants are not harmless and must be carefully managed: many of the chemicals are non-biodegradable and can build up over time, affecting both human health and local flora and wildlife.

On top of that, simulants are difficult to dispense and control in open air, meaning that simulant performance is weather-dependant and instructors cannot guarantee replication of a particular CBRNe scenario. Trainees can usually see the instructors releasing the substances, making for an unrealistic training setting, and training time can be wasted trying to manoeuvre trainees and hazards into the right location to create the scenario.

The cost of using simulants has also risen sharply in recent times, partly driven by the health, safety and environmental requirements that go into producing them.

CBRNe training with simulators

[Simulation training](#) provides an alternative to simulant training, and, while not a replacement for LAT, it is an excellent predecessor. New generations of intelligent, computer-based simulation tools [offer a real, workable alternative](#) to conventional training methods.

Simulators can accurately replicate how real devices react when confronted by a range of chemical agents, including the volatility of the agents, the prevailing meteorological



conditions, and the tactics and techniques used to detect differing agents. But, instead of chemicals of any kind, electronic simulation agents are used.

Simulation training is realistic insofar as it realistically imitates LAT, but is safer and more cost-effective. Unlike with LAT or SAT, this form of training can be undertaken anywhere, including in public buildings and other civilian areas, which is particularly useful in the context of training for potential terrorist attacks. As live agents or simulants are not being used, there are no environmental issues or health and safety matters to take into consideration.

Trainers can portray a variety of scenarios, including large-area ones, no matter what the weather conditions are or the location where the training is taking place. As such, the instructors are able to reproduce the same scenario time after time, to determine the correct use of techniques, tactics and procedures by the trainees.

On the other hand, it can be difficult for students to suspend their disbelief when participating in simulation training and not every potential scenario can be simulated. Furthermore, unlike LAT or SAT, with simulation the hazard environment must be created artificially. This requires a greater depth of understanding and knowledge, which can be a challenge for newly-qualified instructors.

Simulation equipment is not inexpensive, because it requires a complex set of software. However, compared to real detectors, the cost of repairing simulators is less, thereby meaning their lifetime cost is lower. Additionally, the electronics simulation sources cost significantly less than the use of simulants over time, especially when the administration and remediation costs of using simulants are considered.

So which type of CBRNe training best?

Given that current governments across the world face budgetary pressures on military spending, all aspects of delivering capability have come under scrutiny - training budgets being no exception. Being able to train realistically using a mixture of LAT, SAT and simulation training is cost-effective – not just in monetary terms, but also in operational terms, as it allows the training time to be maximised to varying degrees both in the field and classroom environment and, in doing so, raises the overall standard across the CBRNe response community.

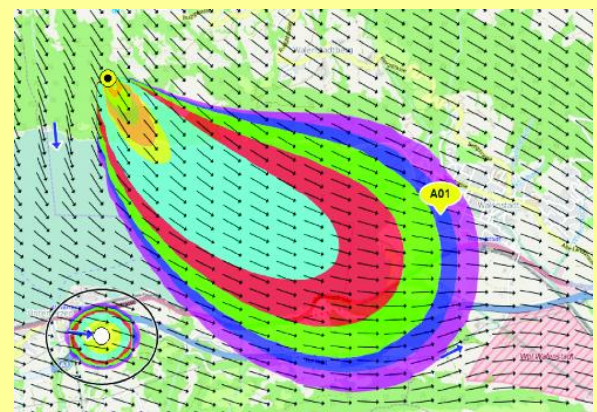
PlumeSIM-SMART Wide-Area CBRNe / HazMat Training System

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

An App-based training system that provides you with the capability to deliver practical, highly engaging tabletop and live field training exercises incorporating gaseous, radioactive, Hazardous Material (HazMat) and Chemical Warfare Agent (CWA) threats and releases on a subscription or pay as you go basis.

PlumeSIM-SMART enables you to select threat substance, release type, timing and duration of a virtual radiation or chemical plume. You can also configure meteorological conditions and modify wind direction and velocity at different locations in real time during the exercise to affect plume dispersion. Powerful App based simulation instruments respond in real time according to the evolving simulated threat environment and characteristics / configuration of the simulated detector while your students manoeuvre throughout the exercise area.

You can Rapidly deploy scenarios involving Nuclear reactors, radiological sources / devices, industrial / petrochemical facilities and toxic substance releases can be saved as libraries for future use and shared with other users.



PlumeSIM-SMART simulates:

- Single or multiple threats / releases
- Radioactivity, Radioactive compounds, TICs / TIMs and CWA
- Real-time chemical or radiation plume variation to changes in wind direction and velocity
- Hot spots, static emissions, hidden / activated radiological dispersion devices, puffs and plumes
- Evaporation, deposition, persistency, radioactive fallout and decay
- Sources comprising Individual or multiple radionuclides
- Foot, fixed or vehicle based survey / monitoring / reconnaissance
- Placement of water barriers to restrict plume from sensitive areas

**PlumeSIM-SMART supports:**

- Table top and large (up to 2,500 square Km) field exercises
- Multiple survey teams and simulators
- GIS Mapping and “home-made” maps for sensitive missions
- Wide variety of simulated detection instruments
- Offsite response plan verification

Simulators are available for:

- Radiological survey
- Radiological dosimeter
- Chemical warfare detectors
- Multi Gas with user selectable sensors including PID, and O₂

**CBRNe / HazMat Tabletop exercises brought to life**

Students manoeuvre using a virtual gamepad and view simulated readings based upon the threat and their location – no more passing written notes with pretend readings!

Instructor selectable student views of meteorological conditions, threat, threat location and plume dispersion facilitate a highly engaging learning environment.

Field Exercises get serious

Simulated field readings experienced in real time GPS tracking monitors and records student movement whilst their simulated readings indicated at EXCON in real time. GPRS cellular radio link ensures reliable, large area operation.

Evaluate survey teams, cell controllers, senior commanders and management

Survey teams can report readings to facilitate hazard prediction using your standard warning and reporting software; enabling cell controllers to provide senior officers, commanders and management with valuable information for decision making.



Hazard predictions can be compared to the simulated threat to determine the veracity of the survey, threat measurement, communication, hazard prediction and decision making process.

After Action Review (AAR) facilitates effective table top and field exercise learning outcomes

Powerful AAR permits review of the entire exercise or specific elements. Breadcrumb trails allow you to demonstrate and discuss survey routes, time taken, personal dose management and information collected and communicated.

This enables you to debate instructions given, decisions taken, and their subsequent consequences / impact as a result of the simulated readings and hazard predictions. Accurate exercise reports enable you to demonstrate response veracity to senior management and regulatory authorities.

Suiting Up for a Chemical Attack

Source: <http://news.thomasnet.com/featured/suiting-up-for-a-chemical-attack>



July 12 – Clothing designed to protect human beings from the effects of nerve agents or poisonous gases have always proposed a number of challenges. They're usually very heavy, very warm, hinder movement and are nearly impossible to decontaminate.

For these and more obvious reasons, researchers from North Carolina State University began investigating the use of lightweight, chemical-resistant coatings that could be integrated into clothing or uniforms. Their findings were recently published in the journal *Chemistry of Materials*.

Chemical weapons saw their first use in World War I. Their effects were so harsh that they were banned by the Geneva Convention and classified as weapons of mass destruction – along with biological and nuclear weapons. Regardless, a handful of countries still retain stockpiles of chemical weapons.

The N.C. State scientists explored the use of **zirconium-based metal-organic framework (MOF) powders** as a way to degrade and destroy the harmful compounds found in substances like mustard gas and sarin. MOFs are porous, but with large enough surface areas that they can absorb gases. Zirconium, which is essentially a chemical sponge, absorbs and neutralizes the toxic materials. Identifying these substances wasn't the challenge.

MOF powders can be unstable, MOF production requires high temperatures and long reaction times, and the nature of the powder makes it difficult to adhere them to fabric. So, the research team investigated the potential for growing the MOFs onto fabric at room temperature. This would create a shield that could be embedded into uniforms and protective clothing.

Building on previous work, the researchers combined polypropylene with a zirconium-based MOF, a solvent and two binding agents. Then they tested this combination with a molecule similar to sarin and other nerve agents.

They found that the MOF-treated clothing deactivated the molecule in less than five minutes. The results are encouraging, but next steps will need to focus on the viability of mass production and quicker response times against more aggressive chemicals.

Pakistan to launch Chemical Jihad on India? Report reveals Islamabad is arming Hizbul Mujahideen terrorists with chemical weapons

Source: <http://www.financialexpress.com/india-news/pakistan-to-launch-chemical-jihad-on-india-report-reveals-islamabad-is-arming-hizbul-mujahideen-terrorists-with-chemical-weapons/760166/>

July 12 – Two days after Pakistan-backed terrorists killed seven Amarnath Yatra pilgrims and injured twenty others in Kashmir, a report by CNN-News18 has revealed that **Islamabad is arming Hizbul Mujahideen terrorists with chemical weapons to attack India.** Pakistan's nefarious design to kill Indian citizens was revealed from the audio excerpts intercepted by security agencies, says the report.





In the last few months, Indian forces have reportedly terminated scores of terrorists in Kashmir. If the News 18 report is true, it now seems that Pakistan and its pet terrorists are desperate to take on the Indian security forces. The report says that Hizbul terrorists have already accessed the chemical weapons provided by Pakistan and they plan to use them on Indian soldiers.

In the transcript accessed by News 18, a Hizbul terrorist is heard saying they will plan their next move after Eid. He also says that Pakistan will “inshallah” step-up its “anti-India game” in the coming days and also support the terrorists. The transcript also reveals terrorists’ change in tactics from launching small attacks to killing a large number of Indian soldiers in a single Chemical attack.

Last year in September, Pakistani terrorists had killed 19 Indian soldiers at Uri in Kashmir in an early morning attack. Since then, the terrorists backed by Pakistan has launched several attacks in their bid to destabilise Kashmir. Not only this, Pakistani soldiers have also been involved in beheadings of Indian soldiers. Despite global condemnation, Pakistan doesn’t appear to be having any intention to put a brake on its anti-India activities. Pakistan has provided safe haven to several international terrorists including Hizbul founder Syed Salahuddin and Let chief Hafiz Saeed. While India avenged Uri by carrying out surgical strikes on terror launch pads in Pakistan-occupied, Islamabad doesn’t seem to have learnt a lesson yet.

During Indian Prime Minister Narendra Modi’s recent visit to the US, Washington had designated Syed Salahuddin as a global terrorist. But Pakistan considers Salahuddin as a “freedom fighter” and provides him not just a safe haven but also weapons and money. Hizbul is one of the largest terror group in Kashmir with an estimated around 200 active members. Last year, India had killed Hizbul’s Kashmir chief Burhan Wani. His death sparked protests across the Valley.

EDITOR’S COMMENT: What is going on with Pakistan? They threaten India. They are involved with Taliban in Afghanistan. They recently stated that the enemies of Turkey are Pakistan enemies as well – implying Greece among other countries. Most of our illegal immigrants are Pakistanis trying to escape a corrupted governance. Is this the behavior of a nuclear country? Why don’t they do something for their own first before involving in other games older children play?

Grenfell survivor was diagnosed with cyanide poisoning

Source: <http://www.bbc.com/news/uk-40568640>



Image caption Twelve-year-old Luana Gomes, on the right, was diagnosed with cyanide poisoning



July 13 – **At least one survivor of the Grenfell Tower fire was diagnosed with cyanide poisoning**, BBC Newsnight has learned.

Medical discharge papers show 12-year-old Luana Gomes was treated for the effects of the highly toxic gas, which may have been released by burning of insulation or plastics during the fire.

Her sister and mother were also treated for risk of cyanide poisoning.

Mrs Gomes was seven months pregnant at the time of the blaze. Her unborn baby died after the fire.

It has previously been reported that three Grenfell survivors were treated with a cyanide antidote but this is the first confirmation of a cyanide poisoning diagnosis.

Andreia Gomes and her daughters were placed in medically induced comas when they were admitted to Kings College Hospital.

Mrs Gomes was unconscious for four days, Luana for six days and her sister Megan was kept in a coma for a week.

Luana's discharge record states that she was diagnosed with "smoke inhalation injury" and "cyanide poisoning".

common following house fires as it is used in the manufacture of many plastics and is released when those plastics are burned.

"It sounds dramatic because cyanide is known in popular culture as the poisoner's weapon," he said. "But cyanides are also produced by some bacteria, fungi and algae."


Cyanide also occurs naturally in some seeds and fruit stones, eg those of apricots, apples and peaches.

Victims of cyanide are effectively choked by the toxic gas. Symptoms include headaches, dizziness, confusion, vomiting and convulsions. At high concentrations it can cause rapid death. "The effects are really quick... you could die within seconds depending on the level of exposure," says clinical toxicologist and emergency medicine and critical care consultant Dr Johann Grundlingh.

"When you breathe in oxygen normally, your cells produce energy. Cyanide blocks your capability to produce energy from oxygen."

Mrs Gomes feels deep anger towards whoever was responsible for deciding to place cheaper, less fire retardant cladding on Grenfell Tower.

"You just killed my son," she said. "If it was in a

Discharge Notification		King's College Hospital  NHS Trust	
Patient:		GP	
NHS Number:			
Hospital Number:		Ward	
D. O. B:		Consultant	
Date of Admission:	14 Jun 2017	Department	
Date of Discharge:	Discharge date not available at time of printing Printed 23 Jun 2017	Discharged by	
		Patient Address	Grenfell Tower Grenfell Road W11 1TQ
Smoking Status	Assessment not completed on this admission		
Alcohol Screening	Fast Alcohol Screen Test Score: Not screened on this admission		
Discharge Weight	0 Kg		
Reason for admission	12 year old girl brought to ED after escaping tower block fire		
Past Medical History	Fit and well		
Main diagnosis and other new diagnoses	Smoke inhalation injury Cyanide poisoning		
Important Findings and Results	Is a 12 year old girl that was brought to A&E after escaping the tower block fire. On arrival she was noted to have soot in her nostrils and had carbon monoxide levels of 20%. She was electively intubated.		

It also records that she received two doses of hydroxycobalamine "for cyanide poisoning".

All three women were treated with a cyanide antidote though only Luana was diagnosed as having been poisoned.

The BBC's environment correspondent Roger Harrabin said cyanide poisoning is relatively

normal situation, I could have gone out. And he was seven months. He could have survived... But because of the conditions, he passed away."

Her husband Marcio Gomes told BBC Newsnight he decided to make a run for it with his family at



around 04:00 when flames began to engulf his bedroom in their 21st floor flat.

He described how he and his family had to step over a number of bodies as they groped their way, gasping for breath, down the smoke-filled staircase.

"What I didn't account for was the amount of bodies we had to trip over or step on. We were stepping on people's arms or legs."

The family was taken together to Kings College Hospital. Only Mr Gomes, who was also treated for smoke inhalation, remained conscious.

He said he realised, even though he was not told explicitly, that their unborn child, who the couple had already named Logan, had died.

"Andreia didn't know what was going on because she was in an induced coma. My daughters were all in intensive care in induced comas as well.

"I knew something was wrong straight away when they told me in these scenarios they take the mother as a priority. So I broke down, because I knew what they were saying, without saying it. Then later on, they said the baby had passed away."

It is not known what produced cyanide in the Grenfell fire. It may, however, be related to the foam insulation installed on the exterior of the tower, which is known to produce the gas when burned.

The cladding system added to Grenfell Tower in a recent £10m refurbishment has been the subject of scrutiny and speculation since it

emerged that its outer layer was a less fire retardant product containing plastic between layers of aluminium. The aluminium and plastic panels covered a layer of foam insulation installed to improve the building's energy efficiency.

"Plastic foam insulation is effectively made from crude oil and so it's going to combust in more or less the same way as any other petrochemical," says Richard Hull, Professor of chemistry and fire science at the University of Central Lancashire.

"It's got a lot of nitrogen in it and therefore when it burns it produces both carbon monoxide and hydrogen cyanide."

A spokesman for the British Rigid Urethane Foam Manufacturer's Association (BRUFMA) - the trade body which represents makers of insulation of the kind used at Grenfell Tower - said no assumptions should be made about what materials created toxic gases in the fire.

"Gases given off by any burning material are toxic. The greatest toxic hazard in almost all fires is due to carbon monoxide," he said,

"There is no evidence to suggest that PIR (rigid polyisocyanurate) presents any special hazard in terms of toxicity.

"In tests on buildings with PIR panels, carried out by the UK Fire Research Station, no additional hazard from smoke or toxic gases was noted compared to those due to the burning of other buildings."

EDITOR'S COMMENT: Not a big surprise since the presence of cyanide is quite common especially in urban mega-fires. This why escape hoods include cyanide protection in their specifications.

London acid attacks: Two teens arrested after five attacks in 90 minutes

Source: <http://www.telegraph.co.uk/news/2017/07/14/teenager-arrested-five-acid-attacks-london-90-minute-period/>

July 14 – Following five acid attacks in London, two teenage boys have been arrested after two male suspects riding a moped targeted victims during a 90-minute spree.

The Metropolitan Police said one victim had been left with "life-changing" injuries after being doused on Thursday night in the east of the capital.

The assaults appeared to be linked and two involved victims having their mopeds stolen, they added.



A 16-year-old youth is being held at an east London police station after being arrested on suspicion of grievous bodily harm and robbery. A 15-year-old boy was later arrested at an address in Stoke Newington on suspicion of grievous bodily harm and robbery.

Cressida Dick, head of Scotland Yard, branded such attacks as "completely barbaric", telling LBC: "The acid can cause horrendous injuries; the ones last night involved a series of robberies we believe are linked - I am glad to see we have arrested somebody."

The attacks have sparked calls for [tougher and more consistent sentences](#) for those found guilty of acid attacks.

Former minister, Stephen Timms said carrying acid should be made an offence and suggested licensing the purchase of **sulphuric acid** as he urged a change in sentencing guidelines.

At the start of the rampage, a 32-year-old moped driver had been approached by the pair as he drove towards the Hackney Road junction with Queensbridge Road. The two male suspects had tossed the noxious substance into his face before one of them jumped on to his vehicle and drove away.

One witness saw police dousing the victim with large bottles of water.

Sub-editor Sarah Cobbold, 29, said: "I had thought someone must have chucked petrol or acid on him or something because they were covering him in water, but I have never seen that reaction to an attack, I thought maybe there had been an accident."

Police said the man had gone to an east London hospital and they were awaiting an update on his injuries. Little more than 20 minutes later, at around 10.50pm, another victim had been sprayed with searing liquid by the pair on the Upper Street junction with Highbury Corner, Islington.

The victim was taken to hospital in north London.

East London moped acid attacks



IMAGE: GOOGLE EARTH

Then at around 11.05pm, the fast-moving attackers swooped on a man in Shoreditch High Street, tossing the substance in his face.

His injuries were not life-threatening, police said.



Within 15 minutes, they appeared to have struck again, launching their corrosive load at a man on Cazenove Road and causing "life-changing" facial injuries.

The final assault of the night was reported to police at 11.37pm, when another man was confronted as he sat on his moped in traffic on Chatsworth Road.

After again spraying the liquid in a victim's face, the moped was stolen and both attackers fled.

The Met Police said in a statement: "Inquiries are ongoing and officers from Hackney CID are investigating.

"Any witnesses, anyone with information or in possession of footage of these incidents should contact police on 101 or tweet @MetCC. To remain anonymous you can call Crimestoppers on 0800 555 111."

The string of assaults comes just days after a man appeared in court accused of throwing acid [at an aspiring model and her cousin](#).

Resham Khan, 21, and [Jameel Muhktar, 37, were left with life-changing injuries](#) after the attack on Ms Khan's 21st birthday in Beckton, east London.



[Resham Khan and her cousin Jameel Muhktar were victims of an acid attack in east London](#) Credit: GoFundMe

John Tomlin appeared at Thames Magistrates' Court on Tuesday charged with two counts of grievous bodily harm with intent.

A [mass acid attack has also previously hit the capital this year](#).

On Easter Monday, acid was sprayed at a crowded east London club night, leaving two revellers partially blinded and others disfigured.

Arthur Collins, the former boyfriend of reality TV star Ferne McCann, was charged in connection with the attack.

