

Dedicated to Global First Responders

**CBRNE**

**NEWSLET****TERRORISM**



Rest  
in peace  
little  
angel...

Saffie Rose Roussos



[www.cbne-terrorism-newsletter.com](http://www.cbne-terrorism-newsletter.com)

**CBRNE-Terrorism Newsletter – 2017©**

May 2017

Website: [www.cbrne-terrorism-newsletter.com](http://www.cbrne-terrorism-newsletter.com)

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**PUBLISHER****Mendor Editions S.A.**

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## Editorial

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

*Editor-in-Chief*

CBRNE-Terrorism Newsletter

*Dear Colleagues,*

We were all hoping that May 2017 was about to end without any major incident BUT terrorists had a different opinion... UK experienced in Manchester Arena (during a pop concert), the second worst terrorist attack since 56 people were killed in the 7/7 London bombings in 2005. 22 people have been killed and 59 were taken to 8 hospitals following the blast. 119 people were injured in total by the suicide bomber also killed onsite. Children are among the dead - the youngest named victim was eight years old. UK raised its terror threat level to "critical".

Other key news:

- Daesh IS restructuring its CBRN division and conducted tests on humans in Iraq and released a new video demonstrating a new improvised rocket launcher.
- Tension in Korean Peninsula is ongoing – new missiles were tested and new threats for a nuclear confrontation were spoken from both sides.
- Protesters in Venezuela used fecal bombs against security authorities – it seems some read history going back in the ELN and FARC eras!
- World experienced a massive global ransomware outbreak – hospitals including.
- Drone threat continuous to be a serious problem for the near future.
- So is the fear for the future consequences of foreign jihadists returning to their homelands – especially European.
- It seems that there is an effort for collaboration between Daesh and al Qaeda – son of late Osama bin Laden Hamza is part of the new emerging problem.
- De-radicalization efforts in many EU member states is becoming the new expensive joke of our times.
- Two crash cars in different parts of New York – one in Times Square and the other in Staten Island were commented as not related to terrorism – the usual mass media unexplained approach on using the word "terrorism".
- Somali pirates are back – again with old (legitimate) excuse of foreigners stealing their fish off-shore Somalia.

Editor participated in two very interesting events that took place in May. The first was the 8th International Advanced Robotics Program IARP-RISE'2017 on Risky Interventions and Environmental Surveillance – 2017 Topics: Mine Actions and Counter Terroristic Technology, organized by the ICI Explosives Knowledge Center and held at the premises of the International CBRNE Institute (ICI) in Charleroi, Belgium (18-19 May 2017) with international audience. Editor's topic presented during the two-day conference, was relevant to "the use of IEDs in combination with CBRN agents".

Editor also participated as co-chairman (Session 5), speaker ("How to CBRNE proof your hospital") and member of the SICC2017 Poster Award at the 1<sup>st</sup> Scientific International Conference on CBRNE" organized by the University of Rome Tor Vergata and HESAR (Health Safety and Environments Research Association Rome) at the premises of National Fire Academy (Istituto Superiore Antincendi – ISA) in Rome, Italy (22-24 May 2017). Experts from more than 40 countries participated in this event during which the Director General of the Organization for the Prohibition of Chemical Weapons Ambassador Ahmet Üzümcü, gave a speech on the occasion of the 20<sup>th</sup>





**CBRNE-TERRORISM NEWSLETTER – May 2017**

anniversary of the OPCW. In addition the Ambassador of the UAE in Rome, proposed to host the 2<sup>nd</sup> International CBRNE Conference in Abu Dhabi, in 2019.

June is on its way and summer season might make life a bit more bearable at least for countries with coastlines – for the rest, the invitation to visit Greece is always open.

**Take care First Responders – we are all depending on you!!!**

*The Editor-in-Chief*





## Saudi Arabia elected to UN women's rights commission

**Watchdog director likens move to 'making an arsonist the town fire chief'**

Source: <http://www.independent.co.uk/news/world/middle-east/saudi-arabia-un-womens-right-commission-un-watch-middle-east-muslim-driving-clothes-a7698536.html>

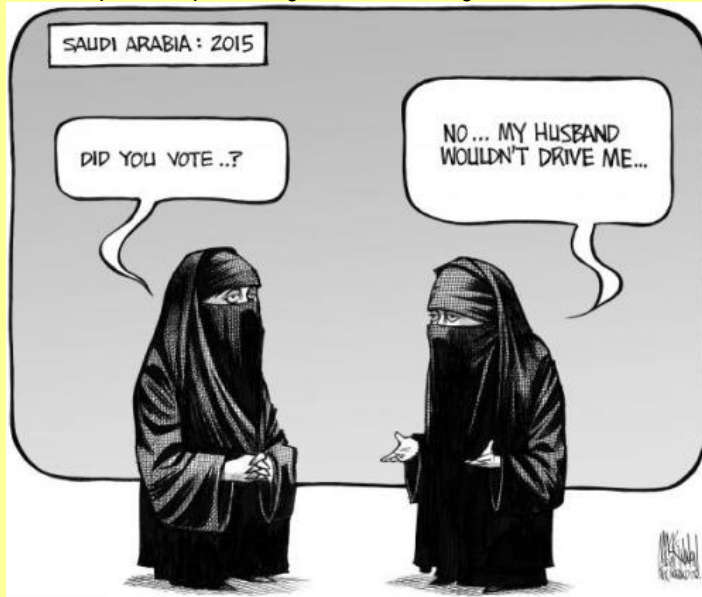
Apr 25 – **Saudi Arabia has been elected to the UN women's rights commission, prompting outrage from human rights groups.**

The kingdom is now one of 45 countries sitting on a panel "promoting women's rights,

"Every Saudi woman must have a male guardian who makes all critical decisions on her behalf, controlling a woman's life from her birth until death," said Hillel Neuer, director of UN Watch. "Saudi Arabia also bans women from driving cars.

"Electing Saudi Arabia to protect women's rights is like making an arsonist into the town fire chief," Mr Neuer said. "It's absurd." At least five EU states voted in a secret ballot for the Saudis to serve a four-year term on the commission, according to Mr Neuer.

The vote was greeted warmly by Helen Clark, former administrator of the UN Development Programme and prime minister of New Zealand. Asked about the election of the Saudis to the commission on Twitter, Ms Clark said: "It's important to support those in the country who are working for change for women.



documenting the reality of women's lives throughout the world, and shaping global standards on gender equality and the empowerment of women," according to the UN. The ultra-conservative Islamic kingdom has a state policy of gender segregation between men and women who are not related.

Things are changing, but slowly."

**In March Saudi Arabia launched its first ever girls' council meeting with publicity photos showing 13 men on stage and no women.** Organisers said women were involved in the launch event, but that they were obliged to sit in a separate room.

## Belgium has highest percentage of pro Erdogan voters in Europe

Source: <http://deredactie.be/cm/vrtnieuws.english/News/1.2953711>

Apr 17 – **Figures show that almost 75 percent of Turkish Belgians entitled to vote in the Turkish referendum, gave President Recep Tayyip Erdogan's proposal to acquire more powers thumbs up. Erdogan won the referendum with a slim majority of just 51 percent. Worldwide, only Lebanon showed a higher score of pro Erdogan voters.**



President Erdogan's high score in Belgium does not as a surprise. Meetings of AKP supporters in Limburg province, where many people of Turkish descent are living, were a big success in the past.





The high score in Belgium forms a stark contrast with Great Britain, where almost 80 percent of voters spoke out against more powers for Erdogan in a presidential system. **Spain even had 87 percent no-voters. European countries showed completely different results. Germany had 63 percent voting in favour of the president, the Netherlands 70 percent.**

Erdogan collected 831,000 votes abroad

Erdogan found most support in Western Europe in Belgium, and worldwide only Lebanon did better with some 94 percent yes-voters.

In his victory speech, Erdogan thanked his voters abroad. In all, the Turkish president of the AK party collected some 60 percent of the votes cast abroad, whereas 40 percent voted against him. However, slim as Erdogan's final margin may be, it looks as if the votes abroad have not been decisive.

In fact, Erdogan collected a total of 831,043 votes abroad, compared to 575,288 no-voters (according to incomplete figures). The final margin in the Turkish referendum was 25.15 million versus 23.77 million. As to Belgium, just over 54,000 voters chose Erdogan, compared to just over 18,000 votes against.

**EDITOR'S COMMENT:** In Greece: NO 76,75%; in occupied Cyprus: NO 56,61%

## Muslim security guards at Amazon plan to march in protest at having no designated area for prayer

Source: <http://www.dailymail.co.uk/news/article-4435660/Muslim-security-guards-working-Amazon-plan-march.html>

Apr 22 – **Security guards who patrol the headquarters of tech giant Amazon in Seattle, Washington are criticizing the company saying Muslim workers are mistreated because it doesn't provide them anywhere to pray.**

Amazon 'declared support' in January for a lawsuit against President Trump's order to put a

understanding to those further down the food chain.

Those at the lower echelons of the organization say they are not provided with the same level of accommodation and those that do speak out against the unfair policies are later reprimanded.

The Service Employees International Union and three Muslim guards who work for Security Industry Specialists, the security contractor Amazon uses to guard its facility, say the guards are being refused the opportunity to pray five times daily while other religions are allowed to use prayer rooms.

Muslims employed by SIS say use of prayer rooms was not fully extended to lower-paid officers who patrolled the complex, even though it was mainly Muslims that made up the 800-strong security guard workforce.

Essag Hassan, a former SIS guard at Amazon, said he was let go because of his request to be allowed to pray on his work break. 'I was fired and not given a reason why,' Hassan told PJMedia. 'I'm speaking out for all Muslim security workers and for workers of any religion. When you ask for a space to pray on your work break, that request should be treated with respect.'



temporary halt to immigration from seven Muslim-majority countries, but Muslims working on the company's own premises are outraged at the treatment received at work and are planning a protest for May 1.

The company is accused of double-standards because it provides stand-alone prayer rooms for Amazon employees who work in high-tech jobs within the company, but appears to be less





Hassan believes that there has been a shift in attitudes against Muslims at Amazon.

Speaking to ThinkProgress one worker alleged that SIS employees are unable to access prayer rooms during the work day.

**Devout Muslims typically pray five times a day as part of their religion.**

SIS employees claim that Amazon forbids them from interacting with employees of Amazon when they are in prayer rooms.

Managers have encouraged them to pray elsewhere but quite often it is not convenient.

'Some employees are told, well, go to your car [to pray],' Ismahan Ismail, a former SIS employee who now works for Amazon, told ThinkProgress. 'Some don't even have a car.'

Others are instructed to go to the end of the Amazon's massive building to pray, several minutes walk away, it was alleged.

**Further compounding the problem, often the prayer times do not coincide with what are just short 10-minute breaks that don't correspond with Muslim prayer times that alter daily.**

'There's been issues regarding religious prayers, with some not being given a space to practice,' said Ismail. 'When I did speak up, I was actually retaliated against. I had someone step on my prayer items.'

Despite such seemingly valid claims of discrimination being aired, the CRO of SIS Tom Seltz says it is complete fabrication and maintains that SIS employees working at Amazon have always been given space to pray on their breaks.

'Before prayer rooms were introduced, employees generally used a vacant conference room or quiet room, when available,' Seltz wrote in an email. 'This has been the case for the past four years (since we've been at Amazon), and the recent addition of dedicated prayer rooms has just made access even easier.'

Next month, a strongly worded letter from Seattle Muslims will be delivered to Amazon alongside a rally outside the company's headquarters.

'Unlike other companies in locations with large Muslim populations, Amazon has not supported Muslim service workers requesting space to pray during their law-mandated work breaks,' an email to PJM read.

'Despite granting the high-earning tech workers conference rooms to pray in, there appears to be a double standard for the contracted security officers who protect the tech giant,' the SEIU email concluded.

**EDITOR'S COMMENT:** What if all security people going on strike, were sent to their homes – I am sure there is a long list of unemployed citizens waiting to take over. On the other hand, I am sure that if the demand was for *halal* food and snacks, Amazon would comply, since money talks!

## German Army officer disguised as Syrian refugee arrested over suspected attack plot

Source: <https://www.rt.com/news/386322-german-officer-disguise-refugee/>

Apr 27 – A German Army officer arrested on suspicion of plotting an attack had procured a firearm and



registered himself as a Syrian refugee, prosecutors said. He may have attempted to put the blame for the possible assault on migrants, local media reported.

The arrest was accompanied by searches at 16 locations across Germany, Austria, and France, according to the prosecutor's office. The officer is stationed in France but was assigned to a military facility

in Hammelburg for qualification courses, where he was arrested.

**AMAZING!**



Speaking to reporters on Thursday, Nadia Niesen of the Hessen prosecutor's office said the suspect also had a potential accomplice – a 24-year-old student who might have been involved in the alleged plot. *"It is understood that the accomplice was aware of the [prime suspect's plan] to register as an asylum seeker,"* she added.

On Wednesday, investigators secured valuable evidence during searches, including *"numerous mobile phones, laptops as well as documents."* Niesen also noted that firearms and ammunition had been found at the 24-year-old student's place of residence.

According to the prosecutor's office, the 28-year-old was first detained by Austrian police when he attempted to conceal a 7.65mm pistol at a lavatory inside Vienna International Airport. The use of the weapon was part of his plot to commit *"a serious act of violence"* in the form of an attack, Niesen stated.



The 28-year-old officer in question came to a migrant facility in the city of Giessen and was registered as a Syrian refugee in late December 2015, according to Welt.

In January of last year, the officer, whose name has been withheld, applied for asylum in Bavaria and was allocated a room at a local refugee facility, according to Niesen.

**German authorities granted him asylum even though he was unable to speak Arabic.** His German background somehow went unnoticed as well, she admitted.

The official added that both men – the officer and the student – were in touch with each other, adding that analysis of phone and text message records revealed that they had a *"xenophobic mindset."* The official refused, however, to elaborate on the actual motives

behind the potential attack plot, citing the ongoing investigation.



## Why Is Female Genital Mutilation Still Happening in the U.S.?

By Phyllis Chesler

Source: <http://www.meforum.org/6662/female-genital-mutilation-still-happening-in-the-us>



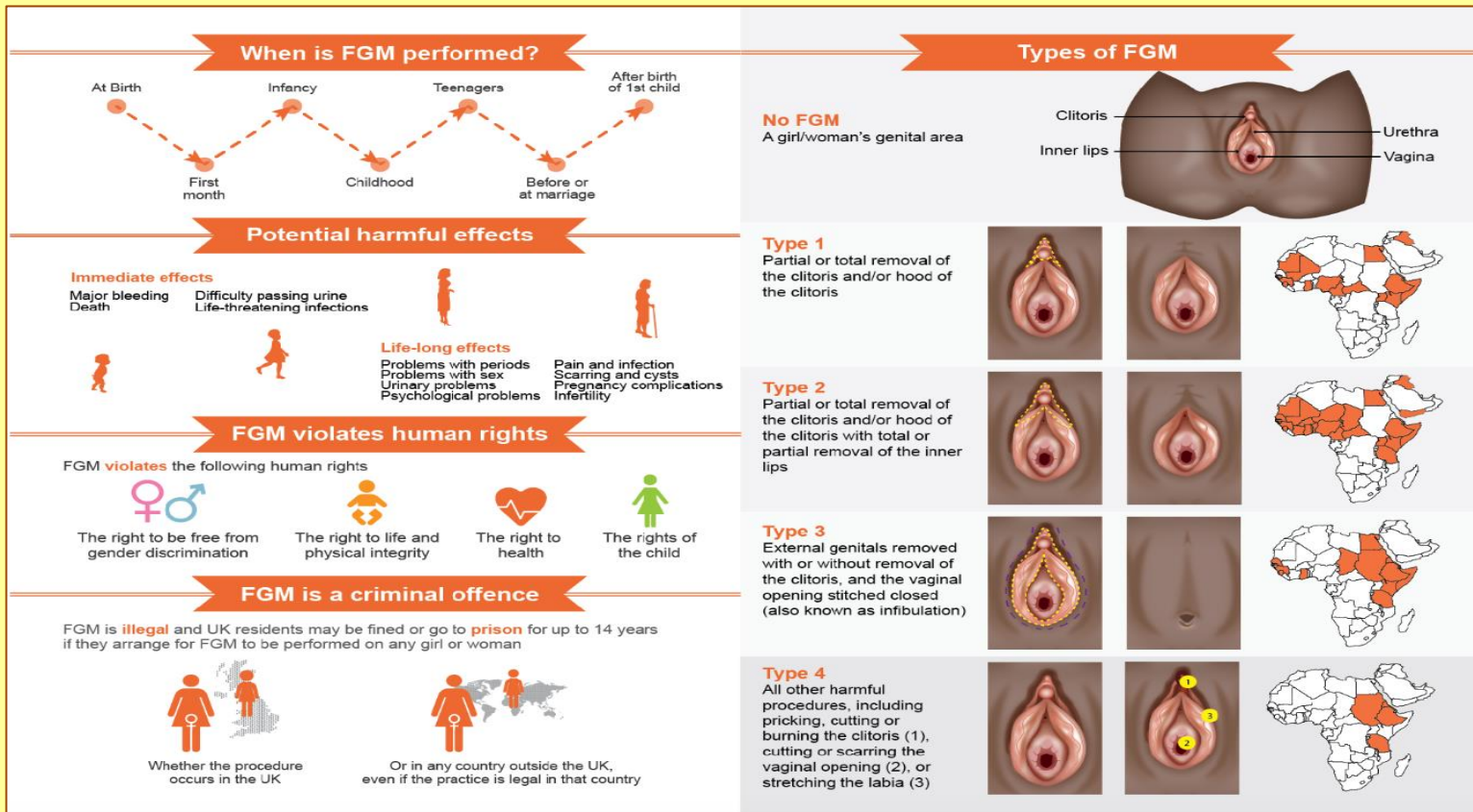
Apr 27 – Let's be clear: FGM (female genital mutilation) is illegal in the United States. That fact did not stop Drs. Humana Nagarwala, Fakhruddin Attar, and his wife Farida Attar, from [allegedly performing these criminal and human rights atrocities against two vulnerable 7-year-old girls in the Detroit metro area](#). The physicians and Attar's wife have all been arrested. [According to Fox 2 News in Detroit](#) the three have been charged with female genital





mutilation and conspiracy. The doctors are also charged with making false statements to investigators and trying to obstruct the investigation.

For years, many Muslims have insisted that the practice of FGM has nothing to do with Islam, that it is, originally, an African and pagan custom. This may be true. However, many Muslims believe it is religiously required.



[Zoom page to read the details](#)

**Boldly, cleverly, the Detroit-area physicians are arguing that FGM is a "religious practice" and that to interfere with it is tantamount to religious discrimination.**



There is some proof that Mohammed allowed a female "exciser" to perform this mutilation -- but he advised her not to "overdo it." In the Islamic world, FGM is practiced most widely in the in the Arab Muslim Middle East, both in the Gulf and in African states such as Egypt, Somalia, and Sudan; but it has increasingly spread to Muslim communities in Central Asia (parts of Iraqi Kurdistan and Iran) and to the Far East (Malaysia and Indonesia). Female genital mutilation (FGM) is not at all like male circumcision. Not only is the capacity for sexual pleasure destroyed, but complications are routine and include bleeding, painful urination, cysts, and dangerous and recurrent bladder and urinary tract infections. The growth of scar tissue can make marital intercourse a nightmare and turn childbirth into an experience of danger and torture.

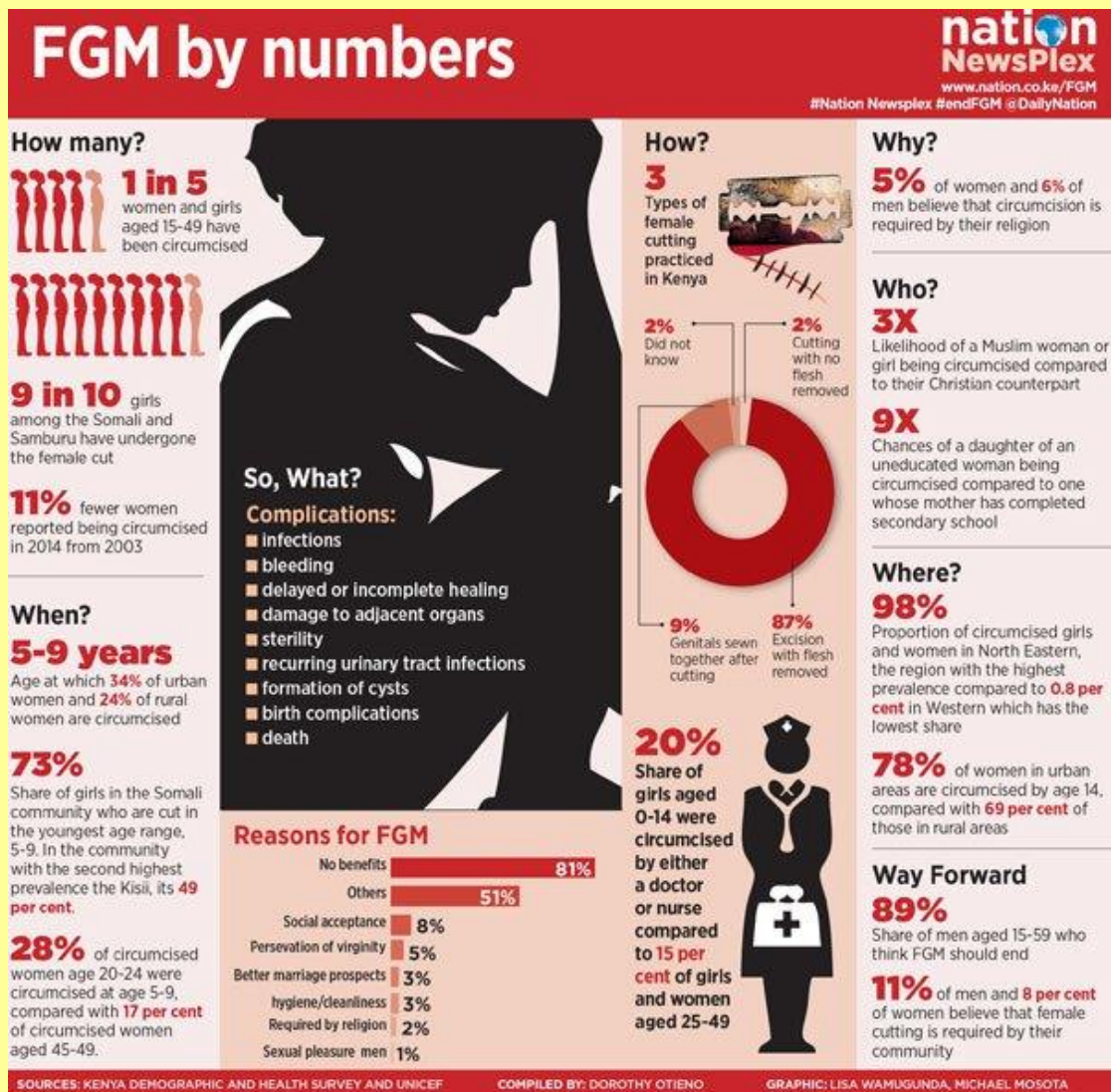






The *New York Times* opted not to use the term FGM in its [article](#) about the Nagarwala/Attar case. The paper's Health and Science editor later [explained](#) that the term is too "culturally loaded."

FGM also increases the likelihood of newborn deaths. In addition, some girls and women develop fistulas and become incontinent. They are doomed to defecate and urinate without control. Absent effective surgery, this is a life-long condition that leads to a woman being shunned by her family.



And then there is a life-long post-traumatic stress disorder that normally accompanies the experience of having been forced into such suffering, traditionally at the hands of a female butcher, usually the mother or grandmother.

In the West, misguided concepts of "multi-cultural relativism" and fear of offending an increasingly hostile Muslim and African immigrant population has condemned those girls and women who live among us and who deserve their rights under Western law.

Whether FGM is understood to be a religious or a tribal custom, like polygamy, child marriage, normalized daughter-and-wife battering, incest, and "honor killing," it has no place in the West.



Those who choose to live here should obey our laws; the freedoms for which we have fought should extend to all Americans, not only to some.

*Phyllis Chesler, a Shillman-Ginsburg fellow at the Middle East Forum, is an emerita professor of psychology and women's studies and the author of sixteen books.*

►► Read also:

[The Consequences of Female Circumcision for Health and Sexuality: An Update on the Evidence](#)

Author: Carla Makhlouf Obermeyer

Culture, Health & Sexuality, Vol. 7, No. 5, Themed Symposium: Female Genital Cutting (Sep. - Oct., 2005), pp. 443-461.

## First look at Royal Navy's incredible new £1BILLION nuclear submarine

**HMS Audacious which can hit targets with pinpoint accuracy from 745 miles away and travel the world without surfacing**

Source: <https://www.thesun.co.uk/news/3436754/hms-audacious-royal-navy-new-nuclear-submarine-range-accuracy-pictures/>

Apr 28 – Giant 7,400-tonne vessel leaves Devonshire Dock Hall ahead of taking to water for first time.





## Fifth-Generation Kalashnikov Assault Rifles – What's New?

Source: <http://i-hls.com/archives/76236>

Apr 27 – The development process of the new Kalashnikov assault rifles models has been progressing. Russia's Kalashnikov Concern plans to conclude field tests of its fifth-generation AK-12 and AK-15 assault rifles by the end of June, according to Rostec state corporation Industrial Director Sergey Abramov.



In February, it was announced that the Concern would increase staff by 1,700, amid a surge in export orders. Russian weapons are regarded as extremely reliable (it famously has a 0.02 error percentage), efficient and combat-proven, and there is much clamor for Kalashnikov goods in overseas markets, according to sputniknews.com.

The 5.45mm Kalashnikov AK-12 assault rifle is a perspective weapon which is eventually intended to replace previous generations of

5.45mm Kalashnikov assault rifles in service with Russian and other governmental forces (AK-74, AK-74M), according to defenseworld.net. AK-12 project was commenced in 2011 by IZHMAH factory (now part of the "Kalashnikov" concern) as a private venture, in an attempt to participate in the "Ratnik" trials which were held by Russian army.

Its version chambered for 7.62×39 M43 cartridge, received its own designation of 7.62mm Kalashnikov AK-15 assault rifle.



AK-12 (AK-15) rifle is equipped with integrated Picatinny rail on the top of the redesigned, detachable top cover, which permits simple and fast installation of modern day and night sighting equipment.

Kalashnikov AK-12 and AK-15 assault rifles retain the traditional Kalashnikov-type gas operated action with rotary bolt locking, and use magazines compatible with previous generations of 5.45mm AK-74 or 7.62mm AKM rifles respectively.


The receiver, gas block, gas tube and barrel are redesigned to achieve better accuracy under all conditions. Trigger and safety / fire selector unit is redesigned to provide three modes of fire, and familiar Kalashnikov-style safety/selector switch is provided by an "index finger pad" to ensure faster and more convenient operation.





**Dreaming a "Greater Albania"? Looking forward to see you attempting to realize your dream...**

Source: <http://www.homelandsecuritynewswire.com/dr20170503-every-minute-counts-australian-man-faces-6-months-in-jail-for-overstaying-visa-by-1-5-hours>



**By Konstantinos Dalakas**

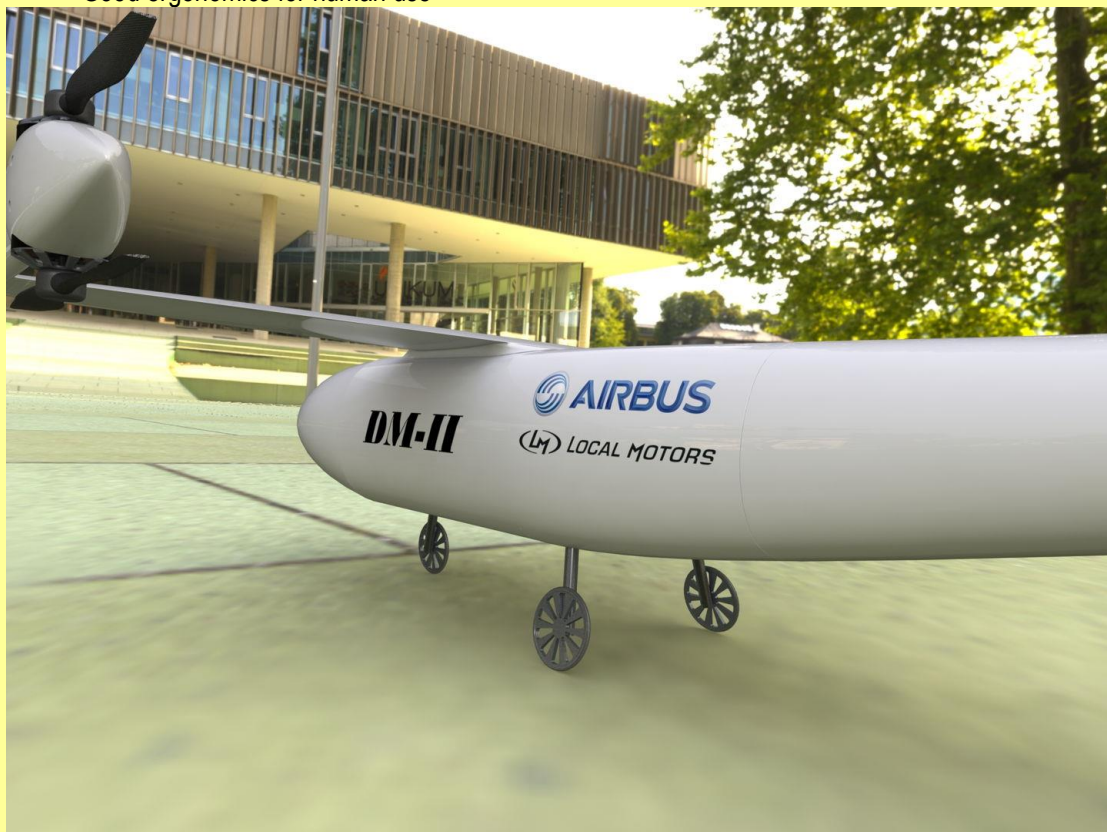
Source: <https://launchforth.io/kdalakas/dm-2-titan/>



aircraft containing Search and Rescue equipment might be able to save lives. Therefore, an automatic payload bay has been included in the design.

DM-II is designed to be very efficient at cruising speeds, to maximize effective range, while maintaining good performance during vertical takeoff. The weighting factors during initial concept were:

- Optimum cruise performance (long range, high speed)
- Good VTOL performance
- Redundancy
- Simple solutions approach (Easy maintenance)
- Good ergonomics for human use



The above requirements led to the design of an aircraft with a single high aspect ratio wing, to achieve high efficiency during horizontal flight. The vertical takeoff requirement is assessed through 8 motors in X8 configuration, mounted on two nacelles embedded on the main wing of the aircraft. The booms and propellers are aligned with the airflow during cruise minimizing the drag penalty. Also, the X8 configuration gives the required redundancy in case of motor failure during vertical takeoff, making the aircraft safe for use even in crowded places.

On the tail, a V-Tail is used for stability and authority. Its inherent coupling of rudder with elevator gives authority even with one of the two servos failing, allowing the aircraft to land safely.

The payload bay is located in the fuselage right under the main wing. Its location ensures versatility regarding the payload, as the center of the payload tray is located on the center of mass of the aircraft, minimizing the effect of the payload to the center of gravity of the aircraft. The payload is lowered and then slides out of the aircraft. An automatic unloading mechanism ensures that payload unloading is ergonomically viable for manual operation.

In case of sensors payload the automatic unloading mechanism can be removed allowing for at least 0,5 kg more payload capacity.

The batteries providing the energy required are a combination of 18650 Li-Ion Cells for cruise (High specific energy 237Wh/kg, cannot provide massive power needed during vertical takeoff, maximum discharge rate 3.3C) and Lithium Polymer Cells for VTOL (Lower specific





energy 131Wh/kg, Very high maximum power draw capacity, maximum sustained discharge rate >35C, peak 70C).

Finally, regarding redundancy, a fatal failure of the aircraft is almost impossible, due to layered power supply of flight control components, but even in this case, a parachute can be deployed, safely terminating the flight.

