



International
CBRNE
Institute

December 2016

NEWSLETTER

TERRORISM

E-Journal for CBRNE & CT First Responders



*Thank you
First Responders!*



www.cbrne-terrorism-newsletter.com

CBRNE-Terrorism Newsletter – 2016©

December 2016

Website: www.cbrne-terrorism-newsletter.com

International CBRNE Institute

Editor-in-Chief**BrigGEN (ret) Ioannis Galatas MD, MA, MC****PhD cand**

Consultant in Allergy & Clinical Immunology

Medical/Hospital CBRNE Planner

Senior Asymmetric Threats Analyst

Manager @ CBRN Knowledge Center, International CBRNE Institute (BE)

Athens, Greece

☞ Contact e-mail: igalatas@yahoo.com**Assistant Editor****Panagiotis Stavrakakis MEng, PhD, MBA, MSc**

Hellenic Navy Capt (ret)

Athens, Greece

**Co-Editors/Text Supervisors**

1. Steve Photiou, MD, MSc (Italy)
2. Dr. Sarafis Pavlos, Captain RN(ret'd), PhD, MSc (Greece)
3. Kiourktsoglou George, BSc, Dipl, MSc, MBA, PhD (cand) (UK)

Advertise with us! (New price list)

CBRNE-Terrorism Newsletter is published on-line monthly and distributed free of charge. Starting from 2014 issue all advertisements will be charged as following:

- Full page (A4) 100€
- Double pages (A4X2) 200€

EDITOR**Mendor Editions S.A.**

3 Selinountos Street
14231 Nea Ionia
Athens, Greece
Tel: +30 210 2723094/-5
Fax: +30 210 2723698

Contact e-mail: [Valia.Kalantzi info@mendor.gr](mailto:Valia.Kalantzi@info@mendor.gr)

DISCLAIMER: The CBRNE-Terrorism Newsletter® is a free online publication for the fellow civilian/military First Responders worldwide. The Newsletter is a collection of papers related to the stated thematology, relevant sources are provided and all info provided herein is from open Internet sources. Opinions and comments from the Editorial group or the authors publishing in the Newsletter do not necessarily represent those of the Publisher or the ICI.



CBRNE-Terrorism Newsletter is:

1. Read by First Responders in more than **80** countries around the globe;
2. Distributed to more than **700** institutions, organizations, state agencies, think tanks, defense companies, institutions and universities.





Editorial

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

Editor-in-Chief
CBRNE-Terrorism Newsletter

Dear Colleagues,

One more year to go!

It is our line of work to deal only with unpleasant situations but someone has to do the dirty job! December was a turbulent month that sent a clear message: roadmap to global peace is long and full of obstacles... As a matter of fact I realized that we have to do some research in order to discover a single year that nothing bloody significant happened in our planet.

Some key-points from the twelfth month:

- An Afghani immigrant beast killed a young girl in Germany; the same person tried to murder a young girl in Greece as well some years before;
 - Battle in Mosul is keep on going; Daesh seems too hard to die;
 - NATO removes its fleet off shore Somalia; let us see what will happen now;
 - Two very young children acted as suicide bombers: one in Germany (arrested) and one in Damascus, Syria (killed). Both were between 7 and 10yo;
 - Twenty five terrorist attacks in Turkey within 2016
 - December 20: perhaps the deadliest day in the year (for our part of the world): Berlin truck attack; murder of the Russian Ambassador in Ankara, Turkey; attack against a mosque in Zurich.
 - Chemical weapons are seldomly used in the battle fields of M East by everybody against everybody
- In Greece our two major problems are still valid: lack of an effective governance with a vision for the future in combination with confused European strategies and ongoing inflow of illegal immigrants and refugees under the Turkish threat to release millions more if they do not get the visa permit and refugees' money from EU.

What to expect for 2017?

- If Daesh defeated, hundreds of foreign fighters will automatically become homeless and will seek ways to return to their homelands. We read about big numbers but we do not read about a policy to shield against their return. In that respect, an urban terrorism wave is expected. This time not only in countries participated in the coalition against Daesh but to any target possible, anywhere in Europe. They will use market weapons but if circumstances permits they will use asymmetric approaches as well. They have what we do not have: combat experience. And in combat you improvise to survive – this would be catastrophic in an urban environment crowded with people that only know how to SMS from their mobile phones.
- Illegal immigration and refugees flows reached a critical point in Greece and Italy. Local citizens initially friendly and supportive attitude is gradually changing mainly due to the new ethics imported and the behavior of the new comers that think our Europe is just another jungle similar to their own. Until now all the big EU mouths did not manage to propose a working solution to control the human tsunami invading our continent. Perhaps it is OK with them to create a buffer country (Greece) and store their problem there. We all have to realize that there is no peaceful solution to the problem. You know and I know that stopping the wars, promoting global prosperity, stop hegemonism and desire for global dominance are things impossible to accomplish. So, what is left to do?
- Libya might be a coming problem. Situation there is chaotic. Daesh is there and the country might become the new stronghold that will merge all African terrorist groups



together in a continent that is so fertile for organizations prospering from terror. It would not be a surprise to record piracy in the Mediterranean Sea – not exactly for profit; just for terrorism. Not to mention that the situation with precursor [CWA] chemicals in Libya is still unclear (~800T).

Against all that the only solution is solidarity and unity. That would be a change from today's "only care for my self" attitude. A European UNION with common policies, common support, common defense and response mechanisms is the only solution. Many think that they are far away from the hot zones. But history proved that nobody is far away from terror and the unexpected. We have to decide if it worths to save our civilization or adapt to a new situation that we are not familiar with. We have to declare clear and sound what we want and what we DO NOT want and do whatever necessary for both of them. We have to depend on ourselves and pursue what is best for us but not with stepping on other people and nations.

In conclusion: prepare for a very difficult New Year and support our First Responders or even join our First Responders and fight with them. It is a one way road!

Sincere, deep from heart, wishes to all of you and your families and be proud for what you do. It is not a profession; it is a mission – make it possible!

The Editor-in-Chief



Wild life by National Geographic OR Greece in 2017???





Greek as an optional language in Russian schools

Source: <http://www.balkan.eu.com/greek-optional-language-russian-schools/>

Nov 24 – **Russian schools will be taught Greek as a foreign language from January 1, 2017. The final decision and approval of training manuals was signed by the Russian Minister of Education, Olga Vasilieva, on 10th November.**



A proposal for the teaching of Greek as a language selection from the Modern Greek Literature Faculty at the University of Kuban in Krasnodar (southern Russia), preceded the Ministerial decision, in the framework of the country's policy for teaching the languages of minorities in the region.

It was finally decided that Greek should be taught as a second / foreign language throughout the territory of the Russian Federation and in particular in the fifth and sixth grade as well as in the first three classes of

high school.

"We are very happy and satisfied because we got to this point, that is, for the Greek language to be visible for the first time in Russian schools. It is a feat that took several years of preparation. The textbooks for the teaching of the Modern Greek Language as a language selection as one of the languages that can be selected by Russian students in the last years of primary school

А Б В Г Д Е
Ё Ж З И Й К
Л М Н О П Р
С Т У Ф Х Ц
Ч Ш Щ Ъ Ы Ь
Э Ю Я

and first years of high school are ready. They were prepared mainly because of the work put in place at the University of Kuban," stated Aristotle University Dean, Pericles Mitkas, at a press conference for the presentation of the new effort, which was the decisive contribution of the Aristotle's University "Jason" program for the establishment and practical support of Greek studies at the universities of the Black Sea zone. "This achievement comes as a result of many years of constant effort by the Aristotle University of Thessaloniki to promote the Greek language in the Black

Α α Β β Γ γ Δ δ
Ε ε Ζ ζ Η η Θ θ
Ι ι Κ κ Λ λ Μ μ
Ν ν Ξ ξ Ο ο Π π
Ρ ρ Σ σ ς Τ τ Υ υ
Φ φ Χ χ Ψ ψ Ω ω

Sea countries," noted Mitkas.

At the press conference attended by the new Consul General of Russia in Thessaloniki, Alexander Sermakof, who pointed out that the introduction of the teaching of the Greek language in primary and secondary education in Russia "creates a strong promotional foundation of Greek in Russia and prospects for further cooperation in the field of culture and education." He expressed the hope that "we have the potential for further spread of Russian in Greece". "I have been in northern Greece for about two weeks, but I have already noticed that here there is a huge demand for Russian," he explained.

Turkey renews threat to scrap EU migrant deal

Source: <http://www.ekathimerini.com/213374/article/ekathimerini/news/turkey-renews-threat-to-scrap-eu-migrant-deal>

Nov 2016 – Turkey's foreign minister is renewing a threat to scrap an agreement with the European Union to stem the migrant flow if Brussels doesn't grant Turks visa-free entry, saying that Ankara won't wait until the end of the year.

The visa waiver is part of a package of incentives the EU offered Turkey to stop migrants heading to Europe. The main sticking point is an EU demand for Turkey to change the way it defines terrorism.



Migrant route to Germany



Source: UNHCR

BBC

Turkish Foreign Minister Mevlut Cavusoglu was quoted Thursday as telling Swiss daily Neue Zuercher Zeitung: "Our patience is approaching an end." He added that Ankara is upholding agreements and expects the EU to do the same.

Asked when the migrant deal might be suspended, Cavusoglu replied: "We won't wait until the end of the year."



EDITOR'S COMMENT: Fact #1: Europe does not really want Turkey to join EU; Fact #2: Turkey only wants EU's money along with fulfilling the continent with Muslims. Fact #3: Three million illegal immigrants and refugees re packed in Turkish territories waiting for the "green" light to flood Europe. But as you can see in the map above, flooding Europe is not that easy since borders are closed. So it is not about Europe; it is about flooding Greece (already hosting 60,000 – mostly Sunni – illegal immigrants/refugees) and have them trapped in a new area out of Turkey. Greece is not able to host these people – end of story!

What can be done? Stop the wars? Ha/LOL! Open the borders and distribute thousands in each EU member state? OK – but not in my country! So what are the peaceful options for Greece? None! Are we willing to take strict measures? No! Because "left" governments are with the people not against them – or to be more precise: with other people than their own. How the tale ends? Greece will lose its Aegean islands close to Turkey without war! And they lived happily ever after... Poor West belonging European Greece...





Only in Dubai!



Monica Bellucci received at the Elysee Palace Legion of Honor

Source: <http://en.news-4-u.ru/monica-bellucci-received-at-the-elysee-palace-legion-of-honor.html>



Foreign nationals who have served France or the ideals it upholds may receive the honour

Nov 25 – Italian actress Monica Bellucci is awarded the Legion of Honor, considered the highest distinction, honor and recognition of special merits in France. Order of Chevalier (Knight) Monica received from the President of the Republic Francois Hollande during a ceremony at the Elysee Palace.

"I am honored and touched by the honor of becoming a Chevalier of the Legion of honour," admitted Bellucci. The actress expressed gratitude to President Hollande of France. The Legion of honor was established by Napoleon Bonaparte (in the likeness of a knight) on 19 may 1802. The award has three grades – Chevalier, Officer, Commander and two advantages – Higher Officer and Knight Grand Cross.