About | Acid attacks

- Acid attacks are very rarely deadly, but victims may be left scarred, blinded, otherwise disabled and heavily traumatised
- The substance used is usually sulphuric acid ("vitriol") or nitric acid. Less commonly, hydrochloric acid may be used, which is less damaging to victims
- Worldwide, some 80% of victims are women, according to Acid Survivors Trust International, with perpetrators often believed to be family members or men seeking revenge for sexual rejection



- In the UK, men are more likely to be victims than women, which is believed to be due to gang violence. Reportedly, gang members carry acid concealed in a drinks bottle, where police are more alert to conventional weapons such as knives or guns
- London is the UK's centre of acid attacks – Metropolitan Police figure show over 1,800 assaults with a corrosive substance since 2010, with figures still [rising year on year](#) and 454 assaults reported in 2016
- If you are the victim of an attack, try to wash the acid off with water as quickly as possible and seek first aid. Neutralising the acid with an equivalent alkaline substance risks a chemical reaction that may give you thermal burns as well as acid burns

Acid attacks in London 2012 – 2016



Acid Attacks 101

Source: <https://clarionproject.org/acid-attacks-101/>



Iranian acid attack victim Ameneh Bahrami (Photo: Reuters)

June 29 – In honor-based cultures such as Iran, Pakistan, India and Afghanistan, acid attacks are often committed as punishment for women violating Islam's strict dress code or refusing a man's advances or marriage proposal.

However, a recent acid [attack in London](#) – where an aspiring model and her cousin were severely injured – unfortunately demonstrates how this culture is being imported to the West.

According to [Acid Survivors Trust International](#), there are 1,500 recorded attacks each year; 80 percent of the attacks are on women.

In 2014, [thousands of Iranians protested](#) after nine women were attacked with acid in the span of three weeks for violating the dress code.





Under Iranian law, victims are allowed to seek retribution for their attacks under a law called *qisa*, where punishments match the crime that was committed. Victims or their surviving family members have the ability to grant clemency to the perpetrator, if they so choose.

Iranian woman Ameneh Bahrami – once a beautiful woman — became an [international focus](#) in 2011 when she was blinded and left horribly disfigured after a man poured a bucket of acid over her for rejecting his marriage proposal.

Weeping and waiting to be blinded by having corrosive chemicals dropped in his eye, her attacker was spared at the last minute from this fate when Bahrami chose to forgive him.

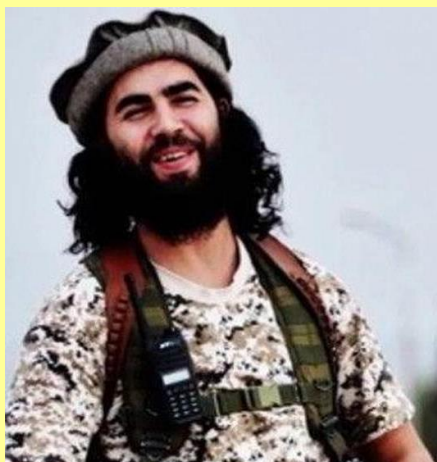
In 2009, a man in Iran was blinded in both eyes in 2009 for blinding a four-year-old girl in an acid attack. More [recently](#), an Iranian court ruled that a woman must be blinded in one eye as punishment for leaving her victim completely blind.

The National Council of Resistance of Iran has called the *qisa* laws anti-human and “clear violations of all principles and norms of modern judiciary” to be condemned by any “freedom- seeking person.”

EDITOR’S COMMENT: It seems that *qisa* is quite interesting law for the Brit offenders. Inhuman? Really? Why don’t you tell that to the victims and their families???

ISIS chemical weapons expert killed in Hawija district

Source: <http://www.thebaghdadpost.com/en/story/14361/ISIS-chemical-weapons-expert-killed-in-Hawija-district>



July 14 – ISIS chemical weapons senior expert Abu al-Baraa has been killed by unknown gunmen in Hawija district in Kirkuk Governorate, a military source said Friday.

Earlier, Abu Bakr al-Baghdadi, ISIS leader, had transferred him to Syria and no one knows how he returned to Hawija district, the source added.

ISIS terrorists were developing the chemical weapons in the labs of Mosul University since they controlled the Campus in eastern Mosul.

Under ISIS terrorists, Iraqi people have suffered atrocities including murders, theft, and tortures.

Those terrorists have been accused of human rights violations as they are using chemical weapons against innocent civilians in Iraq and Syria.



The controversy regarding use of chemical weapons in Syria: 2013-2017

Source: <https://en.dailypakistan.com.pk/opinion/blog/the-controversy-regarding-use-of-chemical-weapons-in-syria-2013-2017/>

Dr. Syed Mujahid Kamran was the Vice Chancellor of Punjab University, Lahore. He was a Fullbright Fellow at University of Georgia, USA, during 1988-89 and professor of physics at King Saud University, Riyadh, from 2001 to 2004.





Free 2 Day CBRN Forensics Workshop on October 17th & 18th



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A 2-day CBRN Forensics workshop being held by GIFT on October 17th & 18th in Brussels.

The workshops will take place at the Finance Tower and attendance at the event is Free. We are currently finalising the programme and will be posting it on the Gift website soon <https://giftforensics.eu/> so please save the date in your calendars.

Is Pakistan Arming Terrorists In Kashmir With Chemical Weapons?

Source: <http://topyaps.com/chemical-weapons-hizbul-mujahideen>

July 16 – **Pakistan is the world's largest exporter of terrorism – if that is measured as an industry. The country is home to some of the world's most wanted men who move around as freely within the country as any other Pakistani citizen.**

That Pakistan cares little about what the world's opinion can be seen from how Hizbul Mujahideen founder Syed Salahuddin was allowed to hold a rally and [welcomed like an emperor](#) in Muzaffarabad just days after the US declared him a global terrorist.



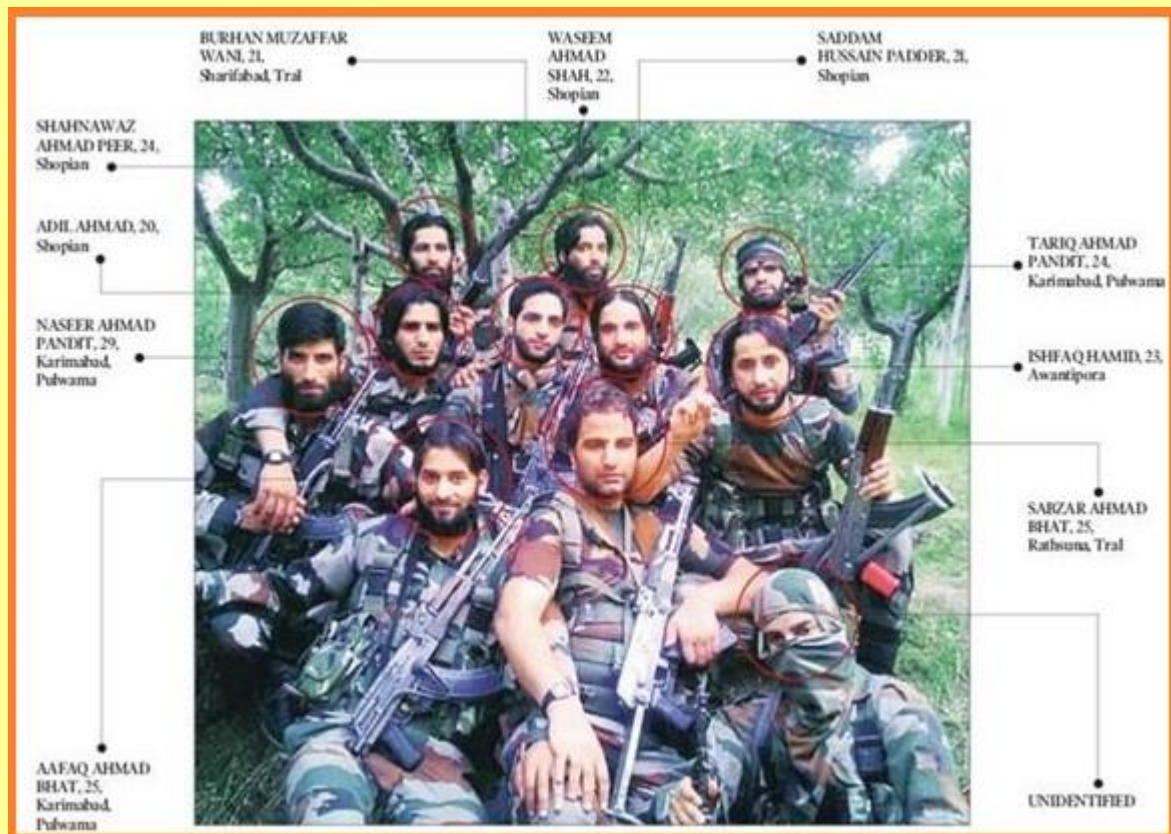
Hizbul chief Syed Salahuddin's convoy in Muzaffarabad. Twitter

The presence of the terror bosses and the very high level of Islamic fundamentalism in the society has turned Pakistan into a failed state with no future except perhaps, become, the supplier of chemical weapons to terrorists.

According to a report published by News18, Hizbul Mujahideen is now getting chemical weapons from Pakistan.

Hizbul Mujahideen is the terrorist group most active in Kashmir and which recruited a large number of youth from the Valley such as the slain terrorists Burhan Wani and Sabzar Ahmad.





Burhan Wani and his terrorist group. Indian Express

The [report says](#) that intercepts of conversations between terrorists prove that Hizbul terrorists may have already got their hands on chemical weapons.

The transcripts clearly point at Pakistan's involvement in the terror activities in Kashmir. According to the report, there is a clear mention of chemical weapons during the conversation, which the terrorists are planning to use as a change of tactics.

If the report is true then there is a real reason to be worried. Chemical weapons do untold devastation and its horrors have been seen by the world in the ongoing war in Syria.

Is your **water** supply safe from terrorists?

By Chuck Norris

Source: <http://www.wnd.com/2017/07/is-your-water-supply-safe-from-terrorists/>



July 17 - Do you know what terrorists are doing in the heat of the summer? Answer: Looking for ways they can poison your drinking water supplies and systems. No joke. Let me explain.

According to the U.S. Environmental Protection Agency, or EPA, there are over [151,000 public water systems](#) in the United States.

For decades, experts have warned that those water systems are too susceptible and vulnerable to chemical and terrorist attacks. Most of those warnings have gone unheeded, underfunded and pushed aside for other "pressing issues." And even our best solutions, like at airports during the pre-9/11 era, might be tragically too little too late.

Peter Beering, former Indianapolis Water Company deputy general counsel and Terrorism Preparedness Coordinator, warned [as far back as 2003](#): Water is the "quintessential target." NBC News explained: "It's been a strategic objective in armed conflict throughout history. The Nazis dumped raw sewage into reservoirs; dead animals were tossed into wells in



Kosovo. And the FBI's J. Edgar Hoover warned of the potential for attacks on the nation's water supply prior to the surprise attack on Pearl Harbor."

James Atkinson, a counter-terrorism consultant with the Gloucester, Massachusetts-based Granite Island Group, explained that: "a single terrorist, or even a small group of terrorists could quite easily cripple an entire city by simply destroying equipment at the reservoir end of the pipeline, and even by poisoning the reservoir with concentrated toxins right where the water enters the pipeline."

How prone is your water system to chemical attacks? Answer: Very prone.

The truth is, we not only have to be concerned about terrorist chemical attacks but also homegrown contamination throughout our 151,000 public water systems.

In 1974, Congress enacted [The Safe Drinking Water Act](#), which was supposed to regulate the infiltration of 100 different contaminants, such as lead and arsenic, in our water systems. However, lack of accountability and enforcement, coupled with the worsening of water infrastructure, has only increased water problems and dangers.

All one has to mention today is the [city of Flint](#) to understand the deterioration of our water systems and contamination of our drinking water among U.S. cities.

Erik Olson, who directs the Natural Resources Defense Council health program, warned, "[Flint is] not the only place in the United States with tap water problems."

According to a 2017 report from the NRDC and [Threats on Tap](#), "there were more than 12,000 health-based violations in 5,000 water systems that served over 27 million people across the United States."

The five water systems with the most health violations were Texas, Puerto Rico, Ohio, Maryland, and Kentucky.

[USA Today Network journalists](#) spent 2016 reviewing millions of records from the Environmental Protection Agency and all 50 states. Look what they discovered:

- ◆ **About 100,000 people get their drinking water from utilities that discovered high lead but failed to treat the water to remove it. Dozens of utilities took more than a year to formulate a treatment plan and even longer to begin treatment.**
- ◆ **Some 4 million Americans get water from small operators who skipped required tests or did not conduct the tests properly, violating a cornerstone of federal safe drinking water laws. The testing is required because, without it, utilities, regulators and people drinking the water can't know if it's safe. In more than 2,000 communities, lead tests were skipped more than once. Hundreds repeatedly failed to properly test for five or more years.**
- ◆ **About 850 small water utilities with a documented history of lead contamination – places where state and federal regulators are supposed to pay extra attention – have failed to properly test for lead at least once since 2010.**

And it gets much worse than that.

[The Blaze](#) reported that: "More than 6 million Americans use water contaminated with toxins linked to cancer, according to [a new study](#) by researchers from the Harvard T.H. Chan School of Public Health and the Harvard John A. Paulson School of Engineering and Applied Sciences."

The [New York Times](#) added, "Certain types of cancer – such as breast and prostate cancer – have risen over the past 30 years, and research indicates they are likely tied to pollutants like those found in drinking water."

The Blaze continued, **"That 2016 Harvard study found unsafe levels of toxic chemicals in drinking water of 33 states.** The researchers examined more than 36,000 water samples collected across nation. Seventy-five percent of the contaminated water they found came from 13 states: California, New Jersey, North Carolina, Alabama, Florida, Pennsylvania, Ohio, New York, Georgia, Minnesota, Arizona, Massachusetts and Illinois. According to their findings, **the highest levels of contaminants 'were detected in watersheds near industrial sites, military bases, and wastewater-treatment plants.'**"

According to the U.S. Centers for Disease Control, or CDC, more than 19 million Americans get sick every year from drinking contaminated water due to just the parasites, viruses and bacteria in drinking water. There are an estimated [4-32 million cases](#) of acute gastrointestinal illness per year from public drinking water systems.



The CDC documented the “Top Causes of Drinking and Recreational Water Outbreaks” as the following:

Top 5 Causes – Drinking Water Outbreaks

[Giardia](#)

[Legionella](#)

[Shigella](#)

[Norovirus](#)

[Campylobacter](#)

Top 5 Causes – Recreational Water Outbreaks

[Cryptosporidium](#)

[Pseudomonas](#)

[Shigella](#)

[Legionella](#)

[Norovirus](#)

You can now add one more rare heavy toxic metal to the mix in our water: **Gadolinium**, which is used in enhancing the magnetic resonance imaging, or MRIs.

In my [last two columns](#), I've discussed how my wife, Gena, along with children across our nation, have been poisoned by gadolinium-based contrast agents, or GBCAs, injected through MRIs. Gena almost died from them after multiple MRIs.

Well, here's one more for the record book: With about a third of the 60 million MRIs performed annually using GBCAs, 30 million in the U.S. alone, those GBCAs are also ending up in our water systems and re-entering our human bodies.

For example, in 2016, [Chemical & Engineering News](#) reported, “Gadolinium contamination of the San Francisco Bay has increased significantly in the past decade, likely due to the element's use in magnetic resonance imaging contrast agents, according to a water sample analysis.”

“[Vanessa Hatje](#), now at the Federal University of Bahia, along with [Kenneth W. Bruland](#) and [A. Russell Flegal](#) at the University of California, Santa Cruz, looked for gadolinium and other rare earth elements in San Francisco Bay water samples collected from 1993 to 2013. In the southern part of the bay, which is surrounded by medical and industrial centers and receives their wastewater, all of the elements showed increases over the time period studied. Gadolinium in particular increased from 23.2 pmol/kg in 1993 to 171.4 pmol/kg in 2013.”

All across our country, GBCAs are excreted by millions of MRI patients into sewage systems. In turn, “none of the GBCAs are removed in waste water treatment plants (WWTP) to a significant extent, so they are transferred to surface water with the clear water discharge from the WWTP,” according to [Dr. Henrik Thomsen](#), who serves as director of [CMC Contrast AB](#) and is a professor of radiology of Copenhagen University.

As a result, GBCAs are present in higher amounts than other rare earth elements in densely populated areas with developed health care. That's true globally from Japan to Germany and all across our country. In his scholarly journal article, [“Are the increasing amounts of gadolinium in surface and tap water dangerous?”](#) Dr. Thomsen reported, “Every year tons of [GBCAs] are released into the sea and waterways.”

What that means is that GBCAs are being reintroduced into our lakes, rivers, oceans, tap water, drinking water and even our food chain. Hence, GBCAs are being recycled back into humans through – among other ways – fields irrigated by contaminated water that animals are drinking.



This was proved by Drs. J. Lingott, U. Lindner and L. Teglmann, who discovered in 2016 that GBCAs “may reach the human food chain both from plants growing in fields which are irrigated with contaminated surface water and from animals which drink the water.”

No wonder terrorists haven’t hit our water systems yet: They realize we’re doing just fine poisoning our own water sources!

According to [Mother Jones](#), “Contaminants are not the only reason for drinking water’s dismal state in the United States. The American Society of Civil Engineers gave the country’s water system a D – passing, but not by much. In too many cities, pipes that deliver water to homes are 80 to 100 years old, and lead-contaminated water flows through 6 million to 10 million lead service lines. Then there are the drinking-water plants, most of which use century-old technology for water treatment. The EPA estimates that the government would need to spend nearly \$400 billion to upgrade water infrastructure.”

The CDC sure hit this point on the head: “With its many uses for drinking, recreation, sanitation, hygiene, and industry, water is our most precious global resource. Clean and safe drinking water is critical to sustain human life, and without it waterborne illness can be a serious problem.”

I’m haunted by Terrorism Preparedness Coordinator Peter Beering’s reference to our water systems: “quintessential target.”

That is genuinely one reason among many that we started our own water bottling plant right from an underground aquifer on our Texas ranch, and are proud to now offer [CFORCE water](#) to the world.

Leonardo da Vinci was right: “Water is the driving force of all nature.”

Chuck Norris is the star of more than 20 films and the long-running TV series "Walker, Texas Ranger." His latest book is entitled [The Official Chuck Norris Fact Book](#)." Learn more about his life and ministry at his official website, [ChuckNorris.com](#).

Hazmat Challenge tests responders' skills

Source: <http://www.homelandsecuritynewswire.com/dr20170717-hazmat-challenge-tests-responders-skills>

July 17 – **Ten hazardous materials response teams from New Mexico, Nebraska, Oklahoma and Missouri tested their skills in a series of graded, timed exercises at the 21st annual Hazmat Challenge 10-14 July at Los Alamos National Laboratory.**



“The Hazmat Challenge provides a training venue for Laboratory and regional Hazmat responders where they are able to test and expand their technical response capabilities in a demanding but safe environment,” said Jeff Dare, Group Leader for Los Alamos National Laboratory’s Emergency Response Group. “The scenarios this year will provide unique challenges for the teams.” Held at Los Alamos’ Technical Area 49, the event required participants to respond to simulated hazardous materials emergencies involving aircraft, rail and highway transportation, industrial piping, a biological lab, and a confined space event. The finale of the Hazmat Challenge was

a skills-based obstacle course. Teams were graded and earned points based on their ability to perform response skills through a 10-station obstacle course while using fully encapsulating personal protective equipment.



LANL [notes](#) that the Laboratory began the Hazmat Challenge in 1996 to hone the skills of its own hazmat team members. The event now offers a comprehensive training opportunity in a competitive format that is open to all hazardous materials response teams in New Mexico and across the nation. The winning team receives a traveling trophy and top-scoring teams in the technical categories are awarded permanent trophies. Separate trophies are awarded to the three top scoring teams in the obstacle course event.

▶▶ A video about the 2008 and 2012 Hazmat challenges is on the Laboratory's [YouTube channel](#).

Are nation's chemical stores safe from terrorists?

By Bob Kolasky

Source: <http://www.houstonchronicle.com/opinion/outlook/article/Kolasky-Are-nation-s-chemical-stores-safe-from-11303555.php>

July 20 – Chemicals are ubiquitous to our everyday lives. They are the key to developing medicines that maintain our health, providing refrigeration for our food supply, and building the microchip that runs the smartphone in your pocket. They are also - in the hands of a terrorist - weapons that could be used to kill thousands of Americans.

It was exactly that concern that prompted Congress in 2006 to establish the Department of Homeland Security's **Chemical Facility Anti-Terrorism Standards program**, known as CFATS, to reduce risk to the nation by better securing chemical facilities. In 2014, Congress reiterated the importance of this program by extending it for four years.