## Pilot filmt einen anderen Jet beim Versprühen von Chemtrails! NIX mit Verschwörungstheorie, TEILEN



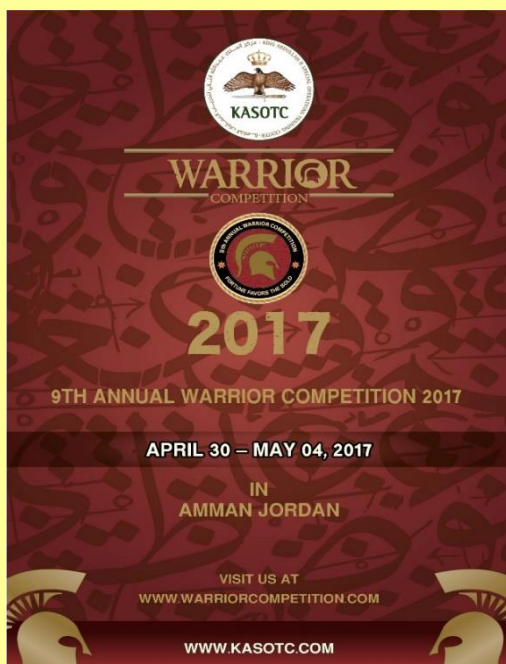
Source: <https://www.youtube.com/watch?v=VDDY1s1lxxk>



## Greek special police unit (EKAM) among top in the world (video)

### Annual Warrior Competition held in Jordan

Source: <http://en.protothema.gr/greek-special-police-unit-ekam-ranked-among-top-in-international-competition-video/>



May 10 – Greece's Special Counter-Terrorist Unit (EKAM) stood out during the ninth edition of the Warrior Competition held in KASOTC (King Abdullah II Special Operation Training Center) Amman, Jordan between April 30 and May 4. , The competition brought together 37 special forces squads and security agencies from 16 countries to engage in a number of military drills, and the Greek team was placed 5th at the end of the competition, surpassing all EU and western forces that were featured in the event, including the US special police units. EKAM took 3rd spot in two of the events, with only the Chinese – who participated with 3 teams- managing to beat them. The five-day contest was organised by Jordan's Armed Forces at the King







Abdullah II Special Operations Training Centre in Amman. The annual competition is designed to enhance the spirit of co-operation and show off individual skills in shooting and decision-making in difficult situations, according to organisers. Countries including Saudi Arabia, UAE, Lebanon, Sudan, U.S, Romania, China and Egypt took part in the contest. China took first spot in the overall

rankings.



## Snipe Nano Quadrotor could reshape the battlefield

Source: <http://newatlas.com/aerovironment-snipe-nano-quadrotor-uas/49437/>

May 09 – AeroVironment's new **Snipe Nano Quadrotor** is a man-packable drone with the potential to be carried by every foot soldier, vastly increasing situational awareness and individual capability. The Snipe will also be available commercially later this year for police, first responders and all those who need to be able to see what's happening in places they cannot safely go.



Announced at [AUVSI](#) in Dallas today, the Snipe Nano Quad UAS weighs just 140 grams (5 oz) and fits into a small hard case light enough to be carried – though AeroVironment has not yet disclosed the weight of the entire UAS including the ruggedized touch screen controller.

AeroVironment designed the Snipe for "close-range intelligence, surveillance and reconnaissance missions" and most importantly for those who might use it in theatre, it can be in the air within 60

seconds.

Once in the air, the Snipe can record or relay real-time hi-res video to the soldier's control unit around the clock via its low-light electro/optical and infrared cameras, which are positioned in a built-in tilting



mechanism.

Fight time is around 15 minutes per battery (there are two in the kit), with a top speed of 22 mph and a range of 1 kilometer.

The Snipe has integrated UHF radio for non-line-of-sight operation and the software-defined radio (SDR) means that Snipe can be sold commercially, beyond being just a defense supplier. Non-commercial orders will be accepted by the company from Q3, 2017 and the first military order was fulfilled last month.

AeroVironment says the tiny quadcopter is both stable in strong winds (15 mph with gusts up to 20 mph) and very quiet, meaning that it can be deployed to hover and stare from





relatively close range with great stealth. It is flown by a standard, ruggedized (MIL-STD 810) touch screen controller and if it loses its radio link, it returns to its operator automatically.

The Snipe is apparently a distant relative of [Aerovironment's wing-flapping Nano Hummingbird](#), with at least some of the technology used being derived from the wing-flapping mini UAV.

On top of everything else, AeroVironment claims the Snipe is so easy to fly that operator training takes just four hours.

## Coins in a military grave

### The Meanings Behind the Coins Left on a Grave



**Penny**



Leaving a penny means simply that you visited.

**Dime**



Leaving a dime shows service in the same company but different platoon.

**Nickel**



Leaving a nickel shows that you attended boot camp or training with the deceased.

**Quarter**



A quarter is left by a service member who was with the deceased when the person died.

*Some of the items that are left on graves have sentimental meaning and therefore should ALWAYS remain where the items were left*

Tia Howe  
Quest for the Unknown





## Organ trafficking from young Syrian refugees

**Maytham AlAshkar**  
20 hrs · 🌐

Horrifying Video From #Turkey: Harvesting the organs of Syrian children while they are still alive!  
#Syria  
Organ trafficking is very active in #Turkey, it is a big mafia.  
Many Syrian refugees who reached #Turkey aiming at going to #EU went missing.  
This should stop now!  
Please share as much as you can!

Source: <https://twitter.com/maytham956/status/862758295915950085>

## Community policing EU research projects

### INSPEC<sup>2</sup>T

INSPEC<sup>2</sup>T (Inspiring CitizeNS Participation for Enhanced Community PoliCing AcTions) is a three-year project that started in May 2015. The project is funded by the European Commission, under the "H2020- FCT-2014 Ethical/Societal Dimension Topic 2: Enhancing cooperation between law enforcement agencies and citizens - Community policing" call. INSPEC<sup>2</sup>T projects' scope is to develop a sustainable framework for Community Policing that effectively addresses and promotes seamless collaboration between the police and the community. INSPEC<sup>2</sup>T approach bases its conceptual foundations on EU crime prevention and Member States specific Internal Security Policies, validated research results and best practices from cooperation between police and local, regional and national communities. This is perceived as an origin to apprehend special characteristics, particularities and determinants for trust between all stakeholders. INSPEC<sup>2</sup>T will be demonstrated and validated in 5 EU cities by a wide range of relevant stakeholders. INSPEC<sup>2</sup>T engagement and active participation is stimulated through fully dynamic, interactive and immersive training Serious Game applications that empower players to familiarise themselves with the system, gain an intuitive understanding of its functionalities and motivate their engagement in Community Policing activities. Special focus will be given to Community Policing awareness raising activities for both police and citizens. The above activities and associated results, will provide a solid foundation for the evolution of the Next Generation Community Policing roadmap in Europe.



### TRILLION

TRILLION proposes an open, flexible, secure and resilient socio-technical platform to foster effective communication and collaboration between citizens and law enforcement officers. Using the TRILLION platform, citizens will support the achievement of a better urban security management by reporting crimes, suspicious behaviour and incidents identifying hazards assisting law enforcement agents (LEAs)





through active participation. At the same time, LEAs will be able to: a) detect incidents in a more efficient, content and context aware manner, b) locate on-site citizens, other LEA representatives and first responders and communicate with them and c) request more information and assign specific actions to address on-going incidents. To facilitate collaboration between citizens and LEAs, TRILLION aims to deliver a comprehensive multiple channels platform for incident discovery, prediction, reporting and interaction. Users will have the choice of using existing social networks or directly reporting incidents via native mobile applications. Making use of a wide range of geo-location technologies, information exchanged in a user-friendly manner will be collected and used to detect in real-time situations that are or may become critical in the short to medium term. The acquisition of the information will respect EU regulations on data protection, privacy and will comply with the EU standards.

### UNITY

The Unity project is a 36 month project that commenced in May 2015. The WyFi delivery team work with West Yorkshire Police and the office of the police and crime commissioner to coordinate the project. As well as a number of SME and Academic partners, the majority of Unity's partners are Law Enforcement Agencies, covering 8 EU countries and serving a number of diverse communities; The fundamental vision and end-user focus of the Unity project is to strengthen the connection between the police and communities to maximise the safety and security of all citizens. The vision of Unity shall be achieved through the delivery of three key strategic objectives;

- To capture best practices for cooperation between police and citizens.
- To develop a communications technology to facilitate, strengthen and accelerate the communication between citizen's police and community partners.
- To design, develop and deliver training for LEAs and awareness raising activities about CP.

Unity will develop and deliver a flexible and scalable citizen-focused CP model which strengthens the effective engagement and cooperation between police forces and the communities they serve. This will create safer societies for all through the development and live pilot demonstrations of technological tools in eight EU member states that facilitate, strengthen and accelerate community and LEAs communications. These tools shall be amplified and supported by the design and delivery of CP training and awareness raising activities to LEAs, citizens and community partners.



### CITYCoP

CITYCoP sets out to learn what are the common features and the best practices embraced by apps which may have been successful worldwide and determine why apparently promising ones may have failed. It then goes on to produce a uniquely European solution including a smartphone app and an on-line portal, which are capable of being deployed in every European city while still retaining the "local flavour" and diversity. The goal is to engage the citizen and law enforcement agencies in mutual learning of local policing practices, exchange information and alerts, and provide for a platform to develop inclusive problem solving methodologies. A training scheme, including the use of serious games, will be developed to assist the training of officers and citizens in the uptake of the community policing app and portal. The project will outline best practices for police cooperation with the public, directly for community engagement, the use of technology in community policing, and to establish community policing policies in law enforcement agencies.



### ICT4CoP

Community-Based Policing and Post-Conflict Police Reform, or ICT4COP, aims to understand human security in post-conflict areas. Where conventional, top-down police reforms often fail, Community-Based Policing (COP) holds promise – but it also entails challenges. Post-conflict societies, although they vary in most respects, have something in common: public institutions are considered weak and untrustworthy. This is true for police institutions as

THE ICT4COP MAGAZINE



well. Abuse of powers, corrupt practices, and impunity are characteristics people often ascribe to their authorities. Meanwhile, conflicts have regional and global ramifications. Citizens everywhere are endangered by problems arising from conflict, such as human and drug trafficking, and terrorism. The ICT4COP project seeks to better understand these and interlinked challenges, and to propose new ways for dealing with them. Questions we ask include to what degree information and communications technologies contribute to or detract from improved human security for vulnerable populations and if and how police in post-conflict societies are accountable to the population. The project comprises 11 work packages and in-depth qualitative research is conducted in a total of 11 case countries, spread across Latin America, South-Eastern Europe, Africa, and South Asia. Crosscutting themes include youth, gender, technology, and police training. ICT4COP is coordinated by the Norwegian University of Life Sciences, Department of International Environment and Development Studies, Noragric. The project includes 10 partners and 5 third partners, and is headed-up by Dr. Ingrid Nyborg, Associate Professor at Noragric.

### CITY.RISKS

is a 3-year project that started in May 2015. The project is funded by the European Commission under H2020 Secure Societies Programme (FCT-10-2014 - Urban security topic 1: Innovative solutions to counter security challenges connected with large urban environment). The main objective of the project is to increase the perception of security of citizens in urban areas by activating in a more transparent and sustainable way their participation in communities, through which information and interventions can be provided both to proactively protect citizens from falling victims to criminal activities as well as to reactively provide more timely and effective response and assistance. In order to do so, the City.Risks project will leverage a set of innovative technologies, city infrastructures, and available data sources but, more importantly, will aim at making citizens' smartphones the modern tool for increasing their personal and collective sense of security. Pilot field trials will be carried out in the city partners: Rome (I), London Waltham Forrest (UK) and Sofia (BG).

### **CITY.RISKS**

### NEXES

The NEXES Research and Innovation Action aims to research, test and validate the promising integration of IP-based communication technologies and interoperability into next generation emergency services, so that they attain increased effectiveness and performance. Empowered by smartphones with cameras, messaging and internet-based applications connecting to social media, citizens expect emergency services to use the same technologies. However, this is not the case. NEXES innovates the approach to the dynamics between emergency services and citizens, allowing (i) the use of total conversation capabilities in emergencies, including social media, to the benefit of citizens, including those with disability or special needs (ii) the exploitation of improved location information to rapidly and effectively identify and locate the caller and the incident site and (iii) the leverage of Internet-enabled connectivity to enhance interoperability and shared awareness among emergency services, to the benefit of a more secure society.



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NEXT GENERATION COMMUNITY POLICING

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## Thieves break into German military compound, steal weapons from armored carrier

Source: <https://www.rt.com/news/388117-germany-weapons-stolen-tank/>

May 12 – **Unidentified thieves stole weapons from inside a Fox armored personnel carrier after breaking into a military facility in northern Germany**, the Bundeswehr confirmed to local media.

The perpetrators stole **two G36 assault rifles, one P8 pistol**, one flare gun, two magazines without ammunition, two radio devices, and a pair of binoculars, Die Welt reported, adding that the theft **occurred** on February 13 at a military training area near Munster, Lower Saxony.

The weapons were not loaded at the time of the theft, a ministry spokesperson said, **according** to Germany's Bild newspaper.



"The case has been handed over to the Prosecutor's Office in the city of Luenenburg," a spokesperson for the Bundeswehr, Germany's armed forces, told Die Welt. Earlier this week,



German Defense Minister Ursula von der Leyen said that the military needed a faster and more efficient reporting scheme for incidents and potential threats.

The minister, whose post includes the role of commander-in-chief of the Bundeswehr, is already in hot water over the scandal revolving around Franco Albrecht, a 28-year-old first lieutenant who was allegedly plotting a hate crime attack.

Investigators said the officer had been living a double life for more than a year, serving in the army while receiving state benefits under a bogus identity as a supposed Syrian refugee. He is also suspected of having stolen ammunition from Bundeswehr stocks.

In the meantime, numerous Nazi-era military awards, propaganda posters, and steel Wehrmacht helmets were discovered at an army barracks in western Germany last week during the ongoing investigation into Albrecht.

Von der Leyen said following the officer's arrest that the army suffered from an "attitude problem" and "a misunderstood esprit de corps," as well as "weak leadership at different levels." She later apologized for her critical remarks.

**EDITOR'S COMMENT:** Thieves??? **REALY???**

## Migrants In Sweden Suspected Of Converting To Christianity To Get Asylum

Source: <http://dailycaller.com/2017/05/14/migrants-in-sweden-suspected-of-converting-to-christianity-to-get-asylum/>

May 14 – **The Swedish migration agency is handing out pop quizzes on the Bible to make sure migrants aren't converting to Christianity to receive asylum.**



Risk of persecution because of one's religious faith can boost a person's chances of gaining asylum. The Swedish migration agency is making **unannounced visits to asylum seekers** to quiz them on the Bible and make sure their conversions are genuine.

"How many books are in the New Testament?" and "What is the difference between Orthodox and Protestant churches?" are examples of questions converts have to answer.

Immigration lawyers have criticized the measure, but the agency defends the questions as knowledge true Christians should know.



"There are reasonable demands that the [asylum] applicant should have certain knowledge based on what they've told us and how they've gained knowledge of the Bible," Carl Bexelius of the Swedish migration agency told state broadcaster SVT in an article published Saturday. "This knowledge should be there naturally, and it shouldn't be something they need to read up on."

**Migration attorneys are now urging converts to study up on the Bible so they can pass the tests.**

"I think it's horrible," immigration lawyer Serpil Güngör told SVT. "I have interrupted the person asking the questions several times because the questions aren't relevant and far too complex."

Hundreds of migrants converted to Christianity in Germany last year – photo: Hamburg, D

Pastor Albert Babajan, who **converted 196 Muslims** in mass baptisms in the city of Hamburg, frequently denies people when he suspects ulterior motives.

"If I have the impression that someone doesn't believe it from the heart, then I won't baptize him," Babajan German magazine Stern in May 2016.

**EDITOR'S COMMENT:** "Migration attorneys" – are they Swedish?

## Every Bomb Dropped By The British & Americans During WW2

Source: <http://brilliantmaps.com/uk-us-bombs-ww2/>

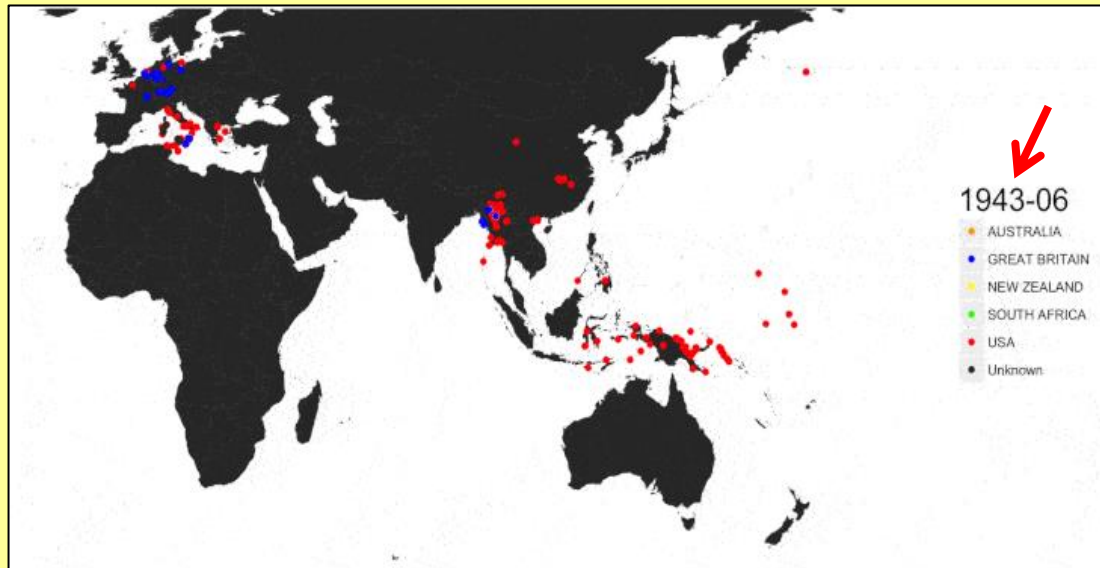
The map above shows every bomb dropped by the British and Americans during World War 2, along with a limited amount of bombs dropped by the Australians, South Africans, and New Zealanders.

The data comes from the US Military's Theater History of Operations (THOR) Data set for World War 2:





*This dataset combines digitized paper mission reports from WWII. It can be searched by date, conflict, geographic location and more than 60 other data elements to form a live-action sequence of the air war from 1939 to 1945. The records include U.S. and Royal Air Force data, as well as some Australian, New Zealand and South African air force missions.*



This is an interactive automatic map changing by month (on the right [arrow])

A few additional facts:

- Between 1939 and 1945, Allied planes dropped 3.4 million tons of bombs on Axis powers.
- Between 305,000 and 600,000 German and 330,000 and 500,000 Japanese civilians were killed by Allied bombs during the war.
- On the other hand, 60,595 British, 67,078 French and over 500,000 Soviet civilians were killed by Axis bombing.



## Are Popcorn, Pizzas And Nappies Weapons Of Mass Destruction?

(nappies = pampers)

By Ibrahim Thiaw

Source: [http://www.huffingtonpost.com/entry/are-popcorn-pizzas-nappies-weapons-of-mass-destruction\\_us\\_58ff887be4b0c13feaa5c8e2](http://www.huffingtonpost.com/entry/are-popcorn-pizzas-nappies-weapons-of-mass-destruction_us_58ff887be4b0c13feaa5c8e2)

Apr 25 – As a young boy, I used to look at the stars and wonder about the adventures of people like Neil Armstrong. Years later, as a parent, I used to watch my children do the same and wonder about their future – would they be the ones to take holidays in the stars?

But today, when I get a precious evening with my grandson and we look up at the sky, I think of other children with lives so full of pollution they can't even see the stars. And I wonder if my grandson will travel because of his sense of adventure or because he is forced to find safe air and water.

From 36,000 feet down in the ocean's Mariana Trench, to 36,000 feet up in busy air traffic corridors, humans are polluting everything we need to eat, drink or breathe.

When did we slip from marveling at this amazing planet to casually destroying it? When did we become

Pizza Hut Garlic Cheese Bread Ingredients	
United States	United Kingdom
<p>Bread: Bleached Enriched Flour (Wheat Flour, Malted Barley Flour, Niacin, Iron, Thiamine Mononitrate, Riboflavin, Folic Acid), Water, Salt, <b>Soybean Oil</b> (Tbhq Added Toproductflavor), yeast, sugar, Dough conditioners (Datem, Ascorbic Acid, Potassium Iodate, L-cysteine, Enzymes, Calcium Stearoyl Lactylate, Sodium Stearoyl Lactylate, <b>Azodicarbonamide</b> (Ada), Ethoxylated Mono And Diglycerides, <b>Soy Lecithin</b>), Dextrose, Calcium And Sodium Propionate (Preservatives), malted Barley Flour, <b>Corn Starch</b>, Mono And Diglycerides, Polysorbate 60, <b>Cornmeal</b>. Spread: <b>Soybean Oil</b>, Water, Palm Oil (Tbhq Added To Protect Flavor), Dehydrated Garlic, Salt, Monoglycerides, <b>Soy Lecithin</b>, Natural And <b>Artificial Flavors</b>, Parsley, Whey (A Milk Ingredient), Xanthan Gum, Citric Acid, <b>Autolyzed Yeast Extract</b>, Beta Carotene Added For Color.</p> <p>Cheese: Part Skim Mozzarella Cheese (Pasteurized Milk, Cheese Cultures, Salt, Enzymes), Modified Food Starch, Whey Protein Concentrate, Non- Fat Milk, Sodium Propionate (Added As A Preservative)</p>	<p>Wheat Flour, Water, Margarine [Rapeseed and Palm Oil, Water, Emulsifier (E471 - Mono- and diglycerides of fatty acids), Flavouring, Colours (E160b - Annatto, E100 - Turmeric, Garlic (Puree and Chopped), Yeast, Garlic Powder, Salt, Oregano, Calcium Sulphate, Vegetable Fat, Onion Powder, Garlic Oil, Flour Treatment Agent (E300 - Ascorbic acid).</p>



Food Babe Investigates

so numb to our surroundings that 13 deaths from a traffic accident can move us to tears, but up to 13 million deaths from pollution and environmental degradation can't move us to action?

Chemicals are a big part of this pollution. We didn't intend them to be. After all, they improve our lives in incredible ways. They provide clean water, medical care and hygiene, and they support agriculture, clean energy and job creation. In fact, they contribute to almost everything that we use and do.

But we are losing control of our own creations. We are introducing them across the planet much faster than we can assess their impact on our lives and much faster than we can get any problems back under control.

People talk about the existential risk of artificial intelligence. Yet this threat is already here with chemicals. Everyday items like pizza boxes, microwave popcorn and baby nappies are upsetting the hormonal balance of humans, wildlife and our entire food chain.

The difficulty is that once these substances are out there, getting the genie back into the bottle is not so easy, and it doesn't happen quickly.





We are just a few months away from the first meeting of the Minamata Convention, which will help control the use and spread of mercury. But it is already 60 years since the Minamata coast in Japan became synonymous with mercury poisoning.

Since then, scientists have found mercury in the once pristine waters of the Arctic. It is seeping into our soil, water and air from the millions of tonnes of electronic waste dumped illegally each year.

**And mercury is just one of more than 130,000 chemicals on the market.** But we only properly assess, control or label a fraction of them.

We can't keep dealing with chemicals one at a time and only when we have enough irrefutable scientific data to convince governments, producers, traders, doctors, lawmakers and the general public.

By then, too much damage has already been done. Instead, we have a moral responsibility to act when there is a doubt, not when victims emerge, laws change and loopholes close.

Over the next two weeks, representatives from more 180 countries are meeting in Geneva to agree how to better manage chemicals and waste using the Basel, Rotterdam and Stockholm conventions.

Advancing these multilateral agreements is vital. But we also need to trigger a rethink in our lifecycle approach to chemicals and the way we adapt to new findings.

We need to work with the private sector to develop better controls, quicker responses and innovative alternatives.

We need to work with schools and universities to look at how we educate the young people who will develop the chemicals, pharmaceuticals and consumer products of the future.

We need to work with the general public to leverage household purchasing power and decision making.

This is the 30th Anniversary year of the Montreal Protocol – the most successful international environment agreement to date. It turned the tide on ozone-depleting chemicals, showing the power of concerted action taken even before hard, scientific evidence emerged.

**What's good for the planet can also be good for business.** For example, the growing consumer backlash against the 13 million tonnes of plastic flowing into our oceans every year is creating a huge market for alternatives.



We also see an explosion in demand for renewable energy, mobile technology and electric transport – and a concomitant demand for ecologically friendly batteries and servicing.

The Basel, Rotterdam and Stockholm Conventions do not cover every pollutant on the planet, but they cover some of the worst and provide an opportunity to phase these out as a first step.

These Conventions also give us a chance to reset the way we approach chemicals and waste and influence the success of other agreements designed to safeguard our planet, including the Kigali Amendment on greenhouse gasses, the Paris Agreement on Climate Change and the Sustainable Development Goals.

No single nation can control pollution from chemicals and waste, so at last year's UN Environment Assembly, nearly 200 countries asked us to explore how we should deal with them. This December, the Assembly will be a summit on pollution, putting the impact of chemicals and waste at the heart of decision making.

For most people, chemicals are not yet on the radar, but they are in almost everything they eat, drink and breathe. They will decide if their kids grow up healthy or sick; whether they reach for the stars or just read about them online.

If we have the power to block the heavens from our children and to poison the most remote corners of the ocean, surely we also have the power to change course.



*Ibrahim Thiaw is Deputy Executive Director of the United Nations Environment Programme and Assistant Secretary-General of the UN.*

## The Solution for Chemical Warfare Agents Neutralization?

Source: <http://i-hls.com/archives/76204>

Apr 25 – A DARPA program, developing a system for on-site neutralization of bulk stores of chemical warfare agents (CWA), has successfully demonstrated a waterless soil-scrubbing technology that neutralized toxic chemicals simulating sarin, soman, and mustard agents.

The technology, created as part of the Agency's Agnostic Compact Demilitarization of Chemical Agents (ACDC) program, **demonstrated over 99.9999% removal of the simulants.** According to defenseworld.net, the soil-scrubbing technology was **tested in conjunction with the Tactical Plasma Arc Chemical Warfare Agents Destruction System (PACWADS),** a thermal treatment system already under development for use by U.S. military.



That system uses a high-temperature plasma torch to convert highly toxic chemicals into relatively benign components and then uses a water-based capture process to eliminate the last traces of contaminants. For the ACDC experiment, the PACWADS was modified to eliminate the water scrubber and connect instead to DARPA's soil-based scrubber system, which captured and converted the toxic CWA decomposition products and resulting acid gases into non-hazardous salts. An ability to use local soil from the site where CWA stores have been discovered eliminates the logistical burden of supplying water to such sites, which are anticipated to be remote, and then having to transport resulting liquid wastes to a treatment facility. **The soil used in the DARPA process remains non-hazardous and could be safely returned to the environment.**

Tyler McQuade, DARPA program manager, said. "These successful tests validated a critical component of the ACDC concept—a water-free, non-hazardous, soil-based process for onsite destruction of deadly chemicals. We now look forward to testing the ACDC scrubber with the PACWADS against actual chemical warfare agents in the coming months."





## MIT professor finds errors in US report on chemical attack in Syria

Source: <http://www.presstv.ir/Detail/2017/04/16/518192/US-White-House-Syria-chemical-attack-MIT-professor-Theodore-Postol-Khan-Shaykhun-sarin-gas>

Apr 16 – **A US-based expert and MIT professor has effectively demonstrated that the site of the alleged chemical attack in the Syrian town of Khan Shaykhun was tampered with, insisting that the US intelligence report blaming the Syrian government for the attack “cannot be true.”**

In a six-page [addendum](#) written in reaction to the US government report on the incident, MIT Professor of Technology and National Security Policy Theodore Postol examined photographs of the the alleged attack site and concluded that the report endorsed by the White House “could not be true,” RT reported on Saturday, noting that Postol had shared his findings with the Russia-based news outlet.

**ADDENDUM TO: *Assessment of White House Intelligence Report of April 11, 2017***

***April 13, 2017  
Page 4 of 6 Pages***



**Figure** shows a man standing in the alleged sarin-release crater. He is wearing a honeycomb facemask that is designed to filter small particles from the air. Other apparel on him is an open necked cloth shirt and what appear to be medical exam gloves. Two other men are standing in front of him (on the left in the photograph) also wearing honeycomb facemask's and medical exam gloves. If there were any sarin present at this location when this photograph was taken everybody in the photograph would have received a lethal or debilitating dose of sarin. The fact that these people were dressed so inadequately either suggests a complete ignorance of the basic measures needed to protect an individual from sarin poisoning, or that they knew that the site was not seriously contaminated. This is the crater that is the centerpiece evidence provided in the WHR for a sarin attack delivered by a Syrian aircraft.



Postol stated that his data “unambiguously shows that the assumption in the WHR (White House report) that there was no tampering with the alleged site of the sarin release is not correct. This egregious error raises questions about every other claim in the WHR.”



Figure shows the location of the crater on a Google Earth map of the Northeast part of Khan Sheikhun. The white arrow labeled *camera direction* indicates the bore site of the camera when the photograph was taken. The white dot connected to a line shows the approximate location of the camera when the photo was taken. The direction the camera is looking is North Northeast.

Postol further insisted that such assumption was “totally unjustified,” and “no competent intelligence analyst would have agreed that this assumption was valid.”

By implication, he added that the report was not reviewed and released by competent intelligence experts – “unless they were motivated by factors other than concerns about the accuracy of the report.”

The professor’s key argument, according to the report, is based on a series of photographs of the crater where the container holding sarin was purportedly air-dropped, pointing out specifically to a photograph of several men inspecting the site while wearing loose clothing and medical gloves.

“If there were any sarin present at this location when this photograph was taken, everybody in the photograph would have received a lethal or debilitating dose of sarin,” he wrote. “The fact that these people were dressed so inadequately either suggests a complete ignorance of the basic measures needed to protect an individual from sarin poisoning, or that they knew that the site was not seriously contaminated.”

I therefore conclude that there needs to be a comprehensive investigation of these events that have either misled people in the White House White House, or worse yet, been perpetrated by people seeking to force decisions that were not justified by the cited intelligence.

This is a serious matter and should not be allowed to continue.

Sincerely yours, Theodore A. Postol

*Theodore A. Postol*

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Postol further noted in his report, “I believe it can be shown, without doubt, that the document does not provide any evidence whatsoever that the US government has concrete knowledge that the government of Syria was the source of the chemical attack in Khan Shaykhun.”

CIA Director Mike Pompeo confirmed on Thursday that it was his agency that concluded the Syrian government was responsible for the alleged chemical attack in Khan Shaykhun, leading Trump to order the launch of 59 cruise missiles at a Syrian airbase last week. “We were good, and fast,” Pompeo said at an event in Washington DC, adding that “we got it right.”





Moreover, US Defense Secretary James Mattis further told reporters on Tuesday that it was “very clear who planned this attack, who authorized this attack, and who conducted this attack itself.”

Earlier in the day, White House spokesman Sean Spicer also claimed that doubting the “evidence” would be “doubting the entire international reporting crew documenting this.”

The White House report, however, cited “a wide body of open-source material” and “social media accounts” from the area occupied by foreign-backed militants in the country, including footage provided by the White Helmets rescue group, which has been documented to have ties with anti-Damascus militant groups as well as Western and Persian Gulf Arab governments backing the overthrow of Syrian President Bashar al-Assad.

Meanwhile, the Syrian government has fiercely denied using or even possessing chemical weapons since the country’s compliance with the Chemical Weapons Convention was certified by international observers in 2013.

However, it noted that foreign-backed militants in the country possessed access to chemicals at two Syrian sites under their control at the time international chemical experts removed all chemical arms from the country back in 2013.

This is while several countries, led by Russia and Iran, have strongly challenged Western-led efforts to probe the alleged chemical attack in Syria as inadequate, biased, and politically-motivated.



## OPCW warns of “chemical attacks” by IS fighters returning from Syria

Source: <http://www.globaltimes.cn/content/1044644.shtml>

Apr 29 – The Islamic State (IS) foreign fighters returning from Syria to their countries of origin could carry out chemical weapons attacks after learning how to use the toxic substance in the battle zones, Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW) Ahmeet Uzumcu warned on Friday.