The US Presidential Medal of Freedom

Source: <https://www.whitehouse.gov/campaign/medal-of-freedom>

The Presidential Medal of Freedom is the Nation's highest civilian honor, presented to individuals who have made especially meritorious contributions to the security or national interests of the United States, to world peace, or to cultural or other significant public or private endeavors. The awards will be presented at the White House on November 22nd.



"The Presidential Medal of Freedom is not just our nation's highest civilian honor—it's a tribute to the idea that all of us, no matter where we come from, have the opportunity to change this country for the better. From scientists, philanthropists, and public servants to activists, athletes, and artists, these 21 individuals have helped push America forward, inspiring millions of people around the world along the way."

— President Obama



2016

Kareem Abdul-Jabbar	Basketball player
Elouise Cobell (posthumous)	Advocate for Native American self-determination and financial independence
Ellen DeGeneres	Comedian
Robert De Niro	Actor
Richard Garwin	Physicist who earned a Ph.D. under Enrico Fermi at age 21 and subsequently made pioneering contributions to U.S. defense and intelligence technologies, low-temperature and nuclear physics, detection of gravitational radiation, magnetic resonance imaging (MRI), computer systems, laser printing, and nuclear arms control and nonproliferation.
Bill and Melinda Gates	Philanthropists
Frank Gehry	Architect
Margaret H. Hamilton	Mathematician and computer scientist (NASA)
Tom Hanks	Actor
Grace Hopper (posthumous)	Computer scientist
Michael Jordan	Basketball player
Maya Lin	Artist and designer
Lorne Michaels	Producer and screenwriter
Newt Minow	Attorney
Eduardo Padrón	President of Miami Dade College
Robert Redford	Actor, director, producer, businessman, and environmentalist
Diana Ross	Singer
Vin Scully	Broadcaster
Bruce Springsteen	Singer
Cicely Tyson	Performer

EDITOR'S COMMENT: For few their contribution is evident. What about the rest of them? How exactly they “*pushed America forward*” or “*served France or the ideals it upholds*”???

In the period 2009-2016 one hundred fourteen Presidential medals were given; only three (3) to medical people, as follows:

2012

William Foege

A physician and epidemiologist, Foege helped lead the successful campaign to **eradicate smallpox** in the 1970s

2009

Pedro José Greer, Jr.

Dr. Pedro Jose Greer is a physician and the Assistant Dean of Academic Affairs at the Florida International University School of Medicine.

Janet Davison Rowley

Janet Davison Rowley, M.D., is an American human geneticist and the first scientist to identify a chromosomal translocation as the cause of leukemia and other cancers



“Honor” and “Freedom” – two “heavy” words that have lost their real meaning and importance. I do not envy people that managed to reach the ceiling of their profession – as a matter of fact I like most of them [athletes, actors, singers] but it is not inspiring to put everything in the same basket. For the time being, “Purple Heart” is safe – who knows what will happen in the years to follow!

An English text that a Greek who does not speak English can easily understand!

Source: <http://www.explorecrete.com/various/greek-kalaras.htm>

This article is written by **Dr. John Kalaras**, and it is published to demonstrate that one can write a sophisticated article by using exclusively words of Greek origin:

“The genesis of classical drama was not symptomatic. Aneuphoria of charismatic and talented protagonists showed fantastic scenes of historic episodes. The prologue, the theme and the epilogue, comprised the trilogy of drama while synthesis, analysis and synopsis characterized the phraseology of the text. The syntax and phraseology used by scholars, academicians and philosophers in their rhetoric, had many grammatical idioms and idiosyncrasies.

The protagonists periodically used pseudonyms. Anonymity was a syndrome that characterized the theatrical atmosphere.

The panoramic fantasy, the mystique, the melody, the aesthetics, the use of the cosmetic epithets are characteristics of drama.

Eventhrough the theaters were physically gigantic, there was noneed for microphones because the architecture and the acoustics would echo isometrically and crystal – clear. Many epistomologists of physics, aerodynamics, acoustics, electronics, electromagnetics can not analyze – explain the ideal and isometric acoustics of Hellenic theaters even today.

There were many categories of drama: classical drama, melodrama, satiric, epic, comedy, etc. The syndrome of xenophobia or dyslexia was overcome by the pathos of the actors who practiced methodically and emphatically. Acrobatics were also euphoric. There was a plethora of anecdotal themes, with which the acrobats would electrify the ecstatic audience with scenes from mythical and historical episodes.

Some theatric episodes were characterized as scandalous and blasphemous. Pornography, bigamy, hemophilia, nymphomania, polyandry, polygamy and heterosexuality were dramatized in a pedagogical way so the mysticism about them would not cause phobia or anathema or taken as anomaly but through logic, dialogue and analysis skepticism and the pathetic or cryptic mystery behind them would be dispelled.

It is historically and chronologically proven that theater emphasized pedagogy, idealism and harmony. Paradoxically it also energized patriotism a phenomenon that symbolized ethnically character and phenomenal heroism.”

EDITOR’S COMMENT: Not sure if a native English speaking person can easily understand this text!

Read also:

English Words Deriving from the Greek Language

By Matina Psychogeos (Author – March 2016)

<https://www.amazon.com/English-Words-Deriving-Greek-Language/dp/168213427X>



Cuba's Fidel Castro dies aged 90

Source: <http://www.aljazeera.com/news/2016/11/cuba-fidel-castro-dies-aged-90-161126052522006.html>

Nov 26 – Fidel Castro, the Cuban revolutionary leader who built a communist state on the doorstep of the United States, has died aged 90.



'Enormous emotional impact'

Al Jazeera's Latin America Editor Lucia Newman, reporting from Santiago, Chile, said Castro's death hardly came as a surprise.

"He has been a larger-than-life figure who inspired a revolutionary movement all over the world, especially in Latin America," Newman said.

"As time has gone by we have been hearing less and less from Fidel Castro. We all know he has been ill for a decade and was not been seen since August after his birthday, which was celebrated across the country.

"His death is going to have an enormous emotional impact on Cubans. It does really feel like the beginning of the end of the Castro era," Newman said.

Havana residents reacted with sadness to the news.

"I am very upset. Whatever you want to say, he is public figure who was respected and loved," Saniel Valdespino, a student, said.

In contrast, exiled Cubans in Florida celebrated his death in the streets of Miami's Little Havana.

Videos posted on social media showed people opening bottles of champagne, honking their car horns and banging on pots and pans.

The US government spent more than \$1bn trying to kill, undermine or otherwise force Castro from power, but he endured unscathed before old age and disease finally took him.

His supporters in Havana described him as a tireless defender of the poor.

Raul Castro, Fidel's brother and current president of Cuba, announced his death on state television early on Saturday.

The leader of the 1959 revolution, which overthrew the US-backed dictator Fulgencio Batista, defied the US efforts to topple him for five decades, before ill health led him to make way for his brother Raul, 84, in 2006.

In his final years, Fidel lived in relative seclusion but occasionally wrote opinion pieces or appeared meeting with visiting dignitaries.

Castro was "a giant of the Third World", said Agustin Diaz Cartaya, 85, who joined Castro in the 1953 attack in eastern Cuba that launched the revolution. "No one has done more for the Third World than Fidel Castro."

Critics say Castro drove the country into economic ruin, denied basic freedoms to 11 million Cubans at home and forced more than a million others into exile.

"In 55 years, the Cuban government has not done anything to help the Cuban people in terms of human rights," said Hector Maseda, 72, a former political prisoner who lives in Havana. "I don't believe in this regime. I don't trust it."

Hotly debated legacy

No doubt, Castro leaves a legacy that will be hotly debated for years to come.

For five decades, he worked to turn the island nation into a place of equality and social justice. His government produced tens of thousands of doctors and teachers and some of the lowest infant mortality and illiteracy rates in the Western hemisphere.

But Cuba never shook off its dependence on foreign dollars and the state-run economy failed to bring prosperity to most Cubans.

"The Cuban model doesn't even work for us anymore," Castro admitted in 2010, startling a visiting US journalist.

The US had tried for years to topple the Cuban government. Cuba stumbled along even after the collapse of its chief sponsor, the former Soviet Union.

The CIA plotted to assassinate Castro using everything from



exploding seashells to lethal fungus. American officials cut off almost all trade to Cuba. They financed dissidents and pro-democracy activists. But nothing worked during 11 successive administrations, from Dwight Eisenhower to Barack Obama.

On December 17, 2014, Obama announced that the US planned to renew diplomatic ties with Cuba and loosen some trade and travel restrictions.

Obama's critics were enraged, saying he was throwing a lifeline to the socialist government and undermining the work of democracy

activists who were regularly arrested and beaten.

Obama vowed to continue supporting democracy activists in Cuba, but said the US embargo hadn't worked and lawmakers should lift it.

As part of the deal he struck with Cuba, the US agreed to send three Cuban spies back to the island in exchange for jailed American development worker Alan Gross and Rolando Sarraff Trujillo, a Cuban agent who spied for the CIA.

What about Trump?

Europe Should End Its Planned Marriage with Turkey

By Burak Bekdil

Source: <http://www.meforum.org/6387/europe-should-end-its-planned-marriage-with-turkey>

Nov 27 – Visiting Minsk, the capital of Belarus,



in the first week of November for the opening of a mosque in a dictatorial country where there are 100,000 Muslims, Turkish President Recep Tayyip Erdogan [accused](#) Western Europe of "intolerance that spreads like the plague."

Erdogan [described](#) Belarus, which Western countries describe as a dictatorship, as "a country in which people with different roots live in peace." In Erdogan's view Belarus is tolerant and peaceful, but Western Europe is not. Merely because Belarus's dictator, Alexander Lukashenko, agreed to open a mosque to lure some Turkish investment.

Back in Turkey, things look more Belarusian than Western European, a culture Erdogan

despises. In August, an Istanbul court ordered

[Asli Erdogan](#), a prominent author and journalist, arrested on charges of membership in an armed terror organization. Asli Erdogan, a peace activist and novelist, worked for *Ozgur Gundem*, a pro-Kurdish newspaper. She has remained in prison since her arrest. The prosecutors [demand](#) an aggravated life sentence plus 17.5 years in jail for her.

How did the novelist "support terror"? This is from the indictment: "[I]n an understanding of a novelist, [the accused] portrayed terrorists as citizens in her columns." The prosecutor's "evidence" is four columns by Asli Erdogan. Mehmet Yilmaz, a columnist, [suggested](#) that Turkish law faculties, after this indictment, should be closed down and converted into imam schools.

President Recep Tayyip Erdogan's crackdown on dissent goes on at full speed. The opposition pro-Kurdish People's Democratic Party announced that it would suspend its legislative activity after a dozen of its lawmakers, including



its co-chairpersons, were arrested on terror charges.

Meanwhile [Erdogan accuses Europe](#) of "abetting terrorism" by supporting Kurdish militants as the Turkish government tries to suppress them.