Since CFATS was established, more than 3,000 facilities have been identified as



PHOTO: A new analysis finds that nearly 900,000 public school students in Texas attend classes within one mile of a so-called "high-risk chemical facility." Image courtesy Center for Effective Government.

high-risk and have put security measures in place to protect their chemicals.

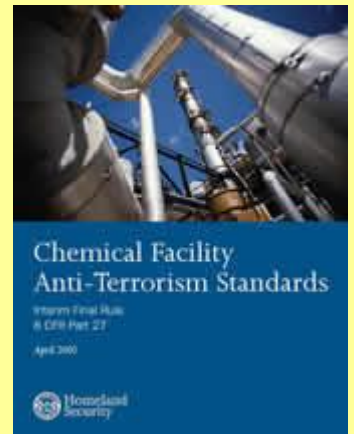
More than 250 of these high-risk facilities are here in Texas, and DHS is onsite daily at facilities across the country making sure that security remains strong and facilities know what to do if there is an incident.

Supporting economic activity and keeping our workers safe are important missions that dovetail

with our own but are covered by other portions of federal, state and local government. DHS' mission is focused on helping facility owners and operators make sure they are protecting their chemicals from an adversary who may deliberately target them in order to attack the United States.

The threat to our nation from terrorism remains. In fact, the FBI has open terrorism investigations in all 50 states, and since 2013, there have been 37 ISIS-linked plots to attack our country. While we have not seen a mass casualty attack on American soil using chemicals in recent years, terrorists continue to demonstrate their deadly interest, attacking facilities overseas in Africa and Europe.

DHS helps prepare for and deter such attacks from taking place in the United States by working with facilities to make sure they understand what chemicals might be targeted and identifying ways to integrate security into their physical and digital infrastructure. In addition



to CFATS, which is focused on the highest-risk facilities, we offer resources that any facility can voluntarily use, including trainings and security assessments.

This week, more than 500 experts in the field of chemical security have gathered in Houston to discuss how we as a nation are protecting our chemicals from terrorists. The Chemical Sector Security Summit, cosponsored by DHS and the Chemical Sector Coordinating Council, is one of the clearest examples of a private-public partnership in the interest of national security. Bringing the summit to Texas, home to a large segment of the chemical industry, is the next step in ensuring that discussion of this critical mission is not limited to Washington boardrooms but includes the men and women we aim to protect.

We cannot do this job alone, nor should we. Members of local communities, emergency responders and businesses around this country are an important part of the fight, and we look forward to their partnership. Congress also plays an important role as we work with them on the continued authorization of this critical security program. The United States is leading the world in chemical security, in large part thanks to the private-public partnership model that has allowed us to foster a culture of chemical security.

We must work together as a team, because the stakes could not be higher.

Bob Kolasky is acting Deputy Under-Secretary of the National Protection and Programs Directorate, U.S. Department of Homeland Security.

Let's not forget Canada's legacy of gas warfare

Source: <https://www.theglobeandmail.com/opinion/lets-not-forget-canadas-legacy-of-gas-warfare/article35759816/>

July 22 – On a blustery night in 1917, a group of bone-weary Canadians crouched in a trench in northern France, rose to check the wind, issued a terse order and reached down to open valves on the steel tanks buried in the mud.

Over the hours that followed, Canada's release of chlorine and phosgene gas would kill or badly injure more than 700 people, mostly their own comrades, who slowly suffocated on their inflamed lungs or were shot by Germans as they writhed in agony.

The horrifically botched **gas raid on Vimy Ridge**, weeks before the better-remembered battle there, was the first significant use of weapons of mass destruction on the battlefield by the Canadian Corps. It would not be the last: Canada would make heavy use of gas, including during the Battle of Vimy Ridge itself, throughout the war, and mass-produce it and test it on human subjects for decades after.

A century ago this month, soldiers were first exposed to the blistering agent known as mustard gas. It would become Canada's signature product over the decades that followed. As University of Alberta historian Susan Smith discovered in research for her new book, *Toxic Exposures*, Canada enthusiastically embraced these weapons in the years before and during the Second World War and turned itself into a nexus for the production and testing of mustard gas, including experiments in Alberta that exposed 2,500 Canadians to the ghastly chemicals.

Canada's shift from a country staunchly opposed to weapons of mass destruction, then almost overnight into a key user and producer, and then back again, is a lesson in how quickly we can abandon our most closely held principles if we do not firmly protect them in law. At a moment when mustard and nerve gases are once again killing people at the hands of Syrian President Bashar al-Assad, we should take this lesson to heart.

It was not, as some would say, that values were different in those days, or that we're applying today's standards to yesterday's decisions. Quite the contrary. Gas warfare had been outlawed by the Hague Conventions of 1899 and 1907. Canadians knew the consequences better than anyone: They had been victims of gas warfare when Germans unleashed chlorine for the first time in April, 1915.

In the wake of that atrocity, the military historian Tim Cook [writes](#), "soldiers [in the Canadian Corps] from the lowest private to the highest field marshal were vehemently opposed to the use of chemicals to suffocate men who had no chance of defending themselves." The decision two years later to turn Canada into a gas-warfare country was opposed by many officers: "Gas was not the weapon of choice, but of desperation," Dr. Cook writes. "Ill-placed faith created delusions which outweighed all logical assumptions."



Once untethered from the bonds of morality and the laws of war, Canada could not let go of its new weapon.

A century after it began, Canada's gas-warfare legacy hasn't ended. **This week, the United States announced that it would clean up the 3,000 unexploded Canadian-made mustard-gas shells that litter the Panamanian island of San Jose, occasionally causing burns to workers who dislodge**



them. Those shells are the legacy not just of Canada's large-scale manufacture of gas-warfare agents during the Second World War, but also of a series of experiments in the 1940s, when Canada and the United States exploded more than **30,000 gas shells on the island to expose hundreds of soldiers** to the gas to test "racial" theories of chemical-weapon resilience that even at the time were considered dubious.

In the decades since, Canada has become a key player in international efforts to ban and restrict the use of inhumane weapons – and has sometimes tried to hide its embarrassing past. This week, David Pugliese, a writer with the Ottawa Citizen, found out using Access to Information requests that Ottawa, in 2001, had declined Panama's request to clean up its mustard-gas sites. Canadian diplomats had warned of the image problem this would create: "At present, we see considerable risk of a public-affairs failure if we were to proceed," one diplomat reported at the time.

As Dr. Smith discovered, Canada's era of gas warfare has left a legacy of suffering, secrecy and ambiguity: "The process of war-making produced human and environmental health consequences at home and abroad, and the toxic legacy still continues to unfold." As we celebrate our military victories, let's not forget our long turn away from humanity on the battlefield.



UK: Man shouts 'acid' as he sprays drinker at Solihull pub

Source: <http://www.bbc.com/news/uk-england-birmingham-40672819>

July 20 – A man shouted "I've got acid" before squirting what is thought to be cleaning fluid in the face of a drinker outside a pub.

He leapt out of a car driving on Main Street in Dickens Heath, Solihull, after a group outside The Chalice shouted at the driver to slow down.

The victim, who managed to throw water on his face from a nearby dog bowl, was unhurt.

The car drove off. It comes after a [spate of acid attacks in London over the past few weeks](#).





A separate man, thought to be the driver of the vehicle, has since been arrested and charged with a public order offence, West Midlands Police said. He is due before magistrates on 16 August. A bottle containing a clear liquid was also recovered.

Officers are appealing to identify the man captured on CCTV squirting the liquid from the bottle outside the pub on Tuesday.

The victim, whose eyes were protected by glasses, did not suffer any burning sensation.

PC Dave Spencer said: "Given the recent spate of acid attacks in London this was a hugely irresponsible act and very scary for the victim.

"The attacker shouted 'I've got acid' but we believe it was actually an ammonia-based cleaning fluid."

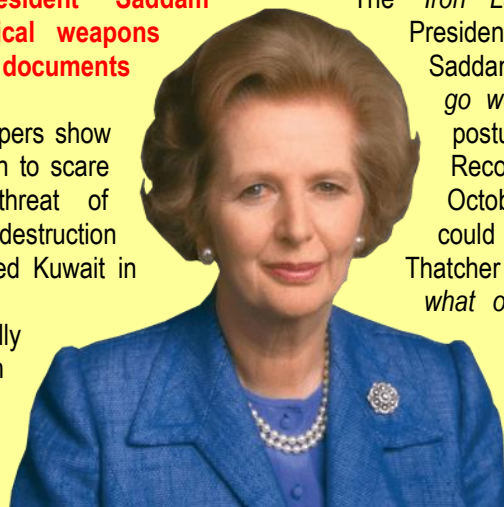
Britain wanted to threaten Saddam's Iraq with chemical weapons

Source: <https://www.rt.com/uk/396969-thatcher-chemical-weapons-saddam/>

July 20 – **Margaret Thatcher, Britain's former prime minister, wanted to threaten the deposed Iraqi President Saddam Hussein with chemical weapons before the Gulf War, documents show.**

The newly-released papers show that Thatcher was keen to scare Saddam with the threat of weapons of mass destruction (WMD) after he invaded Kuwait in 1990.

The plan was eventually headed off by the US, in particular by then-Defense Secretary Dick Cheney, who



later became a key architect of the 2003 Iraq War.

The 'Iron Lady' reportedly told then-US President George Bush Sr that faced with Saddam's aggression it was "no time to go wobbly" as the Western powers postured for a war with Iraq.

Records show that in a meeting in October 1990, amid fears that Saddam could use chemical weapons himself, Thatcher told Cheney: "We had to decide what our response would be. If we wished to deter a CW [chemical weapons] attack by threatening to retaliate in like manner, we



must have CW weapons [sic] available.”

Cheney responded that Bush had a “particular aversion to chemical weapons” and was disposed towards a “massive conventional response to a CW attack” rather than a like-for-like WMD battle.

The exchanges, which were not included in Thatcher’s memoirs, show that her threat at the time to use nuclear weapons was a bluff.

Cheney asked if she “could contemplate the use of nuclear weapons in a Gulf conflict.”

“The prime minister said she would be most reluctant to consider this, indeed she would rule it out, although nuclear weapons were always there as the ultimate deterrent.”

Strikingly, as with Labour PM Tony Blair over a decade later, Thatcher would try and keep her own cabinet out of the loop about the coming war.

In one memo she wrote: “The fewer the people who know, the better. We have bad experience of secret papers leaking.”



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BIO NEWS



Same Army lab in anthrax scare might have also lost small amount of sarin

By Tara Copp

Source: <https://www.stripes.com/news/report-same-army-lab-in-anthrax-scare-might-have-also-lost-small-amount-of-sarin-1.474919#.WVCWjVH-vIX>



An Illinois National Guardsman collects a sample from a sarin lab during a weapon of mass destruction exercise in Peoria, Ill., on June 8, 2014. A report released in June 2017 found that officials at the Army's Dugway Proving Ground in Utah and a contractor that facility was using to care for chemicals did not properly inventory its sarin.

June 22 – **The same Army laboratory that mishandled anthrax in 2015 leading to a nationwide scare might also have lost a small amount of the chemical sarin,** the Pentagon's inspector general has found.

In a report released this month, the inspector general for the Department of Defense found officials at the **Army's Dugway Proving Ground in Utah** and a contractor that facility was using to care for chemicals did not properly inventory its sarin, a nerve agent that can be fatal to humans if they come in contact with it.

Dugway stored its sarin in a two-container system. The sarin was stored in a primary container, which is then stored inside a secondary container. But officials only checked the secondary containers when doing inventory,

and did not check inside the primary container, so they did not know if all the sarin was still in the containers, the inspector general found.

"Therefore, custodians cannot identify and account for leaks, evaporation, or theft that may have occurred," the inspector general found. "Furthermore, Dugway officials did not immediately notify the chemical materials accountability officer of a 1.5-milliliter shortage of ... sarin identified during an April 19, 2016, inventory nor did they properly document the results of that inventory," the investigation found.

Dugway and its contractor also used different methods to seal the containers, the inspector general found.



“Dugway used stainless steel cylinders and ammunition cans sealed with tamper evident seals; and the contractor used re sealable plastic containers sealed with tape, which provides no assurance that only authorized personnel had access,” the investigation found. It would be difficult to tell whether sarin was removed from the facility or it evaporated, due to the amount that was reported missing and how it reacts with the environment, said Dan Kaszeta, a former Army chemical weapons specialist and now the managing director of Strongpoint Security, a chemical weapons consultancy based in the U.K.

“1.5 [milliliters] is actually rather a small amount,” Kaszeta said. “Yes, it could kill somebody, but as sarin evaporates very quickly and also degrades very quickly.”

It would not last long if it got out of one of the containment jars, he said.

That amount is small enough that it could be within the margin of error for measuring it,

depending on what technique was used, Kaszeta said.

Bruce Anderson, a spokesman for the inspector general's office, said the investigation recommended a new inventory of all the chemicals at Dugway be completed to establish a new system to better track dangerous substances.

“We found conditions that increased the risk that chemical agent operations are not conducted in a safe, secure and reliable manner,” Anderson said. “We believe that the Army should address the increased risk by quickly implementing corrective actions.”

Dugway is the same facility that was the source of a nationwide scare in 2015 after it was reported the facility had inadvertently shipped hundreds of samples of live anthrax to medical labs in all 50 states and nine other countries when the samples were supposed to be inactive. The top officer at Dugway at the time, then-Col. William King, was issued a career-ending reprimand following the incident.

Tara Copp is a Pentagon correspondent for Stars and Stripes. She previously covered DOD for the Washington Examiner, Jane's Defense Weekly and Scripps Howard News Service. She was a senior defense analyst for seven years at the GAO and worked in Iraq, Afghanistan, Kuwait, Oman, Bahrain and Qatar in that capacity. Prior to that, she was one of the initial embedded reporters in Iraq in 2003. Tara is a Plan II graduate of the University of Texas-Austin, where she was editor of The Daily Texan. She earned her master's degree from Georgetown University in Security Studies.

Yemen facing 'worst cholera outbreak in the world' – UN, WHO

Source: <https://www.rt.com/news/394001-cholera-outbreak-yemen-un/>

June 25 – Yemen is now facing the “worst cholera outbreak in the world,” with some 5,000 suspected cases arising each day, UNICEF and the World Health Organization (WHO) announced in a joint statement, adding that 1,300 people have died from the illness.



“In just two months, cholera has spread to almost every governorate of this war-torn country,” the Saturday [statement](#) reads, noting that more than 200,000 suspected cases of cholera have been recorded.

“Already more than 1,300 people have died – one quarter of them children – and the death toll is expected to rise,” it continues.

The statement says that **14.5 million people have been cut off from regular access to clean water and sanitation**, which increases the ability of cholera to spread.



The two organizations said that they, along with their partners, are “*racing to stop the acceleration of this deadly outbreak*” by working to detect and track it, and by providing clean water, adequate sanitation, and



medical treatment.

“*Rapid response teams are going house-to-house to reach families with information about how to protect themselves by cleaning and storing drinking water,*” they report.

The statement also notes that **an estimated 30,000 local health workers, who play the largest role in fighting the outbreak, have not received their salaries in 10 months, and urged for their wages to be paid.**

The organizations blame the outbreak on two years of heavy fighting in the war-torn country, where a battle between Houthi rebels and forces loyal to ousted President Mansur Hadi has led to the deaths of thousands.

Attempts by the Saudi-led coalition to drive back the Houthis have only added to the plight of the people, with several leading organizations [telling](#) RT last month that the bombing campaign led by Riyadh is responsible for the cholera outbreak.

“*We call on all parties to end this devastating conflict,*” the Saturday statement concludes.

“WE FORGET THAT THE WATER CYCLE AND THE
LIFE CYCLE ARE ONE.”

JACQUES YVES COUSTEAU



How many cells are in the human body?

Ead at the end of this chapter for the answer!



Modern Medicine and the Islamic State

By Jacob L. Shapiro

Source: <https://geopoliticalfutures.com/modern-medicine-islamic-state/>

June 27 – **On June 8, the World Health Organization announced a polio outbreak in Syria.** According to the WHO, the virus is confirmed to have caused two cases of paralysis in March, and a specimen collected in al-Mayadin, the Islamic State's new capital, was confirmed to be polio in April. The WHO then said June 20 that there were at least 17 cases of polio-related paralysis in the country and that the number may climb. According to the Centers for Disease Control and Prevention, only between 0.1 percent and 1 percent of those infected with polio experience paralysis. We don't know how many people in IS-held parts of eastern Syria have contracted the disease, but we do know that the number of confirmed cases likely only scratches the surface of the number infected. And if certain steps aren't immediately taken, the extremely contagious disease could spread fast.

At the simplest level, the appearance of polio in Syria (or of a cholera epidemic in Yemen, which the WHO described last week as "the worst cholera outbreak in the world") is a sign that the political strength of groups like the Islamic State is crumbling. Things have gotten so bad in IS-held territory that the most basic health services are unavailable. But there is also a deeper point to be made here about the nature of political power in the modern world and the Islamic State's relationship to it.

War on Vaccines



A Syrian child receives a vaccination against polio during a campaign organized by the Syrian Arab Red Crescent in the rebel-held area of eastern Ghouta, on the outskirts of the capital Damascus, on Feb. 22, 2015. ABD DOUMANY/AFP/Getty Images

This isn't Syria's first polio outbreak since its civil war started in 2011. **In October 2013, cases of polio were confirmed in Deir el-Zour and Aleppo.** That outbreak was largely contained: There were only 36 confirmed polio cases in 2013 and 2014 in the country. The Syrian government had more control over the infected areas at the time and worked with Turkey and others to put a stop to the disease's spread. The same strain appeared in a few cases in Iraq around the same time, but the Iraqi government mounted an effective nationwide vaccination drive, and the country hasn't seen a new case in

three years. In March 2017, the WHO issued a statement announcing a new vaccination drive throughout Iraq in which it specifically praised the ministries of health in Iraq and the Kurdistan Regional Government for their effective responses to the virus. Iraq is really a country only in name at this point, but its constituent parts still function on a regional level. The same can't be said of Syria.

The strain seen in Syria's 2013 outbreak closely resembled strains circulating in Pakistan and was likely imported. (Pakistan and Syria make up half the countries that still have confirmed cases of polio in 2017; the other two are Afghanistan and the Democratic Republic of the Congo.)

According to the WHO, however, the strain behind the latest outbreak came from the vaccine itself. The form of the polio vaccine administered in Syria is a weakened form of the virus, and in areas with significant immunity gaps or poor sanitation, the weakened virus can mutate and spread to those without protection. The CDC says infant vaccination levels in Syria declined from 83 percent in 2010 to as low as 47 percent just two years later, which creates a significant gap of immunity in the population. The polio vaccine can grant immunity, but without a coherent plan for the entire region or state, it can also spread the disease.

In both of Syria's polio outbreaks, the cases have been concentrated



in areas outside of the regime's control – in rebel- and IS-held territories. This is no coincidence. In March, an article in a medical journal called *The Lancet* accused all participants in the Syrian civil war of targeting health care professionals but singled out Bashar Assad's regime for attacking health facilities in rebel- and IS-held areas as a tactic of war. Physicians for Human Rights, a U.S.-based nongovernmental organization, noted that at the height of the battle for Aleppo, there was only one physician left for every 7,000 residents. Before the war, there was one physician for every 800 residents. Whether the Assad regime has deliberately targeted health care professionals or not, the effect is the same: Public health services in areas outside the regime's control have been decimated, with predictable results.

Selective Modernity

There may be no better symbol of Western scientific progress than vaccines. Most grade-school children in the West learn about an English medical student named Edward Jenner, who, in 1796, noticed that milkmaids who contracted a disease called cowpox never contracted smallpox. Through observation and experimentation, Jenner confirmed his hunch, and immunology was born.

The Enlightenment was about many things, but one of the most fundamental was conquering nature. Science became a means by which humans could bend nature to serve human necessity and even desire. People no longer were constrained by how much food could be grown on a given plot of land, or by the ravages of deadly diseases, or even by the religion of their parents. It's important to remember just how profoundly heretical these ideas were perceived by some at the time. They posited that divine caprice was just a euphemism for ignorance, and that knowledge could set the world free.