“The threat of chemical terrorism is a major concern especially after what happened in Syria and Iraq where ISIS has been identified as one of the perpetrators of sulphur mustard gas attacks, while there have also been some more recent allegations attributed to ISIS,” said Uzumcu at a round-table with foreign press at the headquarters of the OPCW.

**“We fear that foreign fighters may get back to their countries of origin with the know-how of production and use of such weapons,” he said.**

“We receive some information from our states parties, which rather confirms the seriousness. So far in the terrorist activities in several European countries other weapons were used, but they don’t throw out the possibility that chemical or other non-conventional means

could also be used,” the OPCW chief expressed the worries.

The OPCW called upon its member states to issue recommendations for necessary measures, while it keeps its Rapid Response Assistance Mission ready to deploy at short notice to any of its 192 member states upon request.

“Most European countries have **some** preparedness individually but also through institutions like NATO and the EU to respond but other countries do not have responsiveness to react,” he explained.

**The OPCW chief noted that since 2013 the number of cases of alleged use of chemical weapons has increased significantly, with 45 alleged incidents reported since late 2016, all in Syria.**

Uzumcu called upon the state members of the organization to strengthen the global norm established by OPCW by “enforcing the provisions of the organization.”

According to the OPCW, 95 percent of chemical weapon stockpiles declared by possessor



states have already been eliminated.  
"Russia is likely to complete destruction by next year, while the United States in five to six years," said Uzumcu.

Saturday marks the 20th anniversary of the entry into force of the Chemical Weapons

Convention (CWC) and the founding of the OPCW.

The OPCW, Nobel Peace Prize laureate in 2013, now has 192 member states representing 98 percent of the global population.



## How billions vanish into the black hole that is the security industry

By Dimitri Tokmetzis and Maaïke Goslinga

Source: <https://thecorrespondent.com/6229/how-billions-vanish-into-the-black-hole-that-is-the-security-industry/303333613-52f43e22>

The Swedish researcher points at the giant black-and-yellow-striped blaster. "Shall I test it out on you?" He reaches toward the funnel-shaped device. A mannequin stands a few yards away, wearing a cheap jogging suit and a bright yellow suicide vest. We give a nervous laugh and politely decline the offer. It's June 1, 2016 and we're exploring the Security Research and Innovation Event the European Commission is holding in The Hague. Here, researchers are presenting the results of seven security projects the Commission has funded with more than €63 million in grants.

### The 7 projects (name, duration, cost in euros):

1. **SUBCOP**, SUicide Bomber COunteraction and Prevention: 2013-2016, €4.6 million.
2. **BONAS**, BOmb factory detection by Networks of Advanced Sensors: 2011-2014, €4.9 million.
3. **HYPERION**, Hyperspectral imaging IED and explosives reconnaissance system: 2012-2015, €4.8 million.
4. **ICARUS**, Integrated Components for Assisted Rescue and Unmanned Search Operations: 2012-2016, €17.3 million.
5. **SAFEPOST**, Reuse and development of Security Knowledge assets for International Postal supply chains: 2012-2016, €15 million.
6. **EDEN**, End-user driven DEmo for cbrNe: 2013-2016, €35.8 million.
7. **GIFT CBRN**, Generic Integrated Forensic Toolbox for CBRN incidents: 2014-2017, €7.1 million.

And those aren't the only projects funded by the Commission. The Commission has been trying to boost the security industry for ten years now, and nearly €2 billion has already been funneled into security research.

Our international consortium of 22 European journalists from 11 countries wants to find out what that €2 billion in subsidies has accomplished. In total, we speak with nearly one hundred people involved, in Brussels and in participating member states. Has it made Europe safer?

We quickly discover that the European security industry is primarily taking good care of itself – often at the expense of the public.

### The civilian security industry is growing

But first: What is the European "security industry," anyway?

In the 1990s many countries lowered their defense spending, so arms manufacturers moved into the civilian security market. Drones, smart cameras that can see through clothing, and sensors that can sniff out bombs: all kinds of things were developed. In the US, the security industry is now worth more than €100 billion.

In every policy paper, the European Commission emphasizes that we're living in a dangerous world whose threats have grown extraordinarily complex

In Europe, too, the civilian security industry has been growing for years, though no one seems to be paying much attention. According to the European Commission, surveillance





companies earn some €30 billion each year on the European market, enjoy double-digit growth, and provide jobs to roughly 180,000 people.

That's not to say the Commission is satisfied. In every policy paper, it emphasizes that we're living in a dangerous world whose threats have grown extraordinarily complex. Time and again, the Commission insists that Europe can only become safe if we develop and deploy sophisticated technology, such as that being presented at the trade show in The Hague.

But this market isn't yet flourishing, says the Commission. The industry is still much too focused on national concerns, and researchers aren't collaborating enough. The Commission envisages an enormous public-private partnership of companies, private and semi-private research institutes, universities, and end users such as law enforcement and emergency services.

A sort of European *Homeland Security*.

### An example of things gone wrong: The A-WASP

Back to the black-and-yellow-striped blaster, which turns out to be an A-WASP. The blaster is part of the European SUBCOP research project, which stands for Suicide Bomber COUNTERaction and Prevention, the Swedish researcher explains. The goal of that project, which received €4.6 million in funding, was to find less-than-lethal methods for taking out terrorists.

One of the plans was to install dropdown walls and ceilings. If a terrorist exploded a bomb, security personnel could make panels drop down around the terrorist to isolate him.



by Leon de Korte for The Correspondent

That plan ultimately didn't make it to market, unlike the A-WASP, a highly directional megaphone that projects a concentrated beam of sound. If a terrorist is about to blow himself up, security personnel can use the megaphone to warn people nearby and to emit high-frequency tones to unsettle the attacker.

The sound blaster is manufactured by an English company with the Harry Potteresque name of [Here's the Cerberus Black website, with more on the A-WASP](#). Cerberus Black. As far as we know, no counterterrorism agencies have

wagered a purchase of this giant. Cerberus Black is now trying to sell the A-WASP to local law enforcement services. According to Matt Henry, the company's owner, the device "sounds like the worst siren you've ever heard." Test subjects say it "looks like a comedy gun," but feels as if their brains are "rattling around."

Now police officers can use the A-WASP when "addressing the migrant crisis," according to the [Here's the news item about "addressing the migrant crisis" on Cerberus Black's website](#). Cerberus Black website. But of course that's not what the EU's SUBCOP funding was meant for. It was meant for counterterrorism. So what went wrong with the black-and-yellow-striped blaster? In September we speak with Marike van der Horst and Jolanda van Deursen, two researchers at the Dutch research institute TNO, both of whom worked on SUBCOP and other EU projects.

Our conversation is a little on the prickly side, especially once we ask what concrete results the SUBCOP project accomplished. That's not easy to measure, the researchers say. Their



objective was to develop knowledge and forge international networks of companies, end users, and researchers. The final technology is in the hands of Cerberus Black, and TNO no longer has a say in that.

### How this security industry was able to emerge

But enough about SUBCOP – after all, it's only one of the more than 458 security projects the European Commission has funded so far. And the striking thing is: all these projects came about some ten years ago, thanks to the urging of the arms industry and a few high-ranking European officials.

The idea for the grants was launched in 2003 by the Group of Personalities. This one-time advisory body to the Commission was populated by:

- top brass from defense companies such as Thales, Finmeccanica, BAE Systems, and EADS (now Airbus),
- representatives from tech companies like Siemens and Ericsson, and
- a number of senior government officials.

### Not represented in the group: scientists and civil society organizations.

In the group's final report, the defense companies and government officials urged the development of research programs focused on technology that could be used both on the battlefield and in everyday life. Public-private partnerships would be key in rapidly readying this technology for the market, so that both industry and society could benefit, according to the group.

The EU listened and freed up a handsome sum for the programs. The grants got off to a modest start, with a budget of €65 million in 2004. But in 2007 FP7 began, and seven years later Horizon2020, in which some €3 billion was reserved for security research. Roughly two-thirds of that has now been disbursed.

### Who received those millions in funding?

Where did that money go? Our investigation shows that eleven of the twelve private parties in the Group

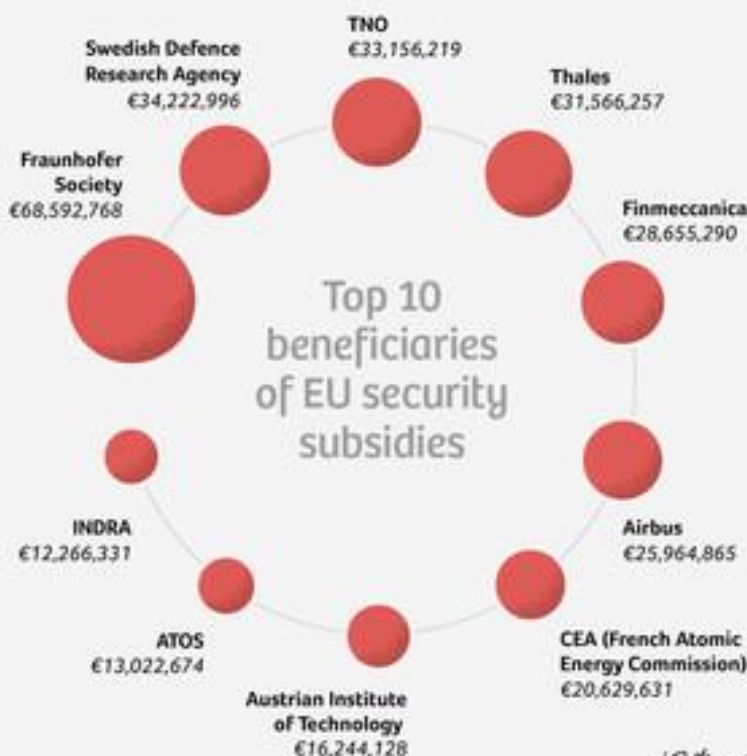
of Personalities have received funding. At €33 million, the Dutch research institute TNO has received the third-largest research grant. Group members Thales (€32 million), Finmeccanica (€29 million), and Airbus (€25 million) are also in the top ten.

The bulk of the funding, more than €1.1 billion, went to companies and research institutes. Most research institutes, including TNO and Germany's Fraunhofer, focus on applied research and are dependent on private clients.

Roughly €18 million went to interest groups, including the European Organization for Security (EOS), a defense industry lobbying group founded in 2007.

by Leon de Korte for The Correspondent  
How did those organizations score that money? The companies that received funding have a strong lobby. Employees, usually acting as private individuals, are members of expert groups that advise the Commission on new research grants. Delegates from the EOS lobbying group also

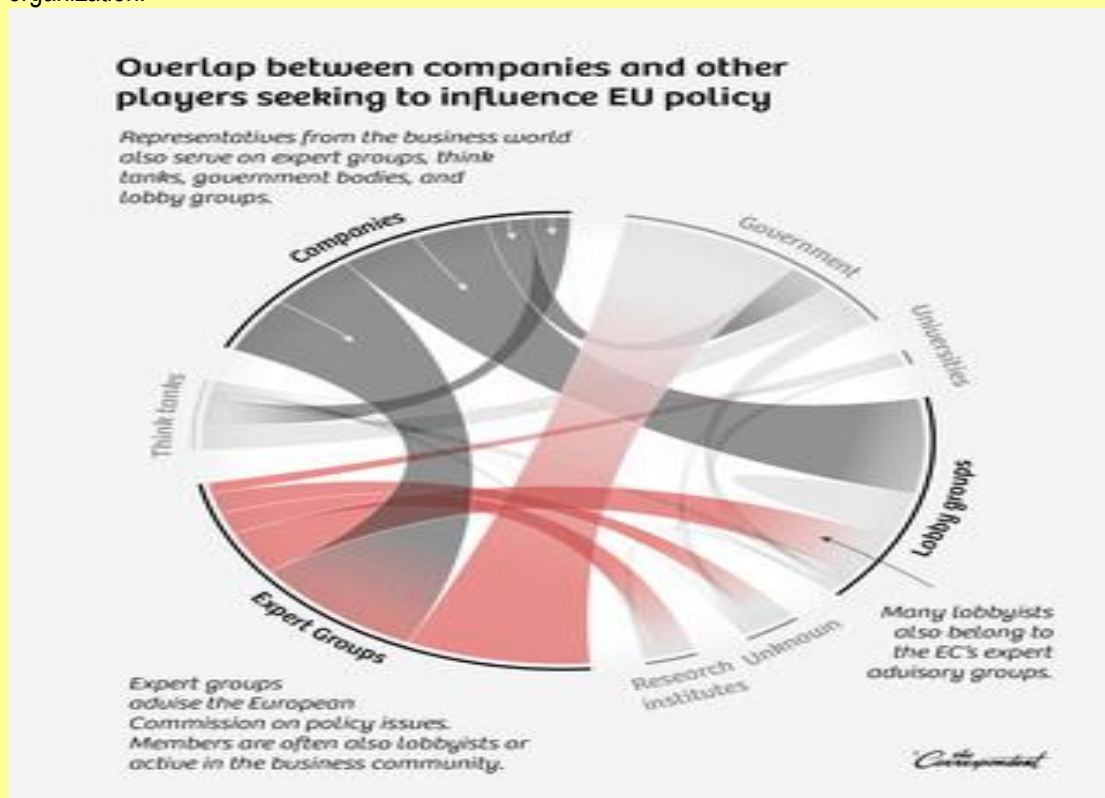
routinely have a seat in these kinds of advisory bodies. And the EOS itself also organizes conversations between the industry and EU policy makers.





The major arms manufacturers are also members of the Aerospace and Defence Industries Association (ASD) lobbying group, and we counted sixty lobbyists who work to influence European Parliament members on their behalf. In addition, some manufacturers are regularly invited by EU member states to pull up a chair at the usually closed European Council meetings.

At Milipol, a large homeland security trade show in Paris, a delegate from a French defense company who spoke to us on condition of anonymity reveals why companies participate in these kinds of advisory bodies. “The goal is to land contracts in order to sell the technology later. We learn how the EU works, and we can help guide the requirements that will be posed.” He then adds, “We’re not a humanitarian organization.”



by Leon de Korte for The Correspondent

Oddly enough, emergency services such as police and fire departments – that is, the organizations that will actually use the technology – are rarely at the table, or are only there in small numbers. Consider the PASAG, a council that advises the EU on the security research the Horizon2020 program should support. The panel contains just one organization that directly represents end users: the European Network of Law Enforcement Technology Services (ENLETS).

As a result, the technology that gets developed, like the A-WASP, doesn't meet real-world needs, ENLETS chairman Patrick Padding tells us. The innovation programs often focus on developing highly advanced technology. “But we don't always want the latest gadgets; we'd rather have, say, a simple app that works on old smartphone models. Our needs are often quite modest.”

That realization has since sunk in at the European Commission. After a press conference in The Hague, a senior official tells us it's been difficult to find an audience for the projects' results. The Commission is now working to improve that by involving end users earlier in the process. But in the past, at least, customers have been hard to find.

### But has all of this made us safer?

In 2015 the Commission published a report on how its first €1.4 billion in funding for new technology research was spent. The surveyed recipients were positive about the results and



praised the opportunities to work with other organizations. The report also contained critical notes. The research projects have generated few scientific publications: an average of three per project, in contrast to the average of twelve for other research areas that are funded with EU money. Only a little more than half of those surveyed believe the projects' results justify the investment. Nearly one in five felt the projects delivered too little value. Also noteworthy is the recommendation that more needs to be done to encourage the use of the projects' results.

We conducted our own sample survey, by asking researchers what happened with the results of their research. Of the 140 project leaders we approached, only 38 answered our request for information. The rest did not respond, and thus were unable to explain how the funds were spent. Only rarely did a project lead to concrete, sellable technology. Most of them stopped at a prototype, a study, a report, or a wiki page.

One of the project leaders was the Dutch TNO. They indicated that the knowledge gained is primarily useful for furthering their other projects and for setting up collaborative projects with foreign partners.

And our research in Belgium and Germany reveals that the result of EU-funded projects is rarely tangible technology, but instead – are you ready? – case studies, catalogs, comparative studies, conferences, databases, drafts, expertise networks, guidelines, handbooks, methodologies, protocols, recommendations, reports, research plans, risk analyses, roadmaps, roundtable discussions, taxonomies, websites, and workshops.

In other words, lots and lots of paper. Tangible results are few and far between. Even in terms of scientific publications, European security research is not terribly impressive.

#### **After research, there's the “Valley of Death”**

One of the project leaders who did respond is Jean-Luc Gala, a professor at KU Leuven in Belgium. The four EU projects for which Gala received funding did result in concrete technology, but from conversations with colleagues he knows that's the exception and not the rule. “This is not just my personal analysis; several project coordinators feel exactly the same way. One of the problems is that three years – the average length of the research projects – is simply too short to develop something new from scratch.”

Another criticism Gala offers is the “complete lack of interest” from national governments. “That's true not only in Belgium, but also in practically every EU country. In all seriousness: you're the first person in ten years who's called to ask what my EU research has accomplished.”

“You're the first person in ten years who's called to ask what my EU research has accomplished” Peter Löffler at Siemens, the company's top lobbyist, reveals a brutal truth. “The projects themselves don't interest us. We're primarily interested in knowing what policy is being drafted, so we can focus on that. There's what we call a *Valley of Death*. Only research receives funding. As soon as it's time to make a product, no more funding is available. There may be a prototype, but nothing a customer can truly use yet.” Too much still needs to happen before that point. “So most ideas don't survive the transition.”

The criticism from Germany's former European Parliament member Karl von Wogau is also noteworthy. He was a member of the Group of Personalities and has always been an active cheerleader for a European security market. In late November he told us that the FP7 and Horizon2020 grants “were a step in the right direction, but hardly a success.” The projects were, and are, too small to have an impact and could just as easily have been run at the national level. In addition, he says, far too many studies are conducted and far too little concrete technology is developed.

#### **Technology as the holy grail**

Even projects the Commission lists as a success suffer from major shortcomings. Several projects culminated in EUROSUR, a collaborative effort by several Mediterranean countries intended to halt migration flows on the Mediterranean Sea. The project has cost more than €600 million and received tens of millions in research grants.

The goal is to reduce the number of illegal immigrants arriving in the Schengen Area, to reduce the number of fatalities on the Mediterranean Sea, and to combat cross-border crime. Last year at least 4,733 migrants drowned, so the second goal certainly has not been achieved.





**“Let brilliant scientists get down to work, and leave them alone for five years. Over the long term that will generate far more value, in terms of innovation**

EUROSUR is also plagued by other problems. For example, participating member states are not required to share data with each other, and as a result not enough sharing occurs. Ruben Andersson, an associate professor at the University of Oxford, is extremely critical of EUROSUR. “It’s a hugely ambitious undertaking, which has nonetheless received very little political scrutiny,” he says. “Despite concerns about how useful this system really is.” He reports that people who have to use the system have nothing positive to say about it.

Could those billions be better spent? Yes, says Bart Preneel, a professor of cryptography at Belgium’s KU Leuven. He says the research grants are useful because they lead to collaboration with industry, but acknowledges they don’t often result in concrete security applications. He argues in favor of making this funding primarily available for fundamental research. “Let brilliant scientists get down to work, and leave them alone for five years. Over the long term that will generate far more value, in terms of innovation. And good researchers will also want to bring those things to market.”

#### **What creates security for some, makes others more vulnerable**

There’s another problem: European companies seem indiscriminate in their pursuit of profits. On the one hand, they sell weapons and security technology to parties in the Middle East. And on the other, they earn money securing the European border – to protect the EU from problems arising in these conflict zones. Many European companies export their wares to dictatorial regimes. Time and again, companies make the news because they’ve sold surveillance equipment that has endangered journalists, activists, and ordinary citizens. Amnesty International calculates that since 2014, twelve EU countries have sold more than €6 billion in weapons to the Egyptian army and police, despite that regime’s draconian repression. There are no signs that EU funding is being abused for this purpose, but it is striking that companies receive research grants to create solutions to problems for which they are partly responsible.

There has been protest. In 2015, thirty Palestinian unions and human rights organizations signed a petition against funding for Elbit, an Israeli company that manufactures weaponry that is used against the Palestinians. The outcry fell on deaf ears, and Elbit ultimately received €3.1 million.

In addition, no one monitors what happens with the acquired knowledge and technology in a country under dictatorial rule or amid conflict once a research project ends. Participants in the SUBCOP program, for example, include Israel and Turkey, countries with a rapidly deteriorating human rights situation. Israel has received more than €38 million over the years: more than Poland and Denmark, for example. Turkish companies and institutes have received more than €5 million.

What happens to the technology that companies and institutes from these countries help to develop? Do we think it’s okay if the A-WASP, which Israel and Turkey also helped create, is used against protesters? What happened to the grants they received? What might they do with the technology? Research projects are subject to ethical requirements, but once a project ends, no one tracks what happens with the technology.

#### **And what now?**

The Commission says lessons have been learned from the completed research programs. It promises to involve end users, such as emergency services, earlier, and to better ensure that the technology developed reaches the market.

Yet history seems to be repeating itself. In 2015, a new Group of Personalities presented a plan for a military research program. According to the report, defense companies are suffering: with governments making up the bulk of their clientele, their market is small and it’s therefore “quite challenging” to invest in research and technology (R&T). The group calls on the EU to come to the industry’s aid, to ensure that non-EU companies – whose R&T is financed by the government, they say – don’t gain a competitive advantage.



This Group of Personalities doesn't contain a single end user, such as emergency services or law enforcement. The group contains primarily representatives from major defense companies, including the CEOs of Saab, BAE Systems, Finmeccanica, and Airbus. They've gotten the research program they asked for: at the end of 2016, the European Commission unveiled a new military fund. Each year €500 million will be disbursed for research into innovative military technologies. The question is whether that funding truly advances the cause of the European citizen, or only that of the industry.

*The European Commission has not responded to our requests for comment.*

**EDITOR'S COMMENT:** This is a MUST READ article. Despite the fact that only a small fraction of projects' leaders responded to the question asked, it is a fact and a common truth that:

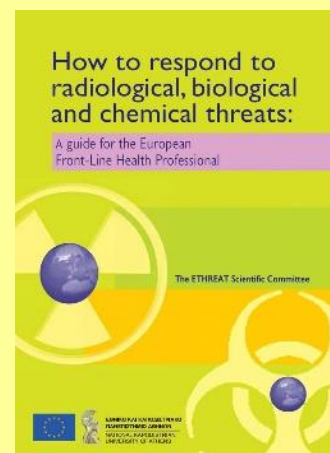
- ✓ Research projects die after the completion of the funding period;
- ✓ Research projects' products rarely seen on the market
- ✓ There is overlapping in research goals
- ✓ There are gaps in overall EU security planning process
- ✓ The products' produced are not obligatory implemented/adopted by EU member states

**One example, two proposals and one initiative will be presented below:**

### Example



One of the products of the EU [ETHREAT](#) (European Training for Health Professionals on Rapid Response to Health Threats) Health and Consumer Protection Directorate-General project (2005-2008: 6 countries), was a pocket manual entitled "How to Respond to Radiological, Biological and Chemical Threats – A guide for the European Front-Line Health Professional" (Editor was one of the contributing authors), aiming to be of assistance to front-line health professionals at emergency departments that might be confronted with asymmetric threats (CBRN) causing mass casualties. The book (available [here](#)) was in English and was about to be translated into different languages in order to be distributed not only in the countries/hospitals of consortium members but EU-wide. Where is this product now? Most probably it is kept locked and forgotten in a drawer. Why? Was it that costly to spend some euros to translate it so that all doctors and nurses to have it available delivering the same knowledge against a common threat that might happen anyday/anytime?



### Proposal 1

It is a common fact that hospitals are the weakest links in all state emergency CBRN response plans. In 2004 the Editor organized from scratch an Olympic Hospital CBRN Response Unit in support of 2004 Olympic Games in Athens, Greece. Twelve years later, the Editor acted as a consultant for a major hospital in Rome, Italy organizing a similar unit for the purpose of an EU research project (EDEN). It was shocking but not surprising to discover that exactly the same problems; same gaps; same planning mistakes; same excuses; same attitudes and perceptions still existed between the health sector and involved stakeholders. And all these despite the new products available in the defense industry market and the much higher level of threat our modern societies are facing (compared to 2004 era). So here is the proposal: EU should fund a "European Medical CBRNe Training Academy" to be created in a EU member state and manned with multinational experts. This Academy will massively produce qualified CBRNe-ready emergency department physicians, nurses and medical technicians via a structured curriculum of theoretical and hands-on training (theory = 1 week; practice = 1 week; resertification = every 2 years). The Academy can produce

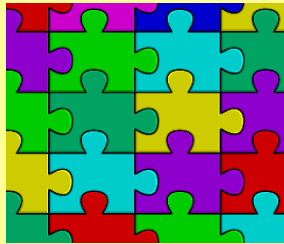




hundreds of trained front-line health professional every year that will man hospitals all over Europe. The most important issue is that all these people will have the same knowledge and training enhancing thus interoperability – a word that all love to use but seldomly materialize (even in the military sector). It will cost a lot of money but can you imagine how beneficial to operations the outcome would be? If by accident an EU security official reads this proposal, the Editor (and a pool of experts; members of ICI – see below under “Initiative” headline), declares his availability to organize (from A to Z) the Academy within a year.

### Proposal 2

This is a more structural proposal relevant to the article above aiming to give an answer to the question posed – at least in the CBRN defense sector at operational response level (how to react in a CBR terrorist incident in urban environment).



**First** you choose a group of experts with FIELD EXPERIENCE and assign them to make a down to earth CBRN response plan – an anthropocentric plan based to a common but almost always forgotten principle: “Plan for what people will actually do, not for what they should do!”

**Second**, you dissolve the plan into pieces/entities (i.e., decontamination or medical counter measures) and proclaim them calling the EU research community to form consortiums addressing each part of the puzzle.

**Third**, after a given period (2 or 3 years), consortiums deliver their end products after taking into consideration existing practices, capabilities and financial status of all EU member states.

**Forth**, the planning groups takes all deliverables and put them back in the

initial plan, creating a European Civil CBRN Response Plan along with a detailed stepwise implementation methodology. **Fifth**, ALL EU member states take the responsibility to materialize the Plan within a given period of time without any changes or modification other than the size of the response force depending on the population size and financial capabilities available. Only then, “interoperability” could become a reality unabling further progress, cotraining and international collaboration and support.



### Initiative

The [International CBRNE Institute](#) (ICI), operates two Knowledge Centers (KC) – one for CBRN (CBRNKC – where the Editor is the Manager) and one for Explosives (EKC – Manager: Prof Yvan Baudoin). [CBRNKC](#) is following the successful initiative of EKC that invited two completed EU research consortiums (TIRAMISU and D-BOX – more to follow), to continue their activities under the ICI roof in an effort to avoid the aforementioned “valley of death”. In that respect, CBRNKC contacted 30 CBRN-related consortiums that have finished their work, in a similar effort not

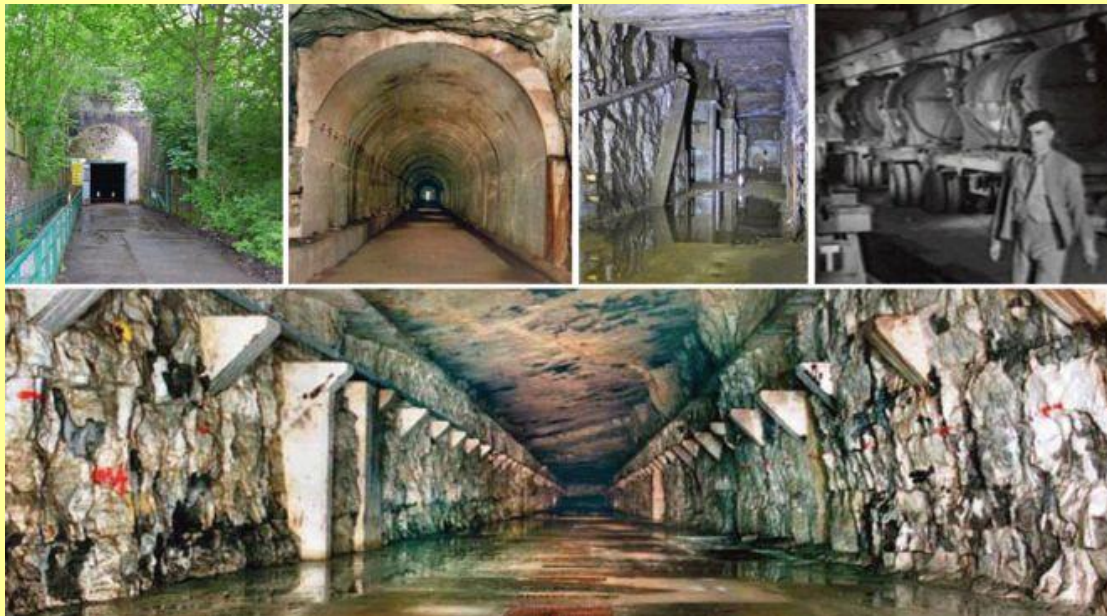


to loose the expertise and collaborations gained and the products produced by field and academic experts. The fact that EU authorities welcomed these efforts, it is indicative that EU itself has got the message and is willing to reverse current status to a more fruitfull and ongoing process that will validate the tons of money spent in research.



## WW2 film shows chemical weapons site

Source (video): <http://www.bbc.com/news/av/uk-wales-39674425/ww2-film-shows-chemical-weapons-site>



Apr 22 – Tunnels at a former top secret World War Two chemical weapons site (mustard gas) in Flintshire (Wales), are being formally opened to the public on Saturday.

## Anniversary of UN Chemical Weapons Convention

Source: <https://sputniknews.com/politics/201704291053131372-un-chemical-weapons-convention/>

**Saturday, April 29, marks the 20th anniversary of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction's (the Chemical Weapons Convention or CWC) entry into force.**



Apr 29 – On January 13, 1993, in Paris, then-UN Secretary-General Boutros Boutros-Ghali opened for signature the Convention that came into effect in 1997.

The CWC is the first multilateral agreement in history that stipulates the elimination of an entire class of weapons of mass destruction during a fixed period.

**The Convention, which has an unlimited term, aims to accomplish two major tasks. The first one is the elimination of an entire class of weapons of mass destruction under strict international control (disarmament). And the second one is banning production of chemical weapons and their use (proliferation prevention).**

The CWC has been signed by 192 states to date. Myanmar and Angola joined the Convention in 2015.

**Israel, North Korea, Egypt and South Sudan are not covered by the Convention.** Israel has signed the document but has not ratified it. Russia which had the largest chemical weapons arsenal (40,000 tons) became a full party to the Convention on December 5, 1997.

Signatory states pledge not to develop, produce, or otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone, to use chemical weapons, to engage in any military preparations to use chemical weapons as well as not to assist,





encourage or induce, in any way, anyone to engage in any activity prohibited to a State party under this Convention. The countries also promise not to use riot control agents as a method of warfare.

Any state, party to the Convention, has the right to develop, produce, or otherwise acquire, retain, transfer or use toxic chemicals or their precursors for purposes not banned under the CWC such as the industrial, agricultural, research, medical, pharmaceutical or any other peaceful purposes. The signatory states also could possess toxic chemicals for purposes needed for protection from toxic chemicals and chemical weapons. They could also possess such chemicals for military purposes not linked with the use of chemical weapons and the use of them as a means of warfare as well as for law enforcement purposes, including riot control. The Convention's articles are not subject to any reservations.

The signatory states established the Organization for the Prohibition of Chemical Weapons (OPCW) for monitoring compliance with the convention. The OPCW is based in the Dutch city of The Hague and also serves as an international venue for discussing the CWC implementation.

The OPCW's governing bodies include the Conference of the States Parties, the Executive Council and the Technical Secretariat. The Conference of the States Parties includes delegates from all signatory states and holds regular annual sessions. And the so-called review conferences are held every five years.

The OPCW Executive Council that reports to the Conference of the States Parties has 41 members elected for two years on rotation. It is headed by a president, elected for 12 months. While establishing the Executive Council, the concerned parties focused on an equitable geographical representation, the significance of member countries' chemical industries, as well as political interests and security interests. The seats in the Executive Council are distributed among regional groups: Africa and Asia have nine seats; Eastern Europe has five seats, Latin America and the Caribbean region have seven ones, as well as Western European and other states, possess 10 seats. There is also one rotating seat, with countries of the Latin America and Asia groups delegating

representatives every two years. The Executive Council holds three regular sessions a year.