German lawmakers, including leading representatives of the Social Democrats, the Greens and the Left Party, announced an initiative to "adopt" their Turkish colleagues after Erdogan's government rescinded the legal immunity of 53 of 59 Kurdish members of parliament and arrested dozens of lawmakers, party employees, and journalists.

"In the history of the program, there has never been such an extraordinary situation where I think we can say that a democracy is threatening to turn itself into a dictatorship," [said](#) German Social Democratic lawmaker and human rights expert Frank Schwabe. "We have a lot of Turkish opposition parliamentarians under threat, so we had to apply the parliamentary sponsorship program in an extraordinary way."

In another speech, [Erdogan said](#) that Turkey was ready to abandon its EU candidacy if "Europe told us they do not want us." ...

But the incompatibility between the democratic cultures of Western Europe and Turkey is now too visible to ignore or tone down in diplomatic language.

There are signs, albeit weak, in Europe that Islamist Turkey does not belong to the Old Continent.

Austria's defense minister, Hans Peter Doskozil, [told the German daily, Bild](#), that "Turkey is on its way to becoming a dictatorship." Past perfect tense instead of present may have described Turkey's case better, but there is a European "awakening" on Turkish affairs.

Austria's foreign minister, Sebastian Kurz, [said](#): "Over recent years Turkey has moved farther and farther away from the EU, but our policy has remained the same. That can't work. What we need are clear consequences."

He is right: "That" cannot work.

A tiny EU state was bolder in calling a cat a cat. Speaking of Erdogan's increasingly savage crackdown on dissidents, particularly after the failed coup of July 15, Luxembourg's foreign minister, Jean Asselborn, [said](#): "These are methods, one must say this bluntly, that were used during Nazi rule ... And there has been a really, really bad evolution in Turkey since July that we as the European Union cannot simply accept."

Europe's unpleasant game of pretension with Turkey should end at once, with Brussels and Ankara admitting that the planned marriage was an awfully bad idea from the beginning and that Turkey does not belong to Europe, as its leader proudly says.

Let Turkey go on its voyage to become another peaceful Belarus.

So, Istanbul is a Greek city?

By Burak Bekdil

Source: <http://www.hurriyetdailynews.com/so-istanbul-is-a-greek-city.aspx?pageID=449&nID=105710&NewsCatID=398>

Nov 04 – Some observers have lately been advising foreign governments not to worry too much about Turkey's (President Recep Tayyip Erdoğan's) increasingly aggressive irredentist rhetoric because it is largely targeted at domestic consumption rather than addressing the relevant foreign audience. Well, yes and no. It is true that revisionist/nationalist rhetoric sells very well in Turkey's marketplace of ideas (and, increasingly, in other countries too). It is also true that Mr. Erdoğan's most imminent target audience is, naturally, the average Turkish voter – the man who can most easily be captured by any irredentist rhetoric dancing around

appealing nationalist claims such as "our glorious past," "the great injustice our great nation had to suffer a century ago," "a just need to correct the wrong flow of history," or "we shall one day revive our fallen empire." Add to those the "we are the 'most devout Muslims' rhetoric" you will not just catch a voter but a devoted fan who will be prepared to die or kill for you.

But the fact that Mr. Erdoğan's main target group is the average Turkish voter does not change the fact that he also wholeheartedly believes in what he says, or that he could turn rhetoric into some insane action



one day if he thinks, out of a moment of miscalculation, Turkey is powerful enough to “correct the wrong flow of history,” in the words of former Prime Minister Ahmet Davutoğlu.

Furthermore, fuelling such sentiment in a society well known for its xenophobia, self-isolationist mentality and a collective desire to return to the days of glory could be politically



perilous in the long-term since one of Mr. Erdoğan's 18-year-old “soldiers” today will probably become the Turkish leader in a few decades – another and angrier Mr. Erdoğan. More importantly, Mr. Erdoğan's rhetoric does not only lack the simplest norm of logic but is also inconsistent. Forget his latest irredentist speech that supposed Turkey today could have had 3.5 million to 4 million square kilometers of land instead of its 780,000 square kilometers. It could have. But it does not. Why, in the Islamist mind, does size matter? Is Turkey, by any credible international criteria, a better country than, say, Switzerland – which sits on 41,000 square kilometers, or 5 percent of Turkish land? In the same speech, Mr. Erdoğan mentioned the [Greek](#) islands in the Aegean Sea. “Those

islands under our nose were ours,” he said. “[In those islands] there are our monuments, our history, our mosques...” This is true. But applying the same logic to what is today Turkey can result in claims which Mr. Erdoğan will certainly not like.

If “having places of worship, history and monuments [from the past]” in foreign countries should give other countries the right to claim territory, we Turks would all have to pack up and endure the hardships of a long journey into some faraway steppes. Forget the countless monumental and historical marks on Anatolian lands that belong to pre-Turkish times, just note the fact that, firstly, the [Greek Orthodox](#) patriarchal basilica in Istanbul which Mr. Erdoğan's fans so passionately want to convert into a mosque, was built in 537 AD, or 816 years

before the first mosque in the city was built, and secondly, since Mr. Erdoğan often talks about Turkey's “2071 targets,” in reference to the year 1071 which marks Turks' capture of parts of Anatolia, he admits that there were non-Turkish civilizations, places of worship and history on the lands that is today Turkey.

That, of course, does not mean those non-Turkish civilizations should have a legitimate claim over Turkish territory today. Just like Ottoman history or mosques in neighboring countries should not give Turkey a legitimate claim over what is today “foreign lands.”

Mr. Erdoğan claims he is lecturing everyone in history. He should first of all himself acknowledge that history did not begin in 1071 or 1453.

Burak Bekdil is an Ankara-based columnist for the Turkish newspaper Hürriyet Daily News and a fellow at the Middle East Forum.

EDITOR'S COMMENT: I will make a mark on Mr. Burak Bekdil to see if he will continue to be a Hürriyet Daily News journalist **or** end up in a jail together with thousands' others.



They rescued them from sea; they welcomed them; they fed them; they provided them medical aid and this is how they paid them back...



Lesvos Island, Greece – Moria cemetery close to Moria Hot Spot for illegal immigrants/ refugees –



Nov 27, 2016)



SKEYE Nano 2

Source: <https://deals.thenextweb.com/sales/skeye-nano-2-fpv-drone?>



The **world's smallest camera drone** boasts an unrivaled flying experience, streaming a real-time first person view of the tightest spaces directly to your smartphone. With adjustable gyro sensitivity and 6-axis



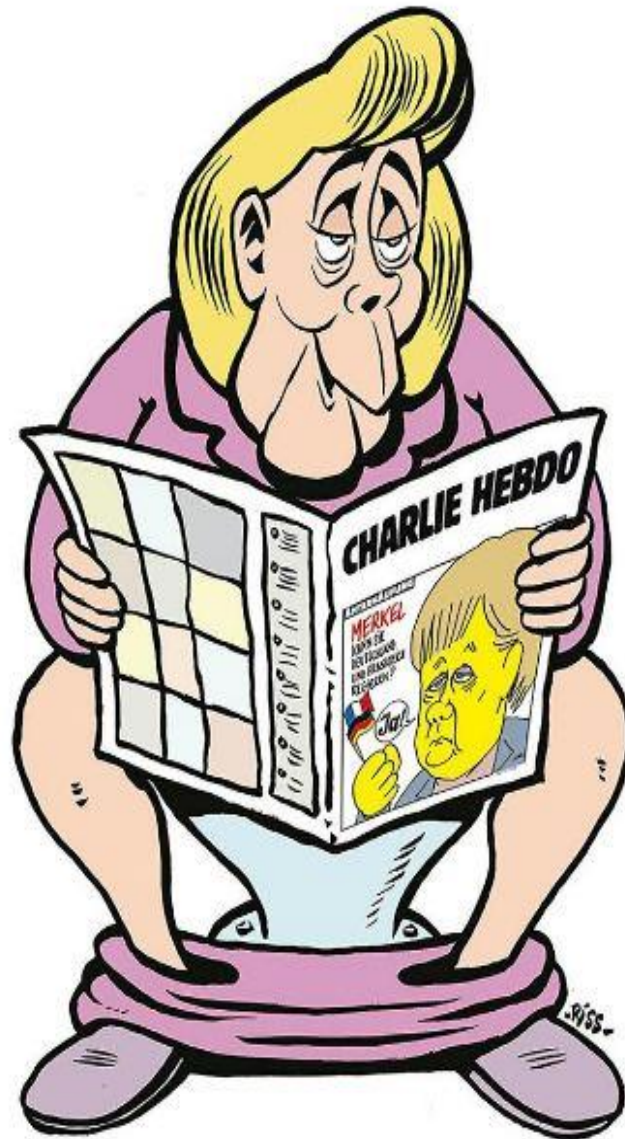
flight control system, this tiny drone is easy to control for even the most novice pilots. Heck, if you're just controller-averse, you can even use your phone as a remote control thanks to on-board WiFi. The skies are waiting!

- ✓ Take off, land, & hover easily w/ built-in auto-functions
- ✓ Record incredible real-time, FPV video w/ the HD, WiFi-controlled camera
- ✓ Fly immediately w/ Ready to Fly technology
- ✓ Enjoy a completely stable flight thanks to adjustable gyro sensitivity & 6-axis control
- ✓ Show off for your friends w/ acrobatic flip capabilities
- ✓ Go for a nighttime flight w/ the built-in LED lights
- ✓ Adjust controller sensitivity for more advanced maneuvering as you get the hang of it
- ✓ Free global shipping



Charlie Hebdo, the newspaper that relaxes you: Now in German as well

CHARLIE HEBDO



WIRKT BEFREIEND.
– ab sofort auch in Deutsch –

We are happy that Chancellor Merkel will make good use of the newspaper!



Oh tempora, oh mores!

I nostri immobili ai profughi: ecco il piano segreto di Alfano

il Giornale.it
politica

*Il varo dopo il 4 dicembre, per non influire sull'esito del voto. Gasparri:
"Difendiamo la proprietà privata"*

Massimo Malpica - Lun, 21/11/2016 - 08:08

We will take your homes
and give it to refugees
(whether you like it or not)



Italian Minister of Interior Angelino Alfano

VS.

Ferrari auctioning one-off LaFerrari for Italian earthquake relief

Source: <http://www.autoblog.com/2016/11/29/ferrari-laferrari-earthquake-charity-auction-finali-mondiali/>



[off LaFerrari from the company's own collection](#) at the upcoming Finali Mondiali on

Nov 29 – Ferrari is about as Italian as Italian gets, so it's no surprise that the company is launching an initiative to help the victims of this year's two major central Italian earthquakes. And it involves a LaFerrari.

Ferrari, RM Sotheby's, and the National Italian American Foundation's Earthquake Relief Fund are partnering up to auction off [a one-](#)



December 3. All proceeds from the auction will go to the reconstruction efforts in central Italy following August's magnitude 6.2 quake and the string of quakes that hit late last month.