Islamists – and really devout Muslims, for that matter – have accepted this basic premise more

than is appreciated. They don't reject modernity outright; they are just selective about which parts they integrate, the same as all religions. Consider that according to *The Lancet* article, IS actually tried to recruit doctors and managed to set up "a functioning health system with modern facilities and equipment." Jihadists don't want their kids to contract polio either. Some Pakistanis in the tribal belt along the Afghan border, where Pakistan's polio outbreaks have occurred and where society is generally more religious, have had their doubts about vaccines and Western science, but their suspicions stem from the belief that vaccination was used in a CIA plot to kill Osama bin Laden – that an enemy was contriving to use the health of their children for political ends. Islamism is a modern phenomenon with modern concerns, even if it dresses itself in the garb of a glorious and imagined past.

What made the Islamic State's caliphate unique was that it hoped to combine jihad and fundamentalist Shariah in a polity with modern governing institutions. It failed. If conditions in IS-held territory are so bad that the group can't contain the spread of polio, obedience from the local population, even at gunpoint, won't last long.

But a much deeper point needs to be made. Islamism is not at war with modernity so much as it wants to bend modernity to its own political purposes. Not even a group as fanatical as IS wants to stick its head in the sand and leave things to fate. The Islamic State wants power, and in the modern world, part of the power of the state is in regulating a reliable public health system. Parts of Syria and Yemen now exist where no one has that power any longer. In the long term, this is a positive development if the goal is the eradication of the Islamic State. But in the short term, it means that many civilians will suffer. Disease and war are and always have been inextricably linked. Modern science figured out how to eradicate polio. But there is no cure for war.

Jacob L. Shapiro is a geopolitical analyst at Stratfor that has been with the company for five years. In addition to writing frequently for Stratfor on political, economic and security trends in the Middle East, Mr. Shapiro maintains broad interests not only in global geopolitics but also in intellectual history, philosophy and religion. Mr. Shapiro holds a bachelor's degree with distinction from Cornell University in



Near Eastern Studies. During a recent two-year hiatus from Stratfor, he earned a master's degree with distinction from the University of Oxford in Jewish Studies and was an Education Fellow at Mechon Hadar in New York City. For his dissertation on Leo Strauss, Abraham Joshua Heschel and Maimonides, Mr. Shapiro was awarded the Oxford Centre for Hebrew and Jewish Studies' David Patterson award. Mr. Shapiro has appeared on MSNBC, CNN and NPR as a featured contributor, and his writing has appeared in various newspapers and magazines in addition to Stratfor.

A Nation Unprepared: Bioterrorism and Pandemic Response

By John Foley

Arthur D. Simons Center for Interagency Cooperation, Fort Leavenworth, Kansas

Features pp.25-35

Source: <http://thesimonscenter.org/wp-content/uploads/2017/05/IAJ-8-2-2017-pg25-33.pdf>

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The U.S. military had worked with highly infectious agents like Ebola for many years. Treating highly infectious patients required the highest isolation standards. In 1978, the U.S. military developed a patient transport capsule that could safely contain an individual exposed to highly infectious diseases like Ebola. These isolation capsules were part of the **Aeromedical Isolation and Special Medical Augmentation Response Team (AIT-SMART)**. An AIT-SMART team could transport one infected patient directly into a Biosafety Level 4 (BSL-4), the biosafety level at which the deadliest pathogens can be safely contained, and two such teams could be deployed simultaneously³. Given the number of persons likely to be affected by any bioterrorist attack, the idea that this capability could be applied to a mass-infection scenario seems almost farcical. When AIT-SMART teams were retired in 2010 and replaced by U.S. Air Force Critical Care Air Transport Teams (CCQTs), patient capacity expanded from one to five ventilator patients or ten less-critical patients. Naturally, even this tenfold capability increase did nothing to address the mass-infection problem.

³ George Christopher, “Air Evacuation under High-Level Biosafety Containment: The Aeromedical Isolation Team,” *Emerging Infectious Diseases*, Vol. 5, No. 2, 1999, pp. 241–242.

►► Read the full paper at source's URL.

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New gene-editing tool could cure disease. Or customize kids. Or aid bioterrorism.

By Jerry A. Coyne

Source: https://www.washingtonpost.com/opinions/new-gene-editing-tool-could-cure-disease-or-customize-kids-or-aid-bioterrorism/2017/06/28/fbe33258-463e-11e7-bcde-624ad94170ab_story.html

June 29 – Some of the greatest benefactors of our species are not the recognized do-gooders but those paid to satisfy their curiosity: the scientists. Such pure and unsullied inquiry has yielded thousands of valuable byproducts, including antibiotics, vaccinations, X-rays and insulin therapy.

Jennifer Doudna and Samuel Sternberg's "[A Crack in Creation](#)" describes another fortuitous discovery, a method that promises to revolutionize biotechnology by allowing us to change nearly any gene in any way in any species. The method is called CRISPR,



pronounced like the useless compartment in your fridge. In terms of scientific impact, CRISPR is right up there beside the double helix (1953); the ability, developed in the 1970s, to determine the sequence of DNA segments; and the polymerase chain reaction, a 1980s invention that allows us to amplify specified sections of DNA. All three achievements were recognized with Nobel Prizes. CRISPR — developed largely by Doudna and her French colleague Emmanuelle Charpentier — also has a strong whiff of Nobel about it, for its medical and practical implications are immense.

The story of CRISPR is told with refreshing first-person directness in this book. (Sternberg was Doudna's student, but the book uses Doudna's voice.) It is not often in science writing that the actual discoverer puts pen to paper — rather, the story is usually told by a science writer or colleague — so this insider account is especially engaging.

CRISPR, an acronym for “clustered regularly interspaced short palindromic repeats,” is a way to edit DNA. With CRISPR, we can change a sequence from ATTGGCG to ATTGGGG or to CCCCCC, or to anything else. There are other recently developed ways to do this, but they are uniformly unwieldy, time-consuming and inefficient. The joy of CRISPR is that it allows us to edit genes painlessly: It is easily applied and seems to work well in whatever species or cell type we choose.

The history of CRISPR is a prime example of the unexpected benefits of pure research, for it began with a handful of curious scientists not intent on changing the world. In the late 1980s, scientists observed a bizarre section of DNA in some bacteria, consisting of short, identical and repeated “palindromic” sequences that read the same way backward and forward (e.g., CATGTTGTAC). The repeated palindromes were separated by 20-letter segments of unique DNA, segments eventually found to come from viruses that infect bacteria. People soon realized that the CRISPR region was the bacterium's immune system against dangerous viruses.

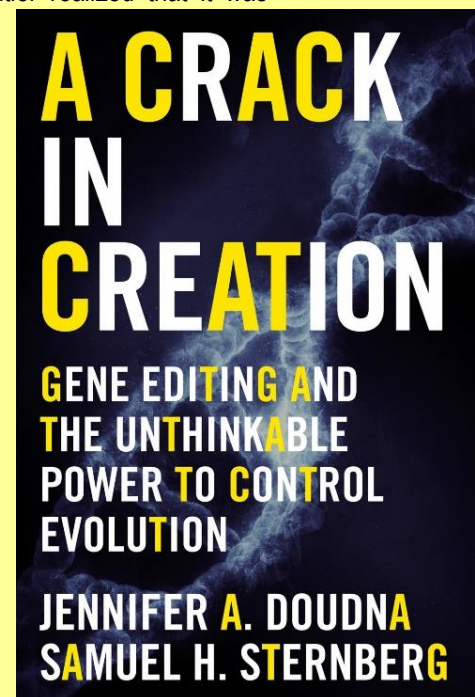
CRISPR helps bacteria “remember” previous viral attacks and thus prepares them for future attacks by the same virus. This is analogous to our immune system, which also “remembers” intruders: If you have had measles once, you

won't get it again because the first exposure preps the immune system for subsequent exposures. The way bacteria do this is by storing a segment of the virus's DNA from the first attack. When the same kind of virus strikes again, the bacterium recognizes that the alien DNA segment has reappeared by matching the stored segment to the intruder DNA. Having identified the intruder as a bad guy, the bacterium can snip up, i.e., destroy, the intruder's DNA, guided by the same stored-DNA/intruder-DNA match.

Doudna and Charpentier realized that it was possible to subvert the CRISPR system: Instead of viral intruder DNA, we can use the DNA sequence we're interested in (say, one causing a genetic disease), with the result that CRISPR snips up any and all DNA molecules with the target sequence. Once DNA is snipped up, there are ways to repair it using a different sequence, including a version of the gene that does not produce disease. Presto: gene editing and a path to designer genes.

Rewriting genes has the potential to cure many genetic illnesses. People suffering from sickle-cell disease, for instance, have just a single mutated “letter” in the DNA coding for their hemoglobin. It shouldn't be hard for CRISPR to replace that letter in embryos or bone marrow, curing the millions who suffer from this devastating malady.

But that's just one of myriad possible edits. CRISPR can in theory cure any disease caused by one or a few mutations: not just sickle-cell but Huntington's disease, cystic fibrosis, muscular dystrophy or color blindness. We could cure AIDS patients by editing out the HIV viruses that hide in their DNA. By editing early embryos, we could reduce the



incidence of genetically influenced diseases such as Alzheimer's and some types of breast cancer. We could make cosmetic changes in our children, altering their hair and eye color or even, in principle, their height, weight, body shape and intelligence. None of this has been tried in people, but since CRISPR works well in human cell cultures, it seems just a matter of time.

Turning to other species, we could genetically engineer either pigs or people so we could transplant pig organs into humans without activating our immune response. We've used CRISPR to make virus-resistant farm animals, and we can now engineer insecticide-making genes into the DNA of crops, eliminating the need for dangerous sprays. As the book title implies, CRISPR allows us to bypass or undo evolution without relying on the hit-or-miss methods of selective breeding.

But of course DNA editing also raises ethical issues, and these occupy the final quarter of the book. Doudna worries about the return of Nazi-style eugenics and even had a dream about Hitler asking her for CRISPR technology. Should we engage only in "somatic" gene editing: changing genes in affected tissues where they can't be passed on to the next generation? Or should we also do "germline" editing, changing early embryos in a way that could be transmitted to future generations? While that conjures up the bad old days of eugenics, it is in fact the only way to repair most "disease genes." But if we do that, should we stick to fixing genes that would debilitate the offspring, as with sickle-cell disease, or should we also change genes that merely raise the possibility of illness: those that could produce high cholesterol or heart disease?

Things get even more slippery. Should we edit the embryos of deaf parents to produce deaf offspring, so that their children can participate in "deaf culture"? And — the ultimate taboo — genetic enhancement: Should we give our children a leg up in looks or intelligence? That, after all, will provide genetic advantages only to those who can afford the technology.

Finally, how do we keep the technology out of the hands of bioterrorists? Cheap and simple CRISPR kits are now [sold on the Internet](#), allowing anyone to edit the genes of bacteria. The nightmarish prospect of engineered diseases looms. While it's good to consider all these questions before the technology is widely available, Doudna and Sternberg come to few conclusions, and their extended vacillating is the book's sole flaw.

Alongside the ethical quandaries come commercial ones. There is a great deal of money to be made through the licensing of CRISPR technology. We have already seen a [protracted patent battle](#) between Doudna's employer, the University of California, and Harvard/MIT's Broad Institute, home to Feng Zhang, who was largely responsible for converting CRISPR from a device for editing bacterial genes into a lab-friendly tool that works in human cells. There is a lot at stake.

And this brings us to an issue conspicuously missing from the book. Much of the research on CRISPR, including Doudna's and Zhang's, was funded by the federal government — by American taxpayers. Yet both scientists have started biotechnology companies that have the potential to make them and their universities fabulously wealthy from licensing CRISPR for use in medicine and beyond. So if we value ethics, transparency and the democratization of CRISPR technology, as do Doudna and Sternberg, let us also consider the ethics of scientists enriching themselves on the taxpayer's dime. The fight over patents and credit impedes the free exchange among scientists that promotes progress, and companies created from taxpayer-funded research make us pay twice to use their products.

Finally, let us remember that it was not so long ago that university scientists refused to enrich themselves in this way, freely giving discoveries such as X-rays, the polio vaccine and the Internet to the public. The satisfaction of scientific curiosity should be its primary reward.

Jerry A. Coyne is professor emeritus in the Department of Ecology and Evolution at the University of Chicago. He is the author of "[Why Evolution Is True](#)" and "[Faith vs. Fact: Why Science and Religion Are Incompatible](#)."





MONKSHOOD



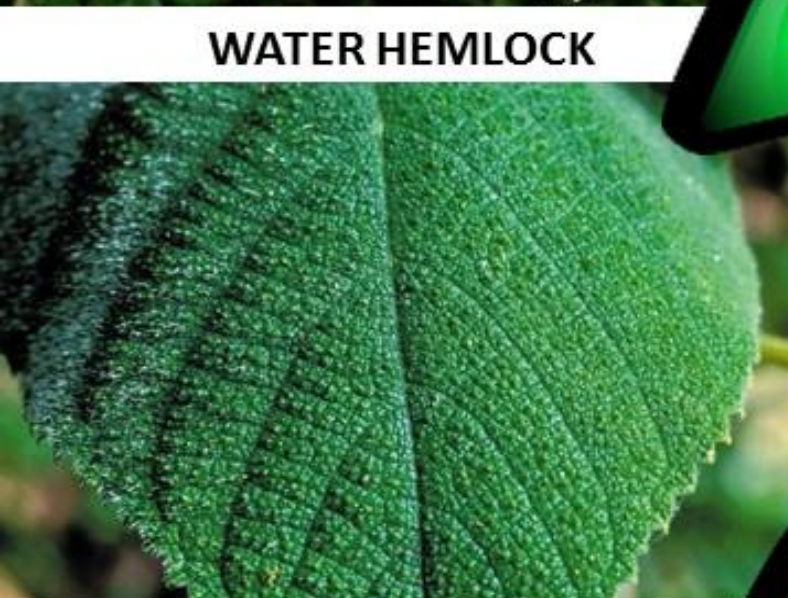
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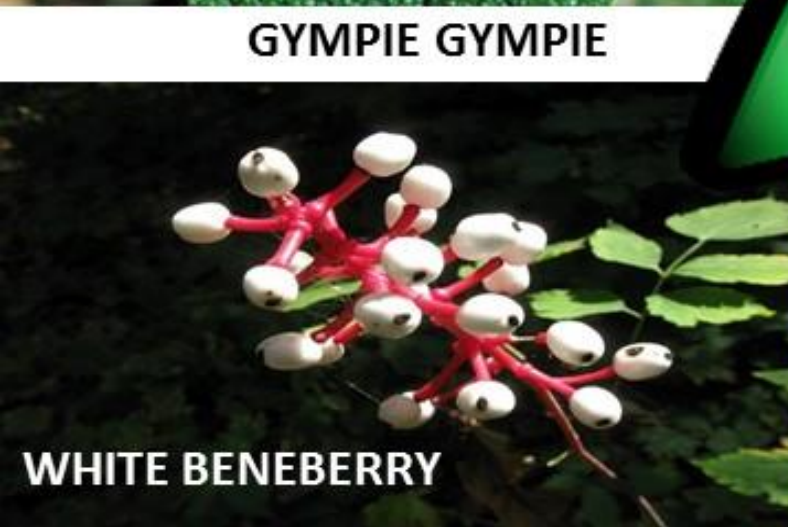
ANGELS TRUMPET



GYMPIE GYMPIE



GIANT HOGWEED



WHITE BANEERRY



BIRTHWORT

Combination Therapy for Lassa Fever

By Amesh A. Adalja, MD, FACP, FACEP, FIDSA

Source: <https://academic.oup.com/cid/article/doi/10.1093/cid/cix406/3883726/Favipiravir-and-Ribavirin-Treatment-of>

June 30 – Lassa fever, a member of the viral hemorrhagic fever class of viruses, is endemic in parts of Africa and causes a considerable burden of disease. The standard treatment involves the use of intravenous ribavirin. The advent of novel antivirals, however, has provided an opportunity to test novel agents and combinations of agents against the virus. A report by the Emory Serious Communicable Diseases Unit, CDC, and others, recently published in *Clinical Infectious Diseases*, details the experience of combination therapy in patients infected with the virus.

Two secondary Infections

In this report, the events are described surrounding the secondary infection of 2 individuals from an index patient infected in Togo who was later evacuated to Germany, where he died. The secondary infections occurred in 1 person providing nursing care to the index patient in Togo and another who was a mortician who worked with the index patient's corpse in Germany. The patients were treated in Emory's Serious Communicable Diseases Unit and Frankfurt University's High-Level Isolation unit.

Both patients received combination therapy with intravenous ribavirin and oral favipiravir--a broad-spectrum RNA virus antiviral used for influenza in Japan and experimentally against Ebola. Both patients experienced a decline in viral load; however, without controls, it is difficult to say what effect the antiviral combination had. Favipiravir was stopped in both patients secondary to nausea and increasing liver transaminase levels. Transaminase levels declined after cessation of favipiravir therapy. Interestingly, both patients exhibited persistent viral presence in semen, a sanctuary site where immune surveillance is diminished.

Novel Combinations Merit Further Study

This short report provides evidence that an opportunity exists to augment care for those infected with highly pathogenic viruses acquired in resource-limited settings. Though it is unclear what benefit--and what risk--was conferred by the administration of favipiravir, this experience illustrates that such studies are possible and needed. Future studies with controls will help delineate what benefit is conferred by favipiravir and allow a risk-benefit calculation to be performed given the side effects reported.

The Ebola outbreak demonstrated that effective therapies for high-consequence infectious diseases were desperately needed, and a report such as this is an important step toward optimizing antiviral therapy for this class of infections.

Reference: *Raabe VN, Kann G, Ribner BS, et al. Favipiravir and ribavirin treatment of epidemiologically linked cases of Lassa fever. Clin Infect Dis June 22, 2017.*

Anthrax: DoD Develops Biological Select Agents and Toxins Surrogate Solution

Source: <https://globalbiodefense.com/2017/06/21/anthrax-dod-develops-biological-select-agents-and-toxins-surrogate-solution/>

June 21 – The Defense Biological Product Assurance Office (DBPAO), a component of the [Joint Program Executive Office for Chemical and Biological Defense](#), has announced the development of a Biological Select Agents and Toxins (BSAT) surrogate solution that will mitigate the risks associated with shipment and use of *Bacillus anthracis*.



In addition to risk mitigation for Department of Defense (DoD) stakeholders and the community at large, this product demonstrates DBPAO's commitment to providing quality reagents to the DoD and to the biodefense community.

In 2015, former Secretary of the Army (SECARMY), John McHugh, placed a moratorium on the production, shipment, and handling of any live or inactivated BSAT or BSAT derivative at Dugway Proving Ground and subsequently extended the moratorium to all other DoD laboratories and facilities.

McHugh's successor, former SECARMY Eric Fanning, issued [Army Directive 2016-24 \(Department of Defense Biological Select Agent and Toxins Biosafety Program\)](#) in July 2016, assigning responsibilities and functions of the DoD BSAT Program to the Army Surgeon General allowing the resumption of production, shipment, and handling of non-BSAT materials. Under this mandate, the DBPAO assumed the responsibility of exploring alternatives to substitute for BSAT and BSAT-related products that mitigate hazards associated with their use.

To accomplish this task, the DBPAO developed a *Bacillus anthracis* surrogate strain named Recombinant *Bacillus anthracis* with Assay Targets (rBaSwAT) using a recombinant DNA approach to create a BSL-2-level genetically modified organism that will allow continuation of operations with reduced risk.

The strain is built in a novel, non-virulent *Bacillus anthracis* background and carries a comprehensive complement of anthrax specific molecular and immunological markers.

Even though rBaSwAT has the required markers to replace *Bacillus anthracis* in operations, it remains non-virulent. rBaSwAT was developed specifically for this effort, is user specific and may not work for all end-users. However, it may be further modified with additional or alternate user-specific assay signatures to create a panel of non-virulent strains relevant to current DBPAO costumers.

These modified novel *Bacillus anthracis* strain panels can be used as a surrogate for *Bacillus anthracis* by end users in a variety of applications.

Dr. Shanmuga Sozhamannan, the technical coordinator of the DBPAO as well as the driving force behind the DBPAO surrogate solution, led the following team of government scientists who proved integral to the success of this solution:

Naval Medical Research Center

Contribution: Design of the construct; assay testing; spore inactivation; and final product validation.

- Dr. Joan Gebhardt
- Dr. Mark Munson

United States Army Medical Research Institute of Infectious Disease

Contribution: Animal study and characterization.

- Dr. Chris Cote
- Dr. Dave Rozak
- Dr. Terry Abshire

Edgewood Chemical Biological Center

Contribution: Whole genome sequencing.