The Technical Secretariat that reports to the Executive Council is headed by a director general, appointed by the Conference of the States Parties at the recommendation of the Executive Council for a four-year period. The director general can serve two terms. Turkey's Ahmet Uzumcu has been serving as the Technical Secretariat's Director General since July 2009, and his second term expires in July 2018. The new director general of the Technical Secretariat is to be elected in December 2017. The Technical Secretariat also includes inspectors, academics, technical, and administrative personnel with the various qualifications needed to implement the Convention's subject matter and goals. The Technical Secretariat conducts verifications and inspections in signatory states to confirm the CWC's provisions, assists the Conference of the States Parties and the Executive Council in executing their functions and fulfills other tasks assigned it by the OPCW's governing bodies.

**Albania, Libya, Iraq, India, Russia, the United States and South Korea are the countries that have officially admitted the possession of chemical weapons.**

Under the provisions of the CWC, all chemical weapons in the world were to have been eliminated 10 years after the document's entry into force by April 29, 2007. This deadline could have been extended to 15 years, until April 29, 2012, by a decision of the signatory states.

**Three countries, Albania, South Korea and India, completed their chemical disarmament programs in 2007, 2008 and 2009, respectively.**

Due to the fact that three countries holding chemical weapons (Russia, the United States and Libya) failed to eliminate their chemical arsenals by the deadline, participants in the 16th session of the Conference of the States Parties decided to allow these states to independently stipulate the shortest possible deadlines for completely eliminating their chemical weapons stockpiles. Russia announced December 31, 2015 as the final deadline for completing its chemical disarmament program. **The United States and**



### Libya set their respective deadlines for September 30, 2023 and December 31, 2016.

As of late 2016, **Russia** had eliminated some 96 percent of its chemical weapons stockpiles. Under the December 2014 decision of the 19th Conference of the States Parties, the deadline for eliminating Moscow's chemical weapons was extended to complete work at the Kizner facility in the country's Udmurtian Republic no later than 2020. This decision was made in the context of objective factors, such as financial issues and toughening of Russian environmental legislation among other issues. As of February 2017, the Kizner facility has eliminated over 76 percent of all stockpiled toxic agents.

The **United States** that possessed the second largest chemical arsenal of 31,500 metric tons joined the CWC on April 29, 1997 and had eliminated about 90 percent of its toxic agents by late 2016.

**Libya**, that joined the CWC in 2004, destroyed 31.1 metric tons of mustard gas in February 2014 and launched preparations for eliminating less dangerous chemicals. In 2016, Tripoli said it was impossible to destroy its chemical

weapons stockpiles on schedule (December 2016). Taking into consideration the complicated security situation in the African country, and the possibility of seizing the rest of chemical weapons by terrorist groups, a decision to remove these stockpiles from Libya and to eliminate them elsewhere was made. At the same time, Russia insisted that this decision should not violate the CWC and should be conducted under a "Syrian scenario," that is, under a mandatory resolution, due to be passed by the UN Security Council.

**Iraq**, that joined the CWC in 2009, submitted preliminary data on the composition and structure of declared stockpiles to the OPCW only in October 2011. So far, the country has no clear plan for the destruction of its chemical weapons; nor does it have the required technological or financial resources for accomplishing this task.

**Syria** signed the Convention on September 14, 2014 and officially joined it 30 days after signing, on October 14, 2013. On June 23, 2014, all chemical weapons components were removed from Syria and destroyed completely in late 2015.

## Estimate of about one million casualties on US-South Korea Side of a Korean War and Probable Iraq-Afghanistan situation afterward

Source: <http://www.nextbigfuture.com/2017/04/estimate-of-about-one-million-casualties-on-us-south-korea-side-of-a-korean-war-and-probable-iraq-afghanistan-situation-afterward.html>

Apr 20 – [The more credible scenarios are that North Korea could inflict up to 1 million casualties on South Korea and possibly land a few missiles into Japan if the North Korea went into a inflict maximum damage mode.](#) South Korea and the USA would be able to beat down and contain North Korea. The situation would then transition into a prolonged Iraq-Afghanistan. North Korea also has thousands of tons of chemical weapons.

The US should be able to strike and rapidly cripple any medium and long range missile strike launch sites. The US could use stealth fighters and stealth bombers to degrade North Korean missile capabilities and nuclear weapons within a few days. The US would then be able to dismantle the North Korean air force, air defenses and other missiles over the next two weeks.

South Korea and the US would be able to take out any regular tanks and artillery within about a month. An uncertainty is if North Korea would be successful in embedding 100,000 commandos into Seoul for a more protracted urban warfare situation.

North Korea has a lot of tunnels and would have a large military force that would likely be under instructions to use IEDs and other guerilla tactics to make a long term mess of North Korea. There would also be a refugee and starvation situation in the aftermath.

[The US is racing to install the THAAD anti-missile system in South Korea.](#)





North Korea has more missiles than the THAAD system could shoot down in a full scale attack. However, the system would be useful if satellites could detect where more dangerous missiles might be launched. North Korea might have a dozen nuclear small nuclear weapons. North has a lot more chemical weapons. The South Korean Ministry of National Defense estimated in 2012 that North Korea had a stockpile of between 2,500 and 5,000 metric tons of chemical weapons. Annual production is estimated at 4,500 tons in peacetime and 12,000 tons in wartime.

North Korea is believed to have highly lethal nerve agents, which work by disrupting the human body's nervous system, resulting in asphyxiation. North Korea is believed to have stockpiles of sarin, soman, tabun, VM and VX nerve agents.

According to longtime analyst Joseph Bermudez, North Korea is believed to have specialized in "sulfur mustard, chlorine, phosgene, sarin and the V-agents."

The Korean peninsula is relatively short; from Hyesan on the North Korean/Chinese border to the southern tip of South Korea is less than 500 miles, or the distance from Portland, Maine to Baltimore, Maryland. Pyongyang to the DMZ is only 100 hundred miles and only 120 miles to Seoul.

As of 2014, the U.S. Department of Defense estimates North Korea has less than one hundred short-range missile launchers of all types, including the Toksa/KN-02 Viper (a derivative of the Russian SS-21 Scarab) with a range of 75 miles, and its collection of Scud missiles, with a maximum range of 185 to 625 miles. Toksas and Scuds would have to be based close to the border.

North Korea also has less than fifty launchers for its No Dong missiles. Developed using Scud technology, No Dong has a range of 800 miles, making striking from deep inside North Korea against South Korea and

it useful for Japan.

North Korea is believed to have 5,100 multiple rocket launchers and 4,400 self-propelled artillery pieces. Rocket artillery of 122-millimeter or greater and field artillery of 152-millimeter or greater would be capable of firing chemical shells. The majority of Pyongyang's artillery would be capable of delivering chemical strikes.

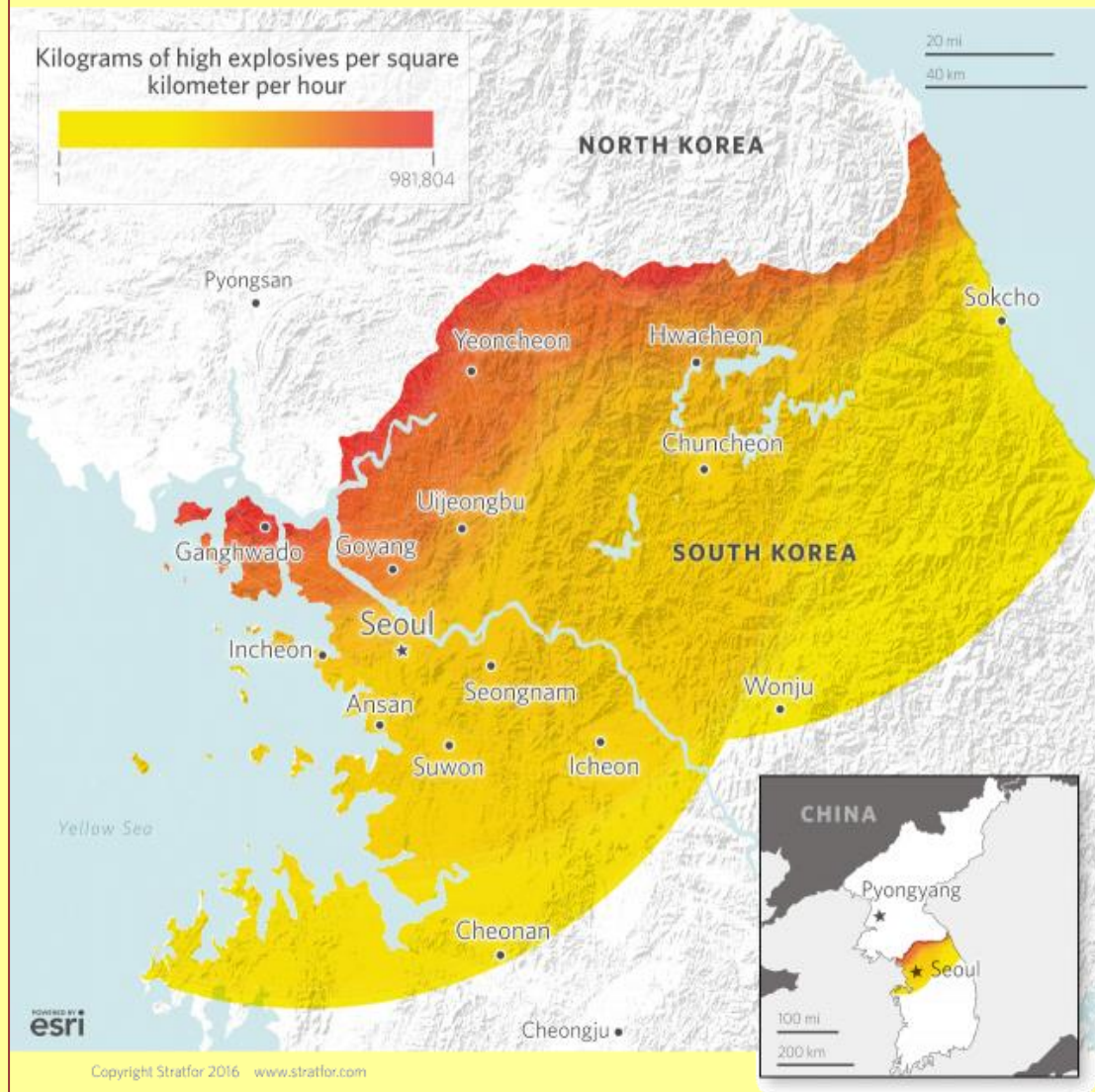
The North Korean People's Air Force is capable of delivering chemical weapons by air, but its aging fleet of airplanes are less reliable and less likely to get through South Korean defenses than other means.

U.S. battle deaths in the Korean War, according to a 2000 Pentagon figure, are listed at 33,651, with additional figures for "other," including deaths from illness and accident. The



### North Korea's Artillery Concentration

Based on their known and expected positions, North Korean conventional artillery on the border with South Korea can target South Korea to varying degrees. Based on the range of the artillery systems, as well as the amount of explosives contained in their warheads, this map shows where North Korean artillery fire could be concentrated. The area closest to the border would easily be heavily saturated, but even areas such as Seoul, the South Korean capital, would be within range of some of the heavier North Korean tube and rocket artillery.



total Korean War–era casualties etched into the Korean War Memorial is 54,246. China lost between 132,000 and 400,000, including one of Chairman Mao's sons. The United Kingdom, Turkey, Canada, Australia, France and other allies lost altogether between three and four thousand. As many as two million Koreans, including civilians, died as a result of the war. The war cost the United States an estimated twenty billion dollars, and China 2.5 billion dollars.

The costs of a second Korean war, then, would be massive: another possible two million or more Korean casualties; fifty thousand or more dead Americans; the potential mass military mobilization of the U.S. civilian population for another land war in Asia; the utter destruction of South Korea's infrastructure, "the Miracle on the Han" that turned a war-devastated backwater into an economic powerhouse; possible chemical attacks on U.S. Pacific bases and South Korean and Japanese civilians; plunging Pacific stock markets; the total disruption of global trade;





the possible intervention of China; and, most devastating of all, the potential use of nuclear weapons in combat for the first time since Hiroshima and Nagasaki.

**So the question must be asked: is a surgical strike worth the risk?**

## UK Medical Response Training

By David Oliver

Source: <http://www.cbrneportal.com/uk-medical-response-training/>

Apr 24 – The Defence Chemical Biological and Nuclear Centre (DCBRNC) based at Winterbourne Gunner in Wiltshire, designs and runs a total of eighteen courses that qualify individuals of all three branches of



the UK armed services (Royal Navy, Army and Royal Air Force) for operational, training and for staff CBRN defence appointments.



The actual involvement of Winterbourne with chemical warfare dates from the formation of the Chemical Warfare School in 1926, and today there is a heavy emphasis placed on CBRN medical training. DCBRNC is home to the Joint CBRN medical faculty, a unit that acts as the centre of excellence for CBRN medical training for medical officers and others across all sections of the UK military. The centre



also provides specialist medical training to other NATO members across all facets of CBRN.

The Joint CBRN medical faculty supports development of the medical response to a CBRN incident and the management of CBRN casualties. It is a cross-government group with the remit under the surgeon general to develop CBRN clinical guidance, medical training and research.

The one-week CBRN clinical course is the advanced level CBRN medical course for medical officers, nurses and senior medics and paramedics of the Defence Medical Services especially those with a counterterrorism or CBRN role, and looks at medical support from point of exposure through to definitive hospital care at Role 3. On completion, candidates will be in date for CBRN clinical for 5 years while some units may require more frequent training periods. Intermediate/advanced life support or Battlefield Advanced Trauma Life Support (BATLS) training is desirable although not essential.

As well as military training, DCBRNC also supports civilian response in partnership with the Health Protection Agency and Department of Health and is the home of the National Ambulance Resilience Unit (NARU) Training & Education Centre. Working in partnership with NHS Ambulance Services, NARU's aim is to ensure the effective and efficient coordination of the implementation of government policies related to national resilience, to enhance pre-hospital clinical response capabilities that are evidence-based, to current and emerging threats and risks. Thereby delivering fit for purpose patient outcomes to disruptive challenges or threats to public health.

Through central coordination, NARU enables NHS Ambulance Trusts to work together to provide a safe

and reliable response to major, complex and potentially protracted incidents at High Visibility Events (HVE). Consistency in implementation of core deliverables is essential if ambulance trusts across the country are to remain prepared and resilient to deliver an effective national response capability at all times.



Editor (right) and member of his Olympic Hospitals CBRN Response Unite in a medical CBRN training course at DCBRNC back in 2004 preparing for 2004 Olympic Games in Athens, Greece.

The operational response to a CBRN, terrorism event or Major Incident is recognised as being extremely complex

and challenging; and is likely to require a mutual aid response in order to assist the Trust managing the incident.

NARU's 4-day Command/Resilience course provides a common standard of training and education aligned to the Ambulance Commanders National Occupational Standards (NOS) as well as the Joint Emergency Services Interoperability Programme (JESIP) Joint Doctrine and includes the clinical aspects of CBRN.

CBRN based medical training uses blended learning techniques including interactive presentations, tabletop exercises, collective training and simulation. Very highly invested, the medical training area which is used for pre-hospital training exercises along with high-fidelity hospital training using the SimMan3G Trauma simulator which is designed to train emergency medical personnel and military in trauma and hemorrhage control, is dedicated to CBRN medical management. The training faculty was awarded the 2011 Military Civilian Health Partnership Award for Education and Training.

Medical courses including clinical courses, defence medic CBRN course, casualty decontamination area course and enhanced CBRN First Aid are open to partner nations as well. The 3-day Emergency Medical Treatment course is developed to provide military





doctors with an awareness of the effects of CBRN agents and teach the competencies to provide Role 1 (pre-hospital) CBRN casualty management.

The CBRN Clinical course is designed to train Roles 1, 2 (hospital) and 3 (medical, nursing and allied health) professionals in the recognition and treatment of all casualties in a CBRN environment. This course supports the military competencies for Emergency Medicine, Acute Medicine, Intensive Care and specialist nurse training.

The Defence Medic CBRN course is designed to train pre-hospital Role 1 medics in the recognition and treatment of all casualties in a CBRN environment. This course supports includes advanced first aid in the hot zone, emergency medical treatment and casualty decontamination.

When fully deployed, CBRN Medical Support capability is designed to detect, provide information, physical protection and medical based countermeasures together with full casualty care and wider hazard management. It is also possible for DCBRNC to provide bespoke training to military and civilian organisations on an availability basis.

*David Oliver has been a defence photo-journalist for more than 30 years, and member of the Independent Defence Media Association (IDMA) and the European Security and Defence Press Association (ESDPA). David is the author of 18 defence-related books, and is former IHS Jane's consultant editor and a regular correspondent for defence publications in the UK, USA, France, Poland, Brazil and Thailand.*

## EU IMPRESS Project

[Improving Preparedness and Response of HHealth Services in major crises](#)

Final SAG workshop (Athens, April 28, 2017)



Editor addresses "IMPRESS perspectives on CBRNE incidents"

IMPRESS aims to advance the preparedness of emergency medical services (ambulance dispatch centers, hospitals, volunteer communities etc) in numerous ways, including through planning for all-hazards, increasing surge capacity, tracking the availability of beds and other resources using electronic systems, and developing systems that are interoperable with other response teams. The IMPRESS general objective is to provide preparedness and response capabilities through guidelines and tools where ultimately, the routine use of these capabilities will sharpen their application in larger disaster scenarios.



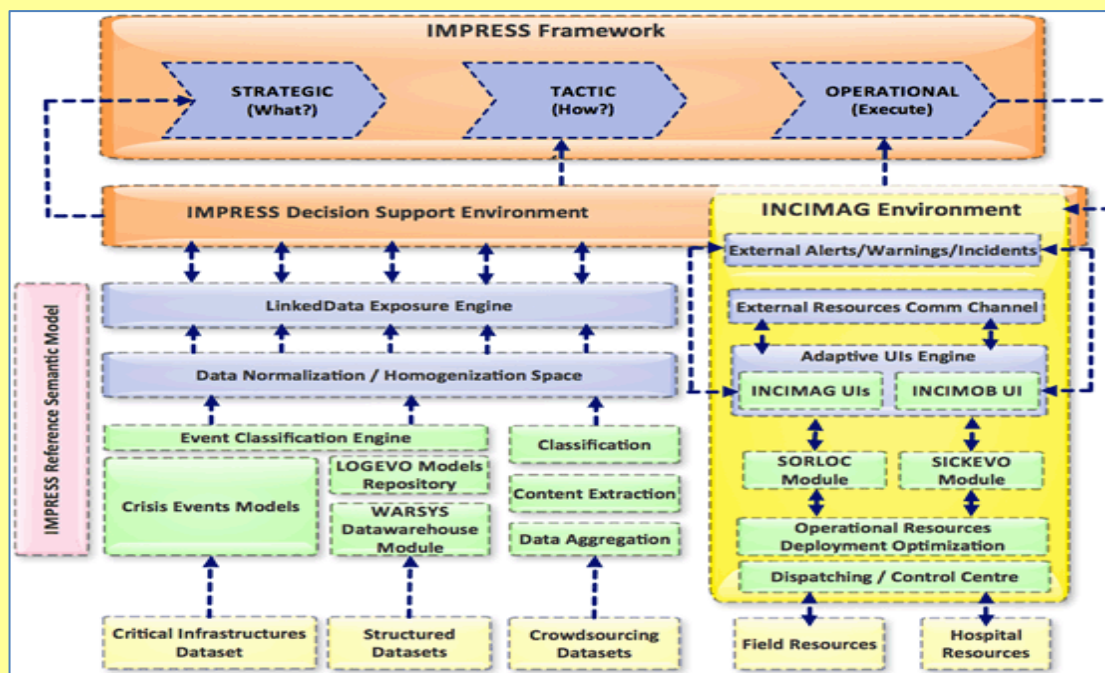


on **C  
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**IMPRESS** Perspective Incidents

BrigGen (ret) Ioannis, Galatas, MD, MA, MC (Army)  
Research Associate @ KEMEA, Athens, GR

The graphic features a yellow background with a large, stylized 'IMPRESS' logo in the center. To the right, there is a photograph of a person in a white lab coat standing next to a person in a full-body green chemical protective suit. The KEMEA logo is in the top left corner.



## Auto-injector platform

Source: <https://emergentbiosolutions.com/platforms-technologies#emergard>



The Emergard® auto-injector platform is designed for intramuscular rapid delivery of nerve agent antidotes and other emergency response medical treatments. The auto-injector can address exposure to certain chemical agents by delivering an antidote to those agents after exposure. This platform is designed for self and buddy





administration when used in a military setting and for use by emergency medical personnel in the event of civilian exposure. (Auto-injector is not approved by the U.S. FDA).

## FLIR Systems Receives Delivery Order Totaling \$54.2 Million from the U.S. Department of Defense for DR-SKO Systems

Source: <http://investors.flir.com/releasedetail.cfm?releaseid=1016204>

Mar 07 – FLIR Systems, Inc. (NASDAQ: FLIR) announced today that it has received a delivery order for 50 U.S. Army **Chemical, Biological, Radiological, and Nuclear Dismounted Reconnaissance Sets, Kits, and Outfits (CBRN DR-SKO)** systems. The delivery order is under a five-year indefinite delivery, indefinite quantity (IDIQ) contract from the U.S. Department of Defense, in support of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) DR-SKO Program of Record. The order is valued at \$54.2 million, with deliveries extending through the second quarter of 2018.



The CBRN DR-SKO system is a set of mission specific kits that characterize and provide full spectrum CBRN dismounted reconnaissance capability utilized by the U.S. Military Joint Services, including units within the Army, Navy, Air Force, Marines, and National Guard Weapons of Mass Destruction-Civil Support Teams. The program has been in development since 2008 with FLIR Systems, Inc. as the prime contractor.







A 10th Mountain Division Soldier looks at some of the hand-held monitors from the new Chemical, Biological, Radiological, Nuclear Dismounted Reconnaissance Sets, Kits and Outfits (CBRN DR SKO) system during the hands-on portion of the training, which was held at the Force Modification and Mobilization Facility, Fort Drum, NY, April 25.



"We are honored to continue providing our turnkey DR-SKO solution that addresses the current and emerging threats by equipping U.S. soldiers with the best-in-class technology for their mission," said Andy Teich, President and CEO of FLIR. "This delivery solidifies our continued support to provide innovative, mission-critical solutions to keep our country safe and maintain our stance as a leader in the CBRN market."



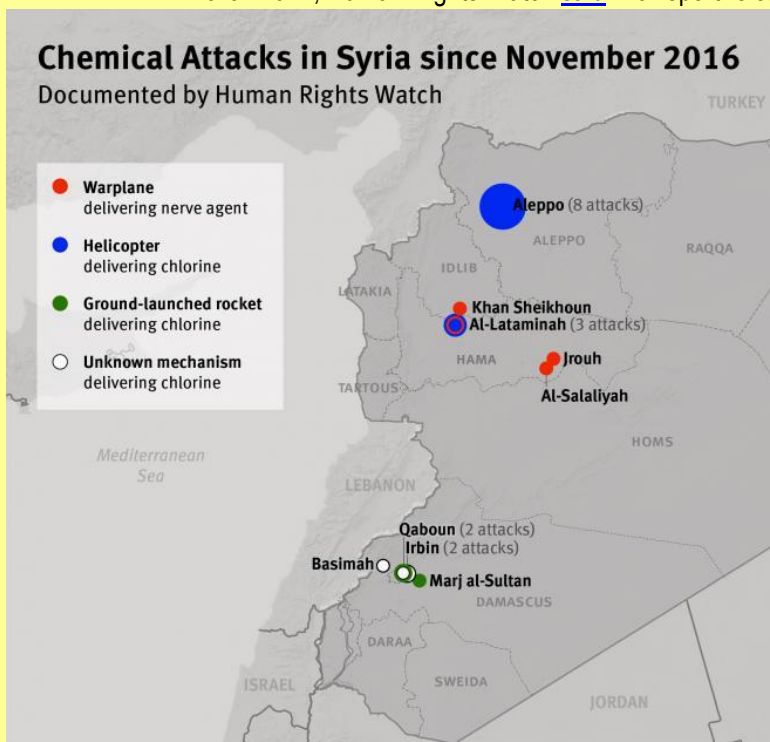


Since the CBRN DR-SKO IDIQ was awarded in December 2014, over 100 systems have been delivered to the U.S. Department of Defense, with production being performed out of FLIR's facility in Elkridge, Md.

## New evidence shows pattern of Assad regime's use of nerve agents

Source: <http://www.homelandsecuritynewswire.com/dr20170503-new-evidence-shows-pattern-of-assad-regime-s-use-of-nerve-agents>

May 03 – **New evidence supports the conclusion that Syrian government forces have used nerve agents on at least four occasions in recent months:** on 4 April 2017, in a chemical attack on Khan Sheikhoun that killed at least ninety-two people, and on three other occasions in December 2016 and March 2017, Human Rights Watch [said](#) in a report released yesterday.



These attacks are part of a broader pattern of Syrian government forces' use of chemical weapons. The attacks are widespread and systematic, and in some cases have been directed against the civilian population. These two features mean the attacks could meet the legal standard required to characterize them as crimes against humanity. As part of the evidence showing these attacks have become widespread and systematic, the 48-page report, [Death by Chemicals: The Syrian Government's Widespread and Systematic Use of Chemical Weapons](#), identifies three different systems being used to deliver chemical weapons:

- Government warplanes appear to have dropped bombs with nerve agents on at least four occasions since 12 December;
- Government helicopter-dropped chlorine-filled munitions have become more systematic;
- Government or pro-government ground forces have started using improvised ground-

launched munitions filled with chlorine.

In at least some of the attacks, the intention appears to have been to inflict severe suffering on the civilian population.

"The government's recent use of nerve agents is a deadly escalation – and part of a clear pattern," said Kenneth Roth, executive director of Human Rights Watch. "In the last six months, the government has used warplanes, helicopters, and ground forces to deliver chlorine and sarin in Damascus, Hama, Idlib, and Aleppo. That's widespread and systematic use of chemical weapons."

HRW says that what appears to be repeated use of nerve agents undermines Syrian and Russian officials' claims that the chemical exposure in Khan Sheikhoun was due to a conventional bomb striking toxic chemicals on the ground. It would not be plausible that conventional bombs struck chemical caches repeatedly across the country.

**Photos and videos of weapon remnants that struck Khan Sheikhoun on 4 April appear to be consistent with the characteristics of a Soviet-made air-dropped chemical bomb specifically designed to deliver sarin.**

The United Nations Security Council should immediately adopt a resolution calling on all parties to fully cooperate with investigators from the Organization for the Prohibition of



Chemical Weapons and adopt sanctions against anyone UN investigators find to be responsible for these or past chemical attacks in Syria.

**Human Rights Watch interviewed sixty people with first-hand knowledge of the chemical attacks and their immediate aftermath, and reviewed dozens of photos and videos of impact sites and victims that were posted online and provided directly by local residents, but was unable to conduct ground investigations of the attack sites.**

Information from local residents in Khan Sheikhoun indicates that a warplane flew over the town twice, around 6:45 a.m. on 4 April. One resident said he saw the plane drop a bomb near the town's central bakery in the northern neighborhood during the first fly-over. Several people, including the person who saw the bomb falling, said they heard no explosion but saw smoke and dust rising from the area, consistent with the relatively small explosive charge in a chemical bomb. Several people also confirmed that they saw people injured or heard reports of injuries immediately after the first fly-over. A few minutes later, they said, a warplane dropped three or four high-explosive bombs on the town.

Human Rights Watch identified ninety-two people, including thirty children, whom local residents and activists said died due to chemical exposure from this attack. Medical personnel said the attack injured hundreds more.

Human Rights Watch reviewed dozens of photos and videos provided by residents of a crater from the impact of the first bomb. Local residents believed this site was the source of the chemical exposure because those who died lived nearby and people who came near it, including first responders, exhibited the strongest symptoms of chemical exposure. One of the first photos of the crater, taken by first responders, shows what appears to be liquid on the asphalt. That would be consistent with the use of a bomb containing sarin, which is in liquid form at room temperature.

The photos and videos of the crater show two remnants from the chemical weapon used: a twisted thin



metal fragment with green paint and a smaller circular metal object. Green coloring is widely used on factory-produced weapons to signify that they are chemical. **The KhAB-250, for example, one of two Soviet-produced bombs specifically designed to deploy sarin from a warplane, has two green bands. The circular object seen in photos of the crater appears similar to the cap covering the filling hole on the KhAB-250.**

These remnants, combined with witness observations, the victims' symptoms, and the identification of sarin as the chemical used in the attack by the French and Turkish governments and the [Organization for the Prohibition of Chemical Weapons](#), suggest that the Syrian warplane dropped a factory-made sarin bomb. According to open source material,





the KhAB-250 bomb, and its bigger version, the KhAB-500, are Soviet-produced bombs designed specifically to deliver sarin.

Evidence suggests that the Khan Sheikhoun attack is not the first time government warplanes have dropped nerve agents in recent months. Witnesses described to Human Rights Watch symptoms consistent with exposure to nerve agents that they and other local residents experienced after warplanes attacked eastern Hama on 11 and 12 December 2016, and northern Hama, near Khan Sheikhoun, on 30 March 2017.

The December attacks were in territory controlled by ISIS, which closely monitors communication, so it has been difficult to reach witnesses. But four witnesses interviewed by phone and two medical personnel

<b>Chemical Attacks Documented since December 2016</b>				
*Delivery mechanism, chemical and casualties based on best available information.				
*Casualties reported as civilians unless otherwise indicated.				
<b>Date</b>	<b>Location</b>	<b>Delivery mechanism</b>	<b>Chemical</b>	<b>Reported Casualties</b>
April 7	Qaboun, Damascus	Unknown	Chlorine	Two injured
April 4	Khan Sheikhoun, Idlib	Warplane	Sarin	92 killed, hundreds injured
April 3	Al-Lataminah, Hama	Helicopter	Chlorine	12 injured
March 30	Al-Lataminah, Hama	Warplane	Nerve agent	169 injured (possibly many of them combatants)
March 29	Qaboun, Damascus	Ground-launched rocket	Chlorine	35 injured
March 25	Al-Lataminah, Hama	Helicopter	Chlorine	3 killed, 32 injured
February 10	Irbid, Damascus	Unknown	Chlorine	3 injured (combatants)
February 9	Irbid, Damascus	Unknown	Chlorine	3 injured (combatants)
January 30	Marj al-Sultan, Damascus	Ground-launched rocket	Chlorine	11 injured
January 8 and 9	Basimah, Damascus	Unknown	Chlorine	46 injured
December 12	Jrouh, Hama	Warplanes	Nerve agent	25 killed
December 12	Al-Salaliyah, Hama	Warplane	Nerve agent	42 killed

interviewed via text message through intermediaries gave consistent accounts of the attacks. An opposition-affiliated activist and local residents provided the names of sixty-four people who died from chemical exposure in the December attacks.

The suspected nerve agent attack in northern Hama on 30 March caused no deaths but injured dozens of people, both civilians and combatants, according to local residents, medical personnel, and first responders.

All four suspected nerve agent attacks were in areas where offensives by armed forces fighting the government threatened government military air bases.

Government forces' use of chlorine-filled weapons has also become more widespread and systematic, Human Rights Watch said. During the last month of the battle for Aleppo city, which ended on 15 December, helicopters dropped multiple improvised chlorine-filled munitions in a pattern showing that the attacks were part of the overall military strategy to retake the city. Such attacks have continued more recently, for example in al-Lataminah in northern Hama.

Since January 2017, Human Rights Watch has also documented, for the first time since August 2013, the use by government or pro-government ground forces of improvised surface-fired rockets containing chlorine to attack territory near Damascus controlled by armed groups fighting the government.

Some of the chemical attacks hit residential areas far from the frontlines without any obvious military target and appear to have killed and injured only civilians, suggesting the Syrian government forces directed at least some of the attacks against the civilian population.



The Syrian government has repeatedly denied using chemical weapons, including in Khan Sheikhoun on 4 April. While Russia has carried out aerial attacks in the areas where chemical attacks took place, Human Rights Watch has no information to indicate that Russian authorities have used chemical weapons. However, Russian forces continue to provide active military support to Syrian forces despite extensive evidence that the latter are using chemical weapons and unlawfully attacking civilians.