If you're heading to the [Daytona International Speedway for Finali Mondiali](#) and have seven-figure's worth of cash burning a hole in your finely lined pockets, it's worth mentioning what you could bid on. The LaFerrari in question wears the company's traditional Rosso Corsa, but sports white accents down its body and an Italian tricolor on its nose. Ferrari says bespoke interior stylings complement the one-of-a-kind exterior treatment.



Trump: Burn the flag, go to jail

Source: <http://edition.cnn.com/2016/11/29/politics/donald-trump-flag-burning-penalty-proposal/>

Nov 29 – **President-elect Donald Trump proposed on Tuesday a penalty -- including possible jail time or loss of citizenship -- for burning the American flag, in spite of two US Supreme Court rulings that protect the act under the First Amendment as a form of free speech.**

The Supreme Court has twice affirmed the right to desecrate the American flag as a form of free speech -- a historically contentious issue -- in cases before the high court in 1989 and 1990.

In the 1989 case "[Texas v. Johnson](#)," the Supreme Court ruled 5-4 that flag burning was a form of "symbolic speech" protected by the First Amendment. The ruling came after an appeal from Gregory Johnson, who had been convicted by a Texas court of violating a state law that prohibited the "desecration of a venerated object" such as the US flag.

The following year, in "[United states v. Eichman](#)," the top court again affirmed the right to burn the flag when it ruled 5-4 that the Flag Protection Act of 1989 -- passed by Congress in response to the Johnson decision -- was unconstitutional.

It's not immediately clear what prompted Trump's tweet Tuesday morning, though the national discussion of respect for the flag has been restarted in part following [a flag burning November 10](#) on the campus of Hampshire College in Amherst, Massachusetts, as part of a post-election protest. The university then decided to stop flying the American flag at the campus, which also infuriated some members of the community.



Donald J. Trump
@realDonaldTrump

Follow

Nobody should be allowed to burn the American flag - if they do, there must be consequences - perhaps loss of citizenship or year in jail!

1:55 PM - 29 Nov 2016

66,958 192,328



EDITOR'S COMMENT: This is a good idea that perhaps we should copy and paste in Greece!





Christmas tree in Sweden – ENJOY!

Source: <https://www.youtube.com/watch?v=LpXx5WRwfJk>

'Sharia police' are not illegal, rules German court

Source <https://www.thelocal.de/20161122/sharia-police-are-not-illegal-rules-german-court>



Dec 01 – **A German court on Monday ruled that a group of Islamists did not break the law in forming "sharia police" street patrols and telling people to stop drinking, gambling and listening to music.**

The ultra-conservative Muslim group around German Salafist convert Sven Lau sparked public outrage with their vigilante patrols in the western city of Wuppertal in 2014, but prosecutors have struggled to build a case against them.

The city's district court ruled that the seven accused members of the group did not breach a ban on



political uniforms when they approached people while wearing orange vests bearing the words "Sharia Police".

Judges said there could only be a violation of the law - originally aimed against street movements such as the early Nazi party - if the uniforms were "suggestively militant or intimidating", a court spokesman said.



In this case, they found that the vests were not threatening and noted that one witness said he thought the men were part of a bachelor party.

The same court had already thrown out the case last year, but was overruled on appeal by a higher court which agreed with prosecutors that the ban on uniforms could be applied in this case.

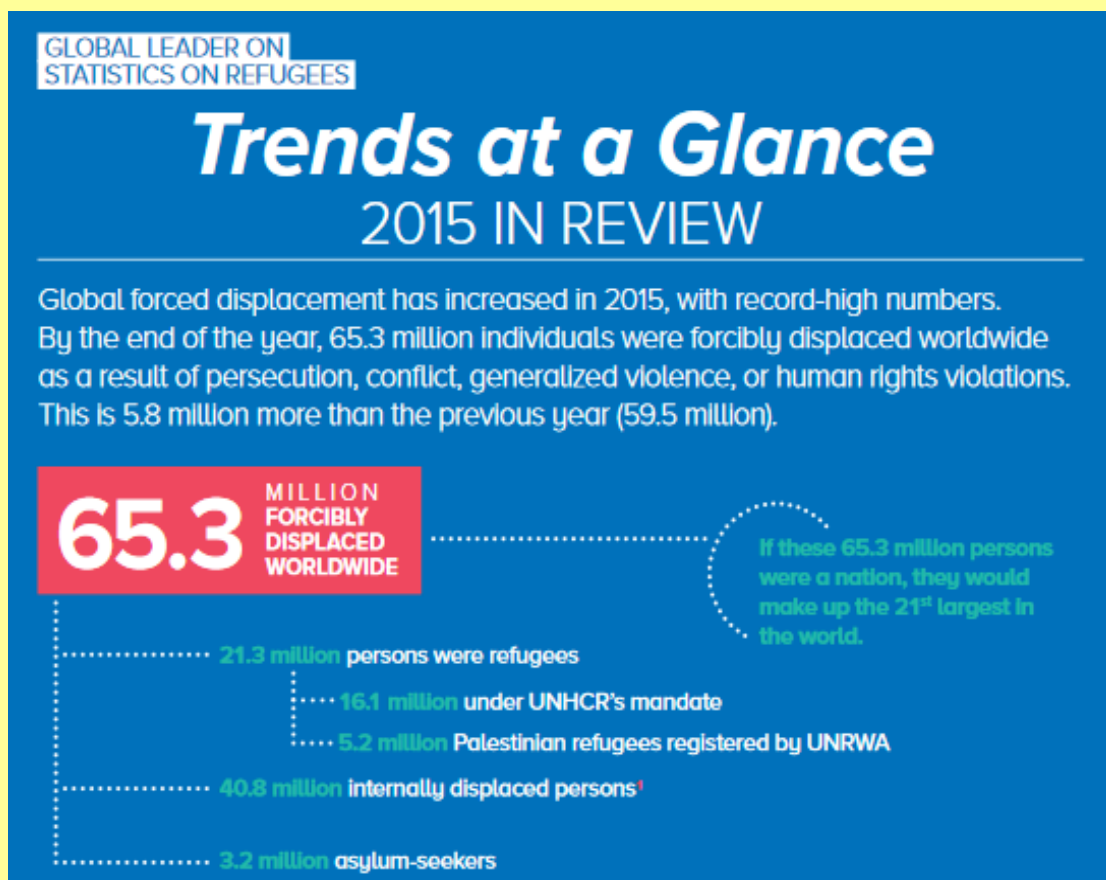
Monday's verdict is not yet final and may still be appealed.

The "sharia police" members walked the streets of Wuppertal in September 2014, telling nightclub-goers to refrain from drinking alcohol and listening to music, and arcade customers not to play games for money. Lau, the organiser, is one of Germany's most controversial and best known Islamist preachers. He is currently on trial in a separate case on charges of backing "a terrorist group" fighting in Syria.

So-called "sharia patrols" by sometimes violent radical young Salafists have also been seen in other European cities such as London, Copenhagen and Hamburg.

10 countries that have the most refugees

Source: <http://www.unhcr.org/uk/statistics/unhcrstats/576408cd7/unhcr-global-trends-2015.html>



The Role of Europe in the Balkan region's geopolitical crossing

By Dr Filippo Romeo

Source: http://moderndiplomacy.eu/index.php?option=com_k2&view=item&id=1969:the-role-of-europe-in-the-balkan-region-s-geopolitical-crossing&Itemid=132

Dec 01 – **Geopolitics, the study of how spatial dimension impacts on and affects states' politics, may offer an important contribution to analysing strategies suited to developing rail infrastructures between Italy and the Balkans.**



The Balkan idea sets and fixes the concepts and definitions between real and ideological, so as to generate a counterposition of geographical and geopolitical concepts.



While in some cases the term "Balkans" does refer to a mountainous system, in others the definition tends to stretch to indicate the peninsula, or an area of chronic instability, a Europe powder keg or Continent underbelly, to the point of being used to decline a value judgement (consider the expression "Balkanization", a paradigm used in other geographical contexts characterised by political instability.)

The peculiarity of this space, which was for centuries a vehicle for great migrations, wars, traffic and cultural exchange, is provided by its physical form, which made it a fault, or point of contact, between different areas (Western and Eastern), religious and cultural models (Christianity and Islam, Catholicism and orthodoxy), as well as between two opposing economic models. The Balkans, observing a map, further present a triple "personality" in short distances: Mediterranean and maritime along the coast, Central-European in the Southern plains, Balkan in the continental mass. The ethnic mosaic, another concept linked to the Balkans, seems, then, to represent a sole aspect linked to a wider context, characterised by being complex and fragmentary.

The counterpositions and tensions distinguishing this area, crossing and subject to external yearning, differently renewed each year till today, appeal to long-term factors in European history, but mainly to insular, peripheral peculiarities and peculiarities of the closed spaces characterising them. These conditions actually made it hard to create and develop a

proto-national awareness based on territorial consciousness deriving from urban, bourgeois culture. In contrast, the varied stratification of urban cultures have given rise to various identifying paths, on which Balkan nationalisms, mainly characterised by elements such as ethnocentrism and xenophobia, were built. Affirmation of new nations was actually based predominantly on the glue of purification from elements foreign to the natural Group. Such nationalist drives, on which foreign powers ambiguously weave cultural and geopolitical influence so as to erode definitively the authority of the Ottoman Empire and the institutional base it set up, will turn the Balkans into an area for European powers' rivalries to clash (interposed). In the same way one may remember how the unification of the Balkans was only possible with intervention by the Sultan's foreign power. One may indeed state the history of these territories, proceeding in the same direction as geography, characterised by complexity and diversity, reinforced certain peculiar traits such as diffidence towards the State, reinforced cultural identities and weak territorial attachment, mainly linked to the field of the small natural region.

Such phenomena reappeared with the fall of the Berlin Wall and the disappearance of great multinational entities (the dissolvment of the USSR and Yugoslavia), which led to new races to fill empty spaces, hence giving rise to Yugoslav secession wars, which were - not by chance - situated on the ridge of a great geopolitical transition.

Europe - in some way agent for intervention in the US area to follow its own strategic interests - failed to take concrete action, and this not only hindered the search for a solution, but also furthered the existing conflicts, until one may call the area a "geopolitical hotbed".

All this went on while the Community in Europe was trying to find a common market and negotiate the Maastricht Treaty to create an Economic_Monetary Union. So this crisis created a threat for the European constituting order, and also represented a failed chance for Europe to show it exists and can act as a great power.

It is clear that if the policy of a dynamic era like this one can exploit the evolved communication system so as to spread or



compromise spaces and adopt names, concepts and strategic doctrines that do not correspond to previous geography, it still cannot change geography itself, or what man accumulated on the land for millennia, from an urban, economic, infrastructure, ethnic and political point of view.