- Dr. Cory Bernhards
- Dr. Nicole Rosenzweig
- Ms. Rebecca Rossmair
- Ms. Tracey Biggs

Naval Surface Warfare Center

Contribution: Spore production and bridging studies.

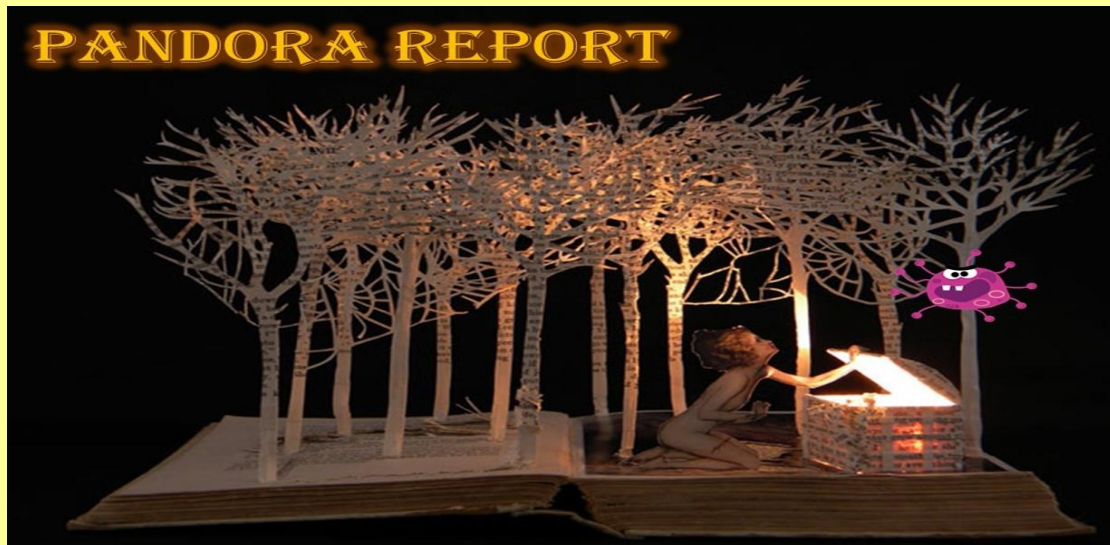
- Dr. Tony Buhr
- Dr. Linda Beck
- Dr. Andrea Staab



Food and Drug Administration

Contribution: Genetic manipulation and strain construction.

- Dr. Roger Plaut
- Dr. Scott Stibitz



The rBaSwAT surrogate, developed by the DBPAO, is an innovative solution that represents the future of the DBPAO's approach to mitigate the risks associated with inactivated, virulent pathogens. A scientifically proven alternative to the use of *Bacillus anthracis*, this surrogate solution will provide significant hazard reduction in research, development, and testing initiatives.

In addition, surrogate use has the potential to reduce costs by eliminating the burdens associated with safely and securely shipping and using BSAT. rBaSwAT is the first step by the DBPAO to provide surrogate solutions for BSAT use that will reduce the costs and mitigate the risks for the DoD and all DBPAO customers.

The rBaSwAT surrogate is available through the [DBPAO Ordering System for Assays and Reagents \(OSCAR\)](#).

Blog maintained by students and faculty of the [George Mason University Biodefense program](#).

The Growing Threat of Pandemics: Enhancing Domestic and International Biosecurity

A Scowcroft Institute of International Affairs White Paper

March 2017

Source: <http://bush.tamu.edu/scowcroft/white-papers/The-Growing-Threat-of-Pandemics.pdf>



Ignore Bill Gates: Where bioweapons focus really belongs

By Filippa Lentzos

Source: <http://thebulletin.org/ignore-bill-gates-where-bioweapons-focus-really-belongs10876>

July 03 – **Bioterrorism seems to be back in fashion.** In the past, it has received bursts of attention that arose from particular incidents—the “anthrax letters” sent through the mail to US politicians and media outlets in 2001, for instance, or the [purchase of plague bacteria](#) by white supremacist Larry Wayne Harris in 1995. This time, it's an unlikely individual calling attention to the bioterror threat—Bill Gates, the Microsoft founder turned philanthropist. Over the last several years, the world's richest man has spent vast sums of money on global health, and in the last few months he has turned his attention to bioterrorism. At a high-profile security summit in Munich in February, he [warned that bioterrorism could kill tens of millions](#). At a London security meeting



a couple of months later, he said terrorists could [wipe out 30 million people by weaponizing a disease such as smallpox](#).

I disagree. At a stretch, terrorists taking advantage of advances in biology might be able to create a viable pathogen. That does not mean they could create a sophisticated biological weapon, and certainly not a weapon that could kill 30 million people. Terrorists in any event tend to be conservative. They use readily available weapons that have a proven track record—not unconventional weapons that are more difficult to develop and deploy. Available evidence shows that few terrorists have ever even contemplated using biological agents, and the extremely small number of bioterrorism incidents in the historical record shows that biological agents are difficult to use as weapons. The skills required to undertake even the most basic of bioterrorism attacks are more demanding than often assumed. These technical barriers are likely to persist in the near- and medium-term future.

Gates does a disservice to the global health security community when he draws media and policy attention to amateurs such as terrorists. Where biological weapons are concerned, the focus should remain on national militaries and state-sponsored groups. These are the entities that might have the capability, now or in the near future, to develop dangerous biological weapons. The real threat is that sophisticated biological weapons will be used by state actors—or by financially, scientifically, and militarily well-resourced groups sponsored by states.

So far, state-level use of biology to deliberately inflict disease or disrupt human functions has been limited by the strong international norm against biological weapons enshrined in the [1925 Geneva Protocol](#) and the [1972 Biological and Toxin Weapons Convention](#). These two biological cornerstones of the rules of war uphold the international prohibition against the development, production, stockpiling, and use of biological weapons. But this norm may not survive indefinitely.

Another factor significantly limiting the use of biological weapons is their lack of perceived military utility. In the near-to-medium term, however, advances in science and technology may enable the development of more capable and more accessible biological weapons. These weapons might allow attacks to be targeted more precisely. Attribution would become more difficult. These technical developments—paired with changes in the social context around biological weapons—may lower barriers to the development and use of biological weapons.

Technical advances

Several current advances in science and technology are particularly prone to misuse in bioweapons. For example, new developments in microbiological, immunological, and epidemiological research could lead to the production of more “useful” bioweapons. **The pathogenicity or virulence of pathogens can now be increased. Immunity against pathogens can be disrupted, and resistance to prophylactic or therapeutic interventions can be conferred. The host range of a pathogen can be altered, enhancing a host population’s susceptibility to a pathogen, or increasing the stability and transmissibility of a pathogen.**

Gene editing and engineering technologies form another area of concern. These technologies could, for instance, enable the construction of dangerous pathogens from scratch, assist in the design of modified or radically new pathogens, or permit the reconstitution of an eradicated or extinct pathogen. Pharmacogenomics and genomic biomarker research could tailor drug responses to particular genetic groups, and might enable selective and more precisely targeted “genetic weapons.” Neurobiological research could enable the precise manipulation of bioregulators such as hormones, neurotransmitters, or signalling factors, which would then function as biological weapons controlling vital homeostatic systems such as temperature, sleep, blood pressure, heart rate, and immune response. Finally, new technologies could improve the yield, speed, or availability of bioweapons production; enhance the capabilities of sprayers or drone swarms; facilitate the use of non-living vectors such as nanomaterials; enhance delivery platforms for getting pathogens, molecules and drugs into the body; and advance self-assembled nanodevices and DNA origami (that is, complex nanostructures created by folding DNA) with the potential to transport biomolecules to targets within the body.



Changing social context

At the same time, a number of factors are converging to lower barriers to biological weapon development and use. First is the shifting geopolitical environment. Over the last quarter-century, the United States has clearly been the world's dominant power. Now the unipolar global power structure is evolving into an increasingly multipolar international system. The most clearly rising power today is China, but there are others: India and Brazil, to name two. In this new world order, contemporary norms, international structures, and enforcement mechanisms largely shaped by Washington are likely to change, and treaties such as the Geneva Protocol and the Biological and Toxin Weapons Convention may start to lose their significance.

A second factor lowering barriers is the evolving nature of conflict and warfare. The character of military challenges that confront states is changing. Hybrid warfare—which blends conventional warfare with subversive, irregular warfare and cyber warfare—is increasingly likely to complement classic military confrontation. Under these conditions, with uncertainty and insecurity growing, some states may develop novel bioweapons for covert use in small-scale operations; in such instances, it would be hard to confirm or attribute use of biological weapons. Likewise, states may develop novel biological weapons for overt use against unprepared adversaries when they become involved in conflicts so serious that the advantages of using banned biological weapons are perceived to outweigh the political costs and military risks of resorting to proscribed weapons. Also, states outmatched by adversaries in conventional weaponry might see novel bioweapons as a way to gain asymmetric advantages and compensate for strategic imbalances.

How to defend?

Because of the changing technical and social contexts around biological weapons today, the risk is very real that barriers to biological weapon development and use will be lowered. The international community must respond to this threat decisively.

First, the Biological and Toxin Weapons Convention [must be modernized](#) and its growing irrelevance countered. The treaty was agreed in 1972, deep in the Cold War; its relevance for the 21st century now must be assured. The norm against biological weapons embodied within the treaty is exceptionally strong. No state openly admits to pursuing a bioweapons capacity, and membership in the treaty continues to grow. But while the treaty is not failing, it is not flourishing either, and it needs strengthening.

Second, any breaches in the norm against biological weapons, or any actual use of biological weapons, must be met with a collective and convincing response. The continual use of chemical weapons in Syria has had a deteriorating effect on the norm against the use of those weapons. The international community must redouble its efforts to ensure that the same thing does not happen with biological weapons. Likewise, the international community must increase its capacity to investigate allegations of use. If methods for attributing or confirming who was behind an attack are enhanced, the operational advantages of “stealth” biological weapons may be reduced.

Finally, national biodefense capacities must be developed. If good ways of defending against future biological weapons existed, these weapons would become less attractive. But biodefense efforts must be transparent—it is in biodefense that the potential is greatest for permitted activities to cross the line, inadvertently or intentionally, into prohibited activities. States with biodefense programs, therefore, [have a special responsibility](#) to demonstrate that their programs are not used as cover for offensive programs—and also to ensure that their programs are not *perceived* as cover for anything offensive, as this might provide other states with a justification for initiating or continuing their own offensive warfare programs.

States with biodefense programs must therefore:

- Ensure that their biodefense activities are subject to stringent biosafety and biosecurity regulations, enshrined in national law.
- Enact national legislation implementing the Biological and Toxin Weapons Convention.
- Ensure via regular review that their biodefense activities are in compliance with the convention.



- Annually declare their biodefense programs in confidence-building submissions to the convention, and also [increase transparency](#) by participating in interactive information exchanges such as on-site peer review exercises with other states.

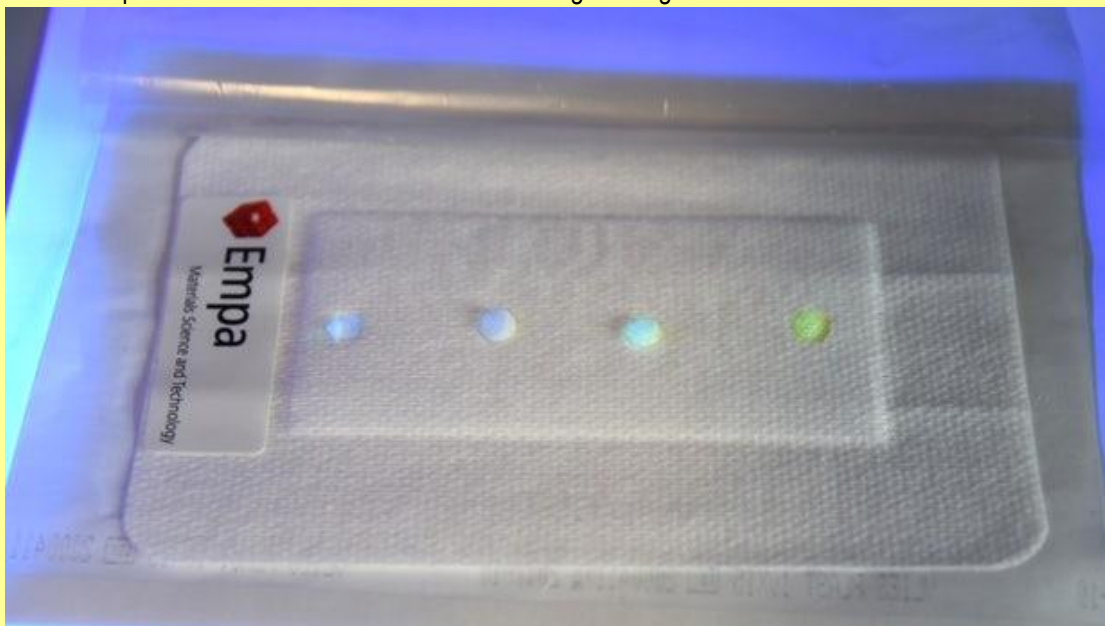
Bill Gates means well. But the right intentions and a lot of money don't necessarily make people safer from bioweapons. Indeed, amid the very real bioweapons dangers that may emerge in the coming years, drawing attention to misplaced concerns about bioweapons in the hands of terrorists may only make the world less secure.

Filippa Lentzos is a senior research fellow jointly appointed in the Departments of War Studies and of Global Health and Social Medicine at King's College London. Her research focuses on biological threats and on the security and governance of emerging technologies in the life sciences.

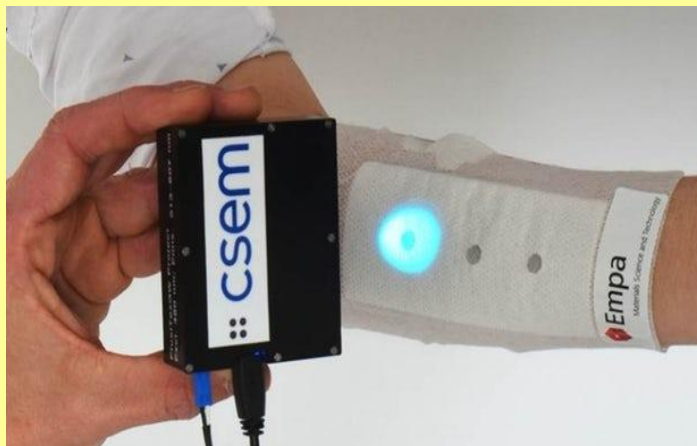


High-tech wound dressing glows if it has to go

Source: <http://newatlas.com/flusitex-wound-monitoring-bandage/50336/>



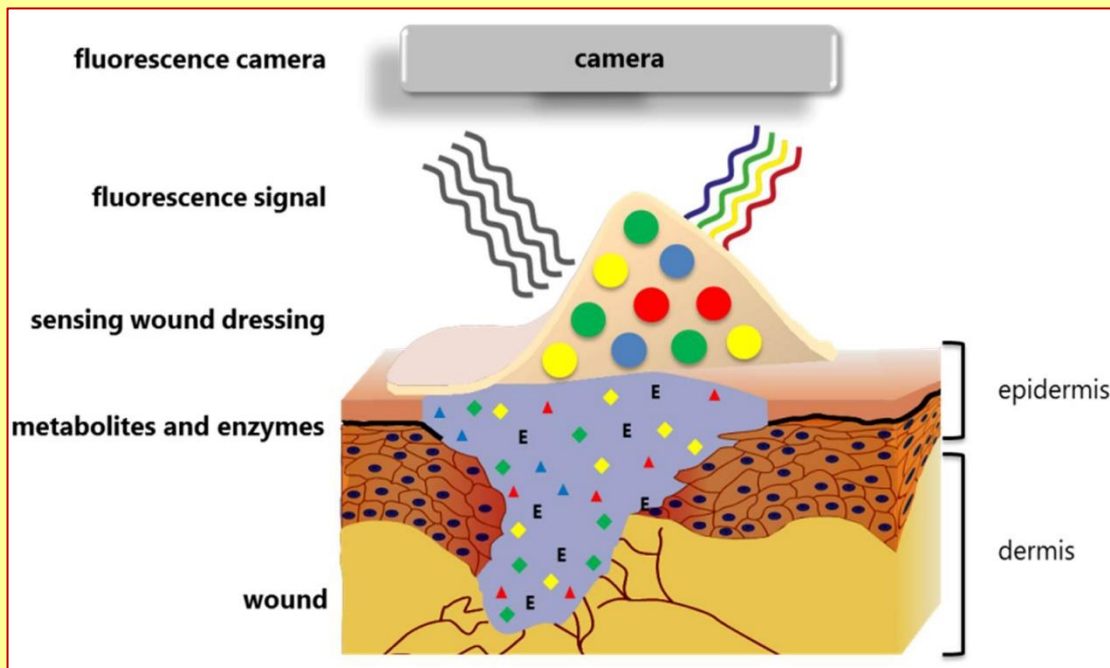
July 04 – Open wounds are something of a paradox – they need to be checked regularly, yet taking the dressing off too often just increases the risk of infection. That's why a group of Swiss researchers has developed a new "glowing" bandage that lets caregivers monitor the healing progress of wounds, from the outside.



Known as **Flusitex** (Fluorescence sensing integrated into medical textiles), the technology is being developed by a team consisting of scientists from Swiss research group EMPA, ETH Zurich, Centre Suisse d'Electronique et de Microtechnique (CSEM) and University Hospital Zurich. Here's how it works ...

When a wound is healing normally, the pH of its fluids initially





risks to 8, before settling down to 5 or 6. Should it become chronic, however, the pH fluctuates between 7 and 8.

The bandage incorporates custom-made molecules composed of benzalkonium chloride and pyranine. These fluoresce when exposed to pH levels of around 7.5 – the chronic wound "sweet spot." In order to see that fluorescence, clinicians just need to shine an ultraviolet light on the dressing. They can then leave the dressing in place if normal healing is indicated.

As a side benefit, the benzalkonium chloride in the bandage is known to kill harmful *Staphylococcus aureus* bacteria.

Hopefully, it may someday even be possible to "read" the fluorescence just using a smartphone camera and app, potentially allowing patients to monitor their own progress at home.

Empa is now working with some industrial partners to commercialize Flusitex. Once on the market, it could face some competition from [DermaTrax](#), which is another bandage that monitors pH to assess the healing of wounds.



How Canadian researchers reconstituted an extinct poxvirus for \$100,000 using mail-order DNA

By Kai Kupferschmidt

Source: <http://www.sciencemag.org/news/2017/07/how-canadian-researchers-built-poxvirus-100000-using-mail-order-dna>

July 06 – Eradicating smallpox, one of the deadliest diseases in history, took humanity decades and cost billions of dollars. Bringing the scourge back would probably take a small scientific team with little specialized knowledge half a year and cost about \$100,000.

That's one conclusion from an unusual and as-yet unpublished experiment performed last year by Canadian researchers. A group led by virologist David Evans of the University of Alberta in Edmonton, Canada, says it has **synthesized the horsepox virus, a relative of smallpox, from genetic pieces ordered in the mail.** Horsepox is not known to harm humans—and like smallpox, researchers believe it no longer exists in nature; nor is it seen as a major agricultural threat.

But the technique Evans used could be used to recreate smallpox, a horrific disease that was declared eradicated in 1980. "No question. If it's possible with horsepox, it's



possible with smallpox," says virologist Gerd Sutter of Ludwig Maximilians University in Munich, Germany. Evans hopes the research—most of which was done by research associate Ryan Noyce—will help unravel the origins of a centuries-old smallpox vaccine and lead to new, better vaccines or even cancer therapeutics. Scientifically, the achievement isn't a big surprise. Researchers had assumed it would one day be possible to synthesize poxviruses since virologists assembled the much smaller poliovirus from scratch in 2002. But the new work—like the poliovirus reconstitutions before it—is raising troubling questions about how terrorists or rogue states could use modern biotechnology. Given that backdrop, the study marks "an important milestone, a proof of concept of what can be done with viral synthesis," says bioethicist Nicholas Evans—who's not related to David Evans—of the University of Massachusetts in Lowell.

The study seems bound to reignite a long-running debate about how such science should be regulated, says Paul Keim, who has spent most of his career studying another potential bioweapon, anthrax, at Northern Arizona University in Flagstaff. "Bringing back an extinct virus that is related to smallpox, that's a pretty inflammatory situation," Keim says. "There is always an experiment or event that triggers closer scrutiny, and this sounds like it should be one of those events where the authorities start thinking about what should be regulated."