The Chemical Weapons Convention, which entered into force in 1997, prohibits the development, production, stockpiling, and use of chemical weapons, and requires their destruction. The prohibitions also apply to toxic chemicals with civilian uses, such as chlorine, when they are used as weapons. Syria became a party to the convention in October 2013.

Crimes against humanity consist of specific criminal acts committed on a widespread or systematic basis as part of an “attack on a civilian population,” meaning there is some degree of planning or policy to commit the crime. Such acts include murder and “other inhumane acts of a similar character intentionally causing great suffering or serious injury to body or to mental or physical health.” The prohibition of crimes against humanity is among the most fundamental in international criminal law and can be the basis for individual criminal liability in international courts, as well as in some foreign domestic courts under the principle of universal jurisdiction.

As close allies to Syria, providing active military backing and regular political support, Russia and Iran should pressure the Syrian government to immediately end its use of chemical weapons and to cooperate with investigators. Russia and Iran should cease cooperation with Syrian individuals and military units suspected of involvement in chemical attacks or other war crimes.

Both Russia and China should stop using their veto power in the Security Council to block accountability for serious crimes in Syria and should support referral of the situation in Syria to the International Criminal Court. On 12 April, the council failed to condemn the Khan Sheikhoun attack and demand that the Syrian government cooperate with investigators when Russia vetoed a proposed resolution. Meanwhile, all UN member states should support and fund the Syria [accountability mechanism](#) established by the UN General Assembly in December 2016.

“The Security Council has already declared that Syria’s past use of chemical weapons is a threat to international security,” Roth said. “As that use continues, it is shameful that Russia prevents the council from even demanding Syria cooperate with investigators.”

**EDITOR’S COMMENT:** In addition to the evidences presented in the report, I would prefer some lab findings from victims exposed to nerve agents – if positive there would be no doubt. Photos, videos and interviews might not always accurate and could be misleading.

## Delhi gas leak: 200 schoolgirls in hospital

Source: <http://www.bbc.com/news/world-asia-india-39828334>

May 06 – At least 200 schoolgirls have been hospitalised in the Indian capital Delhi after a gas leak from a container depot, police have said.

The pupils had complained of irritation to their eyes and throats.

The gas is believed to be chloromethyl pyridine, a chemical used to manufacture pesticides and insecticides.

While the school in the Tughlakabad area was fully vacated, the children are not believed to be at serious risk.

Delhi Chief Fire Officer Atul Garg said two fire engines, a hazmat (hazardous materials) van and rescue teams had been sent to the government-run girls' school.

“Students and staff members of Rani Jhansi school were evacuated, and the entire area has been cordoned off,” he said.

Delhi Police and India's National Disaster Response Force are working to identify the chemical, and how it leaked.

“Around 200 children were admitted to four hospitals for treatment. No-one is serious. The situation is normal now,” police Deputy Commissioner Romil Baniya told reporters.







In a tweet, India's health minister sent his prayers to those affected and said hospitals were on standby.

## North Korea accuses Central Intelligence Agency of 'bio-chemical' plot against Kim Jong Un

Source: <http://clicklancashire.com/2017/05/07/north-korea-accuses-central-intelligence-agency-of-bio.html>

May 02 – **North Korea on Friday accused the USA and South Korean spy agencies of an unsuccessful assassination attempt on leader Kim Jong Un involving bio-chemical weapons.**



Terrorism is a common enemy to all people, the North Korean government said.

The North says the two agencies worked in cahoots with a North Korean citizen and an unnamed terrorist group on the plot, which involved using a "biochemical substance" on Kim, reports the BBC.

Geng was responding to a question about an editorial published on Wednesday by the North

Korean state-run Korean Central News Agency (KCNA)-published under the name Kim Chol-which pledged to continue Pyongyang's nuclear program even if it risked friendly relations with Beijing.

North Korea has accused United States and South Korean agents of plotting to kill its Supreme Leader, Kim Jong-un.

North Korea says it will not give up on its nuclear deterrence unless Washington ends its hostile policy toward Pyongyang and dissolves the US-led United Nations command in South Korea.

**According to North Korea's state security ministry, the US bribed an unnamed North Korean citizen to carry out the attack in Pyongyang, possibly during a military parade.**

Trump has been taking a wide-ranging approach to North Korea, and recently expressed an interest in meeting with Kim in the right circumstances.

The North Korean statement comes during a period of tension on the Korean Peninsula over concerns that the North is preparing another nuclear test or missile launch,



including a possible test of an intercontinental ballistic missile.

KCNA said the two intelligence services "ideologically corrupted" and bribed a North Korean surnamed Kim and turned him into "a terrorist full of repugnance and revenge against the supreme leadership of the DPRK".

North Korea's [claims](#) have not yet been confirmed.

North Korea [warned](#) that U.S. hostility brought the region to the brink of nuclear war.

Its aim, the report said was to "commit bomb terrorism targeting the supreme leadership" during major events including a recent military parade.

It also accused China of "hyping up" damage caused by North Korean nuclear tests to China's three northeastern provinces.

The U.S. House of Representatives on Thursday voted to impose new sanctions on North Korea, the latest attempt by U.S. officials to deter North Korea from carrying out a sixth nuclear test.

He said North Korea will likely ignore China from now on while trying to strengthen ties with Russian Federation and improve relations with a new South Korean government to be inaugurated next week.

*The Guardian* notes that "the CIA's long history of attempting covert assassinations of political leaders across the world is notorious", but, as with "other North Korean claims, the allegation that the Central Intelligence Agency plotted to assassinate Kim is impossible to verify".



Source: [https://fas.org/wp-content/uploads/media/PIR\\_Spring-2017.pdf?utm\\_source=Federation+of+American+Scientists&utm\\_campaign=83e32190e5-EMAIL\\_CAMPAIGN\\_2017\\_02\\_21&utm\\_medium=email&utm\\_term=0\\_56a7496199-83e32190e5-199312625](https://fas.org/wp-content/uploads/media/PIR_Spring-2017.pdf?utm_source=Federation+of+American+Scientists&utm_campaign=83e32190e5-EMAIL_CAMPAIGN_2017_02_21&utm_medium=email&utm_term=0_56a7496199-83e32190e5-199312625)

May 07 – Today, the Federation of American Scientists releases its quarterly publication, the **Public Interest Report (PIR)**. This quarter's issue is centered around **chemical weapons, attacks, and investigations**.

With the recent chemical attack on Khan Shaykhun, Syria on April 4, 2017 — and the subsequent U.S. air strike against Shayrat airbase in western Syria on April 7, 2017 — this issue is more relevant than ever:

- **The Value of Scientific Analysis of Chemical Weapons Attacks (President's Message)**  
by Charles D. Ferguson (President, Federation of American Scientists)
- **The Threat of Toxic Chemicals to the American Homeland**  
by George R. Famini (Director (Retired), DHS Chemical Security Analysis Center)
- **Investigating Chemical Attacks in Syria**  
by Ole Solvang, Peter Bouckaert, and Nadim Houry (Human Rights Watch)
- **Chemical Weapons Use in Jebel Marra**  
by Jennifer S. Knaack (Mercer University), Keith Ward (George Mason University), and Jonathan Loeb (Amnesty International)







## Argon Electronics

# ARGON™

World leaders in  
CBRN training systems

This month we are celebrating  
30 years in business.

To mark this achievement, we have launched a [new website](#) and have also released an [eBook](#) which will help those

reviewing their CBRN and HazMat training consider the options available.

The eBook explores a number of factors relating to the different approaches available to implement effective Chemical Warfare Agent training - including health and safety, regulatory burdens, the



### Chemical Hazard Training

Safe CBRNe / HazMat training systems that place you in complete control of your exercises.

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### Radiation Hazard Training

Environmentally friendly, safe training systems that enable multiple scenarios for Beta / Gamma search and survey.

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Flexible and futureproof solutions that enable you to experience effective response to simulated threats.

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### Tabletop CBRNe Training

Classroom CBRNe / HazMat training exercises that are interesting, educational and engaging.

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environment and costs.

## Risks, Repercussions of chemical warfare

By Dr. Sudershan Kumar

Source: <http://www.dailyexcelsior.com/risks-repercussions-of-chemical-warfare/>

May 06 – The recent attack by Syrian army at civilian population on 4th April, 2017 which drew international outrage and condemnation was found to be a chemical attack. The Syrian military was accused of using sarin gas on Khan-Sheikhoun which resulted into 102 deaths and 405 injuries. The fallout of this was the retributive firing of Tomahawk missiles by U.S.A at Syrian air base. Prior to this attack, Syrian forces have already been using chemical weapons to quell the unrest in the on going civil war in their provinces. The Ghouta attack in the suburbs of Damascus in August 2013 and Khan al-Asal in suburb of Aleppo in March 2013 are worth while to be mentioned here. Over the years, series of offensives by various countries using chemical warfare agents has escalated. A chemical weapon is a specialized ammunition that incorporates various chemical warfare agents. These chemical agents are

toxic substances that are lethal to human beings, animals and plants and are broadly classified into four categories. First are the nerve agents primarily affecting the nervous system. Second comprise the choking agents which choke the respiratory system. Third are the blood agents known for the disruption of the circulatory system. Not to forget the fourth class of chemical agents encompassing the blister agents notorious for causing damage to the skin. These chemicals are absorbed and assimilated in the body through various routes. Inhalation, exposure to eyes, skin, intake through food and water are the most commonly encountered routes. Their repercussions are quite prompt and occur within minutes depending upon the type, dose and the lethality of the chemical used. These are hazardous and have proven to be



a menace to the society. But ironically there are safer ways of using these chemicals also. Looking at the adverse consequences of these chemicals on the human population, they are also rightly called as weapons of mass destruction (WMD) and they stand a place in between conventional ammunition and nuclear/biological weapons. In spite of these well known facts, State/non state actors have used these chemical warfare agents against human beings around the globe. Mankind has always been vulnerable and subjected to the exposure of the toxic gases through industrial accidents and chemical terrorism. Its pertinent to mention here that the history for use of chemical weapon goes back to 400 BC when Greek used sulphur mustard with pitched resin producing suffocating fumes during Trojan war. Subsequently chemical warfare agents were used on a large scale during world war-I (July 1914 – Nov.1918).

They were used by parties to demoralize, cause injury and kill the entrenched defenders. They used a variety of chemical warfare agents ranging from tear gas to the most lethal ones like phosgene, chlorine and mustard gas. During this period, about 1,24,000 tonnes of chemical warfare agents were used. This emanated into a large number of casualties. It is often quoted that, nearly 60 to 70% of the deaths were due to excessive use of chemical warfare agents. Moreover, the use of these types of chemicals were prohibited as per Hague convention of 1907, but commanders from both sides put a deaf ear to this and used these weapons extensively to inflict heavy casualties to their adversaries. The massive destruction and collateral damage forced the countries to rethink on the policy of using the chemical weapons in future wars. Hence in 1925 the league of Nation approved the Geneva protocol which banned the use of chemical weapons. Thus during World War-II there was very limited use of chemical weapons but at the same time, many countries incongruously piled up large number of chemical warfare arsenal for the future. Iraqi forces also extensively used nerve gas and targeted Iranian combatants and non-combatants especially in the border villages and cities during Iraq Iran war. This caused nearly 2000 deaths and innumerable injuries. Further, Iraqi regime also used chemical weapons to

kill the Kurdish people in their own territory. During this attack by Saddam Hussain regime nearly 5000 Kurds were massacred. In further substantiating the menace of chemical warfare to human population, various man made industrial disasters have also played their part too. Prominent among them were Seveso disaster in Italy on July 1976 and Bhopal gas tragedy in 1984 in India.

Seveso accident occurred in a small chemical manufacturing plant situated around 20 kilometers north of Milan in Italy. It released tetrachlorodibenzo-p dioxin (TCDD) in residential areas leading to mass devastation. Eventually the effects of dioxin on civilian population were studied and plant safety regulations were formalized in Italy. Also the industrial accident at Union Carbide plant on 3rd December 1984 at Bhopal still remains as one of the worst unparalleled catastrophe in the history of mankind. The plant released nearly 42 tonnes of Methyl isocyanide (MIC) gas in the environment. This poisonous gas polluted and engulfed the city of Bhopal leading to large scale casualties. Thousands of people residing in that area were rendered sick and handicapped due to the toxic effects of gas and the aftermath is still continuing. Many injuries were permanent and few even led to birth defects. The reasons for large number of deaths and injuries are attributed to the sudden engulfing of the people who were caught unaware about the accident and came out of their houses in a chaos getting direct exposure to poisonous gas. The magnitude of devastation was colossal but residents who stayed indoors suffered less. The reason for the leak was identified as poor maintenance of storage tanks. Therefore, it is important to follow strict safety regulations during operation and maintenance of the plants. Besides mankind around the globe has also suffered due to chemical terrorism (basically a form of terrorism that uses toxic chemicals to kill or injure). The terrorists seek to attack the basic sense of well being of the general public through physical injury, loss of life and causing damage to property using toxic chemical warfare agents or other means.

A glaring example of which is from Japan where the religious cult Aum Shinrikyo released the nerve gas agent sarin simultaneously in 5 sub





stations of Tokyo city near the hub of Japanese Government in the year 1995. This resulted into 12 deaths and around 1000 people were hospitalized, whereas out of panic nearly 5000 people reported to hospital.

Keeping the above facts in mind, the organization for prohibition of chemical weapon was formed on 29th April, 1997 with its headquarter at Hague, Netherland. Around 192 countries are signatory to this chemical weapon convention (CWC) whereas only four states- Egypt, Israel, North Korea and South Sudan are not the members of this CWC. The mandate of OPCW is to keep the world free from chemical weapon, get the piled up arsenal in various countries destroyed and also conduct periodic

inspection of industries where toxic chemical are manufactured.

But in spite of the above stated facts, Syria still used chemical war fare agents against their adversary. Killing of Kim Jong Nam, half brother of South Korean dictator Kim Jong-Un by two women by using two binary precursors of one of the deadliest chemical is also another example of terrorism act. The author is of the opinion that even though the corrective measures have been taken by the member countries regarding the banning of the use of chemical warfare agents in the battle field, yet it is the responsibility of all the member states to ensure that stock pile of chemical warfare does not fall into the hands of terrorist organization like Al-Qaeda and ISIS.

*Dr. Sudershan Kumar is former Director General DRDO & Special Secretary Ministry of Defence GoI)*

## Is Rome ready to CBRNe attacks?

By Francesco Rosiello (Sergente del Corpo Militare CRI)

Source: <https://www.linkedin.com/pulse/rome-ready-cbrne-attacks-francesco-rosiello>



Map of Rome: sensible targets. DOI: 10.13140/RG.2.2.33907.94245

Mar 30 – Rome hosts thousands of sensible targets. Healthcare reaction has been guaranteed by 6 advanced Emergency Departments (EDs) and 7 basic ones. Everyday Rome hosts 6 millions of people/die,  $\pm$  2 million in particular occasions.

About *National Stockpile Antidotes (SNA)*, Rome hosts 3 warehouses. In case of events, stockpiles are activated with a long-time call; then stockpiles are charged in delivering trucks.

**Methods:** Study analyzes PEIMAF (State of emergency plans for massive influx of injuries) of advanced EDs in Rome and their adequacy in a possible CBRNe attack.



Hypothesis of C/N attack on Saint Peter's Square during Angelus on Wednesday (at 12.00 AM) or E attack in Trastevere on Saturday (at 9.00 PM).

Analysis of activation of SNA and travel times between SNA warehouse and EDs.

Comparison with French EDs during Paris attacks.

**Finding:** EDs are chronically undermanned in ordinary conditions already, and would have issues in hosting a very large number of critical patients all at once.

Some hospitals do not inform their workers about PEIMAF or they do not consider CBRNe emergencies in their PEIMAF, and even if it has been considered, hardly any simulation/exercitation is ever performed. Moreover, news of the CBRNe attack may not reach immediately the healthcare personal already at work in EDs; this is extremely problematic since they could be at major risk of contamination in case of CBRNe attacks.

Furthermore, without a standardize protocol active in the whole city, no cross-hospital organization can be performed.

**Conclusion:** All data point towards the weakness and fragmentation of actual organizative system. Time of activation and charging are crucials for first aid efficacy and efficiency; a smart call system can reduce the activation time of SNA. A better organization of SNA in major Rome hospitals can reduce delivering time and help save more lives.

**EDITOR'S COMMENT:** Although I agree with the study above, I must say that the first step to counter the problem has been done at the Gemelli Policlinico, Rome that now has an Emergency Department CBRN Response Team (photo – Sept 2016) – Editor participated in this project as a CBRN consultant for the EU EDEN project.



►► Read more at: <https://eden-security-fp7.eu/eden,id,150.html>

## The European Union and weapons of mass destruction: A follow-on to the global strategy?

Source: [http://moderndiplomacy.eu/index.php?option=com\\_k2&view=item&id=2569:the-european-union-and-weapons-of-mass-destruction-a-follow-on-to-the-global-strategy&Itemid=156](http://moderndiplomacy.eu/index.php?option=com_k2&view=item&id=2569:the-european-union-and-weapons-of-mass-destruction-a-follow-on-to-the-global-strategy&Itemid=156)

May 11 – As of mid 2016, the European Union (EU) finally has a new Global Strategy for its foreign and security policy, which is a follow-on to its 2003 Security Strategy. In 2003, in the midst of a heated debate about suspected Iraqi weapon of mass destruction (WMD) capabilities, the issue of non-proliferation easily made it to the top of the list of priorities.





It even led EU leaders to adopt a specific WMD strategy at the same time: the EU's 2003 Strategy on the

Non-proliferation of Weapons of Mass Destruction (EU WMD Strategy). In 2016, the situation was different. Many other issues dominated the agenda, and non proliferation—and for that matter arms control—was not given a prominent place among the priorities of the Global Strategy

This paper argues that the EU should undertake a new and dedicated effort to deal with the problems related to weapons of mass destruction. More specifically, one or more new strategy documents are required and, in this context, the EU should also pursue WMD-related contingency planning to increase preparedness and prevent or counter crises.

The paper further argues that If the EU does not undertake these efforts, something much more will be at stake than the effectiveness of EU programmes in the areas of non proliferation, arms control and disarmament. The overarching risk is that EU leaders will become reactive and even confused to a greater and even more dangerous extent than occurred after the terrorist attacks on the United States of 11 September 2001.

As a bottom line, the paper argues that the EU should pursue WMD-related contingency planning to increase preparedness in order to prevent and counter crises.

New publication from the EU Non-Proliferation Consortium (SIPRI.org) on why the EU needs to undertake a new and dedicated effort to deal with WMD-related problems.



►► Read the publication [here](#).

## Russian special services warn of possible chemical attack in Moscow

Source: [http://www.pravdareport.com/hotspots/terror/12-05-2017/137714-chemical\\_attack\\_moscow-0/](http://www.pravdareport.com/hotspots/terror/12-05-2017/137714-chemical_attack_moscow-0/)

May 12 – The Russian Security Council has issued a warning about a high degree of the threat of the use of [chemical weapons](#) and poisonous substances on the territory of Russia. Assistant Secretary of the



Russian Security Council, Alexei Pavlov, said that Russian security agencies take all necessary measures to prevent an attack with the use of weapons of mass destruction that terrorists may use against Russian citizens.

"Repeated incidents of the use of poisonous substances and highly toxic chemicals by international terrorist groups testifies to the growing threat of the use of chemical and toxic substances for terrorist purposes on the territory of the Russian Federation," the speaker of the Russian Security Council said.

"This raises the issue of preventive measures aimed at identifying, preventing and suppressing terrorists' access to nuclear, radioactive, chemical and biological materials," he added.

"Terrorists of such organisations as al-Qaeda and ISIL (banned in Russia) have access to technologies, "recipes," equipment and substances that enable them to "assemble" a primitive chemical weapon, and special services are aware of that. This, of course, will not



be a VX chemical bomb, but a conventional fire extinguisher with sarin, zoman, mustard gas or similar substance may do a lot of harm too," a high-ranking source at special services told Pravda.Ru.

Since 2016, "the **Moscow metro** has been conducting intensive preparations to prevent and repel a terrorist attack with the use of chemical and [bacteriological weapons](#)," the source said. Moscow started taking such measures after ISIL leaders declared jihad on Russia and swore to use weapons of mass destruction against "infidels."

"An attack can take place in the metro of Moscow, St. Petersburg and other large cities that have subway systems, or in shopping malls where a lot of people usually stay in enclosed space, at mass actions, fairs and so on - these are the places where terrorists usually arrange their attacks," concluded the expert.

"The new plan for the antiterrorist protection of the metro was elaborated in 2016. In addition to protection against chemical and biological attacks, it includes protective measures against explosions and hostage-taking acts," the official told Pravda.Ru.

"Undoubtedly, chemical weapons are very easy to produce, given the fact that the Islamic State seized laboratories and has specialists, who can make such weapons for them. Such a tragedy is possible, and one can see it from the experience of the sarin attack in the Tokyo subway in 1995," a source at the FSB told politonline.ru.

**A year ago, ISIL leaders issued a special fatwa that permitted terrorists to use weapons of mass destruction against civilians.**

## **What would the government do after a WMD attack? We have no idea**

By Garrett M. Graff

Source: [https://www.washingtonpost.com/posteverything/wp/2017/05/12/what-would-the-government-do-after-a-wmd-attack-we-have-no-idea/?utm\\_term=.65ddeb6953b6](https://www.washingtonpost.com/posteverything/wp/2017/05/12/what-would-the-government-do-after-a-wmd-attack-we-have-no-idea/?utm_term=.65ddeb6953b6)

May 12 – If North Korea launches a nuclear-armed ballistic missile, one of the only things we know for sure about what will happen next is that the news will race around the world on classified networks using the designation reserved for the Pentagon's highest-level alert, an "OPREP-3 PINNACLE NUCFLASH," which signals a possible imminent nuclear war. After that, though, we know surprisingly little about what

might unfold — particularly if a surprise attack managed to cripple Washington. (As Rep. Brad Sherman (D-Calif.) pointed out last month, North Koreans wouldn't necessarily have to fire an intercontinental missile; they could always smuggle a nuke into the country, even if they probably wouldn't hide it in a bale of marijuana, as he proposed.)

For three generations, government officials have carefully planned, war-gamed and thought through exactly what nuclear war would entail, and how to protect and rebuild the country in the event of an attack on the capital or elsewhere. They've considered which critical documents should be saved before others (the Declaration of Independence first, the Constitution second) and precisely who and how many officials from each agency and department should be evacuated — literally creating "A" teams, "B" teams and "C" teams who would be plucked by helicopters from dozens of designated landing zones around Washington, such as the Pentagon and the athletic fields of American University, and whisked to mountain bunkers near the capital.

Over the years, the government has secretly invested billions of dollars in a complicated set of plans that came to be known as "continuity of government" (COG) and "continuity of operations" (COOP) — an entire apparatus, almost completely unknown to the general public, for when [the Doomsday Clock](#) hits midnight. In Philadelphia, a specially trained team of park rangers even stood ready during the Cold War to evacuate the Liberty Bell into the mountains of Appalachia if the Soviets attacked. We know many of these details thanks to records declassified in recent years as the Cold War abated.





But new versions of these plans exist, and we know precious little about them. What we do know raises troubling questions about who would command the country in a moment of crisis — questions that, left unanswered, threaten to undermine the carefully laid-out plans. The government has long held that even hinting at the plans could aid the enemy, but in a democratic society, we should have a much better understanding of what our leaders intend to do in our name after an attack by weapons of mass destruction. The legitimacy of our republican system is based on the consent of the governed — and now, before a catastrophe ever happens, is precisely when we should debate what Armageddon's aftermath might look like.

\* \* \* \* \*

**Today, the most important category of these plans, known as “Enduring Constitutional Government,” remains entirely classified, hidden even from members of Congress.** The White House will describe it only as “a cooperative effort among the executive, legislative and judicial branches of government, coordinated by the President, to preserve the capability to execute constitutional responsibilities in a catastrophic emergency.” It's clear from a close reading of available executive orders, as well as interviews I've conducted and vague public hints from officials since the 1990s, that ECG policies don't necessarily preserve peacetime constitutional precedents, instead focusing on establishing a streamlined process to ensure that the nation's constitutional traditions could be reestablished over time. In other words, ECG programs are aimed at preserving the spirit of the Constitution, not the letter of it. That might mean vast expansions of executive power, limits on traditional civil liberties such as habeas corpus and even the declaration of some type of martial law, as two former senior officials hinted in interviews after 9/11.

Moreover, the plans probably vest an incredible amount of authority in a small group of people whose identities will be unveiled to the nation only after the worst has happened. We do know at least one of these figures, though: The man who updated these plans after Sept. 11, 2001, George W. Bush's deputy White House chief of staff, Joe Hagin, today holds the same role in the Trump White House.

Doomsday plans have always assumed that the president will die in the opening moments of an attack, so during the Reagan years, a secret program called the Presidential Successor Support System was designed to whisk former high-level officials, such as Dick Cheney and Donald Rumsfeld, from their private lives and install them as White House chiefs-of-staff-in-waiting. According to my research and interviews, the goal of the program was to ensure that a neophyte presidential successor — say, the agriculture secretary — would have an experienced staff already in place when he or she arrived at the bunker. Do such programs exist today? Might we, after a NUCFLASH alert, find someone like former chiefs of staff Andy Card or Denis McDonough waiting in a bunker for President Betsy DeVos or President Ben Carson?

There are a troubling number of scenarios in which we wouldn't know who the rightful president would be if Washington was attacked. The 25th Amendment, which deals with presidential succession — itself a product of the atomic age and the need to clarify command over the country's nuclear arsenal — leaves unanswered some of the biggest questions. For one thing, there's no process to deal with an incapacitated vice president, an oversight that led Vice President Cheney, with his long history of heart problems, to write a secret resignation letter that he gave to his staff in case a medical issue left him unable to function. The 25th Amendment also fails to clarify the very basic question of whether the speaker of the House and the Senate president pro tem are constitutionally allowed to step into the presidency — a position James Madison argued against.

Whom would the Pentagon listen to in the event of conflicting orders from the speaker of the House and the secretary of state? (Recall Secretary of State Al Haig's pronouncement after President Ronald Reagan was shot that “I'm in control here at the White House.” Now imagine it in a higher-stakes crisis.) This confusion is precisely why we need a more public accounting of the nation's plans for Doomsday — particularly if, as expected, the government would seek to curtail our civil liberties in the wake of an attack.

\* \* \* \* \*

While there are legitimate reasons for secrecy around some particulars of the government's continuity efforts — tactical details such as precisely how and where certain officials might



evacuate, or the communications capabilities of certain facilities or vehicles — there shouldn't be the same opacity around the broader strategic goals. In fact, the secretive nature of many of these procedures threatens to undermine their use in an emergency. Understanding who possesses what rightful authority in our government is one of the simplest goals of a democratic society. If, after a disaster, several previously anonymous Cabinet undersecretaries each announce that he or she is the nation's leader, how are we as citizens to understand who might be telling the truth?

These are not questions that should be hashed out when the nation is in extremis. They should be part of our national discussion now — and our elected leaders should explain their thinking and procedures in peacetime, when sober minds can afford to debate the finer points of constitutional law. After all, we can't expect to rely on the wisdom of the Supreme Court, which, if a chunk of its members are killed or incapacitated, has no ability to reconstitute itself outside the obviously slow normal Senate confirmation process. The outlines of these succession plans should be publicly debated and agreed upon by the different branches of government so that, after an attack, when the U.S. attorney for northern Illinois or the ambassador to the United Nations — two of the highest-ranking figures in Cabinet succession lines who normally live and work outside the capital — announces that he or she is in charge, we believe them. Congress, too, has failed for decades to assure [its own continuity](#) and succession planning. Proposed legislation failed again and again in the years after 9/11, leaving it likely impotent for months in the face of a surprise attack, since it requires a quorum of its members to operate. One informed theory, hinted at by former officials in interviews, holds that the ECG procedures include a specific, defined role for a small, pre-selected set of congressional leaders — perhaps as small as the four party leaders of the two chambers — who would serve as a “rump” or “skeleton” Congress until a full legislature could be established months later. Such a body would be similar to the congressional “Gang of Eight,” who are regularly informed by the president about covert military and intelligence actions around the world. This theory is backed up by the one continuity area Congress did tackle successfully after 9/11: beginning to appoint its own “designated survivor.” Whereas for decades, one member of the Cabinet has skipped major gatherings such as the State of the Union to ensure a presidential successor if a disaster struck, in the weeks following 9/11, Congress decided to follow suit.

What role precisely would that single surviving congressional leader have in the wake of a disaster? That's classified — hidden away inside sealed envelopes watched over by the Federal Emergency Management Agency's National Continuity Programs, which runs the government's aftermath planning. But it's something we should know if we're expected to trust the men and women who might lead us after a major attack.

Then, of course, there's the problem of what happens to the rest of us. As it turns out, if you examine the historical record of the Cold War, those well-stocked Doomsday preppers on TV have it right: If Armageddon comes, ordinary citizens across the country will be almost entirely on our own — the government has figured out that while it can probably save itself, the rest of us will be left to survive for two or three months (or longer) before it would seek to reestablish federal control over the nation and restore basic services. While civilian protection programs were briefly restarted during the Reagan administration, under a secret effort known as Project 908, the truth is that not since the Cuban missile crisis has the federal government made any widespread effort to ensure that the residents of likely target areas would receive any immediate shelter or post-attack relief. FEMA has relief supplies in stockpiles outside major cities, but there's little known about how large-scale rebuilding efforts would be administered.

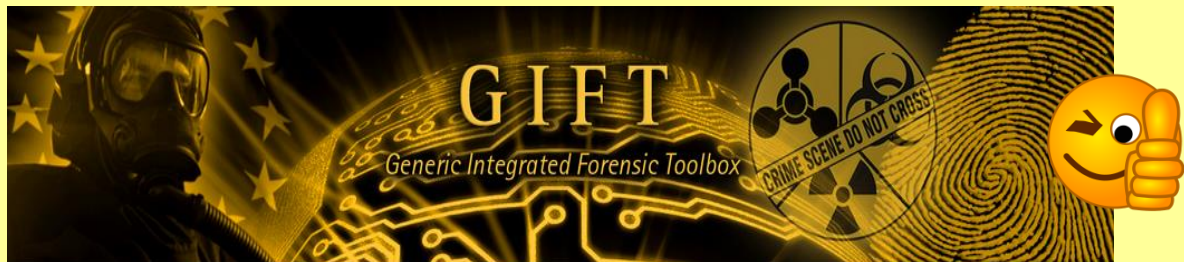
Recently declassified records tell us that Dwight Eisenhower arranged for a set of leading businessmen to be appointed super-czars after an attack; they would have nationalized almost every industry and controlled everything from wages to industries to prices. Has President Trump handpicked private citizens or corporate chief executives, such as GE's Jeff Immelt or GM's Mary Barra, who would rebuild our country if North Korea nuked Washington? Are there White House officials or journalists in newsrooms today who might lead wartime censorship efforts, similar to the ones stipulated during the Cold War, in the event that tensions with Russia escalate? Might Steve Bannon help with those efforts, as one of the Watergate burglars, James W. McCord Jr., would have during the Nixon years? We just don't know.





Through the depths of the Cold War, the attorney general was trailed by an aide carrying an emergency briefcase, like the president's nuclear "football," that contained executive orders suspending civil liberties and declaring a variation of martial law. It's time for members of Congress to hold hearings and tell the public whether there is similar pre-written emergency legislation, akin to the Domsday Patriot Act, somewhere close to Jeff Sessions today. Otherwise, we'll know the answers only if the worst happens — and by then, it'll be too late to object.