Indeed, each strategic representation cannot ignore the powerful bonds created by geography and history. In our age's geo-history, the "Balkan hinge", whose borders often divided historians, refers to an idea of a firmly delineated area rather than a great geographical region (is the natural border the Balkan chain or the Danube? Do Rumania or Slovenia belong? Turkey and Greece?) and occupies a European area represented by countries that entered the EU or are have been nominated to. For simplification, this area's central core may be represented by the triangle of Belgrade-Thessaloniki-Sophia. Under the strictly geopolitical profile, one may state even today the Balkans do not constitute a unified system, but they are very fragmented in both North-South and East-West directions. With the exception of Slovenia, and partly Croatia - for historical reasons tightly linked to Central Europe - the region may be subdivided into Western, Southern and Eastern Balkans. The first area is geopolitically characterised by the contrast between Serbia and Croatia to spread its influence to Bosnia and Herzegovina; the second by the Albanese issue and influence from Greece; the third has special features and is formed of States bathed by the Black Sea.

Europe has, then, the duty to integrate this area by a development and regional interconnection strategy that focuses on a solid infrastructural transport network, a tool that is fundamentally important in that it is suited to facilitate and raise economic interexchange and the cultural "contaminations" necessary to yield that European spirit of belonging, useful to create consolidated continental awareness, embryo for true, structured political union. Trans-Balkan circulation (consider the Danube axis, or Via Egnatia, the Ljubljana-Belgrade axis, and Istanbul therefrom) historically represented an element able to unify the region's various populations, in contrast to country and state atomising, favouring creation of an integrated whole, unifying the Balkans and linking them to the world. The circulation networks, then,

represent a fundamental element, especially in this era of multi-pole geopolitical transition.

It is actually true that planning any infrastructural system can hardly ignore the global geopolitical and geoeconomic picture, even more so in the current context, where continental infrastructures constitute an essential moment for economic rebirth, able to affect both technology modernisation processes and foreign policy stability. In this regard it is important to refer to the fact that it is no accident the economic power developed recently by the Chinese colossus is supported by a series of strategic infrastructural projects useful for accompanying, protecting and raising the Country's expansion capacity. This certainly involves the great "New Silk Way" project for land and sea, devised by Peking with the main aim of moving China close to the rest of the Euro-Asian continental mass and the Mediterranean, and also developing the inland zone, lagging behind the coastal strip.

But not only China, also other players like Russia, India, Iran and countries from Africa, ASEAN and Latin America are moving to create new communication paths.

So in the face of this activism, experienced globally, it is good for the European front to also approach a development and regional interconnection strategy via a solid infrastructural transport network to involve all Europe and, most of all, the Balkan area. This could arise by simulating innovative initiatives to promote public - private partnership (obviously, no integration form may be painless, and to be held legitimate it must be based on consensus and acceptance by local governments).

This means the development of corridors becomes essential. For Italy in particular, corridors V and VII carry high strategic importance. Corridor V is especially important for Po Valley - Veneto outlets to the North-East. Primarily for the Trieste - Budapest route, which is central to the interests of Austria and Germany, which obviously have the understandable wish to keep intact all the Street and rail traffic using their networks, not least with regard to traffic from Southern France, the Iberian peninsula and Southern Switzerland. These flows would actually be interrupted by Corridor V, should it present better



conditions than the current ones. It must also be added that improved transborder links with the Balkan area could also encourage concrete, real stabilisation and integration thereof with Europe's Western part, freed from the (currently latent) danger of terrorism and crime. Continuing current instability would actually consolidate the proliferation of organised crime and terrorism, making the Balkan fault even more fragmented and unstable and creating an irreparable break with the sparkling Asian area

which is living a period of unstoppable growth and expansion.

We must then focus on fully developing the concept of "network" to focus on creating full vertical and horizontal integration of the Europe system. This links could encourage mitigating this fragmentation which, as the opening foresaw, distinguished the history of this region, which could instead reproduce land for opportunity instead of conflict, representing at the same time an element to support Greater European integration.

Dr Filippo Romeo is the Director of the "Infrastructure and Territorial Development" Programme, IsAG Rome.

Dec 03, 2016
Hellenic Air Force
Mirage 2000-5Mk2
with cruise SCALP-EG



For the first time ever...!

A Dutch anti-discrimination hotline has said it is OK for Muslims to threaten gay people

Source: <http://www.express.co.uk/news/world/739275/Dutch-watchdog-OK-send-gay-people-death-threats-Muslim>

Dec 04 – **Furious Dutch MPs have demanded an immediate public inquiry after a government-backed watchdog said it was acceptable for Muslims to send gay people death threats.**

In a shocking move, the taxpayer-funded hotline said it would not pursue a criminal complaint



over horrific messages from radical Islamists because the Koran says gay people can be killed.

The disgraceful stance came to light when a member of the public complained about death threats posted to an online forum which called for homosexuals to be “burned, decapitated and slaughtered”.

Dutch MPs today reacted with horror to the revelations, demanding an immediate inquiry into the remarks and calling for the hotline to be stripped of public funding.

According to Dutch media advisors from the anti-discrimination bureau MiND said that, while homophobic abuse was usually a crime, it was justifiable if you were Muslim due to laws on freedom of religious expression.

They argued that the Koran says it is acceptable to kill people for being homosexual, and so death threats towards gay people from Muslims could not be discriminatory.

In a jaw-dropping email explaining why they could not take up the complaint, they wrote: “The remarks must be seen in the context of religious beliefs in Islam, which juridically takes away the insulting character.”

They concluded that the remarks were made in “the context of a public debate about how to interpret the Quran” and added that “some Muslims understand from the Quran that gays should be killed”.

And they went on: “In the context of religious expression that exists in the Netherlands there is a large degree of freedom of expression. In addition, the expressions are used in the context of the public debate (how to interpret the Koran), which also removes the offending character.”

The death threats had been made in the comments section for an article about a Dutch-Moroccan gay society, which had been posted to an online platform for Holland's large Moroccan community.

The revelation that they were so easily brushed aside by the anti-discrimination hotline will fuel an intense debate in the Netherlands over freedom of expression.

Far-right politician Geert Wilders, whose party is expected to win next spring's general election, is currently on trial for inciting racial hatred after telling a rally there were “too many Moroccans” in the Netherlands.

And two right-wing MPs, Joram van Klaveren and Louis Bontes, have now announced their intention to bring up the incident in the Dutch parliament by asking questions of the Justice Minister.

The pair argued that public prosecutors must be permitted to take up cases of homophobic abuse, especially where it concerns threats of violence, no matter who is making the discriminatory remarks.

Mr Van Klaveren will ask: “Do you share our disgust at the fact that this explicitly states that inciting violence is not a problem if it comes from the Islamic belief?”

A spokesman for the MiND hotline admitted that after “further research” of the issue it had concluded that the complaint had been “unjustly assessed”.

He added that when the complaint involved calling for violence against a particular group, the beliefs of the person making the threats should not matter.

The Optimal Solution for Home Security

Source: <http://i-hls.com/2016/12/optimal-solution-home-security/>

Dec 02 – More and more home and business owners are looking for advanced, trustworthy solutions to enhance their security. Safeguarding outdoor assets in a reliable and cost-effective manner often comes down to accurate intruder alerts and timely information about the unfolding event.

According to John Romanovich on Source Security, **viable outdoor security must start with a sensing system that is accurate at all times.** Professional knowledge **asserts thermal cameras** are the best system, because thermal cameras see heat rather than light, so they are a perfect “human detector,” and will ignore headlights, reflections off water, and other light-based activity. Although smart thermal cameras are a great way to protect outdoor assets, the system has little value if people can enter a secured area undetected.



Unfortunately, some manufacturers specify camera ranges that overstate their detection capabilities. This means it's up to the integrator to determine the camera's true detection distances. Otherwise your solution may leave gaping holes that can allow intruders to pass through undetected.



The best practice to determine a camera's true detection range is to measure the farthest distance at which the camera can automatically detect a person walking "inbound" or directly toward the camera. It's important to remember that a camera's field of view doesn't begin where it's mounted. Instead it can only detect at a measurable distance in front—this is the blind spot. This must be considered in the security design, or someone will be able to walk right

under a camera undetected.

To provide complete coverage, the view of each camera must be designed to cover the adjacent camera's blind spot.



Daughter of Top EU Official Raped-Murdered in Germany By Afghan Migrant

Source: <http://www.thegatewaypundit.com/2016/12/daughter-top-eu-official-raped-murdered-germany-afghan-migrant/>

Dec 04 – **An Afghan migrant has admitted the rape and murder of a medical student, who also worked voluntarily at a refugee center.**





Maria Ladenburger, the daughter of a high-ranking EU official, was returning from a party in the university city of Freiburg in Germany when she was assaulted on a cycle path.

She was raped and then drowned before her body was found in the River Dreisam.

The shocking incident happened on October 16 but details have only been released after an arrest on Friday.

The suspect, an Afghan migrant, was caught after police found DNA on a scarf near the path. The scarf reportedly belonged to Maria. They also found a strand of hair on a nearby blackberry bush. Officers then trawled CCTV to see find people with a similar hairstyle, which led them to the suspect.

In Maria's necrology (at the end): "... instead of flowers send money to ... (Catholic philanthropic

*Du zeigst mir den Pfad zum Leben.
Vor Deinem Angesicht herrscht Freude in Fülle. (Psalm 16, 11)*

Schweren Herzens, aber zugleich mit fester Hoffnung
nehmen wir Abschied von unserer innigst geliebten Tochter,
Schwester, Enkelin, Nichte und Cousine

+

Maria Ladenburger

* 6. Dezember 1996 † 16. Oktober 2016

Maria war 19 Jahre lang ein einziger großer Sonnenschein
für unsere Familie, und das wird sie bleiben.
Wir danken Gott für dieses Geschenk, das Er uns mit ihr
gemacht hat. Wir sind gewiss, dass sie es bei Ihm gut hat.

Dr. Clemens und Friederike Ladenburger
Bärbel und Dorothee Ladenburger
Prof. Dr. Wolfgang Barz
Dr. Clemens Ladenburger
Angehörige der Familien Barz, Ladenburger, Pfister und Jauch

Das Requiem feiern wir am Donnerstag, 27. Oktober 2016, um 11 Uhr in der Kirche
Notre-Dame des Grâces, Avenue du Chant d'Oiseau 19, 1150 Bruxelles.
Die Beerdigung findet anschließend auf dem Friedhof von Wezembeek-Oppem, Kerkhofstraat 50, statt.

Anstelle von Blumen bitten wir um eine Spende für die Bildungsarbeit der Kirche in Bangladesch
(Konto: Katholische Gemeinde Heilig Kreuz Birkenfeld, IBAN: DE90 6665 0085 0001 9840 71, Stichwort:
„Sonderkonto Bangladesch – Maria“) oder für die Studenteninitiative Weitblick Freiburg e.V. (IBAN:
DE80 4306 0967 7913 6014 00, Stichwort „Maria“).

organization conducting educational work in Bangladesh), bank account (...) or for ... (initiative of local students for refugees), bank account (...) code word "Maria").

UPDATE Dec 14, 2016: Read more in p.46.



Lovely neighborship ...