Little-noticed discussion

David Evans acknowledges that the research falls in the category of dual-use research, which could be used for good or bad. "Have I increased the risk by showing how to do this? I don't know," he says. "Maybe yes. But the reality is that the risk was always there."

Evans discussed the unpublished work in November 2016 at a meeting of the Advisory Committee on Variola Virus Research at the World Health Organization (WHO) in Geneva, Switzerland. (Variola is the official name of the virus that causes smallpox.) A [report from that meeting](#), posted on WHO's website in May, noted that Evans's effort "did not require exceptional biochemical knowledge or skills, significant funds or significant time." But it did not draw much attention from biosecurity experts or the press.

Also little noticed was a [press release issued](#) by Tonix, a pharmaceutical company headquartered in New York City with which Evans has collaborated, which also mentioned the feat. Tonix says it hopes to develop the horsepox virus into a human smallpox vaccine that is safer than existing vaccines, which cause severe side effects in a small minority of people. Evans says it could also serve as a platform for the development of vaccines against other diseases, and he says poxvirus synthesis could also aid in the development of viruses that can kill tumors, his other area of research. "I think we need to be aware of the dual-use issues," Evans says. "But we should be taking advantage of the incredible power of this approach."

The double-stranded variola genome is 30 times bigger than the poliovirus genome, which Eckard Wimmer of State University of New York at Stony Brook assembled from mail-ordered fragments in 2002. Its ends are also linked by structures called terminal hairpins, which are a challenge to recreate. And though simply putting the poliovirus genome into a suitable cell will lead to the production of new virus particles, that trick does not work for poxviruses. That made building variola "far more challenging," says Geoffrey Smith of the University of Cambridge in the United Kingdom, who chairs WHO's variola advisory panel.

In 2015, a special group convened by WHO to discuss the implications of synthetic biology for smallpox concluded that the technical hurdles had been overcome. "Henceforth there will always be the potential to recreate variola virus and therefore the risk of smallpox happening again can never be eradicated," [the group's report](#) said. But Evans felt like the matter was never really put to rest. "The first response was, 'Well let's have another committee to review it,' and then there was another committee, and then there was another committee that reviewed that committee, and they brought people like me back to interview us and see whether we thought it was real," he says. "It became a little bit ludicrous."

Evans says he did the experiment in part to end the debate about whether recreating a poxvirus was feasible, he says. "The world just needs to accept the fact that you can do this and now we have to figure out what is the best strategy for dealing with that," he says.



Two rejections

Evans declines to discuss details of his work because, after two rejections, he is about to resubmit a paper about it for publication. But the WHO report says the team purchased overlapping DNA fragments, each about 30,000 base pairs in length, from a company that synthesizes DNA commercially. (The company was Geneart, in Regensburg, Germany, Evans says.) That allowed them to stitch together the 212,000-base-pair horsepox virus genome. Introducing the genome into cells infected with a different type of poxvirus led these cells to start producing infectious horsepox virus particles, [a technique first shown to work in a 2002 paper in the Proceedings of the National Academy of Sciences](#). The virus was then “grown, sequenced and characterized,” the report notes, and had the predicted genome sequence.

Evans says *Science* and *Nature Communications* both rejected the paper. Caroline Ash, an editor at *Science*, says the paper wasn't formally submitted to the journal, but that Evans inquired about publication and provided the Tonix press release. “While recognizing the technical achievement, ultimately we have decided that your paper would not offer *Science* readers a sufficient gain of novel biological knowledge to offset the significant administrative burden the manuscript represents in terms of dual-use research of concern,” Ash says she replied to Evans.

Evans says he has run his draft papers by Canadian government officials involved in export and trade as well as the Public Health Agency of Canada and the Canadian Food Inspection Agency, which were “very helpful and provided timely and sensible guidance,” he says. “These things potentially fall under export legislation, because technically it could be viewed as instructions for manufacturing a pathogen,” he says. To avoid running afoul of international conventions, Evans says he “provided sufficient details so that someone knowledgeable could follow what we did, but not a detailed recipe.”

Peter Jahrling, a virologist at the National Institutes of Allergy and Infectious Diseases in Bethesda, Maryland, says the paper should definitely be published. “Not only is it novel,” he says. “It is also extremely important.”



Credit: Johns Hopkins Universit

Regulatory questions

Producing the variola virus in the same fashion would be prohibited under WHO regulations and rules in place in many nations. Labs are not allowed to make more than 20% of the variola genome, and the companies that make and sell DNA fragments have voluntary checks in place to prevent their customers from ordering ingredients for certain pathogens unless they have a valid reason. But controlling every company in the world that produces nucleic acids is impossible,



Keim says. "We've recognized for quite a few years that regulating this type of activity is essentially impossible," he says.

Instead, Keim says, there should be an international permit system for researchers who want to recreate a virus no longer found in nature. Current U.S. rules already require federally-funded researchers who plan to do an experiment that "generates or reconstitutes an eradicated or extinct agent" that is on a 15-agent list of dual-use agents to undertake a special review and risk assessment. That U.S. list of regulated agents includes variola, but not horsepox, because it's not considered a dangerous virus itself.

The system in Canada is different, says Gregory Koblenz, a biodefense expert at George Mason University in Fairfax, Virginia, who has been looking into the experiment since noticing the Tonix press release in March. There, the rules say even research that does not involve certain dangerous pathogens, but that could nonetheless generate knowledge that poses a dual-use risk, should be reviewed. "That should have captured the horsepox synthesis," he says. Evans talked to federal agencies in Canada, which was not even required of him, and his university did look at the safety aspect of bringing back an animal pathogen. "But as far as I understand, they did not engage in a systematic review of the broader dual-use implications of synthesizing an orthopox virus," says Koblenz. "I don't think this experiment should have been done."

Nicholas Evans, the bioethicist, thinks that new rules need to be put in place given the state of the science. "Soon with synthetic biology ... we're going to talk about viruses that never existed in nature in the first place," he says. "Someone could create something as lethal as smallpox and as infectious as smallpox without ever creating smallpox." WHO should create an information sharing mechanism obliging any member state to inform the organization when researchers plan to synthesize viruses related to smallpox, he argues.

Evans's experiment may also render moot a long-running debate on whether to destroy the two last known caches of variola. After smallpox was eradicated in 1980, labs around the world agreed to destroy their remaining smallpox samples or ship them to the Centers for Disease Control and Prevention (CDC) in Atlanta or to the Russian Research Institute of Viral Preparations in Moscow. (The Russian samples were later moved to the State Research Centre of Virology and Biotechnology in Novosibirsk.) Since then, the fate of those remaining stocks has been the focus of intense debate. "Destructionists" have argued that wiping out the last strains would make the world a safer place, whereas "retentionists" say keeping the virus—and studying it—could help the world prepare for future outbreaks.

Now that variola can be synthesized, the decision hardly matters, Jahrling says. "You think it's all tucked away nicely in freezers, but it's not," he says. "The genie is out of the lamp." Evans's work is "a gamechanger for the discussion," confirms Andreas Nitsche of the Robert Koch Institute in Berlin, who attended the WHO meeting where Evans presented his work last fall.

Fears of a return of smallpox—which kills up to one-third of its victims—ran high in the United States after 9/11 and the anthrax letters mailed to U.S. politicians and media figures a few weeks later. The events led the U.S. government to amass big new stockpiles of smallpox vaccine and [start a vaccination campaign for so-called first responders](#). But though a smallpox outbreak would almost certainly create panic and pose an unprecedented test for public health systems, scientists familiar with the disease [say an outbreak could probably be contained quite easily](#) because smallpox is not highly infectious and spreads slowly—qualities that made it possible to eradicate it in the first place.

Mysterious origins

Much less is known about horsepox. Pox viruses are known to infect many animals, and horsepox is frequently mentioned in historic accounts, but it seems to have disappeared from nature, possibly because of modern husbandry practices. Scientists at the Plum Island Animal Disease Center in New York [published a genome sequence for horsepox in 2006](#), based on a virus isolated from sick horses in Mongolia 40 years earlier. That virus is still held at CDC; Evans says one reason he decided to synthesize a new virus was that he could not get permission to use the CDC samples for commercial purposes.

Evans says his project has academic value as well: It could help elucidate the early history of smallpox immunization. The vaccine used to eradicate smallpox—the world's oldest



vaccine—is itself a living virus named vaccinia; it was first used in 1796 by Edward Jenner, a U.K. doctor. Popular accounts usually have Jenner using cowpox to inoculate people after he noticed that dairymaids appeared to be immune to smallpox. But there are also stories implicating horsepox, and the published horsepox genome looks very similar to some old vaccinia strains, bolstering the hypothesis that the vaccine was derived from horses. (To add another layer of confusion, both horsepox and cowpox may originally have been rodent poxviruses that only occasionally infected livestock.)

Evans hopes to study the function of some horsepox genes by making specific deletions, which could shed light on how the vaccine strain arose. "This is the most successful vaccine in human history, the foundation of modern immunology and microbiology, and yet we don't know where it came from," he says. "There is a huge, interesting academic question here."

Kai Kupferschmidt is a contributing correspondent for Science magazine based in Berlin, Germany. He writes about infectious diseases as well as food science, nutrition, evolution and science policy. Kai received a diploma in molecular biomedicine from the University of Bonn, Germany and later visited the Berlin Journalism School. In 2013 Kai won the Journalism Prize of the German AIDS Foundation. He also writes for the German newspaper "Der Tagesspiegel".

Pandemic Crossroads

By Robert C. Hutchinson

Source: <http://www.hstoday.us/industry-news/general/single-article/exclusive-pandemic-crossroads/>

July 07 – When discussing border security and enforcement, the conversations often focus on the smuggling of aliens, narcotics, firearms, currency and other contraband--and for good reason. These important topics require constant attention due to the threats posed to the nation and other countries by the smuggling that occurs both inbound and outbound at our land, air and marine borders.

In addition to these more commonly considered threats, other border security threats receive less attention, even though the impact on the nation could be more significant, if not catastrophic. The threat in question is a pandemic involving serious novel infectious disease or an intentional biological attack with a communicable pathogen.

Often the subject of entertaining movies or best-selling books, this global threat is real, and our national planning and preparedness may not be sufficient if this sleeping giant should awaken any time soon.

Public Health and Bioterrorism Threats

With no catastrophic pandemic occurring in recent memory, the threat may appear minimal compared to more pressing international issues, such as terrorism or nuclear proliferation. However, according to former Connecticut Sen. Joe Lieberman, co-chair of the bipartisan Blue Ribbon Study Panel on Biodefense, a global pandemic could kill more people than a nuclear war. He noted this most recently in a March 9 *CNBC* interview.

In the past 20 years, the expanding list of global health threats has grown to include Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), Ebola, Marburg, Lassa, Zika and various influenzas such as H1N1, H3N2, H5N1, H5N6 and N7N9. Many of these public health threats were greeted with great interest that faded as quickly as the pathogens.

The question remains: Are these recent infectious diseases just warning shots for a much more serious public health threat with enormous social, economic and political cascading consequences not experienced in the United States since the 1918 Spanish Flu pandemic? It has been estimated that between 50 million and 100 million people died during the Spanish Flu--more than were killed during the same period in World War I. The Spanish Flu was able to rapidly travel around the world several times in a slower world limited to voyage by ship.

The Gates Foundation projected in *The New York Times* that a similar pandemic outbreak today could result in the deaths of 360 million people around the world, despite the availability of vaccines and antimicrobials. The evolution and expansion of antibiotic resistant pathogens



only compounds this public health threat. In addition to the world population growth, the pace of urbanization, globalization, overuse of antibiotics and robust international air travel only expands the concern for the rapid spread of epidemics across regions and pandemics across the planet.

The next global health threat may not be naturally occurring—it could be an intentional bioterrorism attack. In a February 18 *Business Insider* op-ed timed to coincide with his speech at the recent Munich Security Conference, Bill Gates made the point that a fast-moving airborne pathogen could kill more than 30 million people in less than a year. And Lieberman noted in his *CNBC* interview that his great worry was that a group such as ISIS will develop a powerful synthetic flu and introduce it into our population.

Whether the next global health threat is another learning opportunity or a rapidly expanding pandemic from a novel virus with sustained transmission, it will require a whole-of-government response, with a strong border security component, which executes current strategies, plans and procedures.

But, will it be enough?

►► Read the complete story in the March/April 2017 edition of *Homeland Security Today Magazine* [here](#).

Robert C. Hutchinson is a former deputy special agent in charge and acting special agent in charge with the US Department of Homeland Security (DHS), US Immigration and Customs Enforcement's Homeland Security Investigations in Miami. He retired in September 2016 after more than 28 years as a special agent with DHS and the legacy US Customs Service. He was previously the deputy director and acting director for the agency's national emergency preparedness division and assistant director for its national firearms and tactical training division.

New Bioflash MailGuard: Affordable, Fast Mail Bio Threat Detection (Video)

Source: <https://americansecuritytoday.com/bioflash-mailguard-affordable-fast-mail-bio-threat-detection-video/>

Dec 2016 – Baltimore bio tech firm, PathSensors, has officially launched its new Bioflash MailGuard mail security screening solution.

The Bioflash MailGuard system provides a fast, highly accurate, easy to use and low cost threat detection solution for government and commercial mail room operations that need to screen mail and packages for potential threats such as anthrax.



The system is now in use at a major commercial mail room screening facility thanks to PathSensor's initial launch customer, a global document management company.

"The Bioflash MailGuard is the first and only solution to meet all these requirements and the results – as demonstrated by a successful field launch earlier this year with a major commercial mail room operation – show that the Bioflash MailGuard is a true

breakthrough technology," commented Ted Olsen, CEO, PathSensors, Inc.

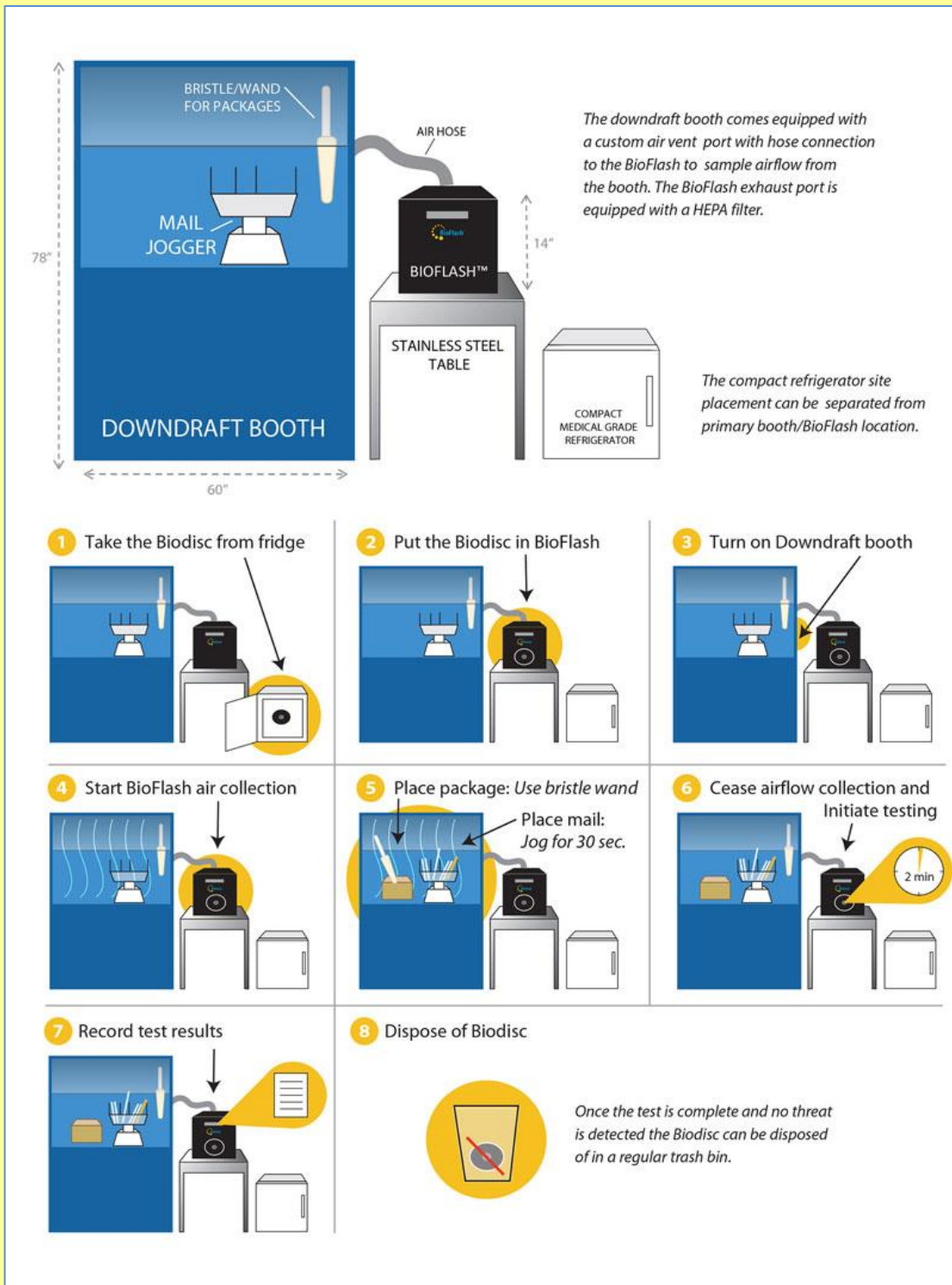
The BioFlash MailGuard System consists of an integrated biological testing unit, down flow booth, mail jogger, and compact medical refrigerator and requires standard 110v power to operate.



The biological testing unit has the ability to connect to the Internet via an optional tethered laptop computer, which permits remote system diagnostics and secondary testing confirmation as needed. It can detect over 25 biological threats in concentrations as low as 100 CFU in less than five minutes.

How it Works

The Bioflash MailGuard uses PathSensor's CANARY® technology, which is currently deployed by Defense and Homeland Security customers, and which can be Integrated with x-ray, chemical and other threat detection technologies.



CANARY® (Cellular Analysis and Notification of Antigen Risks and Yields) is a cell-based biosensor technology that delivers extremely rapid detection of pathogens at previously unseen levels of sensitivity and specificity.

Developed by the scientists at [MIT-Lincoln Laboratories](#), CANARY® incorporates pathogen-specific antibodies expressed on the biosensor surface which, in the presence of a pathogen (virus, bacteria or toxin), trigger an intracellular calcium release that in turn activates bioluminescent proteins whose light output can be measured and analyzed.

(Watch as PathSensors CEO Ted Olsen explains CANARY technology and the process of aerosol testing using the BioFlash. CANARY can be used for bio-defense, mail screening, plant pathogens, food safety and much more. Courtesy of PathSensors and YouTube)

[PathSensors](#) is a leading biotechnology solutions and environmental testing company.

PathSensors provides high speed, highly sensitive pathogen and threat detection solutions for the defense, homeland security, public health, medical countermeasures, mail room screening, first responder, food processing and agricultural sectors.

PathSensors' solutions can detect a wide range of threats, including anthrax, ricin, Ebola and salmonella. PathSensors' technology supports a growing library of threat detection capabilities and can be expanded to meet emerging and specific threat detection requirements.

Our team of scientists are working with top academic institutions and government research agencies on some of the most important challenges in bio-security.



A central component of the Bioflash MailGuard mail security screening solution, is the BioFlash-E® Biological Identifier uses proprietary aerosol collection technology and MIT Lincoln Labs developed CANARY® detection technology to offer a complete, stand-alone solution for biological identification. The BioFlash-E® provides a low-risk, cost-effective solution to biological sampling and identification.

PathSensors' technology is being used today by government and commercial customers for multiple applications, including:



- Defense and homeland security – CBRNE
- Environmental monitoring
- Mail room screening
- Food safety
- Plant and agricultural safety and testing
- First responder threat detection
- Public health
- Medical Counter Measures

PathSensors' innovative BioFlash and Zephyr detection systems use CANARY® technology licensed from the MIT-Lincoln Laboratory.

In independent tests by U.S. government labs, PathSensors' CANARY® technology was shown to be superior to alternative technologies in terms of sensitivity and speed of detection.



Emergent BioSolutions and smallpox vaccine

Source: <https://www.bizjournals.com/washington/news/2017/07/14/emergent-biosolutions-acquires-sanofi-smallpox.html>

July 14 – Emergent BioSolutions Inc. (NYSE: EBS) announced today that it has entered into an agreement to acquire the ACAM2000®, (Smallpox (Vaccinia) Vaccine, Live) business of Sanofi in an all-cash transaction with a total value of up to \$125 million, consisting of \$97.5 million upfront and up to \$27.5 million in near-term contingent regulatory and manufacturing-related milestones.