*Garrett M. Graff, a magazine writer and historian, is the author of "[Raven Rock: The Story of the U.S. Government's Secret Plan to Save Itself— While the Rest of Us Die.](#)"*



► Source: <https://giftforensics.eu/wp-content/uploads/2014/10/Brochure-Web.pdf>

**CBRN terrorism remains a real threat to European countries, one of the most important elements of this response is ensuring a successful court prosecution.**

The **Generic Integrated Forensic Toolbox for CBRN incidents**, or GIFT CBRN, consortium, funded under the Seventh Framework Programme of the EC, aims to develop a forensic toolbox for CBRN incidents that will be the most advanced in the world. The parties intend to further develop the investigative and analytical methods that are currently only used in a secure laboratory environment and instead allow them to be used at the scene of the crime. This means ensuring not only that delicate equipment can be transported to a remote location, but that it is also able to withstand the problems of a CBRN environment; such as decontamination. Through the cooperation of Europe-wide CBRN research agencies, first responders, industrialists and subject matter experts the toolbox will provide enhanced capability in three areas of CBRN forensics;

1. Procedures, sampling methods and detection of CBRN agents at the crime scene,
2. Traditional forensic laboratory methods for dealing with contaminated evidence,
3. Laboratory methods for profiling CBRN agents released at an incident.

## Police officer overdoses after touching 'weapon of mass destruction' drug **Fentanyl**

Source: <http://www.express.co.uk/news/world/804901/police-officer-overdoses-after-touching-potent-fentanyl-drug-weapons-mass-destruction>

May 15 – **Chris Green, an officer from East Liverpool in Ohio, collapsed after handling the substance, believed to be Fentanyl.**

The drug is a painkiller often used as a recreational drug, and is 50 to 100 times more powerful than fellow opioids morphine or heroin. In fact, it is so potent it has been described as a "weapon of mass destruction", as it can be absorbed into the body merely through skin contact.

**The officer came into contact with the drug while searching a car on Friday night, after the driver completed an alleged drug deal.**



While Mr Green had worn gloves and a mask during the search, a colleague noticed white powder on his shirt when he returned to the police station.

He instinctively brushed off the powder using a bare hand, and within minutes, he collapsed.

It took four doses of the opioid antidote, Narcan, to revive the officer - the first of which were administered by ambulance crews.

**The officer took two days to recover.**



Speaking to local newspaper The Morning Journal, he said: "I started talking weird. I slowly felt my body shutting down.

"I could hear them talking, but I couldn't respond. I was in total shock. 'No way I'm overdosing,' I thought." The driver of the car, Justin Buckle, and his passenger, Cortez Collins, have been arrested and are facing charges of tampering with evidence.



Police say white powder was found all over the vehicle.

In recent years, several American states have been hit by a wave of Fentanyl-related deaths as part of an overdose epidemic across the country.

**Its variant - Carfentanyl - is used on animals and can be 10,000 times more potent than morphine.**

US singer Prince was found to have died from an accidental overdose of Fentanyl following his death last year.





During his last few months in the White House, former US president Barack Obama announced a £4.3m fund to tackle the illegal supply of the deadly drug.

Last month, West Yorkshire and Humberside police warned Class A drugs contaminated with Fentanyl and Carfentanyl could have made their way onto UK streets.

## Smoke clouds visible from Rome after rubbish depot blaze

Source: <https://www.thelocal.it/20170505/smoke-billows-rubbish-waste-eco-x-depot-fire-blaze-pomezia-rome>



May 05 – Emergency services evacuated schools and advised residents to keep windows closed on Friday as smoke billowed from a large fire at a waste depot south of Rome.

The blaze started at the Eco-X rubbish depot in Pomezia on Friday morning, and the cloud of smoke was visible from several kilometres away.



Firefighters said late on Friday morning that "the dense column of smoke is under control, and for the moment has not affected inhabited centres".

However, both the fire service and the local health authority of Pomezia, the town where the depot was located, warned locals to keep windows closed "in homes, schools, offices, and health and social care structures", keep animals inside, and to avoid all unnecessary travel.

The health authority also advised residents to "wash with great accuracy" any homegrown fruits or vegetables over the next few days.



Pomezia mayor Fabio Fucci ordered the evacuation of all schools within a two-kilometre radius of the incident were evacuated, as well as banning outdoor sports and "other planned outdoor events".

No injuries had been reported as a result of the fire, emergency services said.

It is not yet clear what started the blaze, though Pomezia's town council said at around midday: "According to the latest information, it seems that the material which caught fire was plastic, which is causing a black cloud visible from all parts of the town."

**Pomezia**, shown on the map below, is part of the Metropolitan City of Rome and lies about 30km south



of the capital's historic centre.

## Resolve

### Handheld Through-Barrier Hazmat, Explosives and Narcotics ID

Source: <https://www.cobaltlight.com/products/resolve/>



Providing a revolutionary new capability in handheld detection, Cobalt's Resolve™ enables rapid detection and identification of explosives, narcotics and hazardous materials *through* sealed, opaque containers.

### A New Capability for Hazmat, EOD and Law Enforcement

Enabling Faster, Safer Critical Decision-Making

- Detect through coloured and opaque plastic, dark glass, paper, cardboard, sacks and fabrics
- Keep hazards contained - No need to open or disturb objects





- Fast - Accurate ID of chemicals and mixtures in ~1 minute (or less in some modes of operation), with no sample preparation or consumables
- Unique technology significantly reduces the risk of igniting sensitive explosives
- Rugged - Built to withstand tough user environments
- User-friendly - Large buttons, simple interface, designed for use in protective gear

Resolve identifies hazardous chemicals, explosives and narcotics through opaque barriers, including coloured plastics

### Handheld Through-Barrier ID

Resolve is the world's only handheld Raman system for true *through-barrier* identification of hazardous or contraband materials. Resolve rapidly detects and identifies materials from comprehensive libraries, with Cobalt's unique handheld [SORS™](#) technology enabling positive identification *through* a wide range of sealed non-metallic containers, barriers and packaging.



### A New Capability in CBRNE Detection

Resolve differs from conventional handheld Raman ID systems, which are typically limited to line-of-sight measurements. Resolve operates in three principal modes:

**Through-barrier** - Detects through non-metallic, sealed containers such as coloured and opaque plastics, glass, paper, wrapping, sacks and fabrics

**Surface scan** - Line-of-sight measurements, similar to conventional Raman ID systems

**Vial holder** - Quickly identifies materials contained within glass vials in a custom holder

### Flexible On-board Libraries

Configure your own libraries:

- Explosives and precursors
- Hazardous and toxic materials
- Chemical agents
- Narcotics & new psychoactive substances
- Household products and less commonly-used chemicals
- Create and deploy your own libraries

### True Through-Barrier Detection & Identification

Resolve's *through-barrier* capability removes the need to open containers - hazards remain contained & evidence is preserved - enabling response teams to identify container contents early in an operation, prior to escalation. This allows information about the situation to be gathered quickly and efficiently enabling better critical decision making.

### COMMAND™

Resolve systems are centrally managed using Cobalt's Command software. Command allows operational managers to:

- Manage passwords and default system settings
  - Create, manage and deploy libraries
  - Centrally store and analyse scan data
  - Manage Resolve software updates
- COMMAND provides all the tools for central Resolve fleet management



## Islamic State Prepares 'Chemical Weapons Cell' to Ramp Up WMD Production

Source: <http://www.breitbart.com/national-security/2017/05/18/islamic-state-prepares-chemical-weapons-cell-ramp-wmd-production/>

May 18 – **The Islamic State is assembling a large number of chemical weapons specialists to create what U.S. intelligence officials are calling a “chemical weapons cell” in the last bit of territory controlled by the terror state.** Intelligence analysts fear the odds of large-scale chemical weapons deployment in the death throes of the caliphate are increasing.

[CNN](#) reports that ISIS has essentially relocated its capital from the Syrian city of Raqqa to a new area in the Euphrates River valley along the Iraq-Syria border, where “thousands” of Islamic State fighters and sympathizers are swarming. ISIS leader Abu Bakr al-Baghdadi may also be hiding in the area, along with other high-profile Islamic State officials fleeing Raqqa. “We know they have been moving a lot of their leadership out of Raqqa and we suspect much of their technical expertise and planning as well,” Pentagon spokesman Major Adrian Rankine-Galloway said.

Along with this movement of ISIS leadership, analysts believe ISIS is moving its chemical weapons experts into the area and encouraging them to work together, so its stockpile of weapons of mass destruction can be upgraded.

“We have seen ISIS use low-grade chemical agents in the past. We know ISIS is willing to use chemical weapons. This is not something we want to see them get good at,” said Colonel Ryan Dillon, a spokesman for the anti-ISIS military coalition. Dillon stopped short of confirming the theory about a new chemical weapons unit forming up in the Euphrates Valley.

As CNN notes, the use of low-grade chemical weapons by ISIS has increased recently, with at least 15 attacks reported since April 14 in the battle for Mosul, the terror state’s capital in Iraq. Iraqi troops fighting in Mosul are now routinely [carrying](#) chemical warfare gear into battle. A number of Iraqi soldiers fighting in Mosul have been [treated](#) for chemical exposure.

None of these exposures has been fatal yet, but that could change if ISIS takes chemical warfare to the next level. In previous attacks, the Islamic State has sought to maximize the terror of chemical weapons, while U.S. and Iraqi officials [downplayed](#) the effects of low-grade chemical attacks or denied them outright. In short, there has been little military significance to the ISIS chemical attacks perpetrated so far.

## ISIS tested 'chemical weapons' on live victims in horrific 'Nazi style' experiments, documents found at university in Mosul reveal

Source: <http://www.dailymail.co.uk/news/article-4524928/ISIS-tested-chemical-weapons-live-victims.html>

May 20 – **Horrific experiments are being carried out on ISIS prisoners as the terror group tries to develop chemical weapons, documents reveal.**

Iraqi special forces have uncovered details of the use of human 'guinea pigs' - who died during testing - after Mosul University was recaptured from jihadists.

Papers seen by The Times show terrorists have been using easily-obtainable pesticides to develop chemical weapons in experiments likened to Nazi research.

It comes after it emerged ISIS has recruited weapons experts from around the world and shifted its research operation to Syria.

British and US intelligence services, which have verified the documents, fear the weapons could be used on targets in the West.

**Shocking details of the cruel experiments reveal that one man, who died after 10 days, was fed thallium sulphate, which caused severe swelling to his stomach and brain.**





Thallium sulphate is a highly poisonous agent which has been used as rat poison.

**In a second documented experiment, a nicotine agent was injected into a man held captive by ISIS, and he died within two hours,** The Times reports.



**Chemical weapons experts working for ISIS have fled Raqqa and Mosul to set up in Al Qaim**

Chemical weapons expert Hamish de Bretton-Gordon told the newspaper: 'This is a horrifying throwback to the Nazis who would test nerve gas agents on humans.'

The university was recaptured in January, having been used by jihadists for chemical weapons testing for three years.

Since the city was recaptured, ISIS has moved its research operation to Syria.

This week it emerged that a cell is working on its chemical arsenal within the Euphrates River Valley.

A source in the US defence department said thousands of ISIS terrorists have converged in the area, which is where the group's leader Abu Bakr al-Baghdadi is said to be hiding.

The production faction is made up of chemistry experts from across Iraq and Syria, who have

been brought together for the first time, an official told CNN.

With so many of its strongholds under huge pressure from coalition forces, the move is said to be a tactical switch to boost its ability to defend those areas.

US authorities monitoring the area said they have observed a growing number of ISIS chiefs abandoning Raqqa for the stretch of land south of the Euphrates River.

'We know they have been moving a lot of their leadership out of Raqqa and we suspect much of their technical expertise and planning as well.'

US Major Adrian Rankine-Galloway, a Pentagon spokesman, told CNN.

Colonel Ryan Dillon, a spokesman for the US-led military coalition, told the site that ISIS have used what he called low-grade chemical agents in the past.

'We know ISIS is willing to use chemical weapons. This is not something we want to see them get good at,' he said.

**The officials' conclusions are backed by the fact there have been more than 15 chemical weapon attacks since April 14 in or around Mosul.**





## Crimean-Congo hem. Fever in Spain

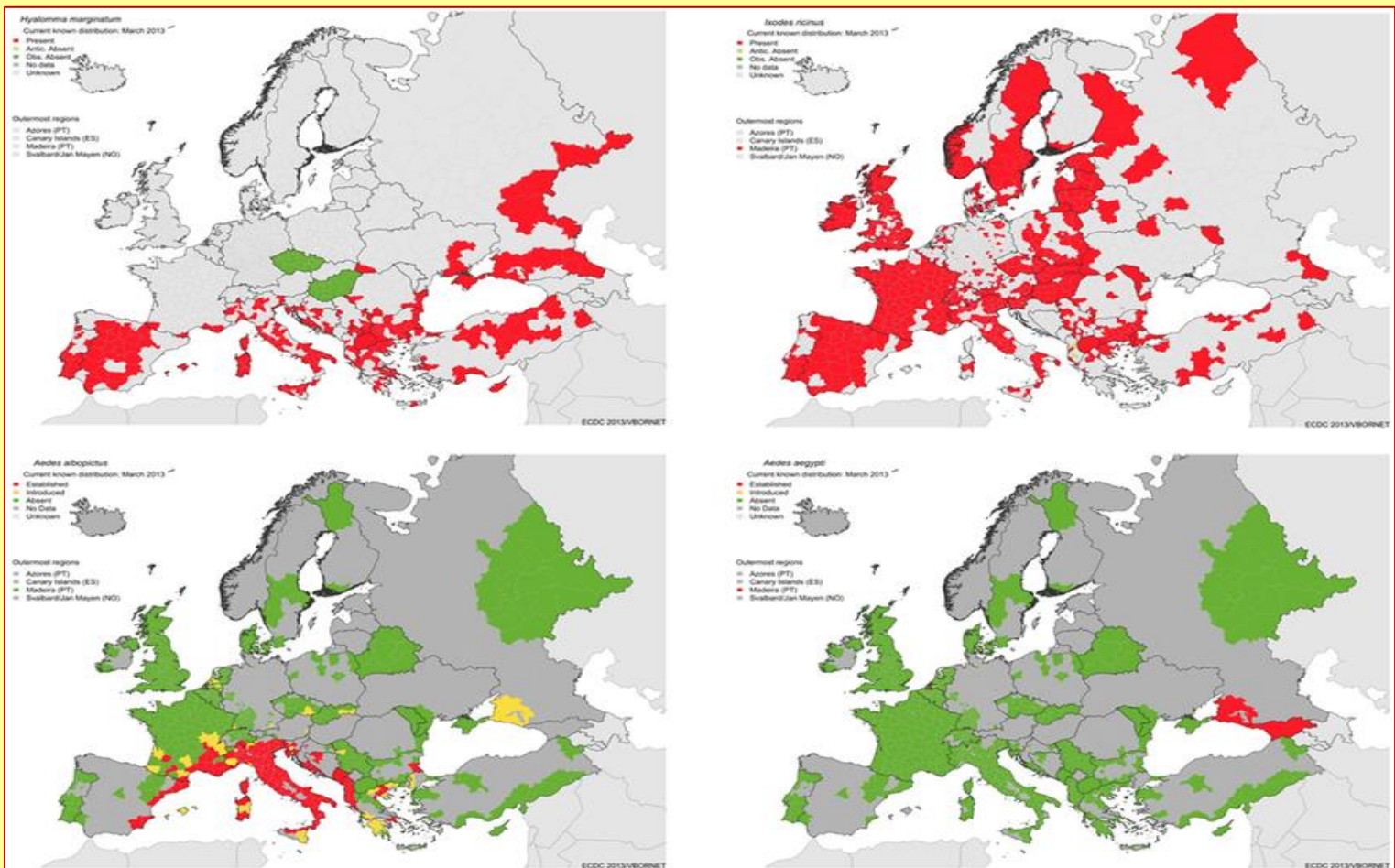
Source: <http://www.entornointeligente.com/articulo/9898748/Sanidad-detecta-en-Extremadura-garrapatas-con-el-virus-de-la-fiebre-hemorragica-de-CrimeaCongo-21042017>

Apr 21 – A study coordinated by the Ministry of Health has detected the presence of ticks infected by the virus that causes Crimean-Congo hemorrhagic fever [CCHF] in several areas of Madrid, Castilla-La Mancha, Extremadura, and Castilla y León. Despite the finding, they assert that the risk of human infection in Spain remains low.

"There is no cause for alarm; we cannot rule out any sporadic case of the disease but the risk is very low," said the General Director of Public Health of the Ministry, Elena Andradás, after the results were presented to the autonomous communities.

**The research was based on an analysis of 9000 ticks obtained from wild animals and domestic livestock, following the first 2 autochthonous cases of this infectious disease detected in Spain in September 2016, one of which was deadly.**

The presence has been detected in 7 of the 11 "comarcas" [subregions] studied. In total, the presence of the Crimean-Congo virus has been identified in about 300 ticks of the genus *Hyalomma*, which is equivalent to only 3 percent of all the samples analyzed, in 7 of the 11 districts studied, all near the area of Avila where the 1st human infection could have occurred last year [2016].



Geographic distribution of major vectors in Europe: ticks: *Hyalomma marginatum*, vector of Crimean Congo hemorrhagic fever (top left), *Ixodes ricinus*, vector of Lyme borreliosis and tick-borne encephalitis (top right), and *Ae. albopictus* (bottom left) and *Ae. aegypti* (bottom right), vectors of dengue (source: ECDC).





In addition, all infected parasites had been extracted from wild animals, especially deer, although they were also detected in cattle, wild boars and wild sheep. Around 90 percent of the ticks with the virus were probably infected by the animal from which they were extracted; another tick would previously have infected them, said Ricardo Molina, head of the Laboratory of Medical Entomology of the National Center of Microbiology and one of the authors of the study.

There is little risk of infection in humans. The Ministry of Health says that another human case like the one detected last year [2016] is unlikely, although it cannot be completely ruled out.

To avoid contagion, prevention information and recommendations have been released to the general public, especially regarding hiking or other activities in the countryside in contact with nature.

### The ticks

Ticks of the genus, *Hyalomma*, particularly *Hyalomma marginatum* are believed to be both a reservoir and a vector for the CCHF virus.



The geographical distribution of CCHFV cases corresponds most closely with the distribution of members of the genus *Hyalomma*, which suggests their principal vector role. CCHFV has been isolated from numerous tick species, including 28 *Ixodes* and 2 *Argasidae* spp. Argasids do not play important roles in the geographical spread of virus because CCHFV fails to replicate in adults and nymphs of argasid tick species.

Ticks have 4 life stages: egg, larvae, nymph, and adult. Larvae hatch from the eggs, climb vegetation, and attach to passing animals; attraction to the host occurs due to heat and carbon dioxide concentrations. Some species of *Hyalomma*, *Dermacentor*, and *Rhipicephalus* genera are capable of transstadial transmission (ie, passing the virus from larva to nymph to adult) of CCHFV after feeding on a viremic host. Transovarial transmission (ie, passage of virus to

offspring) of CCHFV occurs within some of the species in these genera.

Also, venereal transmission has been demonstrated among some vector species, which may contribute to maintaining the circulation of the virus in nature. Also, ticks can be infected by co-feeding with infected ticks on uninfected hosts.

The virus is transmitted to humans through tick bites or by direct contact with infected animal blood (farmers, slaughterhouse workers, veterinarians, etc). In addition, person-to-person transmission can occur due to direct or indirect contact with the skin, mucous membranes, or body fluids of infected patients. The virus may also be transmitted from human to human, primarily in the hospital setting.

Climate may contribute to increased tick abundance because high temperatures, especially in the spring and summer, may accelerate the *Hyalomma* cycle by switching on its interstadial development and host-seeking activity.

(<https://academic.oup.com/labmed/article-lookup/doi/10.1309/LMN1P2FRZ7BKZSCO>).



Work by other researchers has shown the presence of the CCHF virus in up to 12.3 percent of the tested tick pools using antigen ELISA and RT rt PCR

(<https://link.springer.com/article/10.1007%2Fs10493-012-9642-x>).

**Extremadura**, a western Spanish region bordering Portugal, comprises the provinces of Cáceres and Badajoz. It's a remote area of mountains, forests, lakes and reserves, notably Monfragüe National Park and Cornalvo Natural Park, both sheltering diverse birdlife. In view of the above report, a complementary human survey of CCHF antibody prevalence

could be valuable for understanding the epidemiology of the infection in the region.



## Health security: is the world better prepared?

Source: <http://www.who.int/publications/10-year-review/health-security/en/>

There is no more acute need for a guardian of health than during a disease outbreak. Lessons learned from the West Africa Ebola outbreak in 2014 were the catalyst to creating our new Health Emergencies Programme, enabling a faster, more effective response to outbreaks and emergencies. We help countries meet the International Health Regulations and enable R&D collaboration to develop new vaccines and treatments in epidemic. Subsequent outbreaks of Zika and yellow fever have shown that we are moving in the right direction but more work is needed to ensure that the world is better prepared to handle the next epidemic.

### Chapters

1. [Health security](#)
2. [Ebola: WHO must change the way it works](#)
3. [First tests for early reforms](#)
4. [A new emergencies programme is launched](#)
5. [Four famines: the worst crisis since 1945](#)
6. [On the frontlines: a unique chain of care](#)
7. [The worst-case scenario: coming soon?](#)
8. [Related links](#)

## International anthrax conference will explore latest scientific research findings

Source: <http://www.homelandsecuritynewswire.com/dr20170426-international-anthrax-conference-will-explore-latest-scientific-research-findings>



**Bacillus ACT**  
2017

#BacillusACT2017



**The International Conference on *Bacillus anthracis*,  
*Bacillus cereus*, and *Bacillus thuringiensis***

Apr 26 – Scientists and researchers from all over the world who work on *Bacillus anthracis*, the causative agent of anthrax, and *B. cereus* and *B. thuringiensis*, two closely related bacillus species, will be heading to Victoria, British Columbia, in October for the international conference known as “[Bacillus ACT](#).”

The bi-annual conference, set for 1-5 October, will allow members of the scientific community

to present their work and meet more than 200 global peers.

The main mission of the Bacillus ACT 2017 conference is to promote stimulating and fruitful interactions among investigators involved in research related to the physiology, genetics, molecular biology, pathogenesis and ecology





of these three closely related bacteria and their kin.

“World-renowned scientists will present their latest findings — from studying genomics, cell wall and spore structure and function, gene regulation, sporulation and germination, toxins, epidemiology, ecology and bacteria-host interactions of these species,” said Bacillus ACT 2017 Co-Chair Staci Kane of Lawrence Livermore National Laboratory (LLNL).

In addition, experts working on rapid diagnostics, decontamination, vaccine development, therapeutics and general physiology will be participating in this conference, which was last held in 2015 in New Delhi, India, Kane said.

“By choosing international destinations we can tap into local knowledge and bring together global expertise. Friendships and collaborations are formed that may never have happened without people meeting at this conference,” she added.

Victoria, British Columbia, was chosen because of its access to scientific hubs in Vancouver, Seattle, Portland and across California.

LLNL says that this year’s conference is organized by LLNL’s Global Security Principal Directorate, which applies multidisciplinary science and technology to anticipate, innovate and deliver responsive solutions to complex global security needs.

Sponsors include the LLNL Global Security Principal Directorate, the Centers for Disease Control and Prevention, Emergent BioSolutions of Gaithersburg, Maryland, the Northwest Territories’ Department of Environment and Natural Resources (Wildlife Division) of Yellowknife, Canada, and List Biological Laboratories Inc. of Campbell, California.

Due to the high caliber of the delegates, the conference attracts patrons, allowing them to showcase their technology, capabilities and products to this international community of researchers.

The five-day conference’s keynote presenter will be John Collier, professor emeritus from Harvard Medical School’s Department of Microbiology and Immunobiology, whose talk will focus on “A Toxin Odyssey.”

“Some of the most exciting basic and applied research in microbiology is presented at the Bacillus ACT meetings,” said Adam Driks of Loyola University Chicago, and the conference’s co-chair. “This year’s meeting promises to be an outstanding event.”

Art Friedlander of the U.S. Army Medical Research Institute of Infectious Diseases is a key member of the steering committee.

The deadline for submitting abstracts is 15 June, and notification of acceptance will be sent no later than 31 July.

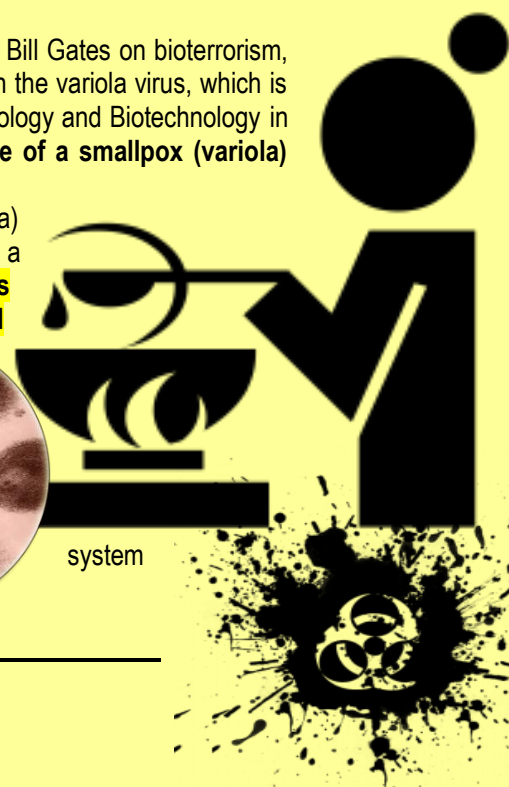
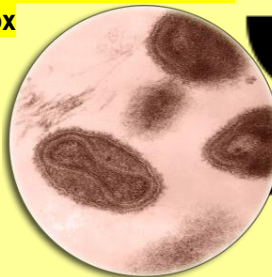
## 10 Healing food recipes in case of a smallpox (variola) outbreak

Source: <http://www.emaxhealth.com/13644/10-healing-food-recipes-case-smallpox-variola-outbreak>

Apr 29 – Smallpox is a long gone, viral disease. But recent comments from Bill Gates on bioterrorism, have sparked fear on what could people do in case of bioterrorist attack with the variola virus, which is still kept in vials in the CDC in Atlanta and the State Research Center of Virology and Biotechnology in Russia. **So, the question is: how could food help with healing, in case of a smallpox (variola) outbreak?**

There are natural measures that can be taken in case of a smallpox (variola) outbreak to either escape getting sick by boosting immunity, or surviving a possible smallpox outbreak. **Antiviral and antibacterial herbs as well as essential fatty acids have been reported to be beneficial for overall health, but even more needed in case of a smallpox outbreak.**

If you catch smallpox you will be dealing with a disease that takes over a month to run its course. It starts with flu like symptoms and a horrific rash that if not treated carefully, can incur secondary bacterial infections. The virus then, colonizes the respiratory and migrates to the lymphatic system.



**So, the healing foods in case of a smallpox (variola) outbreak need to be able to: 1) Naturally kill viruses and bacteria 2) boost immunity 3) cleanse the lymphatic system.**

#### Kill viruses and bacteria

Some of the best foods that hold such properties and will help in case of a smallpox (variola) outbreak are: garlic, ginger, coconut oil, lemon, honey, turmeric. Some of the benefits of consuming turmeric are its [anti-ageing](#) properties. Ginger has been [reported](#) to reduce colon cancer risk, and garlic is not far behind with researches suggesting [eating garlic cuts lung cancer risk](#) significantly. Coconut oil has [antifungal activities](#), while one of lemons healing properties is [protecting the liver](#), manuka honey has been said to be a great [rosacea treatment](#).

#### Boost immunity

[Natural probiotics](#) found in sauerkraut and Miso soup are a good way to re-establish gut health and balance. It is important to note that probiotics are important for overall health and have been reported to be an efficient [treatment for yeast infection](#). Other great immune boosters are sweet potatoes and mushrooms. Sweet potatoes are rich in vitamin A, which plays a [major role](#) in the production of connective tissue, a key component of skin, and mushrooms are [reported](#) to boost immunity by reducing inflammatory proteins.

#### Cleanse the lymphatic system

Raw beetroot and leafy vegetables like cabbage, watercress, celery, kale and parsley have been [reported](#) to be powerful blood cleansers. Fenugreek also has the reputation as a [lymphatic cleansing herb](#).

#### 1) Miso Soup with Garlic and Ginger

[Miso (photo) is a traditional Japanese seasoning produced by fermenting soybeans with salt and koji (the fungus *Aspergillus oryzae*) and sometimes rice, barley, or other ingredients.]

##### Ingredients

- 1 tablespoon sesame oil
- 1 yellow onion, chopped
- 2 tablespoons finely chopped ginger
- 2 cloves garlic, finely chopped
- 6 cups vegetable broth or water
- 2 baby bok choy, trimmed and roughly chopped
- 1/2 pound carrots, thinly sliced
- 1 (8-ounce) package baked tofu, preferably Asian-flavored, thinly sliced
- 2 tablespoons red miso paste
- 2 tablespoons rice vinegar
- 2 green onions, thinly sliced



##### Method

Heat oil in a large pot over medium heat. Add yellow onion, ginger and garlic and cook until onions are translucent, about 5 minutes. Add broth, bok choy, carrots and tofu and bring to a boil. Reduce heat and simmer until vegetables are tender, 5 to 10 minutes more. Remove soup from heat.

Ladle about 1 cup of the hot broth into a small bowl. Add miso and stir until dissolved, then transfer mixture back to pot and stir well. Stir in vinegar, ladle soup into bowls and garnish with green onions.

#### 2) Sweet Potatoes with Mushrooms, Onion, and Thyme (serves 4)

##### Ingredients

- 2 large sweet potatoes, peeled and cut into 1 inch cubes (about 1 lb)
- 1 large sweet onion, cut into 1/2 inch chunks (about 1/2 lb)





1(10 ounce) package white button mushrooms, wiped clean and halved or quartered  
2tablespoons extra virgin olive oil  
1teaspoon fresh thyme leaves  
salt and pepper to taste.

**Method**

Heat the oven to 400 degrees F. Arrange the sweet potatoes, onion, and mushrooms in a large roasting pan or baking dish, about 13 X 9. Drizzle evenly with olive oil, sprinkle with thyme, salt and pepper, and stir to coat vegetables. Roast vegetables until golden and tender, turning occasionally with a spatula, about 45 minutes. Serve immediately.

**3) Carrot sweet potato mushroom soup****Ingredients**

1tbsp butter  
1 onion  
8 oz carrots  
10 oz sweet potatoes  
6 oz mushrooms  
½ tsp ground cumin  
½ tsp ground coriander  
1½ tsp flour  
1pint/450ml stock  
½ cup/120ml milk

**Method**

Melt the butter in a pan over a medium heat. Dice the onion and add to the pan. While the onion is cooking, peel the carrots and sweet potatoes and medium dice. Add to the pan and stir as they are ready. Cover the pan and allow the vegetables to sweat for a couple minutes. Meanwhile dice the mushrooms. Add to the pan, check that there is a little fat and if need be add a little more butter or oil. Stir and cook a minute, cover and sweat another minute, then add the spices and flour. Stir well then add the stock. Cover, bring the pan to the boil and reduce to a simmer for around 10 minutes until all the vegetables are tender. Remove from the heat and puree. Add the milk and serve.

**4) Broccoli and red cabbage salad**

Serves 4-6

½ head broccoli, finely chopped  
1 cup finely sliced red cabbage  
1 stalk celery, sliced  
1 clove garlic, peeled and crushed  
¼ cup basil leaves, chopped

**Dressing:**

2 Tbsp grapeseed oil  
2 Tbsp white vinegar  
1 tsp honey

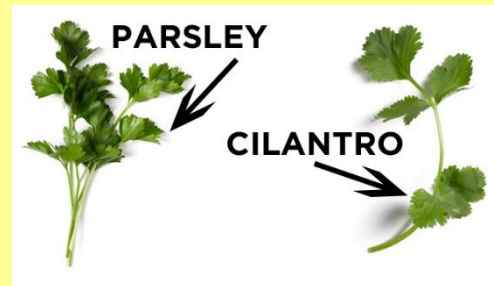
**Method**

Mix broccoli, cabbage, celery, garlic and basil together in a bowl. Add dressing and toss. Transfer to a serving dish. To make dressing, mix oil and vinegar together and then add honey. Mix well.