Greece – Caring for illegal immigrants and refugees' food

ΧΟΥΤΟΣ ΕΛΛΕΙΝΟ				
ΑΛΛΕΡΓΟΓΟΝΑ - ALLERGENS - المواد المثيرة الحساسية				
ΜΕΝΟΥ - MENU - فهرست - قائمة طعام	ΕΛΛΗΝΙΚΑ	ENGLISH	ΑΡΑΒΙΚΑ	ΠΕΡΣΙΚΑ
ΦΑΣΟΛΑΔΑ - BEAN SOUP - حساء بقوليات - سوپ لوبیا	Σέλινο	Celery	كرش	كرش
ΡΙΖΟΤΟ ΛΑΧΑΝΙΚΩΝ ΜΕ ΚΟΥΚΟΥΡΜΑ ΚΑΙ ΣΤΑΦΙΔΕΣ - RISOTTO WITH VEGETABLES, TURMERIC & RAISINS - أكلة مع الخضروات - ريزوتو با سيزيجات و انگور زردچوبه	ενδέχεται να περιέχει ίχνη από Σέλινο	may contain traces of celery	قد تحتوي على آثار من الكرفس	ممکن است حاوی مقادیر کرفس
ΚΟΤΟΠΟΥΛΟ ΨΗΤΟ ΜΕ ΡΙΖΕ - BAKED CHICKEN WITH RISE - دجاج مشوي مع الارز - چوجه كباب با برنج	ενδέχεται να περιέχει ίχνη από Σέλινο και Ξινάπ	may contain traces of celery and mustard	قد تحتوي على آثار من الكرفس والخردل	ممکن است حاوی مقادیر کرفس و خردل
ΚΕΦΤΕΔΑΚΙΑ ΜΕ ΚΡΙΘΑΡΑΚΙ - MEATBALLS WITH BARLEY - كرات اللحم مع المعقرونة - کوفته - یا ماکارونی	Γλουτένη-Σουσάμι-Πρωτεΐνη Σόγιας-ενδέχεται να περιέχει ίχνη από Σέλινο	Gluten-Sesame-Soybean Protein-may contain traces of celery	گلوتن - سمس - پروتین - فول الصويا - قد تحتوي على آثار من الكرفس	گلوتن - کنج - پروتین سویا - ممکن است حاوی مقادیر

ALLERGY CARE – Kilis (Northern Greece): Nea Kavala Hot Spot (Dec 2016)

Fortress island Britain? What could happen to U.K. borders after Brexit

By Cathal McCall

Source: <http://www.homelandsecuritynewswire.com/dr20161206-fortress-island-britain-what-could-happen-to-u-k-borders-after-brexit>



Dec 06 – The key objective of Brexiteers – those at the forefront of the political campaign to extract the UK from the European Union – is to control, and preferably prevent, the movement of “outsiders” to Britain, including those from mainland Europe. State borders are where that

control can be asserted, so the key question is: where to establish this Brexit bordering regime?

The United Kingdom of Great Britain and Northern Ireland (UK) is the state in question, so it is logical to assume that we’re talking about its borders.

But this assumption

is problematic because of the border that meanders for 500km across the island of Ireland.

The Irish border is the only land border that the United Kingdom shares with another European member state – the Republic of Ireland. That border has been the subject of violent conflict, most recently [The Troubles](#), which claimed more than 3,600 lives between 1969 and 1996. Even when the Troubles were at their height in the 1970s and 1980s, the border security regime was only partial. The British government recognised that a hard border would play into the hands of Irish republican insurgents because it would fuel feelings of alienation.

Given this history, the possibility of a hard Irish border after Brexit seems like reckless folly. The softening of the Irish border from the early 1990s – through the removal of customs posts, security checkpoints and militarised fortifications – has been an important element in post-conflict peacebuilding.

Bringing a border back after Brexit could mean reintroducing customs, security and immigration checks on key cross-border arterial routes. It

might even lead to the closure of more than 100 secondary cross-border roads and the deployment of border patrols.

After the Brexit referendum, it looked as though the new UK government, recognised the risks involved in all this. The prime minister, Theresa May, stated that “nobody wants a return to the borders of the past”. However, since Brexit has been inspired by the desire to curb freedom of movement from the European continent, it does not seem plausible that the UK government could entertain the continuation of an open Irish border. Hard borders of the future may rely increasingly on invisible technology to operationalise control. That said, the human border guard is not easily supplanted in a hard-border regime.

Which way to the border?

An alternative to bordering the UK state would be to border the island of Britain. This would avoid causing problems to the peace process on the island of Ireland and would be both easier to establish and less costly to manage.

Initiatives for securing the border of Britain – rather than that of the UK – have historical precedent. After France fell to Germany in 1940, security concerns dictated that travellers from the island of Ireland were required to carry passports or limited travel documents to gain entry to Britain. A full return to freedom of movement in a common travel area did not happen until 1952.

A bordered Britain became visible again in 1974 after the IRA bombing of pubs in Birmingham. The government was given the [power](#) to prevent people moving from Northern Ireland to Britain – and also to deport people from Britain to Northern Ireland.

Passengers arriving at the “Belfast gate” in British airports became familiar with the intrusion of border control paraphernalia decades before the experience became commonplace after 9/11.



Such precedents for bordering Britain challenge the idea of a UK border that is coterminous with the UK state. In a UK context, Northern Ireland's geographical, political, economic and cultural distinctiveness – combined with its connections to the Republic of Ireland – underpin this

challenge. The reality is that Britain is the de facto state and its borders are fuzzy.

The logic of Brexit is that Britain's borders may well retreat to Britain in the quest to render them, clear, secure and impenetrable to "outsiders".

Cathal McCall is Professor of Politics and International Studies, Queen's University Belfast.

UAE Armed Forces start using new advanced military vehicles

Source: <http://www.thenational.ae/business/economy/uae-armed-forces-start-using-new-advanced-military-vehicles>



Dec 06 - The UAE Armed Forces is now using two of the most advanced military vehicles, which have been both designed and manufactured in the Emirates.



Nimr Automotive, a subsidiary of Emirates Defence Industries Company and which has a manufacturing facility in Abu Dhabi, has introduced the N35 (left) and the Ajban-class Special Operations Vehicle (SOV - top). Both were on display at the UAE's National Day parade.

The N35 is a mine-protected multi-purpose fighting vehicle in both 4x4 and 6x6 configurations. It "provides the Armed Forces with a combination of firepower, survivability and mobility to meet

modern, asymmetric operational threats", according to Nimr.

It added that the cabin is capable of providing high levels of protection against mine, IED and ballistic threats.





The Ajban SOV, meanwhile, is "a light, long-range reconnaissance vehicle that can be transported by helicopter for easy insertion into any environment for self-sustained missions lasting up to two weeks. The vehicle is designed to be highly mobile in all terrains, featuring a high payload capacity to transport all necessary crew equipment and features a roof-mounted gun for self-defence."

Fahad Saif Harhara, Nimr chief executive, highlighted the role of local talent in bringing the vehicles into service for the Armed Forces.

"An integral element of NIMR's mission is to educate and empower the next generation of UAE nationals so that they can contribute to the country's growing industrial sector," he said.

Founded in 2004, Nimr, or "tiger" in Arabic, was established by Bin Jaber Group, before it was 60 per cent acquired by Tawazun Holding in 2010.

It became part of Emirates Defence Industries Company, which incorporates 16 of the UAE's defence industry entities under one umbrella, in 2014.

Earlier this year Nimr said that it was increasing its vehicle production to eight per day, from one in 2014.



WATCH: 13 Retired Military Dogs Come Home for the Holidays

Source: <http://people.com/pets/watch-13-retired-military-dogs-come-home-for-the-holidays/>



PEOPLE has an inside look at how it's going.

Mission K9 Rescue

Dec 06 – It was a hero homecoming — with a few cheers and more barks.

Last week, thirteen hero pups came home for the holidays, returning to the United States after serving tours in Kuwait.

A group called [Mission K9 Rescue](#) is helping many of the retired explosive detection dogs acclimate and find homes following their service to our country, and



The rescue — who has partnered with the [United States War Dogs Association](#) (USWDA) and the [Petco Foundation](#) — is working to re-home and rehabilitate the working dogs named Ace, Andy, Charlie, Eman, Google, Haneen, Heckey, Jodie, Keeley, Max, Molten, Trigger, and Uno, who arrived at Houston airport on Thursday (watch their procession of dog crates in the video below).

"These dogs are retired, and all of their lives they have trained like professional athletes," said Kristen Maurer, co founder and president of Mission K9 Rescue. "Just like athletes, when they retire, they have a lot of medical issues. Mission K9 Rescue sees to it that all of these are taken care of before we adopt them into homes."



Some of the dogs will be reunited with handlers they worked or trained with and Mission K9 Rescue is charged with making those reunions happen.

For the dogs that don't have handlers to go home to, the rescue will work to find the perfect place for them to live out the rest of their lives — and that means rehabilitation for some of the dogs, **since many retire with issues such as Post Traumatic Stress Disorder.**

Those pups will need time to decompress and reintegrate into society, and, since the dogs don't receive retirement benefits, Mission K9 Rescue provides the much needed funding to assist handlers and adopters with medical bills.

Each dog will undergo behavior tests

to determine temperament and more — like Max, seen in the video below. (He clearly requires a home with lots of tennis balls and treats!)

"After their medical needs are covered, we then have to perform behavioral tests on each to ensure that we place them in the perfect home environment that will ensure them the retirement that they deserve," Maurer added. "These dogs have worked their entire lives protecting people, and we at Mission K9 Rescue feel that they deserve the very best that retirement has to offer. To us, that would be a loving home where they can rest comfortably and receive all of the love and happiness befitting a hero."





To make a contribution to Mission K9 Rescue's efforts to bring home more dogs, [click here](#). If the group raises \$40,000 from supporters, an anonymous donor has offered a \$40,000 matching grant.

ΙΣΑ ΠΕ ΜΑΓΚΑ – ΚΑΛΟΔΕΧΟΥΜΕΝΟΙ!



Dec 2016 – **MP Tanju Özcan (CHP party – Turkey)**: “If the [Turkish] government do not do it, then we will take a boat with other people who think the same like me and will go to the nearest [Greek] island and I will return the Greek flag to Greek government and I will rise the Turkish flag. Friends from AKP, MHP, CHP can come with us. As members of the Turkish Parliament we have to go to the front line. This is our land and they are our national waters.”



600 'underage' asylum seekers in Denmark are adults: report

Source: <http://www.thelocal.dk/20161207/600-underage-asylum-seekers-in-denmark-are-adults-report>



Dec 07 – Throughout 2016, the Danish Immigration Service (Udlændingestyrelsen – DIS) has questioned the age of hundreds of asylum seekers who say they are younger than 18.

According to a [report in Jyllands-Posten](#), DIS suspected that roughly 800 asylum seekers were lying about their age and thus asked the University of Copenhagen's Department of Forensic Medicine (Retsmedicinsk Institut) to run tests to verify just how old the asylum seekers really

are.

Using X-rays of their teeth and finger bones, the institute concluded that 74 percent of those tested – or around 600 individuals – are actually adults.