Upon the closing of this transaction, Emergent will acquire:

- ACAM2000®, (Smallpox (Vaccinia) Vaccine, Live), the only vaccine licensed by the Food and Drug Administration (FDA) for active immunization against smallpox disease for persons determined to be at high risk for smallpox infection;
- An existing 10-year contract originally valued at up to \$425 million with the Centers for Disease Control and Prevention (CDC) with a remaining value of up to approximately \$160 million for deliveries of ACAM2000 to the Strategic National Stockpile (SNS);
- A cGMP bulk manufacturing facility and a lease to a cGMP fill/finish facility, both U.S.-based, along with the existing staff of approximately 100 employees.

Daniel J. Abdun-Nabi, president and chief executive officer of Emergent BioSolutions, stated, "This transaction diversifies our portfolio and broadens our countermeasure franchise with a vaccine that is being stockpiled both in the U.S. and internationally. We expect it to meaningfully contribute to revenue growth in

2018 and advance our efforts towards achieving our goal of \$1 billion in total revenue by 2020. We further anticipate that ACAM2000 will help us achieve our goal of generating more than 10% of total revenue from international markets. This acquisition fits squarely within our core strategy and business focus, and we look forward to closing this transaction and to integrating this business into our operations."

Strategic Rationale

This transaction supports Emergent's plan to grow through the acquisition of revenue-generating products and businesses, leverages its core competencies in manufacturing and government contracting, and reinforces the company's strategic focus on providing preparedness solutions for public health threats. The addition of ACAM2000 expands the company's portfolio of only-in-class products, diversifies its portfolio of medical countermeasures against Category A bioterrorism agents, and is synergistic with its existing smallpox countermeasure offering, specifically VIGIV [Vaccinia Immune Globulin Intravenous (Human)], the only FDA-licensed therapeutic for certain complications from smallpox vaccination.

Upon the closing of the transaction, Emergent will assume responsibility for an existing 10-year CDC contract, which will expire and be up for renewal or extension in 2018. The original contract, valued at up to \$425 million, called for the delivery of ACAM2000 to



the SNS and establishing U.S.-based manufacturing of ACAM2000. This required the tech transfer of the upstream portion of the production process from Austria to a U.S.-based manufacturing facility. Sanofi is in the process of completing this tech transfer to the cGMP bulk manufacturing facility to be acquired in this transaction. Emergent anticipates that a supplemental Biologics License Application for licensure of this facility will be filed in the second half of 2017. Upon closing, Emergent will assume all responsibilities under the CDC contract, including completing the FDA licensure process and the fulfillment of all remaining product deliveries to the SNS valued at up to approximately \$160 million, subject to the availability of government funding and the exercise of contract options. The company anticipates that product deliveries will resume in

2018, following expected FDA licensure of the U.S.-based manufacturing facility. The company expects that this transaction will be accretive beginning with product deliveries following FDA licensure of the facility. The company intends to negotiate a follow-on, multi-year contract with the U.S. government to ensure the continued supply of ACAM2000 to the SNS.

Emergent expects that this transaction will enhance its contract manufacturing operations through the addition of live viral manufacturing and fill/finish capabilities and the execution of a contract manufacturing agreement to supply bulk drug substance for one of Sanofi's commercial vaccines.

This transaction, which is subject to customary closing conditions including antitrust regulatory approval, is expected to close in 2017.

The Myth of Drug Expiration Dates

You will be surprised!

Source: <https://www.documentcloud.org/documents/3516397-Expired-drugs-research-letter.html>

Anthrax to Zika: The Lurking Threat of Outbreaks and Bioterrorism in Africa

By Liviya David

Source: <http://www.atlanticcouncil.org/blogs/africasource/anthrax-to-zika-the-lurking-threat-of-outbreaks-and-bioterrorism-in-africa>



US Marines from the Special Purpose Marine Air Ground Task Force Crises Response 14-2 get their temperature checked as they arrive in Liberia (Photo credit: US Army Africa)

July 19 – The global HIV/AIDS epidemic and the 2014 West Africa Ebola outbreak varied in length, number of lives lost, and geographic areas affected. However, both

posed national security risks to the United States, and both therefore prompted large-scale US government responses: the **President's Emergency Plan for AIDS Relief** (PEPFAR) and Operation United Assistance in Liberia, respectively. Today, the United States is confronting these kinds of public health crises as well as a score of terrorist threats, and it is



possible that the two problems could merge as terrorists seek to use bioterrorism to achieve their goals. US national security has traditionally focused on security's "hard" elements—terrorism, state collapse, and crime. But public health threats—whether introduced deliberately through bioterrorism or emerging from natural causes as the 2014 Ebola outbreak did—also pose a significant threat to the homeland and thus deserve to be prioritized by the United States.

World leaders are increasingly attuned to the potentially disastrous consequences of the unchecked spread of disease, which, in addition to human suffering, can cause [political unrest](#) and long-term [economic downturn](#). A combination of governance issues, fragile health systems, urbanization and population growth, porous borders, and frequent migration could make Africa ground zero for the emergence of such public health threats. Three of the six Center for Disease Control's ["category A" bioterrorism agents](#)—considered the most lethal and difficult-to-stop diseases, including Viral Hemorrhagic Fevers like Ebola—[already exist](#) on the continent. A new Atlantic Council [report](#) argues that the United States should be more worried about health threats emerging from Africa, particularly as an increasingly interconnected world makes it easier than ever for disease to spread across oceans and borders. The 2014 Ebola outbreak, for example, killed over eleven thousand people in six countries in just twenty-one months and could have killed many more but for vigorous international and local efforts to contain the virus.

During a disease outbreak, air travel from Africa's densely populated urban areas could prove disastrous for the United States. [Forecasts show](#) that Africa's total air traffic will grow at a rate above 6 percent for the next two years, slightly above the global average. With [951,000 Americans traveling to Africa](#) in 2015 (up from 663,000 in 2006), [420,000 African visitors](#) to the US in 2015, and [over 2 million](#) Africa-born people living in the United States, strong diasporic ties and tourism escalate the risk of uncontained spread of an illness. This issue was of particular concern to the United States during the 2014 Ebola outbreak and even [sparked calls](#) from some Americans to terminate all air links with West Africa.

Closing America's borders proved unfeasible, however, as there were [no direct flights from Ebola-affected countries](#) to the US and no easy means of ensuring that passengers from those countries could not simply board another airline's flight in a European transit hub. To contain the disease, United States executed Operation United Assistance (OUA) in Liberia, the first ever US military operation focused on disease-driven humanitarian assistance abroad. Before OUA launched, the World Health Organization forecast that there would be thousands of new Ebola cases per week in the region, with [regional air travel](#) and under-prepared and overwhelmed healthcare workers and family caretakers facilitating the disease's spread. The launch of a military operation highlighted US seriousness in responding to this threat. When cases of Ebola were diagnosed in [New York City](#) and [Dallas](#) via travel from West Africa, it sparked a media frenzy. Multilateral institutions also felt a need to respond—the United Nations Mission for Ebola Emergency Response (UNMEER), authorized in September 2014, was the first ever UN mission confronting a global health crisis. Given the likelihood of another epidemic, it is unlikely to be the last.

Though Operation United Assistance rapidly and successfully shored up infrastructure and shortages of personnel, the mission was ill-equipped to respond to an urban outbreak of Ebola, a disease which had [previously](#) been contained in rural areas. In the dense slums of Monrovia, the virus spread with unprecedented speed. The United States cannot afford to be caught flat-footed when the epidemic occurs and must plan for an [increasingly urbanized Africa](#) in its future measures. As Africans migrate to cities in ever-larger numbers, they mostly will be absorbed into the already-densely populated informal settlements (or "slums"). Strong urbanization trends also point to an increase in the number of Africa's megacities, potentially growing to [six](#) by 2030. In urban settings, infected persons without symptoms can pass a disease easily and quickly to others, making typical means of epidemic control [more difficult](#) to fulfill.

Terror groups seeking to carry out attacks may turn to utilizing disease to their advantage. Diseases do not respect borders, and there is potential for a bioterrorist attack to affect—or emanate from—Africa. While far less common than conventional terrorism, the [2001 anthrax attacks](#) in the United States and the [1995 Tokyo sarin gas attacks](#) are recent and deadly examples of bioterrorism. Of particular concern is Boko Haram's relationship with, and mirroring of, al-Qaeda in the Islamic Maghreb, which [reportedly has experimented](#) with chemical or



biological weapons. During the Ebola outbreak, national security analysts were increasingly worried about a [weaponized version of Ebola](#), especially one that could spread via passengers on transatlantic flights. Luckily, while the threat does exist, it does not appear imminent. There are major obstacles to achieving a bioterror attack, namely the massive amounts of space and supplies needed and high levels of organization that even the more sophisticated groups do not have.

US investment in health systems' resiliency across the African continent both saves millions of lives per year and protects US citizens in the long run. Presidents [Bush](#) and [Obama](#) acknowledged these facts in the creations of PEPFAR and OUA, respectively. Recognizing, the lack of available global guidance on countering the HIV/AIDS epidemic, PEPFAR addressed the national security issues presented by a high prevalence of HIV and AIDS in military personnel and in many African countries' working populations. Via PEPFAR, the United States has positioned itself as the global leader in responding to the HIV/AIDS crisis. The program boasts [major successes](#), giving 11.5 million HIV-positive people access to antiretroviral treatment, 1.1 million of those being children. This number is up from fifty thousand prior to PEPFAR's inception. In Malawi, Zambia, and Zimbabwe, the epidemic is no longer growing among adults and babies, quickly approaching the UNAIDS [target goals](#). Moreover, the program has enjoyed bipartisan support and lends the United States an unprecedented degree of good will and moral leadership in Africa, while simultaneously promoting US interests abroad.

Critics of PEPFAR note that the program is expensive and unsustainable, costing US taxpayers over \$70 billion since its conception, and that it does little to strengthen existing health systems in target countries. To address this criticism, the United States should focus specifically on capacity building—training doctors and other health professionals, developing healthcare infrastructures, and strengthening early warning mechanisms—with the end goal that PEPFAR eventually will be unnecessary. In lockstep with the development of stronger health systems is the bolstering of governance capabilities—which not only monitor borders and ensure that malevolent actors do not get their hands on potential bio-agents, but also instill public trust in the government to respond to a crisis. While this supports countries in reaching certain development goals, it also ensures US security by countering public health threats that could negatively impact US interests in Africa and its population at home.

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Bioterrorism experts are worried that drug-resistant plague could be used as a weapon

By Kevin Loria

Source: <http://www.businessinsider.com/plague-biological-weapon-2017-7>

July 20 – When two cases of plague [popped up in New Mexico in June](#), they served as a reminder that the Black Death — yes, *the* plague — is still around.

The infection affects a handful of people in the US every year and between [a few hundred](#) and [a few thousand](#) annually around the world. Most people survive a plague infection these days, since it can almost always be treated with antibiotics.

But researchers, bioweapons experts, and governments still worry that the plague could be turned into a deadly bioweapon, especially if someone with terroristic intent were to find or engineer a strain that couldn't be treated with common drugs.

The plague bacteria, *Yersinia pestis*, mutates regularly like any other organism. Drug-resistant strains [have emerged several times](#) in the wild. For that reason, as Stat News' Eric Boodman explains in [a profile of wildlife biologist and plague detective David Wagner](#), there's always a scramble to identify plague strains when they emerge.

By analyzing the bacteria, researchers can see if the bacteria has picked up antibiotic-resistant genes and check whether the strain is wild or engineered.

Today, the CDC categorizes plague as [one of the biological weapons agents of highest concern](#) along with anthrax, smallpox, and viral fevers like Ebola and Marburg.



The scariest scenarios would involve an aerosolized version of the plague released like a cloud above a

city or in a crowded area. The bacteria could be dumped from an airplane or even blown by a big fan, which would spark an outbreak of the pneumonic form of the illness — one that spreads rapidly through the air.

In 1970, World Health Organization researchers estimated that releasing a 50 kg aerosol cloud of plague bacteria over a city of 5 million could cause 150,000 plague cases, with between 80 and 100,000 hospitalizations and 36,000 deaths. That's assuming that antibiotics worked, which is the case for all known wild strains circulating today.

Generally, bites from fleas carrying *Y. pestis* spread bubonic or septicemic forms of the plague, both of which cause fever and weakness. Bubonic plague results in painfully swollen lymph nodes;

septicemic plague happens when the infection gets in the blood and causes skin and tissue to turn black and die. It can appear on its own or develop from bubonic plague.

Untreated patients with either of these conditions can develop pneumonic plague, the most serious form of the disease, which happens when the infection gets into the lungs. (There are also rare *Y. pestis* strains that first infect the lungs, which causes a patient to leap straight to the most contagious form of the disease). When an infected person coughs, droplets of the bacteria enter the air and can survive there for an hour or so. People in close contact with the patient are therefore most likely to be infected by these

droplets, and in a nightmare scenario those individuals could further spread pneumonic plague.

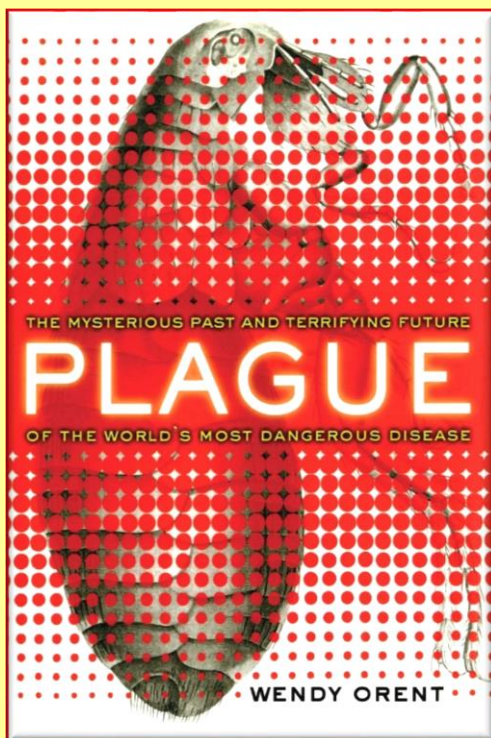
As Boodman writes, plague is actually one of the oldest bioweapons out there:

"After all, the bacteria were being used as weapons long before anyone even knew to call them bacteria. Plague-infected corpses were [catapulted](#) over walls. Venetians plotted to [distill](#) deadly liquid from swollen lymph nodes. Japanese planes [sprinkled](#) a rainfall of infected fleas. If those with nefarious motives and technical expertise wanted to weaponize the bacteria today, they could."

As Johns Hopkins [public health researchers note](#), both the US and Soviet Union developed ways to create the aerosolized version of the plague in the 1950s and 1960s.

The thought of any type of biological warfare between countries is scary, but journalist Wendy Orent describes an even more worrisome possibility in her history of the illness, "[Plague](#): The Mysterious Past and Terrifying Future of the World's Most Dangerous Disease." According to the book, Dr. Ken Alibek, a Kazakh defector from a Soviet biological weapons project, has suggested that the program was able to produce plague weapons resistant to at least 10 common antibiotics. And that was before the

modern advances in genetics that exist today.



There's currently no plague vaccine, [according to the CDC](#), so we can only hope that such an untreatable strain is never seen.

If drug-resistant plague were released as a weapon, humans would risk reliving the terrifying history of the Middle Ages. As [a Scottish account from then says](#), "[i]t generated such horror that children did not dare to visit their dying parents, nor parents their children, but fled for fear of contagion as if from leprosy or a serpent."

?

Answer to the quiz

The short answer is that the body of an average man contains around 30 to 40 trillion cells. The long answer is that scientists do not yet know the exact number. Plus, it depends on whether or not you include the bacteria that are present in and on our bodies.

The majority of the cells in our bodies are actually red blood cells. Although they [make up](#) over 80 percent of our body in number, they constitute only around 4 percent of total body mass. This is because red blood cells only measure on average [8 micrometers](#) in diameter, which is 10 times smaller in diameter than an average human [hair](#).

In contrast, the average size of a fat cell is [100 micrometers](#). Although fat cells make up nearly 19 percent of body mass, they contribute under 0.2 percent to the total cell number.

Source: http://www.medicalnewstoday.com/articles/318342.php?utm_source=newsletter&utm_medium=email&utm_campaign=weekly-hcp

Potemkin or real? North Korea's biological weapons program

By Sonia Ben Ouagrham-Gormley

Source: <http://thebulletin.org/potemkin-or-real-north-korea%E2%80%99s-biological-weapons-program10957>

July 18 – Kim Jung-un's June 2015 visit to a pesticide facility—Pyongyang's Bio-technical Institute—rekindled long-standing suspicions that North Korea might be developing bioweapons. Photos of the tour, shown on [North Korean television](#), showed a smiling Kim. He posed with military officers and personnel



in lab coats in front of apparently new buildings, with sparkling laboratories and shiny equipment. The tour took place amid tensions with the United States—and soon after a US military laboratory accidentally shipped live anthrax to a US airbase in South Korea, an accident that Pyongyang translated as an act of aggression. These circumstances contributed to a belief that the visit to the pesticide facility was designed to send a message to the United States: that North Korea has an active bioweapons program.

North Korea's hermetically sealed borders, along with its limited economic and political connections with the rest of the world, make it impossible to verify current or past allegations about the existence of a bioweapons program. One must be prudent

when discussing North Korea, and not jump to conclusions or ascribe a threatening meaning to any sliver of information that manages to emerge, particularly when it emerges in time of crisis. Otherwise, the risk of adopting costly policies or engaging in unnecessary conflicts



increases. What's needed instead is to systematically analyze the available information, keeping an eye on what it takes to produce functioning bioweapons and keeping in mind that a country's ability to produce such weapons is constrained by its political, economic, scientific, and social context. When such an analysis is performed, the odds that North Korea has established a successful bioweapons program appear much lower than some estimates would suggest.

What is known?

Very little is known for sure about North Korea's alleged bioweapons program. Much of the available data is drawn from scant intelligence estimates issued by the US, Russian, and South Korean governments, most of these estimates over a decade old. Additional information can be found in the media and from other independent sources, but such information cannot be corroborated and some of it is of questionable reliability.

Most government sources seem to agree that North Korea's interest in biological weapons started in the 1960s, in the same era when Pyongyang launched its chemical weapons effort. On December 25, 1961, President Kim Il-sung issued a "[Declaration of Chemicalization](#)," ordering the military to develop chemical weapons. Around the same time, he reportedly instructed the Academy of Defense Sciences [to investigate biological weapons](#). According to South Korea's National Intelligence Service, North Korea established a testing center at the academy in the 1960s, and reportedly acquired strains of the causative agents of anthrax, plague, and cholera from an unidentified source in Japan in 1968.

The program's research and production infrastructure is difficult to discern with any precision. The South Korean government estimates that 10 facilities might be involved in bioweapons activities—seven



research centers and three production facilities. Media and other independent sources provide more details about facilities suspected of involvement in the program, but this data cannot be verified. Four facilities are often mentioned in academic publications and other media sources as carrying out activities dedicated to biological weapons (with the South Korean government sometimes cited as a source): the Germ Research Institute, established in the 1970s; as well as the Central Biological Research Institute, the military biodefense unit, and the No. 5 Factory (sometimes referred to as the February 25 Factory, or No. 25 factory), all created in the 1980s. South Korean and Japanese media outlets list up to a dozen other dual-use and medical facilities that are

potentially connected to the program, but do not provide clear evidence of bioweapons activities at these facilities.

Government and open-source documents are also decidedly vague about the activities of the program and the agents under study. Several sources claim that North Korean bioweapons research has focused on 13 agents, including [the usual suspects](#): anthrax, plague, botulinum toxin, and hemorrhagic fevers (link in Korean). In the 1990s, US intelligence suspected that North Korea was working on a [smallpox weapon](#) based on samples obtained from the Soviet Union in the 1980s. But these claims have not been substantiated. In addition, several defectors have made allegations of human testing at military and medical institutions. None of these claims has been confirmed. Furthermore, some of the defectors later acknowledged that they had no first-hand knowledge of bioweapons activities. Experience shows that one always needs to be cautious about defector testimony: Recall the Iraqi defector Curveball, whose claims about mobile biological weapons laboratories were used by the George W. Bush administration to build a case for the invasion of Iraq. Those claims were eventually debunked by the Iraq Survey Group.