**4) Cilantro Apple Green Juice****Ingredients**

2 green apples  
2 stalks celery  
2 lg kale leaves  
1 med cucumber  
¼ c fresh cilantro (photo)  
½ lemon, peeled

**Method**

PRESS all ingredients through a juicer in batches. Stir and serve immediately

**6) Dhal with spinach****Ingredients**

1 cup yellow split peas, sorted and rinsed  
3 cups water  
½ teaspoon turmeric  
1 tablespoon canola oil  
1 teaspoon cumin seeds  
1 medium onion, chopped  
1 tablespoon grated fresh ginger  
3 garlic cloves, crushed  
1 teaspoon ground fenugreek (optional)  
¼ teaspoon chilli powder  
400-g can diced tomatoes (undrained)  
80 g baby spinach leaves

**RAITA (photo)**

1 cup plain low-fat yoghurt  
½ teaspoon ground cumin  
2 tablespoons finely chopped fresh mint

**Method**

To make the dal: combine split peas, water and turmeric in a large saucepan. Bring to a simmer. Partially cover, reduce heat to medium-low and cook until split peas are tender, 40 to 45 minutes.

Meanwhile, heat oil in a large non-stick frying pan over medium heat. Add cumin seeds and cook, stirring, until fragrant, 10 to 20 seconds. Add onion and cook, stirring often, until softened, 2 to 3 minutes. Add ginger, garlic, fenugreek, if using, and chilli. Cook, stirring, until fragrant, 20 to 30 seconds. Add tomatoes and cook until most of the liquid has evaporated, 5 to 10 minutes.

When split peas are tender, stir them and any remaining cooking liquid into tomato mixture, along with the spinach. Cook for 2 to 3 minutes to blend the flavours.

To make the raita: mix the yoghurt, ground cumin and mint in a small bowl. Serve the dal with raita.

**7) Radish, beet and watercress juice****Ingredients**

1 Radish  
2 Handfuls watercress (photo)  
18 Baby carrots  
1 Gala apple





2 cups Orange juice  
1-2 tbsp Honey (to taste)  
½ Medium red beet  
1 Handful of baby spinach

**Method**

Wash the watercress and baby spinach in a salad spinner and spin dry. Rinse the baby carrots and set aside. Peel the apple and beet and set aside (if the beets came with the leaves, cut them off). Cut the leaves off the radish and trim off the root at the end then wash the radish.

Remove the core from the apple, trim the baby carrots, beet and radish into smaller pieces (I cut mine about 1-2 inches in size because I have a regular blender and it handles better when I cut things down). Add all ingredients in a blender and blend on high for 1 minute then blend on a lower speed for about 40 seconds. Serve in your favorite glass

**8) Golden milk turmeric tea****Ingredients**

1 cup unsweetened non-dairy milk, preferably coconut milk beverage or almond milk  
1 (3-inch) cinnamon stick  
1 (1-inch) piece turmeric, unpeeled, thinly sliced, or 1/2 teaspoon dried turmeric (photo)  
1 (1/2-inch) piece ginger, unpeeled, thinly sliced  
1 tablespoon honey  
1 tablespoon virgin coconut oil  
1/4 teaspoon whole black peppercorns  
Ground cinnamon (for serving)

**Method**

Whisk coconut milk, cinnamon, turmeric, ginger, honey, coconut oil, peppercorns, and 1 cup water in a small saucepan; bring to a low boil. Reduce heat and simmer until flavors have melded, about 10 minutes. Strain through a fine-mesh sieve into mugs and top with a dash of cinnamon.

**9) Sauerkraut****Ingredients**

1 Medium Head of Cabbage  
1-3 Tbsp. sea salt

**Method**

Chop or shred cabbage. Sprinkle with salt. Knead the cabbage with clean hands, or pound with a potato masher or Cabbage Crusher about 10 minutes, until there is enough liquid to cover.

Stuff the cabbage into a quart jar, pressing the cabbage underneath the liquid. If necessary, add a bit of water to completely cover cabbage.

Cover the jar with a tight lid, airlock lid, or coffee filter secured with a rubber band. Culture at room temperature (60-70°F is preferred) for at least 2 weeks until desired flavor and texture are achieved. If using a tight lid, burp daily to release excess pressure.

Once the sauerkraut is finished, put a tight lid on the jar and move to cold storage. The sauerkraut's flavor will continue to develop as it ages.



## 10) Garlic soup

### Ingredients

26 garlic cloves (unpeeled)  
2 tablespoons olive oil  
2 tablespoons (1/4 stick) butter  
2 1/4 cups sliced onions  
1 1/2 teaspoons chopped fresh thyme  
18 garlic cloves, peeled  
3 1/2 cups chicken stock or canned low-salt chicken broth  
1/2 cup whipping cream  
1/2 cup finely grated Parmesan cheese (about 2 ounces)  
4 lemon wedges

### Method

Preheat oven to 350°F. Place 26 garlic cloves in small glass baking dish. Add 2 tablespoons olive oil and sprinkle with salt and pepper; toss to coat. Cover baking dish tightly with foil and bake until garlic is golden brown and tender, about 45 minutes. Cool. Squeeze garlic between fingertips to release cloves. Transfer cloves to small bowl.

Melt butter in heavy large saucepan over medium-high heat. Add onions and thyme and cook until onions are translucent, about 6 minutes. Add roasted garlic and 18 raw garlic cloves and cook 3 minutes. Add chicken stock; cover and simmer until garlic is very tender, about 20 minutes. Working in batches, purée soup in blender until smooth. Return soup to saucepan; add cream and bring to simmer. Season with salt and pepper. (Can be prepared 1 day ahead. Cover and refrigerate. Rewarm over medium heat, stirring occasionally.)

Divide grated cheese among 4 bowls and ladle soup over. Squeeze juice of 1 lemon wedge into each bowl and serve.

► In 2014 there were many [reports](#) exposing that 6 left over vials of variola virus were found in a lab owned and operated by the National Institutes of Health, sparking rumours that perhaps the government institutions might have been reckless with keeping track of the variola pathogen. Therefore, its important to know what foods can help with healing in case of a smallpox (variola) outbreak.

<b>EDITOR'S COMMENT:</b> Why including this article herein? I think that herb medicine deserves more attention from conventional doctors and perhaps these recepies do work? Alone? Surely not! Complementary? Surely yes!
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## 80-Year-Old 'Viable' Anthrax Strain Debunked Using Advanced Genomic Sequencing

By American Society for Microbiology

Source: <http://www.rdmag.com/news/2017/04/80-year-old-viable-anthrax-strain-debunked-using-advanced-genomic-sequencing#.WQYQcRUmNr0.twitter>

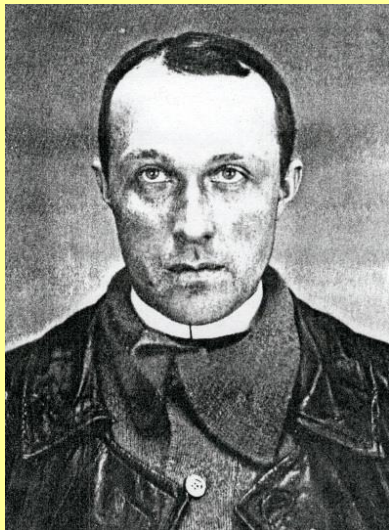
Apr 25 – **A team of international researchers has found that a strain of anthrax-causing bacterium thought to have been viable 80 years after a thwarted World War I espionage attack, was, in reality, a much younger standard laboratory strain.** The team speculates that the mix-up was due to commonplace laboratory contamination.





The study, published this week in *mBio*®, an open-access journal of the American Society for Microbiology, highlights the advances in genomic sequencing that now enable precise tracking of bacterial strains used in biological warfare and terrorist attacks around the world.

"Historically, there have always been bacterial strain mix-ups in the course of doing research," says Paul Keim, executive director of The Pathogen and Microbiome Institute at Northern Arizona University in Flagstaff and senior author on the current study. "But now that we have the molecular tools, we can do the quality control on strain collections to figure out exactly what they contain." (image: *Bacillus anthracis* bacteria using Gram-stain technique. credit: CDC)



**The current study helps debunk the claim that a World War I biological weapon containing anthrax-causing spores was still viable 80 years later.** In 1917, **German spy Baron Otto von Rosen** (photo), was caught in Norway possessing lumps of sugar embedded with glass capillaries filled with a liquid holding spores of *Bacillus anthracis*, the bacterium that causes anthrax. He was suspected of plotting to feed the sugar lumps, which contained the oldest known isolates of *B. anthracis*, to the reindeer that pulled transports of munitions and foods across the frozen Arctic tundra for the Allied forces.

The poison-laced sugar remained in a Norwegian police museum until 1997, when it was sent to what is now known as the Defence Science and Technology Laboratory in Porton Down, United Kingdom. Researchers there used DNA amplification to determine that the agent inside the tiny glass tubes was indeed *B. anthracis*. After some extensive laboratory coaxing, they next cultured and isolated four colonies

grown from the liquid inside the tubes. In a 1998 *Nature* paper, they declared that they had revived the anthrax bacterial strain that had spent 8 decades as spores (Ref 1).

However, DNA sequencing of entire organism's genome was in its infancy at this time, so the exact genetic identity of the strain was never defined. In 2001, Keim was tapped to help investigate the anthrax-containing letters mailed by a terrorist across the US. At the request of the FBI, Keim's team categorized all known anthrax-causing strains, which included the Porton Down 'sugar' samples and other samples from around the world.

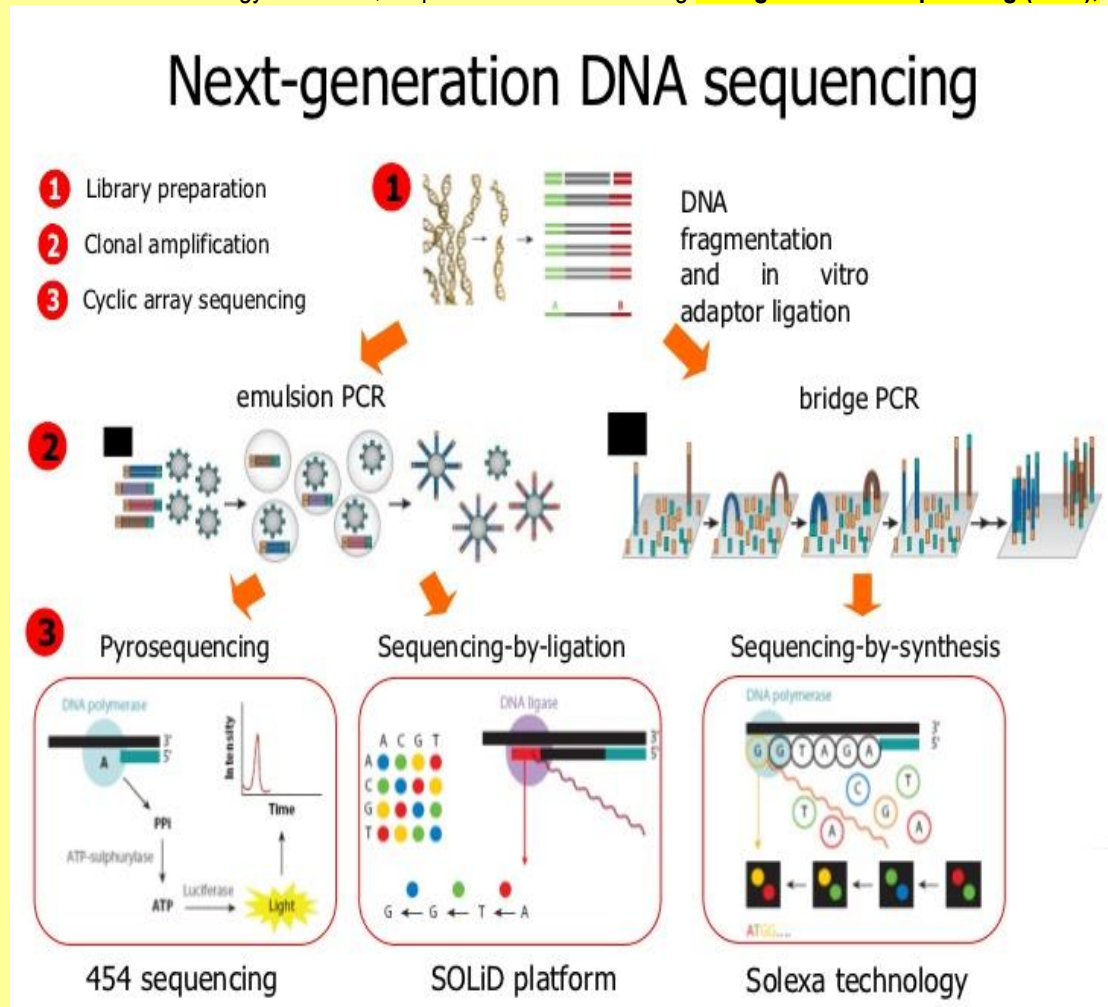
At that time, Keim noted a very close genetic similarity between the Porton Down strains and what had become the standard laboratory reference strain used in experiments and vaccine development, known as the Ames Ancestor strain. Amidst the urgency of pinning down which strain was used in the letters—it turned out to be the Ames strain—he forgot about the strange similarity.

"As we learned more and more about the Ames strain, it became obvious that it had to be a contaminant," in the Porton Down samples, says Keim. Then, at a 2013 conference, he was





approached by German biodefense researchers, who had sequenced what they thought was the original German spy's strain. They too had noticed its genetic resemblance to the Ames strain. Working in tandem, Keim's Arizona team and Herman Meyer and Markus Antwerpen at the Bundeswehr Institute of Microbiology in Munich, sequenced the strains using **next-generation sequencing (NGS)**, a



technique that allowed them to analyze every genetic difference at the level of single letter changes to the genetic code. It also allows them to sequence a strain's entire genome, not just a handful of times, like the previous technology used in 2001, but 100 times over. The new technology also costs about 10,000 times less per genome sequenced.

**Both labs confirmed that the Porton Down 'sugar' strains differed by only two genetic letters from the Ames Ancestor strain--a near identical matching.** The researchers speculate that during the intense culturing attempts of the sugar samples in 1997, spores from the Ames Ancestor strain, which were likely to be abundant in the Porton Down military defense laboratory facilities, fell into the culture media and grew.

Two of the original Porton Down researchers, Martin Pearce and Caroline Redmond, collaborated on this new study to confirm that indeed, a likely contamination event threw off their results. "That work has been cited many times as evidence that spores can survive in liquid for 80 years--and now that's clearly not true," says Keim, leaving it an open question of just how long *B. anthracis* spores can survive and still cause disease.

"But their first finding that the capillary tube did include *B. anthracis* DNA was a solid result," says Keim. Unfortunately, none of the 1917 sample remains to be completely sequenced using today's technology.



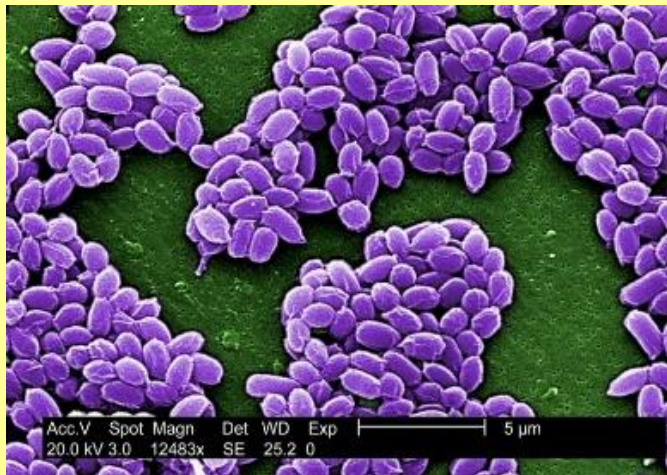
But how do the new study's authors know their work is not suffering from contamination, as well? "It was independently verified by two different labs, working on two different continents," says Keim, a strong argument against contamination.

The work also showcases the important role that NGS can play in the quality control monitoring of bacterial strain repositories around the world--to ensure that strains being used in experiments are truly what researchers think they are and to catch strain contamination when it happens.

## How Anthrax Toxin Proteins Might Help Treat Cancerous Tumors

Source: <https://www.dddmag.com/news/2016/06/how-anthrax-toxin-proteins-might-help-treat-cancerous-tumors>

**June 2016** – Scientists from the National Institute of Allergy and Infectious Diseases (NIAID), the National Institute of Dental and Craniofacial Research (NIDCR), and the National Heart, Lung and Blood Institute (NHLBI), all parts of the National Institutes of Health (NIH), describe how **combining engineered anthrax toxin proteins and**



**existing chemotherapy drugs could potentially yield a therapy to reduce or eliminate cancerous tumors.** The findings, based on testing in mice, will appear this week in the Early Edition of the *Proceedings of the National Academy of Sciences*.

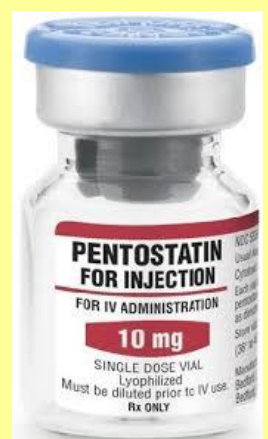
The bacterium *Bacillus anthracis*, which causes the deadly anthrax disease, produces a toxin made of three proteins that individually are non-toxic. Because the proteins can be engineered to suppress tumor growth they have emerged as a potential cancer therapy. Until now, however, scientists have been unsure how the anthrax toxin proteins control tumor growth. In this study, NIH scientists used mouse models to show that anthrax toxin proteins work by specifically targeting the cells that line the inner

walls of the blood vessels feeding the tumor. **The proteins, which reach these cells through a surface receptor called CMG2, prevent the cells from reproducing.** Because the toxin does not target the tumor cells themselves but rather the host-derived blood vessel cells, the strategy could be efficacious for a wide range of tumor types, the NIH team notes.

**Unfortunately, the immune system produces antibodies in response to the anthrax toxin proteins, making additional courses of treatment ineffective.** To circumvent this problem, the investigators examined in mice whether a regimen of the chemotherapy drugs pentostatin and cyclophosphamide (PC) could block production of the antibodies that **neutralize the anthrax toxin proteins.**

Mice were inoculated with tumors and treated with one of the following regimens: saline (for use as a placebo), anthrax toxin protein therapy, PC, or a combined

regimen of anthrax toxin protein therapy and PC. **After four cycles of therapy (42 days), all mice receiving the combined regimen were alive, whereas mice in the other groups had to be euthanized due to tumor growth.** In addition, the investigators could not detect any neutralizing antibodies in the combined regimen group, even after the fourth round of therapy. Together, the results showed that the combined anthrax toxin protein and PC therapy has durable, anti-tumor effects worthy of further exploration, according to the authors.





**CBNW 2017 Vol 1**

Published on Jan 18, 2017

Source: [https://issuu.com/immagis/docs/cbnw\\_2017\\_vol\\_1](https://issuu.com/immagis/docs/cbnw_2017_vol_1)

Edited by leading CBRNE analyst and author Andy Oppenheimer AExpE MIABTI, CBNW is distributed free to defence ministers, procurement officers and first-responder officials worldwide, and at all major defence, CBRN and security trade shows.



**BIORESPONSE**

Gary A. Flory proposes a rethink of the urban response to anthrax

## ANTHRAX and the city

A week after the September 11, 2001 attacks, letters tainted with anthrax spores were mailed to two US Senators and several news media offices. The attacks, often referred to as Amerithrax, resulted in the deaths of five people and the infection of 17 others. In addition to causing widespread fear, the attacks contaminated dozens of buildings with anthrax spores.

Decontaminating buildings and returning them to service is possible but time consuming and costly. Cleaning anthrax spores from the Senate office building cost \$27 million. After 26 months, the Brentwood postal facility in Washington, D.C. was finally remediated at a cost of \$130 million. The total cost of the attack is estimated to exceed \$1 billion.

**Anthrax persistence**  
Anthrax is a zoonotic disease caused by the bacterium *Bacillus anthracis*. It is endemic in several countries in Africa, central and southern Asia, and southern Europe, where it can be found in wildlife and domestic animals such as cattle, sheep and goats. Outside of a living host, the bacterium forms spores which persist in the environment, surviving years or even decades.

**Responding to a subway attack**  
The previous examples highlight the difficulty of decontaminating both urban and natural environments. In addition to the typical difficulties associated with a subway system poses unique challenges: the size of the system, number of stations, concentration of people, interconnectedness.

To demonstrate the spores' longevity, in 2016 unusually warm temperatures in western Russia's Yamal tundra melted the thick frozen soil layer, exposing grazing reindeer herds to anthrax spores in a reindeer carcass that had been protected under permafrost for 75 years. Anthrax infections sickened nearly a hundred people and killed 2,300 reindeer. To help control the outbreak, Russian authorities are evaluating killing 250,000 reindeer and disposing of the carcasses.

To address these challenges the United States undertook an interagency effort between the Environmental Protection Agency, Department of Homeland Security, Department of Defense and several national laboratories. The Underground Transportation Restoration (UTR) Operational Technology Demonstration (OTD) was conducted at Fort A.P. Hill's Asymmetric Warfare Training Center (AWTC) to evaluate field-level mass transportation decontamination technologies directed at the intentional release of a biological agent such as *Bacillus anthracis*. Access to the AWTC offered researchers the unique opportunity to evaluate technologies in a subway environment without a connection to an active subway system.

**Assessing decon technologies**  
The project, which spanned more than a month, consisted of four separate periods of background sampling, agent release, decontamination, sampling, waste removal and decontamination, and post-decontamination sampling. For the

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## Emergent BioSolutions Awarded BARDA Contract for Advanced Development and Delivery of NuThrax, a Next Generation Anthrax Vaccine, Valued at Up to \$1.6 Billion

Source: <http://investors.emergentbiosolutions.com/phoenix.zhtml?c=202582&p=irol-newsArticle&ID=2207139>

September 2016 – Emergent BioSolutions Inc. (NYSE:EBS) announced today that it has signed a multi-year contract with the Biomedical Advanced Research and Development Authority (BARDA), which is a division of the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, for the advanced development and delivery of NuThrax™ (anthrax vaccine adsorbed with CPG 7909 adjuvant), also known as AV7909, the company's next generation anthrax vaccine candidate. The contract, valued at up to approximately \$1.6 billion, consists of a five-year base period of performance valued at approximately \$200 million to develop NuThrax for post-exposure prophylaxis of anthrax disease and to deliver to the Strategic National Stockpile (SNS) an initial two million doses following Emergency Use Authorization (EUA) pre-approval by the U.S. Food and Drug Administration (FDA). The company anticipates that FDA could authorize NuThrax for emergency use as early as 2018, triggering deliveries of





NuThrax to the SNS in 2019. The contract also includes procurement options for the delivery of an additional 7.5 million to 50 million doses of NuThrax to the SNS, valued from approximately \$255 million to up to \$1.4 billion, respectively, and options for an additional clinical study and post-marketing commitments valued at \$48 million, which if both were to be exercised in full, would increase the total contract value to up to \$1.6 billion.

"Emergent is pleased that BARDA has selected NuThrax to address the U.S. government's desire for a next generation anthrax vaccine with an enhanced product profile that includes requiring fewer doses and eliciting a faster immune response," said Daniel J. Abdun-Nabi, president and chief executive officer of Emergent BioSolutions. "We look forward to collaborating with BARDA to further develop NuThrax towards an EUA-eligible product for the SNS and subsequently towards FDA licensure."

Under the terms of the contract, activities to be completed under the base period of performance include licensure-enabling non-clinical and clinical studies, the manufacture and delivery of initial doses to the SNS, and submission of a Biologics License Application to the FDA with an expected FDA-licensure under the Animal Rule.

**NuThrax is comprised of BioThrax® (Anthrax Vaccine Adsorbed) in combination with the immunostimulatory oligodeoxynucleotide compound CPG 7909. Its safety, efficacy, and stability have been established through several Phase 1 and Phase 2 clinical studies.**

Since 2008, Emergent has received five grants and contracts funded by BARDA and the National Institute of Allergy and Infectious Diseases totaling approximately \$127 million for the early stage and advanced development of NuThrax, including development of a dry formulation for the vaccine candidate.

## ECDC says risk from contaminated CRISPR kits low

Source: <http://www.cidrap.umn.edu/news-perspective/2017/05/ecdc-says-risk-contaminated-crispr-kits-low>

May 04 – **The European Centre for Disease Prevention and Control (ECDC) released more information today about the do-it-yourself CRISPR (Cas 9) kits found to be contaminated with harmful bacteria, saying the risk of infection is low but does exist.**

The kits were identified by the Bavarian Health and Food Safety Authority on Mar 24. As a result, the ECDC said Germany has halted all importation of the DIY Bacterial Gene Engineering CRISPR Kit, manufactured in the United States and sold on the Internet for \$150.

The gene-editing kit is labeled as containing a harmless laboratory strain of *Escherichia coli* HME63, but tests on two kits ordered from the United States in November of 2016 and in March showed contamination with several pathogenic bacteria, including antibiotic-resistant bacteria.

The ECDC identified the pathogens as *Klebsiella pneumoniae*, *Enterobacter*, and *Enterococcus faecalis*, which belong to biological risk group 2. Biological risk group 2 pathogens require safety handling, including wearing personal protective equipment.

Despite the presence of risk group 2 pathogens, the ECDC identified the risk of infection for users of the kits as low "because the manipulation of the kit does not involve percutaneous injury-prone manipulations. However, infection resulting from the contamination of broken skin or mucous membranes may occur, even though the kit recommends and provides disposable gloves."

### Caution for citizen scientists

At-home CRISPR kits are targeted at hobbyists and "citizen" scientists who want to participate in at-home experiments with genetic engineering by making precision genome edits in bacteria. The kits have become popular in recent years, and The Odin, the company selling the kit identified by German health officials, currently has a waiting list of about a week.

Though the risk of infection is low, the ECDC said that the bacteria from the kits could invade a human gastrointestinal track. "Bacteria with resistance can persist for several months in the intestinal tract of asymptomatic carriers. If a carrier develops severe illness and requires antimicrobial treatment,



there is a potential risk that the antibiotic-resistant bacteria proliferate and subsequently cause multidrug-resistant infection."

Finally, the ECDC said that users of the CRISPR kit should dispose of their material in a safe way,

so as not to introduce the multidrug resistant-bacteria into the environment. The agency didn't specify steps for safe disposal.

►► Read the report at: [http://ecdc.europa.eu/en/publications/Publications/2-May-2017-RRA\\_CRISPR-kit-w-pathogenic-bacteria.pdf](http://ecdc.europa.eu/en/publications/Publications/2-May-2017-RRA_CRISPR-kit-w-pathogenic-bacteria.pdf)

## DIY Bacterial Gene Engineering CRISPR Kit

\$150.00

Source: <http://www.the-odin.com/diy-crispr-kit/>



### Product Description

There is currently ~1 week time till shipment.

Due to the overwhelming number of emails we will not respond to emails asking when your item will be shipped. Understand we are doing our best to get it to you.

Comes with an example experiment that teaches you many molecular biology and gene engineering techniques.

Want to really know what this whole CRISPR thing is about? Why it could revolutionize genetic engineering? This kit includes everything you need to make precision genome edits in bacteria at home including Cas9, tracrRNA, crRNA and Template DNA template for an example experiment.

Includes example experiment to make a genome mutation(K43T) to the rpsL gene changing the 43rd amino acid, a Lysine(K) to a Threonine(T) thereby allowing the bacteria to survive on Strep media which would normal prevent its growth.

Kit contains enough materials for around 5 experiments or more

- LB Agar
- LB Strep/Kan Agar
- Glass bottle for pouring plates
- *E. coli* HME63 strain
- Inoculation Loops/Plate Spreader
- 10-100uL variable volume adjustable pipette(1uL increments)
- Box of 96 Pipette Tips
- 14 Petri Plates
- Microcentrifuge tube rack
- Nitrile Gloves
- Microcentrifuge tubes
- 50mL Tube for measuring



- Bacterial transformation buffer 25mM CaCl<sub>2</sub>, 10% PEG 8000 5% DMSO
- LB Media for transformation recovery
- Cas9 and tracrRNA plasmid
- crRNA plasmid
- Template DNA



## Sanitizers made of paper kill bacteria dead

Source: <http://www.homelandsecuritynewswire.com/dr20170503-sanitizers-made-of-paper-kill-bacteria-dead>

May 03 – **Imagine wearing clothes with layers of paper that protect you from dangerous bacteria. Now you can: A Rutgers-led team has invented an inexpensive, effective way to kill bacteria and sanitize surfaces with devices made of paper.**

“Paper is an ancient material, but it has unique attributes for new, high-tech applications,” said Aaron Mazzeo, an assistant professor in Rutgers’ Department of Mechanical and Aerospace Engineering. “We found that by applying high voltage to stacked sheets of metallized paper, we were able to generate plasma, which is a combination of heat, ultraviolet radiation and ozone that kill microbes.”

The researchers detail their invention in a study published online today in the *Proceedings of the National Academy of Sciences*. A [video detailing the work](#) is also available on YouTube.

Rutgers notes that in the future, paper-based sanitizers may be suitable for clothing that sterilizes itself,



devices that sanitize laboratory equipment and smart bandages to heal wounds, among other uses, the study says. The motivation for this study was to create personal protective equipment that might contain the spread of infectious diseases, such as the devastating 2014 outbreak of Ebola in West Africa.

The researchers’ invention consists of paper with thin layers of aluminum and hexagon/honeycomb patterns

that serve as electrodes to produce the plasma, or ionized gas. The fibrous and porous nature of the paper allows gas to permeate it, fueling the plasma and facilitating cooling.

“To our knowledge, we’re the first to use paper as a base to generate plasma,” said Jingjin Xie, the study’s lead author and a doctoral candidate in the Department of Mechanical and Aerospace Engineering.

In experiments, the paper-based sanitizers killed more than 99 percent of *Saccharomyces cerevisiae* (a yeast species) and more than 99.9 percent of *E. coli* bacteria cells. Most *E. coli* bacteria are harmless and are an important part of a healthy human intestinal tract. However, some types of *E. coli* can cause diarrhea, urinary tract infections, pneumonia and other illnesses, according to the [U.S.](#) Centers for Disease Control and Prevention.

“Preliminary results showed that our sanitizers can kill spores from bacteria, which are hard to kill using conventional sterilization methods,” said Qiang (Richard) Chen, study coauthor and a doctoral candidate in the Department of Plant Biology in Rutgers’ School of Environmental and Biological Sciences.

“Our next phase is to vigorously test how effective our sanitizer system is in killing spores,” said James F. White Jr., study coauthor and professor of plant pathology in the Department of Plant Biology.

Mazzeo said one of the goals of their ongoing research is to make sensors that resemble how human and animal skin provides protection from external microbes and bacteria, while detecting input (touch, force, temperature and moisture) from environmental surroundings. Such sensors might cover parts of prosthetics, buildings or vehicles. It also might be possible





to sterilize vehicles, robots or devices before they enter contamination-prone environments and when they come out to keep them from contaminating people and clean environments.

Professor Mazzeo is a recent recipient of a [2017 NSF CAREER Award](#), which will allow his research group to continue work with papertronic sensors. The scientists will explore the design and fabrication of paper-based sensors for wearable devices capable of measuring brain waves and sweat to determine human alertness and stress. Their future work should lead to electronic devices that bridge the gap between machines and humans, while creating new processing techniques for renewable paper products.

— *Read more in Jingjin Xie et al., “Paper-based plasma sanitizers,” [PNAS](#) (28 March 2017).*

## Integrating Clinical Research into Epidemic Response: The Ebola Experience

Released: April 12, 2017

- Report Highlights ([PDF](#))
- Report Recommendations ([PDF](#))
- Public Release Slides ([PDF](#))
- Press Release ([HTML](#))

The 2014 Ebola epidemic in western Africa was the longest and deadliest Ebola outbreak in history, resulting in 28,616 cases and 11,310 deaths. In the midst of the rapidly spreading, highly dangerous contagious disease—with no Ebola-specific vaccines or therapeutics available to help curb the epidemic—the international community implemented clinical trials on investigational agents, not yet studied in humans for safety or efficacy. Within that context, the Office of the Assistant Secretary for Preparedness and Response, the National Institute of Allergy and Infectious Disease, and the U.S. Food and Drug Administration, supported the National Academies of Sciences, Engineering, and Medicine to convene a committee to analyze the clinical trials that were conducted during the epidemic and consider the many scientific, ethical and practical issues related to the conduct of research in similar contexts. The resulting report, *Integrating Clinical Research into Epidemic Response: The Ebola Experience*, assesses the value of the trials and makes recommendations about how the conduct of trials could be improved in the context of a future international emerging or re-emerging infectious disease event.