SÅDAN FOREGÅR ALDERSTEST

RØNTGENBILLEDE AF TÆNDERNE:
Eksperterne kigger ikke mindst på kind- og visdomstænder og udviklingen af tandroden. Denne proces kører på en stærkt styret genetisk facon, hvorfor tændernes indbyrdes udviklingsstadiet kan oversættes til en sandsynlig alder på personen. Selv hvis personen har været udsat for sult eller sygdom, og tænderne er dårlige, vil udviklingen af tandroden typisk være normal. Hvis tandsættet er fuldt udviklet, indikerer det, at personen er 21 år eller derover.

KROPSUNDERSØGELSE:
Eksperterne kigger på kroppens udvikling, herunder kønsorganer, brystkirtler og behåring. Denne undersøgelse bruges ikke direkte til at aldersbestemme, men til at screene, om der er sygdomme eller underernæring, der har forstyrret væksten og betydet, at personen ikke er aldersvarende udviklet, hvilket så skal tages med ind i vurderingen af røntgenundersøgelserne.

RØNTGENBILLEDER AF HÅNDEN:
Eksperterne kan på ét billede vurdere både fingerknoglerne, håndrodknoglen og enderne af de lange underarmknogler. Her kigger de særligt på de såkaldte vækstzoner. Vækstzonerne lukker sig, når knoglerne er færdigudviklede. Det sker i stadier, hvor de sidste vækstzoner lukkes i 18-19-årsalderen. Lukkede vækstzoner er dermed en indikator på, at personen er voksen.

RESULTAT

SANDSYNLIG ALDER:
Ud fra de tre undersøgelser – primært de to med røntgenbilleder – kommer eksperterne frem til et bud på den mest sandsynlige alder på personen. Der angives forskellige sikkerhedsintervaller. F.eks. er der 95 pct. sandsynlighed for, at den rigtige alder ligger inden for plus/minus to år fra resultatet. Resultatet sendes til Udlændingestyrelsen, der træffer den endelige afgørelse om personens alder.

The number of age tests requested by DIS thus far in 2016 more than doubles those performed in 2015, which was in itself a record year for age verifications. The Department of Forensic Medicine said it is likely to have performed 1,000 age tests by the end of the year.

In the Danish asylum system, unaccompanied minors are given a number of advantages over adults, including the ability to bring their parents to Denmark.

Integration Minister Inger Støjberg said the large number of apparent age cheats is proof that the Danish asylum system is working as it is supposed to.

“The Danish Immigration Service makes a major effort to expose those who are cheating and is also working on how it can happen even faster,” she told Jyllands-Posten.

But the head of asylum at the Danish Refugee Council warned that the age test results may not be as simple as they seem.

“There are many of these young people who don’t know precisely how old they are because it is not something that is registered in their home countries in the same way as it is in Denmark,”

Eva Singer told Jyllands-Posten.

She added that Danish immigration authorities often rely solely on the results of the age tests and disregard information to the contrary.



Refugees carrying dangerous diseases into Denmark

Source: <http://cphpost.dk/news/refugees-carrying-dangerous-diseases-into-denmark.html>

Jan 2016 – Diphtheria, an infectious respiratory disease that hasn't been seen in the country for 18 years, has been carried into Denmark by two Libyan refugees.

Although it is recommended that countries screen refugees for diseases, Denmark does not.

"We have found two cases of diphtheria among Libyan refugees," Kurt Fuursted from Statens Serum Institut told Metroxpress.

"The disease can be dangerous if you are not vaccinated against it. This strain is very rare and was last seen in Denmark in 1998."

Tuberculosis and malaria has also been discovered among asylum-seekers in Denmark.

Risk of infection

In Italy, 27 refugees were discovered to have Lyme disease, and there are concerns that a swine flu outbreak that has killed 117 people in Iran and Turkey will come to Denmark via the refugees.

The European agency against contagion issued a warning before Christmas concerning the threat of diseases being carried over by refugees. It recommended that all countries screen the refugees for infectious diseases. Norway, Germany and the Netherlands are screening new arrivals, but Denmark has yet to get onboard.

"There is no doubt that refugees are arriving with infectious disease that we are not accustomed to," said Fuursted. "We have discussed whether or not to screen all refugees for infectious diseases."

Examining the problem

A study group – including representatives from asylum centres and the national board of health, Sundhedsstyrelsen – was launched by the Immigration Service last week.

"Sundhedsstyrelsen is monitoring the situation to assess whether it is necessary to take further measures to prevent the spread of infectious diseases," said Sophie Løhde, the health minister.

Refugees also at risk

There is also the risk that asylum-seekers could fall victim to a disease in Denmark they have not encountered before.

Some 20,000 refugees who came to Denmark in 2015 had not been vaccinated against the diseases they risk getting in Denmark.

The World Health Organization (WHO) recommends vaccinating all immigrants against measles and meningococcal – protection that Danes receive as children.

Measles alone costs 150,000 lives worldwide each year.

"Our position is clear," said Robb Buttler, WHO's vaccine program head. "Migrants and asylum-seekers should be examined and vaccinated against the diseases they are not protected against."

Buttler said diseases like measles are making a comeback in Europe.

Sundhedsstyrelsen and the Red Cross said that only children under the age of 18 are currently being vaccinated.



'Sham' US embassy in Ghana issued fake visas for a decade

Source: <http://www.foxnews.com/politics/2016/12/04/sham-us-embassy-in-ghana-issued-fake-visas-for-decade.html>

Dec 04 – An organized crime ring operated a "sham" U.S. embassy in Ghana that issued illegally obtained visas for about a decade, the State Department confirmed Sunday.

The building in Accra, Ghana, flew a U.S. flag every Monday, Tuesday and Friday morning. And inside the building was a picture of President Obama and signs suggesting visitors were indeed inside a real U.S. embassy, the agency said.



The purported organizers obtained blank documents to doctor and forge. The fake embassy was staffed by imposter consular officers who were in fact Turkish citizens who spoke English and Dutch.



The exterior of the fake embassy in Accra, Ghana. (picture courtesy of the State Department)

The operation even advertised its services through fliers and billboards and charged customers as much as \$6,000 -- with options to buy fake supporting documents such as phony birth certificates and bank records.

The fake embassy remained opened so

long because “the criminals running the operation were able to pay off corrupt officials,” according to the State Department.

The report states the elaborate scheme was run by Ghanaian and Turkish organized crime rings and a Ghanaian attorney who practices immigration and criminal law.

The State Department reported about the operation Nov. 2 on its [website](#) and wrote, “This embassy was a sham.”

Two State Department officials confirmed to FoxNews.com on Sunday that the report was real, amid a proliferation of so-called “fake news.”

However, the officials declined to provide additional information including details about how many bogus passports might have been issued or on how many people from the West African nation could be living illegally in other countries.

They also declined to discuss why news outlets first started reporting the story this weekend, saying more details could be made available Monday.

The operation was broken up this past summer by a team of law enforcement agencies that included the U.S. Diplomatic Security Service, Canadian Embassy officials and local police.

The embassy sting by the joint task force uncovered 150 passports from 10 countries as well as real and counterfeit visas from India, and the United States. A fake Netherlands embassy also was discovered in the sting.

The operation also had two satellite locations -- an apartment building and a dress shop in which an industrial sewing machine could re-create the binding on fake passports.

The operatives drove to remote parts of the country to find customers, instead of accepting walk-in visa appointments, the agency said. They next step would be to take customers to a hotel in Accra, then to the fake embassy. The U.S. maintains an official, fortified embassy in Ghana. The State Department said several Ghanaian suspects connected to the operation remain at large.



EDITOR’S COMMENT: We read about hacking data and cybercrime when real life shows more “sophisticated” ways of criminal modus operandi!



**What shall I do
with the
illegal immigrants
& refugees'
tsunami?**



I do not really know...

Je ne sais pas...

Ich weiß es nicht...

No lo sé...

Eu não sei...

Non lo so...

Nem tudom...

Jag vet inte...

Minä en tiedä...

Jeg vet ikke...

Jeg ved ikke...

Nevím...

Nie wiem....

Ma ei tea....

Ik weet het niet...

Nežinau...

Es nezinu...

**Thank you
friends
for your
constructive
ideas!**

H T A N
H E P I T A S



Post Brexit sharp fall in migration to U.K. could shrink GDP per capita by more than 3%

Source: <http://www.homelandsecuritynewswire.com/dr20161209-post-brexit-sharp-fall-in-migration-to-u-k-could-shrink-gdp-per-capita-by-more-than-3>

Dec 09 – EU migration to the United Kingdom could fall by well over half over the period from now to 2020, resulting in net EU migration falling by more than 100,000, a new National Institute of Economic and Social Research (NIESR) paper estimates. According to the research **the fall in migration would also lead to a significant reduction in GDP per capita – up to 3.4 percent over the period to 2030 – whilst providing a modest boost (less than 1 percent) to low paid Brits in the most directly affected sectors.**

NIESR notes that the research, by NIESR fellow and U.K. in a Changing Europe Senior Fellow Jonathan Portes and NIESR research assistant Giuseppe Forte, first estimates the determinants of EU migration to the United Kingdom. Both the state of the economy and the existence of free movement of workers are significant determinants. In particular, free movement within the United Kingdom results in an increase of almost 500 percent — that is, by a factor of six. These estimates are then used to construct scenarios for future migration flows. Under the central scenario, net migration from the EU falls by about 91,000 by 2020.

The paper then uses existing empirical research on the impact of migration on productivity, growth, and wages to estimate the broader economic impacts. Over the period to 2020, the resulting in GDP would be about 0.6 to 1.2 percent, with a GDP per capita reduction of 0.2 to 0.8 percent. Over the period to 2030 – the period covered by the analyses published by HM Treasury, the OECD, and NIESR — the hit to GDP per capita could be up to 3.4 percent, a similar order of magnitude to the impact from falls in investment and trade found by these studies. By contrast, the increase in low-skilled wages resulting from reduced migration is expected to be relatively modest.

Jonathan Portes said: “Prior to the referendum, a number of analyses estimated the long-term impacts of Brexit on the U.K. economy; but none incorporated the impacts of Brexit-induced reductions in migration. Our estimates suggest

that the negative impacts on per capita GDP will be significant, potentially approaching those resulting from reduced trade.”

He added that the 3.4 percent hit to per capita GDP from a 91,000 reduction in EU migration in the NIESR’s central scenario was on a similar scale to the impact from the falls in trade and investment projected by the Treasury, the Organization for Economic Co-operation and Development (OECD), and the International Monetary Fund (IMF) before the Brexit referendum.

The analysis shows that the economic damage of deep cuts in EU migration go even beyond the estimate made by the Office of Budget Responsibility (OBR) at the chancellor’s autumn statement last month.

The *Guardian* notes that **the OBR, in the absence of a new government policy on immigration, based its assumptions on a conservative 80,000 a year reduction in net migration to Britain. It estimated that this cut would cost the economy £0.8bn in 2016-17 rising to £5.9bn a year by 2000-21 and with a total hit of £16bn over the next five years.**

The NIESR estimate suggests a similar fall in EU immigration will prove even more damaging to the British economy. This is because, unlike the OBR model, it includes an assumption that the fall in net migration will also cut the growth in labor productivity in Britain by reducing the competition for work.