The evolution and current status of the North Korean program are equally uncertain—government estimates generally provide no details on these issues, or on the possible achievements of a bioweapons program. For example, US assessments are consistently



vague and continually changing. While some US estimates have taken the view that North Korea is engaged in research and development but that the country has not yet weaponized bio-agents or produced bioweapons, others state that North Korea may already possess ready-to-use biological weapons. A [1997 CIA assessment](#) indicated that North Korea was “capable of supporting a limited [biological weapons] effort.” Defense Department [assessments](#) of the late 1990s and early 2000s [concurred](#), describing North Korea’s bioweapons infrastructure as “rudimentary” and capable of producing “limited quantities” of bio-agents. Starting in 2000, [CIA estimates](#) began to change, placing more emphasis on North Korea’s production capabilities and indicating that “North Korea [was] capable of producing and delivering via munitions a wide variety of chemical and biological agents,” and “possibly [had] biological weapons ready to use.”

In 2002, State Department official John Bolton [dialed up the threat](#) dramatically, declaring during a meeting of the Korean-American Association in Seoul that the North “has one of the most robust offensive bioweapons programs on Earth ... and ... has developed and produced, and may have weaponized, [biological weapons] agents...” He added that “North Korea likely has the capability to produce sufficient quantities of biological agents within weeks of a decision to do so.” It is worth noting that in 2002 John Bolton also accused Cuba of having a biological weapons program. His claims were soon [contradicted](#) by US intelligence.

A 2011 [report](#) by the Office of the Director of National Intelligence sharply deflated the North Korean threat, merely stating that North Korea has “a biotechnology infrastructure that could support the production of various [biological weapons] agents” and that the country could use its conventional munitions production infrastructure to weaponize bio-agents. More [recent reports issued](#) by the office provide no assessment of a potential bioweapons program in North Korea. It remains to be seen whether this indicates the absence of a bioweapons program or the absence of evidence to substantiate suspicions.

In a rare assessment made public in 1993, Russia’s Foreign Intelligence Service seemed to agree with pre-2000 US assessments that North Korea’s biological activities were of a defensive nature. The report indicated that various research institutes, universities, and medical institutions were engaged in “applied military-biological research” and that “bio-agents are being tested on the island territories belonging to the DPRK.” The [report](#), however, noted that “there is no evidence of offensive bioweapons activities” (link in Russian). A 2005 report by the Swedish Defense Research Agency came to the same conclusion, indicating that no evidence suggested a large-scale bioweapons program with dedicated production facilities in North Korea.

South Korea, on the other hand, has consistently claimed that the North Korean bioweapons program has advanced to the production phase—but official reports do not explicitly state that North Korea has produced or stockpiled bioweapons. Reports [published](#) by South Korea’s Ministry of National Defense generally state that Pyongyang has been producing biological agents since the 1980s, but the reports are more cautious about the North’s weaponization capabilities, indicating that North Korea is “likely capable” or is “suspected” of being able to produce bioweapons including anthrax, plague, and smallpox. But like the United States, Seoul provides few details and little evidence to support its assessments.

Equipment is only a small part of the story

It is not surprising that Kim Jung-un’s visit to a pesticide facility resulted in alarming analyses—government threat assessments are inconsistent and vague, international access to North Korea is extremely limited, and fear about bioterrorism has been elevated since 9/11 and the US anthrax-letter episode. But recent history demonstrates that access to relevant material and equipment is hardly a guarantee of a successful bioweapons program. When threat assessments are made solely on the basis of the equipment to which nations have gained access, grossly exaggerated evaluations of capabilities are possible—just witness Libya and Iraq’s nuclear and biological weapons programs.

Images of dual-use equipment at the pesticide facility do not reveal anything about the activities occurring there. One can’t assess the activities occurring at the site without knowing whether personnel can actually use the dual-use equipment and adapt its technology to bioweapons development. Iraq, for example, acquired drying equipment necessary for



bioweapons development but was not able to use it for lack of expertise. Also, claims that because the pesticide facility might produce *Bacillus thuringiensis* (Bt), and that therefore it can produce anthrax, are shortsighted at best. Bt has indeed been used as a simulant for anthrax, but individuals who have expertise working with Bt cannot automatically produce an anthrax weapon. As is known from the Soviet bioweapons program, scientific expertise in the civilian field does not necessarily translate into expertise in the weapons field. For example, when the Soviet research facility “Vector” was created in the 1970s, its staff of virology experts (including smallpox experts) all came from the university system and had no weapons expertise. Five years of experimentation and testing—and the help of experienced bioweapons scientists from another facility—were required for the university experts to master the specialized bioweapons knowledge needed to succeed.

Further, several pieces of laboratory equipment that could be used in a bioweapons program, such as the autoclave shown in the North Korean television report about Kim Jong-un’s visit to the pesticide facility, require electricity. If the power supply at the facility is intermittent—and power in North Korea is indeed intermittent—it is unlikely that such devices can be used effectively. Finally, to ascertain the existence of bioweapons activity, one needs to visit a site and determine whether it displays hallmarks or signatures of bioweapons infrastructure or activity. For example, during site visits to Russian facilities that took place under the 1992 [Trilateral Agreement](#) signed by Russia, the United States, and the United Kingdom, US and British inspectors found evidence of bioweapons activity—such as high containment equipment and aerosol testing chambers—even though the Russians undoubtedly had tried to hide such traces.

More broadly, what is missing in assessments of the North Korean bioweapons threat is an understanding of the conditions required to produce bioweapons successfully—and an evaluation of whether North Korea meets the required conditions. Analyses of past state and terrorist bioweapons programs indicate that the continuity and stability of scientific and production work must be ensured over a long period of time to allow scientists and technicians to accumulate the knowledge necessary for development of a working bioweapon.

In addition, because bioweapons are based on fragile microorganisms that are sensitive to their handling and to environmental conditions, the development stages of bioweapons are highly interdependent—a stage cannot occur until the previous stage has been successfully completed. This calls for an organizational structure that carefully coordinates and synchronizes the work of the teams involved. It also requires a management model that allows scientists to communicate freely, share information, and openly acknowledge failures in order to learn from them. When these conditions are not met, programs face steeper learning curves, long delays in project development, and numerous failures. Very few of the known state bioweapons programs have produced a working weapon, and [many have failed](#) despite having access to the required material and financial resources. In North Korea’s case, the data available from open sources and government assessments raise many questions about the country’s ability to produce a working bioweapon.

Required: Expertise, continuity, management

The North Korean bioweapons program is suspected of having been launched in the 1960s, with new infrastructure built in the 1970s and 1980s. But was this a continuous program—or a series of separate and independent programs? Did the team that reportedly started to investigate bioweapons with strains obtained from Japan in 1968 continue its involvement in the 1970s and 1980s when new facilities were established, or did the work switch to new teams at those facilities? Did the original teams transfer their expertise and accumulated knowledge to the new teams? What was the knowledge base of both teams when they started, and did they have expertise working with the agents selected for work? Answers to these questions could provide important clues about the continuity and speed of the program and about the personnel’s ability to accumulate knowledge and make progress.

The Iraqi bioweapons program, which was long suspected of having reached an advanced stage, and even of producing a smallpox weapon together with mobile production sites, provides a good illustration of how difficult it is to assess a bioweapons program with limited knowledge about the program’s continuity or level of expertise. After the two Gulf wars and countless UN inspections, it became clear that prior threat assessments had been grossly



exaggerated. The Iraqi program lasted about two decades, but it was only able to produce crude liquid agents, such as anthrax and botulinum toxin, which were hastily placed in bombs that would have destroyed most of the agent upon impact.

A close analysis of the program shows that it faced two key problems: a lack of continuity and a lack of expertise. The Iraqi program is best described as a succession of three separate programs, each conducted independently from the others and with little or no transfer of expertise and knowledge. The first effort started in 1974 but was ended after four years, officially due to “scientific fraud.” A second program was launched in 1979 that investigated plant diseases, and possibly assassination weapons, but it also soon faltered because of lack of expertise. The third program was launched in 1983 with a new team investigating anthrax and botulinum toxin as potential bioweapons. Although this third program came to include a large number of facilities, it relied on a relatively small number of personnel—who had no expertise working with the two agents selected for work and also lacked expertise in important stages of bioweapons development, such as scale-up, drying, and weaponization.

As a result, each team had to start work from scratch. Each faced a steep learning curve due to its lack of expertise. The teams had access to equipment, but lack of expertise prevented them from using it. The autocratic management of the program, and the atmosphere of fear created by Saddam Hussein and his son-in-law (who was responsible for weapons programs), created further challenges to knowledge accumulation: Failure bore serious consequences for one’s career or life.

If the North Korean program has faced similar issues, it is unlikely that it has made substantial progress over the past 30 years.

Needed: Economic stability

Another issue that requires investigation is the impact of North Korea’s economic circumstances on a potential bioweapons program. North Korea’s command economy has suffered from serious material shortages since the country’s founding. The demise in the early 1990s of the Soviet Union, Pyongyang’s main supplier of fuel, sent the economy into a downward spiral, resulting in a four-year famine that killed close to 3 million people. Although the famine ended in 1998, thanks to international humanitarian assistance, the country continues to face food crises and the majority of the population is [still malnourished](#). In 2016, Pyongyang warned its population to get ready for another possible famine due to a new set of international sanctions. The country also suffers because, in its planned economy, output objectives are set for each institution and resources are centrally (and inefficiently) allocated. Despite several attempts at economic reform, the North’s economy is still unable to meet the people’s needs.

Some would argue that the defense sector gets priority in allocation of resources and therefore is shielded from incessant economic crises. But this is a faulty assumption. The Soviet Union also had a planned economy, with centralized allocation of resources and a defense sector that received priority status. Yet the defense complex could not escape the shortages that plagued the Soviet system. For example, bioweapons facilities routinely lacked the required equipment or reagent necessary for their work. The output objectives set by central authorities did not always take into account scientific realities, nor did they factor in the difficulties that the economic system itself imposed on obtaining the required technical and human resources. As a result, scientists sometimes had to stop work in order to independently procure material and equipment that they could not get through official procurement routes, creating substantial delays in bioweapons development. And when they failed to meet centrally set objectives, they either lied about the outcome of their work or produced bad science. Thus, despite its priority status, the Soviet bioweapons program suffered due to an inefficient economic system, and its achievements were much reduced as a result.

It is likely that North Korean facilities suffer from much greater challenges: While the Soviet economy could obtain some resources from overseas and send some personnel to learn new techniques in the West, North Korea is a closed country due both to its own system and to international sanctions.

Pyongyang’s bioweapons program is unlikely to benefit from outside expertise. North Korea could in theory obtain missing equipment or material illegally—the country is adept at establishing illicit procurement networks. But in the bioweapons field, illicit procurement can harm scientific work, especially when laboratory equipment or material is obtained from



different suppliers. For example, a change in the quality or characteristics of reagents can doom an experiment because unknown variables can be introduced.

Furthermore, North Korea experiences regular power outages, and the quality of its water is notoriously bad. These factors too can affect scientific work. Power outages can cause fragile microorganisms to die due to improper storage or working conditions—and if outages occur during production, they can compromise weeks, or possibly months, of work. North Korea's unsanitary water might also harm experiments by introducing foreign organisms that could contaminate a batch of bio-agents. Such challenges ultimately create additional disruptions in scientific work and lengthen the time required to obtain positive results.

Compulsory: A scientific foundation

Understanding Pyongyang's alleged bioweapons efforts also requires a good understanding of the status of natural and medical science in North Korea. Without a solid foundation in natural and medical sciences, a bioweapons program cannot succeed. When Soviet authorities issued a decree to expand the country's bioweapons program in the early 1970s, they had to face the reality that Soviet science had fallen behind and needed modernization. Years of Stalin's purges, along with the policy of [Lysenkoism](#)—which negated the role of genetics in science—had resulted in the elimination of a whole generation of competent scientists. Some of them had been at the forefront of bioweapons development, but now they were replaced with a new generation of scientists educated in flawed science. It took the Soviet Union close to a decade to catch up and create the modern infrastructure needed to meet the bioweapons challenge. The Soviet Union procured some needed equipment overseas and sent some of its scientists for training in Western laboratories. Even so, Soviet scientists could not reach the objectives set by central authorities to create new types of bioweapons.

Decades of economic sanctions, and the desperate state of North Korea's economy and society, have undoubtedly had an effect on the scientific sector. Reports about the nation's health care system are revealing: Hospitals are reportedly unable to procure medication for patients and are otherwise poorly equipped. If North Korean natural science is in as bad a state as the medical sector, it is likely that North Korea does not have the knowledge base required to support bioweapons development. A poor public health system also places a country at risk if an accident should occur in a bioweapons facility. And such an accident would ensure international detection of the program.

Potemkin villages?

One can develop a more accurate assessment of a country's bioweapons capabilities, and the speed of its progress, by gathering data about the scientific, economic, political, and social conditions in which scientific work occurs than by relying solely on isolated pieces of information about equipment acquisition. Reaching an evidence-based assessment is all the more important in North Korea's case because the regime often builds Potemkin villages for internal and external consumption. From fake missiles displayed during military parades to malls filled with modern electronics and clothes that are only for show and not for sale, to the incessant barrage of reports on North Korean television showing a smiling Kim Jong-un visiting technology fairs or plants that produce food products, the regime aims to project an image of strength and abundance both to the outside world and to its starving population. The visit to the pesticide facility might well have been another Potemkin exercise.

It is quite possible that North Korea has engaged in exploratory bioweapons research, but it is unlikely that the country has been able to establish the conditions required to achieve a working bioweapon. The poor state of North Korea's medical and (most probably) science sector implies that the country does not have a sufficient knowledge base to research, design, produce, and dry bio-agents, not to mention weaponize them. The deficiencies of North Korea's economic system, along with the weight of decades of international sanctions, cast doubt on the country's ability to acquire but also to ensure a continuous supply of equipment and material needed in bioweapons work. Little is known about the organization of scientific work in North Korea, but it is more than likely that science is managed in an autocratic manner, and that subordinates do not challenge orders from higher-ups or openly report failures, particularly if they risk sanctions for doing so. All this



casts doubt on the ability of scientists and technicians to learn from each other, accumulate knowledge, and acquire outside expertise when needed—traits that have been a hallmark of past successful bioweapons programs. Without a solid knowledge base and a continuous and stable work environment and infrastructure, scientists are less likely to overcome the challenges of working with fragile, living microorganisms.

One might ask why, if North Korea has been able to produce a nuclear weapon in the same adverse conditions, it shouldn't also be successful in the bioweapons field. The answer lies in the decidedly different nature of bio-agents and nuclear weapons. Unlike nuclear material, living microorganisms are fragile and unpredictable. They are more sensitive than nuclear material to changes in work conditions, equipment, laboratory materials, and other disruptions. A country that cannot ensure a stable and continuous work environment is unlikely to operate a successful bioweapons program.

More research is needed to characterize North Korea's political, economic, organizational, and managerial circumstances, and probe the effects of these circumstances on bioweapons work. But if the United States and the international community are serious about preventing the emergence of a North Korean bioweapons threat, they might seek to forestall the threat by means of the Biological and Toxin Weapons Convention (BTWC). North Korea has been a party to the convention since 1987—but the BTWC lacks a verification mechanism. If a verification regime for the treaty were instituted, the United States could not only obtain more accurate data about the North's program but, more importantly, promote routine inspections that would prevent progress in Pyongyang's bioweapons development. Conducting international inspections, or merely threatening to do so, has proved to be an effective strategy in creating disruptions and delays in past biological weapons programs, including in the Soviet Union and Iraq, and even in the program of the terrorist group Aum Shinrikyo.

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Return of **Botulism** to Europe: Ukraine's Health Crisis Threatens Whole Continent

Source: <https://sputniknews.com/europe/201707221055788970-ukraine-health-care-crisis/>

July 22 – The liquidation of Ukraine's State Sanitary and Epidemiological Service has seriously affected Ukrainians' health, with cases of food poisoning and botulism seeing a sharp rise. Speaking to Sputnik, Ukrainian politics expert Roman Manekin warned that a bad situation threatens to turn into a catastrophe. Ukrainians' health has been seriously compromised by the liquidation of the State Sanitary and Epidemiological Service, Ukraine-focused observers have [reported](#), citing a dramatic rise in the number of incidents involving mass poisonings, including botulism.

Ukraine's government formally liquidated the agency earlier this year, transferring its functions to the State Service for Food Safety and Consumer Protection.

Last month, nearly 250 children were poisoned at a health resort in the southern Ukrainian region of Zaporizhia. 13 were hospitalized, suffering from an unknown infection, later revealed to be caused by poor quality food. A similar incident took place in early June, with 19 children at a camp in Odessa region hospitalized after contracting viral Hepatitis A.

Last week, Ukraine's Ministry of Health confirmed that "as of July 18, 2017, 81 cases of botulism were reported in Ukraine; 90 people fell ill, 9 of them fatally." In the last two months, cases of botulism were reported in regions across the country, including the capital of Kiev.

Medical experts say the outbreaks are almost always brought on by a violation of food production safety standards – i.e. when food is produced in unsanitary conditions and without proper control from the relevant sanitary services.



Infectious disease specialist Olga Golubovskaya [said](#) recently that it was particularly concerning that new cases of poisonings were being reported not just from food sold by street vendors, but from industrially-produced canned fish products sold in supermarkets across the country.

The situation in the public catering sector is similarly worrying, according to experts. Earlier this year, over three dozen customers at two Kiev-based sushi restaurants were diagnosed with symptoms of acute intestinal infection. City officials blamed the mass poisonings on sick employees. Authorities began a campaign to monitor city restaurants, identifying a slew of violations of sanitary and epidemiological norms at 79 establishments, including non-compliance with standards for storage, transport, preparation and sale of food.

The situation is similarly worrying with the sale of alcohol. Nearly 100 cases of lethal poisoning caused by low-quality vodka and alcohol-containing chemicals have been reported since the beginning of the year.

The initiative to liquidate the State Sanitary and Epidemiological Service was begun in May 2014, as part of a broader reform of the Ukrainian health care system. The reforms were initiated by Georgian-born Health Minister Alexander Kvitashvili, whose earlier work as Georgian health minister was condemned by local politicians for having amounted to "the factual destruction of the health care system."

Experts say the mass outbreak of illness brought on by food poisoning demonstrates that the weakened State Sanitary and Epidemiological Service is unable to cope with its responsibilities in its current state. According to Olga Golubovskaya, the need for full-fledged sanitary control over food production is particularly crucial in the current crisis situation facing the country.

"I will remind you that there are no botulism antitoxin serums available in the regions... We have only one thing available to us: prevention," she stressed.

According to the Ministry of health, Ukraine's reserve of anti-botulism serum, delivered under a UN-sponsored assistance program, is enough for only 22 people.

Unfortunately, experts say that Ukrainian-American health minister Ulana Suprun, who replaced Kvitashvili in April 2016, is too busy lobbying for the closure of hospitals and clinics to pay attention to the looming crisis.

Last week, new figures from the World Health Organization and UNICEF found that Ukraine was among the bottom ten countries in the world with the lowest rates of childhood vaccination, alongside poverty and conflict-stricken countries including the Central African Republic, Syria and South Sudan.

Earlier this month, Ukraine's parliament approved a new bill on medical reforms. The document, which now needs to pass the second reading, envisions the introduction of government payment for hospitals and doctors on a by-patient basis, rather than based on the number of beds. Suprun said she hoped the new health care reform bill would be adopted in the autumn.

Speaking to Radio Sputnik, Ukrainian politics expert Roman Manekin [warned](#) that a catastrophic situation is developing in Ukraine's health care sector.

"The priority for Ukrainian officials is endless reform," the observer said. "Beginning in 1991, Ukraine has seen 21 draft laws on health insurance, and over 20 health ministers have come and gone. This is despite the fact that health care is perhaps the most corrupt of all spheres, with the possible exception of the police."

"The situation with Ukraine's public healthcare system is actually catastrophic; it really does require reform. But the draft reform project being proposed today raises very serious doubts and is a source of social tension in Ukraine," Manekin added.

According to the observer, the situation is likely to get worse before it gets better.

"One of the provisions of this bill is that the Ministry of Health takes over the responsibility for purchasing medicines abroad –in Western Europe; a fairly serious sum has already been allocated [for this purpose]. This creates a kind of 'feeding trough' for unscrupulous people in this area. And, in my opinion, the situation surrounding health care will get worse. Although seeing it deteriorate further is something that's hard to imagine."