## Killing drug-resistant bacteria dead with bioinspired agent

Source: <http://www.homelandsecuritynewswire.com/dr20170504-killing-drugresistant-bacteria-dead-with-bioinspired-agent>

May 04 – **Researchers in Ireland have developed a bioinspired antimicrobial treatment that can rapidly kill drug-resistant bacteria. The treatment consists of iodothiocyanate complexes, which are inspired by enzymes and reactive molecules produced by our immune system.**

Microbial resistance to antibiotics and biocides is increasing, and our ability to effectively treat bacterial infections and contamination is under threat. It is important that scientists develop new antibiotic drugs, but we also need new strategies to deal with bacterial contamination that are not reliant on antibiotics.

“The rise of ‘superbugs’ leaves the clinical community with a rapidly dwindling number of options to treat infectious disease and to prevent the spread of resistant bacteria in, for example, hospital settings,” explains Professor Vincent O’Flaherty of the National University of Ireland Galway, co-corresponding author on the study, published in *Frontiers in Microbiology*.

Hospital-acquired infections are a major concern for elderly or infirm patients. When the infection is antibiotic-resistant, serious illness or death can result. Bacterial contamination can occur on medical devices, such as catheters, which are embedded in



patients. Bacteria tend to aggregate on these implants and form slimy layers called biofilms, and biofilms can also form on chronic wounds, impairing wound-healing. Biofilms are particularly resistant to decontamination strategies.

Frontiers says that with this in mind, the researchers set out to develop an effective antibacterial treatment, drawing their inspiration from naturally-occurring peroxidase enzymes that play a role in immune defense against bacterial infections. Peroxidases can produce highly reactive oxidized molecules in the presence of hydrogen peroxide. Naturally present in bodily secretions such as saliva, milk and tears, these highly reactive substances can cause damage to bacterial cells, resulting in their death.

However, enzymes are expensive and impractical to produce in the quantities required for a widely useable antibacterial treatment. So, the researchers came up with an enzyme-free system consisting of hydrogen peroxide and two oxidizable substances, iodide and thiocyanate. These iodo-thiocyanate complexes produce highly reactive anti-microbial substances, without a peroxidase enzyme.

**The team tested the complexes' ability to kill a variety of bacterial strains, including MRSA, an antibiotic-resistant strain.** To do this, they treated the bacteria in cell suspensions, where the bacterial cells float freely, or in biofilms. They also tested if the

bacteria became resistant to the complexes, by incubating them with small doses over time.

The complexes caused rapid bacterial death in all the tested strains, in some instances killing the bacteria within thirty seconds, even in small doses. They could kill both free-floating bacteria and those in biofilms, suggesting that they could be used for decontamination in a variety of situations. Finally, the complexes were also effective against MRSA, and the tested bacteria did not develop resistance over time.

**Antibiotics often work by targeting one specific site in a bacterium. By including two oxidizable substances, the complexes produce a cocktail of antimicrobial molecules, damaging multiple bacterial sites simultaneously. This means that bacteria are unlikely to develop resistance to the complexes.**

The team hope that the complexes could be applied as a disinfectant or even used to directly treat infected wounds. "We will need to assess the safety and suitability of the complexes for use in, or on, humans," says O'Flaherty. "We also need to develop delivery systems to deploy the treatment in a variety of settings that are currently affected by antibiotic-resistant bacteria." The list of potential applications includes pre-surgery skin washes, disinfection of hospital surfaces and instruments, wound care, treatment of ulcers, and decontamination of medical devices.

— Read more in Lilit Tonoyan et al., "Antibacterial Potential of an Antimicrobial Agent Inspired by Peroxidase-Catalyzed Systems," [Frontiers in Microbiology](#) (2 May 2017).

## Her Husband Was Dying From A Superbug. She Turned To Sewer Viruses Collected By The Navy.

Source: <https://www.buzzfeed.com/azeenghorayshi/navy-phage-viruses-for-antibiotics-crisis>



May 06 – Two days after walking through the pyramids, Tom Patterson got very sick. The psychiatry professor was in Egypt with his wife on one of their many adventurous vacations away from their life in California. One minute he was fine, hamming it up in a touristy horse-and-buggy ride across the desert. The next, he couldn't stop sweating and vomiting.

The 300-pound 68-year-old was airlifted from a clinic in Cairo to one in Frankfurt and then finally back to San Diego, where doctors confirmed a severe infection in his abdomen.



The culprit was a bacteria called *Acinetobacter baumannii*, the notorious “Iraqibacter” that emerged in military medical facilities during the Iraq War. It now tops the [international list](#) of dangerous superbugs that don’t respond to most antibiotics. Some Iraqibacter cases improve with a very old, last-resort antibiotic called colistin. But it didn’t work on Tom.

The infection soon spread to Tom’s blood and lungs. For months he was in a San Diego ICU bed in excruciating pain, often hallucinating, falling in and out of a coma. By late February of 2016, his doctors said they were out of options.

Tom’s wife, Steffanie Strathdee, is the director of UC San Diego’s Global Health Institute, and one of the world’s experts on how HIV spreads across the world. She deeply understood how superbugs, left unchecked, would kill millions of people — including, suddenly, her husband.

Sitting in the hospital room, she turned to Tom. “Honey, the antibiotics aren’t working,” she recalled saying. “I need to know from you if you want to keep fighting, because I don’t want to keep you alive just for me. Squeeze my hand if you want me to push ahead.” He squeezed.

Over the next seven months, Steffanie went on a remarkable medical quest, and one that might not have been possible if not for her unique position in the upper echelon of academic science. She gained access to a century-old treatment — “phage therapy” — in which a patient gets custom-made viruses to kill their festering infection. And she and her colleagues found these viruses, called phages, in a surprising place: a heavily guarded Maryland lab run by the US Navy.



Theron Hamilton, head of genomics and bioinformatics at the Biological Defense Research Directorate of the Naval Medical Research Center - U.S. Navy Photo / Katie Berland

This is strange, not least because mainstream scientists have long dismissed phage therapy as a fringe idea pushed by eccentrics who enjoy fishing in sewage (where many phages live). But over the past 15 years, as more and more bacteria have evolved ways to evade our antibiotic arsenal, Navy scientists have turned to phages as a last line of defense. A run-of-the-mill freezer in the Maryland lab holds what’s one of the world’s largest phage libraries: more than 300 viruses, collected on ship-based laboratories all over the world. None of the phages had ever been tested in an infected person — until Tom.

“This has never been done anywhere in the country until this case,” said Lieutenant Commander Theron Hamilton, head of genomics and bioinformatics at the Biological Defense Research Directorate of the Naval Medical Research Center. Last week, his team presented Tom’s case at a [phage conference](#) at the Institute Pasteur in Paris.

But while the scientists in Paris celebrated the 100-year anniversary of the discovery of phages, these biological weapons are nearly impossible to get to patients in the US. Using nature’s own viruses to treat infections doesn’t jive with the FDA’s process for approving new pharmaceuticals, nor Big Pharma’s motive to sell one-size-fits-all pills for the masses.

“Everybody — the FDA and the medical community in general — has been slow to take the risk that would be required to really engage fully with a phage therapeutics program,” Hamilton said. “I don’t want to sound too cavalier, but I don’t think anybody is anywhere close to where the Navy is on this.”

**The day after** her dying husband squeezed her hand, Steffanie talked to a colleague whose friend had contracted a similar antibiotic-resistant infection. In a desperate search for a treatment, this friend of a friend had flown all the way to the Eastern European country of Georgia to try phage therapy. It had worked.

Steffanie, who has a degree in microbiology, knew what phages were but had never heard about using them on people. After digging through the papers in English on the treatment, she found just a [handful of case reports](#) of patients trying phages in US hospitals, or who had found a way [to order them](#) from Georgia. But these were extraordinary cases.





Phages are the most diverse and numerous life forms on earth — millions of them coat our skin, live inside our guts, and flow through our faucets. They're completely harmless to us, but deadly to bacteria. And unlike antibiotics — which wipe out broad swaths of bacteria, even species that are beneficial to us — phages have specific targets. A phage injects its DNA into its prey, which then replicates rapidly before rupturing and killing the cell, releasing even more viruses to repeat the attack.

**"It's the only medicine that grows,"** Ryland Young, head of the Center for Phage Technology at Texas A&M University, told BuzzFeed News.

Phage therapy blossomed in Eastern Europe after World War II, largely because researchers there were blocked from developing the mass-produced antibiotics sweeping the West.

"If you went to major scientific meeting in the US in the 1950s and talked about phage therapy, you'd be laughed out of the room," Young said. "The Eastern Europeans kept it alive in some ways, because in the West we were actually running away from it."

To this day, clinics in Georgia offer phage therapy "cocktails" alongside antibiotics as a standard treatment for fighting against bacterial infections.

Meanwhile, the 130 different antibiotics prescribed every day in the US are slowly but surely losing the war against bacteria. Six superbugs in particular, known as the "ESKAPE" pathogens, have emerged as the biggest threats to human health, infecting at least 2 million Americans every year, and killing at least 23,000.

Tom's bacteria, *Acinetobacter baumannii*, is the "A" in "ESKAPE." But Steffanie was determined not to let her husband become one of those statistics.

**Her first call** was to the head of the infectious disease unit at UC San Diego, Chip Schooley. "I said, 'Hey Chip, I think we're running out of options. What about phage therapy? I know it sounds a little woo-woo, but I think it may be our only shot,'" she recalled.

"It was a radical approach," said Schooley, a virologist whose own research involves finding ways to kill HIV, hepatitis C, and herpes. "I try to get rid of viruses, not use them to try to treat patients."

But he was quickly convinced that phages were probably Tom's only option. He agreed to call the FDA and see whether the agency would allow him to give Tom phages as a "compassionate use," meaning an



experimental treatment that does not have to abide by normal drug regulations. But first, Steffanie needed to find someone who had phages that matched Tom's specific infection.

She found Ry Young at Texas A&M, one of the few biologists in the US who's trying to understand how phages work. Steffanie sent him a long email about Tom's story, with a photo of Tom in his hospital bed. Young gets these sorts of desperate emails a lot, and typically gives an apologetic canned response. But when he heard from Steffanie, he decided that she was knowledgeable and connected enough that phage therapy could actually save her husband. They ended up talking on the phone for two hours, and Young agreed to help.

Steffanie sent Young a sample of Tom's superbug, and Young immediately began testing it against the small library of phages his Texas team had amassed. None worked.

"So I did two things: I emailed and phoned everybody that I knew in the world that had research programs with *baumannii*

phages," Young said. He called researchers in India, Australia, Europe, and at a small company in San Diego. Within a couple weeks, he received roughly 45 phages from around the world.

Then he went on what he calls a "good old-fashioned phage hunt" — collecting samples from sewage plants in Texas and isolating nearly 100 other phages that might work for Tom.

The FDA, meanwhile, got back to Schooley. They told him they'd be willing to let Tom undergo phage therapy, as long as the final product was totally purified. They also gave him



a new contact they thought might be helpful: the country's largest phage collection, at the Navy lab. For years, the Navy had only tested its phages in mice. When Hamilton came on as the director in 2015, he was encouraged to shut down the phage research arm, which he was told was a "financial hole." Instead, he decided to finally test their phages in people.

Tom was the perfect first case. "Someone's life was hanging in the balance here," Hamilton said. "I saw no reason not to try."

On March 15 of last year, Schooley received a FedEx package containing styrofoam coolers of purified phage cocktails from Young's lab, marked with a "biohazard" sticker. That same day, the FDA officially signed off on the experimental treatment. There was no time to lose: Tom's kidneys were failing and Steffanie had just signed his dialysis papers.

"The day the first batch of phages came to Tom's bedside, the lead pharmacist brought them as if he was the ringbearer at the wedding ceremony," Steffanie said. "It was surreal looking at this — a royal procession of some kind."

Schooley pumped those phages through tubes in Tom's stomach, aimed at the original site of his infection. Two days later, the Navy's more potent phages arrived. For these, the doctors used a more extreme approach, injecting the viruses straight into Tom's bloodstream — a method that, to their knowledge, had never been done in the US.

The next day, Tom went into septic shock. "Everybody thought we'd killed him," Steffanie said, and they quickly turned off the phage infusions. But as it turned out, the shock was caused by a different kind of bacteria. So, two days later, they resumed the phage therapy. "It was just a rollercoaster," she said.



Not long after that, Tom opened his eyes for the first time in weeks, and recognized his daughter standing by the hospital bed.

A month later, Tom went outside for the first time, in a wheelchair. He had stopped using a ventilator, began talking, and played gin rummy with his daughter.

But the battle wasn't over. Around the same time, the Iraqibacter became resistant to the phages, and Tom's health began to sharply decline, yet again.

Schooley sent a sample of the mutated bacteria back to the Navy. Hamilton's team screened their phage library again, and sent back a new, tailor-made cocktail to attack the new phase of Tom's infection.

It all happened within a few days, which Hamilton sees as one of phage therapy's many advantages over traditional pharmaceuticals. "There's absolutely no comparison," Hamilton said. "It could be years to develop a new drug."

In August, nine months after Tom left Egypt, he finally left the hospital and went home.

"In my mind, I was the biggest guinea pig on earth," Tom told BuzzFeed News. He's still 100 pounds lighter than when he was first hospitalized, but is finally getting back to normal life and to his psychology research at UCSD. "The bureaucracy that was overcome, the number of scientists that came to my aid — they made my survival possible."

**Tom's case is** spurring action in the Navy's financially stagnant program for phage therapy. Hamilton's team has funding to genetically sequence each of the 300 phages in their library, the first step towards getting the FDA to approve a formal clinical trial. Once the researchers screen the phages to make sure they don't contain genes for toxins or antibiotic resistance, they will start big clinical trials in people.

Hamilton hopes the trials, which they're planning to do this summer in collaboration with a private company called Adaptive Phage Therapeutics, will produce enough data to take the phages to market. Although the treatments will initially be for the US military, the company could commercialize them.

Hamilton hopes that the FDA will allow them to bypass one of the main hurdles now facing phage therapy in the US: Each custom-made phage cocktail would need to be approved as



its own drug, a stringent process that would make phage therapy all but impossible, Hamilton said. If the FDA instead approved the whole library, then researchers could make personalized cocktails for each patient without requiring approval each time.

**"If every phage is considered a new drug, there will never be a phage therapy industry,"** Young said.

But, Hamilton acknowledges, making this change would be a "paradigm shift" for the FDA, and they have yet to publicly signal that it's something they would even consider. The agency declined to comment for this story.

Money, too, stands in the way of bringing phage therapy to the masses. Because phages, like antibiotics, are only taken for short periods of time and will never be blockbusters like Viagra or Lipitor, few pharmaceutical companies would make the investment to bring them to market. And, since phages can be found in nature, patenting would also be difficult. "If a company invests money in phages, there's nothing to keep somebody from isolating another phage that's close to it and doing the same thing," Young said. "That's a problem."

The barriers mean that phage therapy is almost certainly not going to be the solution to the growing antibiotics crisis. But with [no new antibiotics in the pipeline](#), this unusual treatment is one of the only things that might actually help. "I doubt that we're going to turn away from antibiotics any time in the near future," David Weiss, director of the Antibiotic Resistance Center at Emory University School of Medicine, told BuzzFeed News. But, he added, "traditional antibiotic therapy and phages might in theory be used together."

Steffanie will be a co-author, along with Hamilton, Schooley, and Young, on a forthcoming scientific paper about Tom's phage therapy experience, and she and Tom are working on a book.

"Phage therapy as a field kind of collided with our lives in this miraculously surreal way," she said. "Every time I look at him now I just think that every day is a gift."

## Growing Threat Of Global Pandemics Addressed In Scowcroft Institute White Paper

Source: <http://today.tamu.edu/2017/05/05/growing-threat-of-global-pandemics-addressed-in-scowcroft-institute-white-paper/>



May 05 – When examining epidemics or pandemics like the 2014 Ebola outbreak, senior policy analysts at Texas A&M University say they are able to pinpoint breakdowns in the system that have catastrophic consequences if left uncorrected. These include response delays that allow outbreaks to become an international public health and humanitarian crisis, the ineffectiveness of the World Health Organization, a lack of institutional capacity in disease hot spots, the reemergence of vaccine-preventable diseases due to anti-vaccine activists, gaps in health screening, and a lack of unifying biosecurity leadership in the United States.

A new [white paper](#) by the Scowcroft Institute for International Affairs at Texas A&M's Bush School of Government and Public Service examines pandemic response





gaps and proposes solutions to strengthen preparedness.

“Emerging infectious diseases with pandemic potential are one the greatest threats to our national security,” said Gerald W Parker, senior fellow in the Scowcroft Institute. “We find ourselves in a war against microbes, and our defense must include unifying leadership and investments in global health security to prevent outbreaks from becoming pandemics.

The team’s paper aims to create an effective plan for reducing the threat of global pandemics and reducing the need for costly emergency funding to react to outbreaks once they are out of control.

The white paper, titled “The Growing Threat of Pandemics: Enhancing Domestic and International Biosecurity,” aims to create an effective plan for reducing the threat of global pandemics and reducing the need for costly emergency funding to react to outbreaks once they are out of control. The paper also encourages the Trump administration and Congress to consider enhanced global health foreign aid and other related investments targeted at pandemic prevention as a national security priority that is economically advantageous in the long term.

“Preparing for and responding to diseases with pandemic potential is one of the greatest challenges modern society faces,” said Andrew Natsios, director of the Scowcroft Institute. “These outbreaks cause loss of life, loss in personal and national income, and foreign policy challenges.”

“Disease is virtually invisible until it has already begun establishing itself in a population,” said Christine Crudo Blackburn, a postdoctoral research fellow in the Scowcroft Institute. “That is why preparing to respond to disease outbreaks in a quick and effective manner is so important.”

Many of the major obstacles standing in the way of optimal pandemic prevention, preparedness, and response were discussed during the 2nd Annual Pandemic Policy Summit hosted by the Scowcroft Institute last fall.

Bush School Dean Mark Welsh noted that Texas A&M is uniquely positioned to address these complex issues.

“The Institute’s broad experience, along with the technical expertise available at Texas A&M, enables us to bring scholars, government officials, and professionals together to develop and recommend responses to what is clearly a rapidly growing international issue,” said Welsh.

## Mysterious Ebola-like illness kills 12 in Africa, WHO says

Source: <https://www.rt.com/news/386961-disease-liberia-dead-ebola/>

May 03 - A mysterious illness with Ebola-like symptoms which appeared in southeast Liberia is now in



the country’s capital, local authorities say. Both the government and the World Health Organization (WHO) put the revised death toll from the illness at 12.

According to Liberian Health Ministry spokesman Sorbor George “the illness has entered the capital,” with the WHO saying the total number of cases has risen to 25.

Cases began being registered just over a week ago, on April 23, and the

illness’s symptoms include fever, vomiting, headaches and diarrhea. It has been linked to the funeral of a religious leader in Greenville, Sinoe County.

“A man came from Sinoe to attend a funeral in Monrovia and he got sick. He shows the same symptoms, later on he died. After he died his girlfriend got sick showing the same symptoms, she died also,” the Health Ministry spokesman said, as cited by AFP.

The “majority” of the deaths so far were connected with the funeral, the WHO reported.



Tests are being carried out at the US Centers for Disease Control and Prevention (CDC) in Atlanta “to establish possible association between any food and drinks served during this funeral ceremony,” WHO spokesman Tarik Jasarevic said.

Experts have said that the disease isn’t an outbreak of the notorious Ebola, despite similar symptoms. In particular, Joanne Liu, president of medical charity Medecins Sans Frontieres (MSF), said that **the disease might represent cases of “food intoxication.”**

Ebola is the hemorrhagic fever that left thousands dead in a recent West African epidemic. The severe outbreak started back in December 2013, with Liberia worst affected. Some 29,000 people were infected in the epidemic, about 30 percent of whom were killed by the disease, according to the WHO and local governments.

## New defence mechanism against bacteria discovered

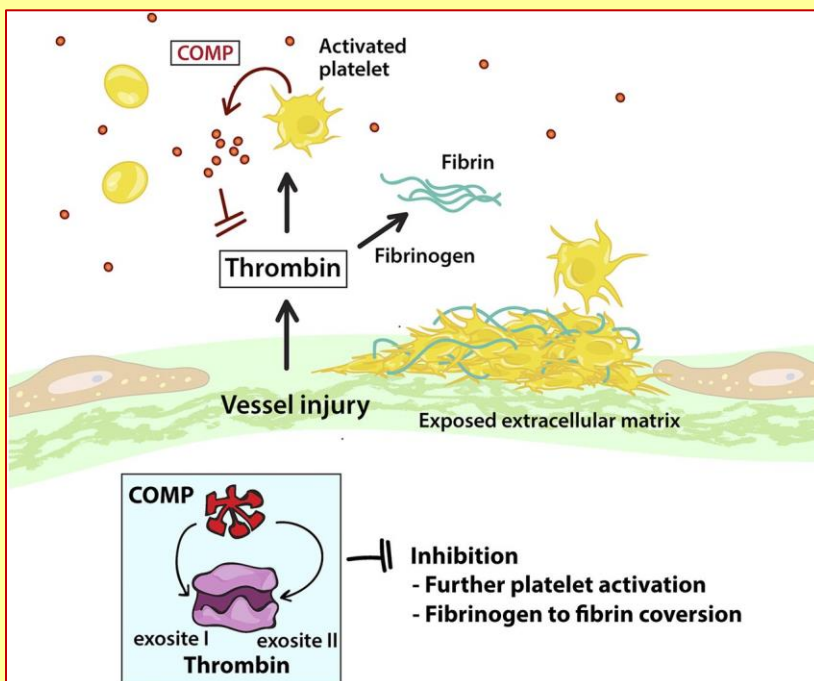
Source: <http://www.medicalnewstoday.com/releases/317346.php>

May 09 – Researchers in dermatology at Lund University in Sweden believe they have **cracked the mystery of why we are able to quickly prevent an infection from spreading uncontrollably in the body during wounding.** They believe this knowledge may be of clinical significance for developing new ways to counteract bacteria.

“Perhaps we don’t need to kill them with antibiotics but simply gather them so that the body can better

take care of the infection”, say researchers Jitka Petrova (lead author of the article) and Artur Schmidtchen, Professor in Dermatology and Venereology, Lund University. The study was conducted in close collaboration with their colleagues in Lund, Copenhagen and Singapore, and has been published in the scientific journal *Proceedings of the National Academy of Sciences (PNAS)*.

The researchers have discovered that **fragments of thrombin - a common blood protein which can be found in wounds - can aggregate both bacteria and their toxins; something they did not see in normal blood plasma.** The aggregation takes place quickly in the wound and causes bacteria and endotoxins not only to gather but also to be “eaten” by the body’s inflammatory cells.



"This way, the body avoids a spread of the infection. We believe this to be a fundamental mechanism for taking care of both bacteria and their toxins during wound healing", says Jitka Petrova and continues; "Our discovery links aggregation and amyloid formation to our primary defence against infections - our innate immunity. It is well known that various aggregating proteins can cause amyloid disease, in skin or internal organs, such as the brain. Therefore, a mechanism that is supposed to protect us from infections, can sometimes be over-activated and lead to degenerative diseases."

Artur Schmidtchen, who has conducted research in the field of innate immunity for over 20 years, is pleased with the results of the study.

"I have always been fascinated by how nature has effectively created different defence mechanisms, and wound healing provides a rich source of new discoveries. The ability to effectively heal wounds is of evolutionary significance to our survival. Compared to



antibiotics, innate immunity has been around for millions of years - and I think we should consider the application of these concepts in an era of increasing antibiotic resistance."

**Article:** [\*Aggregation of thrombin-derived C-terminal fragments as a previously undisclosed host defense mechanism\*](#), Jitka Petrlovaa, Finja C. Hansen, Mariena J. A. van der Plas, Roland G. Huber, Matthias Mörgelin, Martin Malmsten, Peter J. Bond, and Artur Schmidtchen, *Proceedings of the National Academy of Sciences (PNAS)*, doi: 10.1073/pnas.1619609114, published 10 April 2017.

## Switzerland – Bovine anthrax

Source: <http://bazonline.ch/wissen/medizin-und-psychologie/Erste-AnthraxAnsteckung-in-der-Schweiz-seit-20-Jahren/story/11865361>

May 10 – In the canton (district) of Jura (map below), a cow died of anthrax. The authorities are reacting. The pathogen is dangerous for humans.



The cow died suddenly on a pasture in the canton of Jura. A lab test has now confirmed that the animal was infected with anthrax. The infectious disease 'Milzbrand' also known as Anthrax is dangerous for humans.

Therefore, the authorities have taken measures and cordoned off the affected holding. Humans who had been in contact with the cow that had died have been

advised to be medically cleared, according to communication from the canton. The animal is likely to have become infected at a place where an infected carcass had previously been buried.

The pathogen *Bacillus anthracis* mainly affects cattle and sheep, infections of horses and goats are rare. ['Infrequent' would be more accurate . - Mod.MHJ] In ruminants the disease causes acute mortality. The animals suddenly collapse, and bloody discharge from the nose, mouth and other openings is seen. Swelling and a brownish-black discolouration of the spleen are typical signs.

In former times the pathogen was common, nowadays it has almost been exterminated in many places. In Switzerland, the last outbreak was in the Canton of Schwyz in 1997 and in the Canton of Jura in 1993. Human infection is rare. According to the Federal Office of Public Health, worldwide there are about 2000 human cases every year. In Switzerland, in 2014, a person was affected who had been in contact with cows in Turkey. Infection spread from person to person is considered very unlikely.





**May 18 – A 2nd bovine animal with anthrax** was discovered on the Jura farm where a 1st case had already been detected. After the discovery of a 1st case of anthrax on the Jura farm, a surveillance system was set up by the Consumer and Veterinary Affairs Department (Scav) of the Canton of Jura. This detected a 2nd bovine infected with this epizootic of bacterial origin, also transmissible to humans.



## Congo death signals new Ebola outbreak: ministry

Source: [http://mobile.reuters.com/article/idUSKBN1881UL?utm\\_content=buffer3ee54&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](http://mobile.reuters.com/article/idUSKBN1881UL?utm_content=buffer3ee54&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)

May 12 – A person in Democratic Republic of Congo who died of a hemorrhagic fever has tested positive for the Ebola virus, signaling the start of a new outbreak, the Health Ministry and the World Health Organization (WHO) said on Friday.

The case was confirmed from tests on **nine people** who came down with a hemorrhagic fever in Bas-Uele province in the northeast of the country on or after April 22, a ministry statement said. Three people have died of fever.

"Our country must confront an outbreak of the Ebola virus that constitutes a public health crisis of international significance," the ministry said.

The WHO's Congo spokesman, Eugene Kabambi, said: "It is in a very remote zone, very forested, so we are a little lucky. We always take this very seriously."

**This latest Ebola outbreak is Congo's eighth, the most of any country.** The deadly hemorrhagic fever was first detected in its dense tropical forests in 1976 and named after the nearby river Ebola.

## Reliability of N95 respirators for respiratory protection before, during, and after nursing procedures

By Lorna K.P. Suen, Lin Yang, Suki S.K. Ho, et al

American Journal of Infection Control (AJIC) – Published online: May 16, 2017

Source: [http://www.ajicjournal.org/article/S0196-6553\(17\)30277-8/fulltext](http://www.ajicjournal.org/article/S0196-6553(17)30277-8/fulltext)

### Highlights

- N95 respirators, although adequately fitted, may not provide consistent protection for users.
- Movements during nursing procedures can significantly increase the risk of face seal leakage.
- Improvements in respirator design to minimize face seal leakage are essential.
- Portable aerosol spectrometers offer a reliable method for real-time measurement of N95 mask fit.

### Background

The adequate fit of an N95 respirator is important for health care workers to reduce the transmission of airborne infectious diseases in the clinical setting. This study aimed to evaluate whether adequately sealed N95 respirators may provide consistent protection for the wearer while performing nursing procedures.

### Methods

Participants were a group of nursing students (N = 120). The best fitting respirator for these participants was identified from the 3 common models, 1860, 1860S, and 1870+ (3M), using the quantitative fit test (QNFT) method. Participants performed nursing procedures for 10-minute periods while wearing a backpack containing the portable aerosol spectrometers throughout the assessment to detect air particles inside the respirator.



## Results

The average fit factor of the best fitting respirator worn by the participants dropped significantly after nursing procedures (184.85 vs 134.71) as detected by the QNFT. In addition, significant differences in particle concentration of different sizes ( $>0.3$ ,  $>0.4$ ,  $>1.0$ , and  $>4.0$   $\mu\text{m}$ ) inside the respirator were detected by the portable aerosol spectrometers before, during, and after nursing procedures.

## Conclusions

Body movements during nursing procedures may increase the risk of face seal leakage. Further research, including the development of prototype devices for better respirator fit, is necessary to improve respiratory protection of users.



## DR Congo: Ebola suspected cases increase to 29

Source: <http://nyti.ms/2q28asJ>

May 18 – **The number of suspected cases of Ebola has risen to 29 from 9 in less than a week in an isolated part of Democratic Republic of Congo**, where 3 people have died from the disease since [22 Apr 2017], the World Health Organization said on [Thu 18 May 2017].

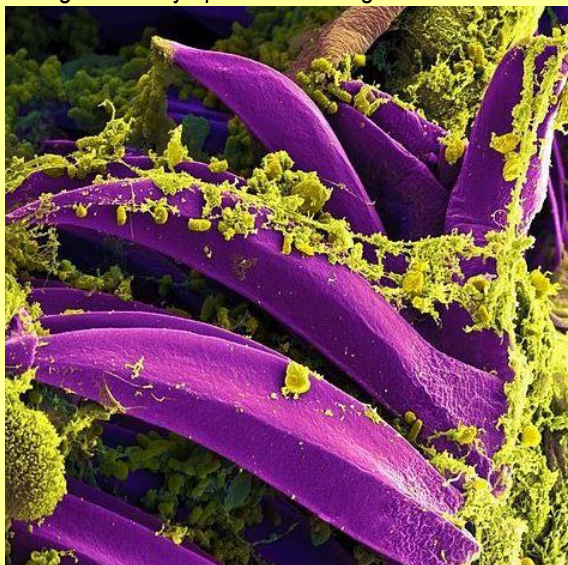
## European Union commissions bioterrorism assay

Source: <http://www.digitaljournal.com/life/health/european-union-commissions-bioterrorism-assay/article/493056>

May 20 – There are many terrorist threats facing the world. Perhaps the most terrifying is a biological weapon given the extent of its potential spread, such as through air or waterways. Researchers are developing a new assay to detect such threats.

[Bioterrorism refers to](#) a form of terrorism involving the release of biological agents. These bio-weapons could be bacteria, viruses, or toxins; and they could be in a natural form or modified in a laboratory. An example of a bioterror weapon is anthrax, [caused by the organism](#) *Bacillus anthracis*.

With the new attempt to monitor for bioterrorism, scientists in Spain are developing a highly sensitive and specific solid-phase optical assay. The aim is to use this to detect a potential biowarfare agent called *Yersinia pestis* (the bacterium that causes the plague). Human infection as a result of *Yersinia pestis* [takes three main forms](#): pneumonic, septicemic and bubonic plagues. Each type has been responsible for high-mortality epidemics throughout human history.



Scanning electron micrograph of *Yersinia pestis*, which causes bubonic plague, on proventricular spines of a *Xenopsylla cheopis* flea National Institute of Allergy and Infectious Diseases (NIAID)

The aim with the new assay is to detect the bacterium from samples in less than an hour, which will significantly increase the time for emergency services to instigate quarantine measures. The test method is an [enzyme-linked oligonucleotide assay](#) and it was developed by Ioannis Katakis and Ciara K. O'Sullivan who are based at the Universitat Rovira i Virgili's Interfibo Research Group, and the ICREA (Catalan Institution for Research and Advanced Studies).

The assay uses primers to amplify both single- and double-stranded *Y. pestis* DNA. The amplification creates millions of copies of the bacterium's genetic code and this allows for





the rapid detection. This is a form of polymerase chain reaction (PCR), a common method used in molecular biology. What the researchers have succeeded in doing is taking this technology and producing a test that is both accurate, fast and reproducible.

Further details about the assay are shown in the video below:

The new assay is [described in the journal Analytical and Bioanalytical Chemistry](#), under the heading "Isothermal solid-phase amplification system for detection of Yersinia pestis."