The researchers say their analysis uses a methodology similar to that employed by mainstream economic forecasters to model the impact of Brexit-induced reductions in trade on productivity and growth.

“The broad scenario (not forecasts) we depict imply that the negative impacts on per capita GDP will be significant, potentially approaching those resulting from reduced trade. By contrast, the increase in low-skilled wages, resulting from reduced migration is expected to be, if at all, relatively modest,” the authors conclude.



The paper was prepared for the Oxford Review of Economic Policy/British Academy conference on the economics of Brexit. The paper presents a high-level summary of the results of an

econometric analysis of the determinants of migration flows. It will be followed by a more detailed, technical paper by the same authors setting out the methodologies used.

— Read more in Jonathan Portes and Giuseppe Forte, *The economic impact of Brexit-induced reductions in migration* (National Institute of Economic and Social Research, 7 December 2016).

There is a **crisis of death**, disappearance at the U.S.-Mexico border: Critics

Source: <http://www.homelandsecuritynewswire.com/dr20161209-there-is-a-crisis-of-death-disappearance-at-the-u-s-mexico-border-critics>



Dec 09 – [No More Deaths](#), a ministry of the Unitarian Universalist Church of Tucson, says that there is a crisis of death and disappearance happening at the U.S.–Mexico border. On Tuesday, the Tucson, Arizona-based group, along with and La Coalición de Derechos Humanos, released Part 1 of a three-part report series aiming to bring this crisis to light.

The series, [Disappeared: How Border-Enforcement Agencies Are Fueling a Missing-Persons Crisis](#), focuses on three different Border Patrol practices that increase the likelihood of someone dying or



disappearing while crossing the border. Part 1, *Deadly Apprehension Methods*, documents how Border Patrol agents chase groups and individuals causing them to scatter in remote terrain, where these border crossers are more likely to become lost, injured, or to disappear.

“Mass death and disappearance are the inevitable outcomes of a border enforcement plan that uses the wilderness as a weapon,” the report says.

“The known disappearance of thousands of people in the remote wilderness of the US–Mexico border zone marks one of the great historical crimes of our day,” the group said in the first part of the three-part report.

The report says that in addition to deadly apprehension methods, the Border Patrol, which deploys about 18,000 agents on the 2,000-mile border with Mexico, sabotages humanitarian aid efforts and discriminates against undocumented people in emergency responses.

Customs and Border Protection said that the Tucson sector Border Patrol deploys thirty-six rescue beacons and more than 230 agents trained as Emergency Medical Technicians (EMTs), plus fifty-four Border Patrol Search, Trauma, and Rescue (BORSTAR) agents. **The Border Patrol estimates at least 6,000 have died since the 1990s**, but other estimates



are significantly higher. Since many of the bodies are never found, it is impossible to come up with accurate numbers.

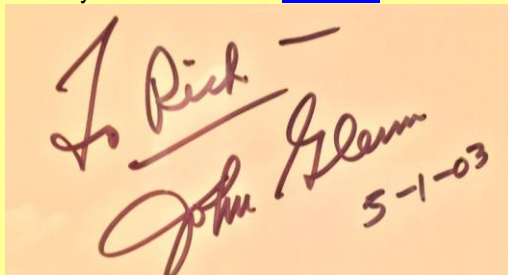
The Last Gentle Giant of the 20th Century – the Passing of John Glenn

By Rich Cooper

Source: <https://www.linkedin.com/pulse/last-gentle-giant-20th-century-passing-john-glenn-rich-cooper>

Dec 09 – What does it say when someone mentions the name of a particular individual and people immediately light up with a bright smile and tell a warm story. If you say the name “John Glenn,” I’m 100% positive you will garner such a reaction.

That type of sentiment is being resoundingly echoed in the many tributes that are pouring in from around the world with the news that the last of the original Mercury seven astronauts [has died](#).

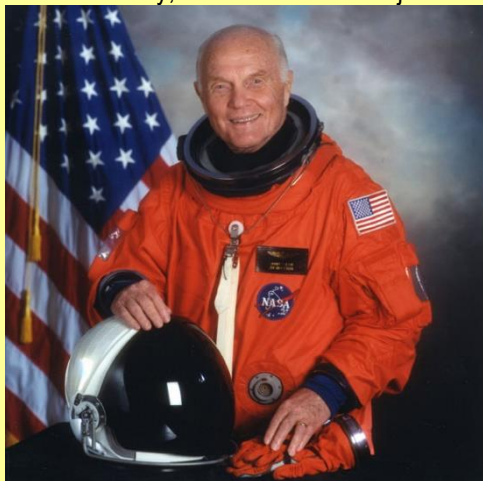


The words “American hero” are deservedly being used to describe him. But maybe American icon is more appropriate. On a Mount Rushmore scale of American pioneers, Glenn’s name, smiling image and

remarkable life will be forever carved and remembered. Anyone of his life’s distinguishing accomplishments are jaw-dropping, history-making and even record-breaking but as off the chart as those things may be, whenever you met John Glenn or spent any measure of time with him, you came away in complete awe of how humble and approachable he was.

And that is what probably makes him even more remarkable.

For as HUGE an individual as John Glenn was in American history and our cultural identity, the truth is he was just a regular guy. He was a just a kid from small town Ohio who



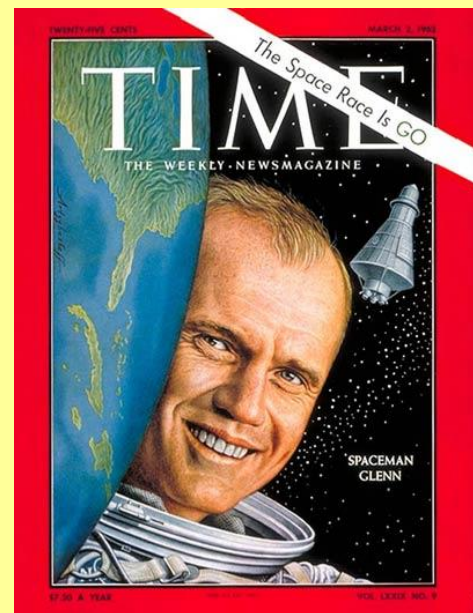
married his childhood sweetheart, loved chocolate cake, loved high speeds and flying even more and was always looking serving his country in countless ways regardless of time, circumstance or age. John Glenn was the ultimate in apple pie Americana and no matter the challenge before him he never shied away from it.

Any and all of those things could appropriately and deservedly grant an individual of that stature an ego bigger than Texas.

But that was not John Glenn.

He was humble, gentle and kind almost to a fault. He didn’t care if you were a big shot or a nobody. He treated you like you were the most important person in the world if you were with him.

On the couple of occasions I spent with him and watched him interact with people of every possible background it was something remarkable to watch. It didn’t matter if it was on Capitol Hill, at NASA Headquarters, an airport luggage carousel, a museum or some other public event, John Glenn would lend you his ear; share a smile or laugh with you; answer your questions be they simple or complex; and with no hesitation shake your hand, sign an autograph or even take a picture with you.



As kind as any of those actions may be, it was just the sheer fact that he was always willing to pay attention to you that kept you in awe of him.



Here's a man who literally changed American history and through the content of his own humble being was willing to spend time with you and bring you into the glowing orbit that he seemingly always had around him. That was a remarkable thing to experience firsthand and something that you will always hear about from anyone who ever had a moment with him.

Throughout my career I've been incredibly fortunate to meet and work for some notable people. Most of them have been incredibly gracious as well as impressive but there are always a few that you walk away from feeling less than enamored by after seeing how they conduct themselves either with you, or how they treat others.

No one would ever say that about John Glenn.

The words humble and gracious are not often used as descriptors for a giant of any era but they will be as history records the transforming orbits of his remarkable life.

John Glenn was a regular guy who led an extraordinary life that changed our nation for the better. As remarkable as his many feats may have been, it was the fact he remained so grounded in his human touch that will forever stay with me. And I know that many others feel the same way.

That's why his passing touches so many today. It reminds us all that regular people can always do remarkable things but how we treat others will often define our achievements in even bigger ways.

That's an even more impressive legacy to leave behind after a history making life but as John Glenn showed us, he knew of no other way to live, fly, serve, love or care and we are all the better for it.

Let's hope more of us will follow his lead.

Godspeed John Glenn.

Ad Astra...

Rich Cooper is a Senior Program and Policy Executive to the Public & Private Sectors, "the ultimate Utility Infielder". Professional Specialties: Emerging Issues for Business, Homeland Security, Aerospace, Emergency & Crisis Management, Public/Media Communications, Data-Driven Innovation, Industry Disruptors, Technology Translation, High-Tech Innovation, Politics, Event Development and Execution, Multimedia Engagement, Public & Private Sector Start-ups.





Romania – The hero of Pitesti

Watch: <https://www.youtube.com/watch?v=G-esXJbavBk>

Secret Russian UAV Spotted by Google Maps

Source: <http://i-hls.com/2016/12/secret-russian-uav-spotted-google-maps/>

Dec 08 – A large UAV was clearly seen on aerospace photos of the Google Maps web mapping service application, the Military Russia informational website reported. According to the website, the photos were taken at the Kazan Aviation Factory. Experts assume the UAV spotted is the **Russian Altius-M**, a brand-new top-secret reconnaissance drone, known for its large duration of flight.



In fact, pictures showing the Altius UAV were already revealed inadvertently in February, when they were briefly published by the regional republic of Tatarstan's government on the website after a visit by Russian defence minister Sergei Shoiguy.

According to southfront.org, the device was jointly developed by the Kazan enterprise and the St. Petersburg company after they won a competition of

the Russian Defense Ministry on creation of a UAV in the weight class of about 5 tons in 2011. According to the contract, developers received about \$35 million for the project.

The secret UAV is entirely made of composite materials and has a takeoff weight of up to five tons. It's length is about 11.6 meters and it's wingspan about 28.5 meters. The aerial vehicle is equipped with two V12 diesel engines, which have a takeoff power of about 500 horsepower and are equipped with airscrews. **The flying range of the Altius-M is about 10,000 kilometers, and the flight duration is up to 48 hours.**

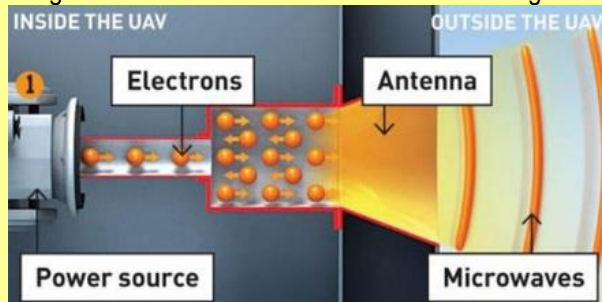
Supposedly, the Altair is equipped with a station of optical imagery intelligence with an optoelectronic system, while a side-looking position-radar station with an active phased antenna array is mounted in the forebody.

The Altius-M first flight was completed during 2014 with testing to be carried out during 2015. Enter into service is planned for 2017 or later, reports defenceblog.com.

Electromagnetic Pulse Against UAV's

Source: <http://i-hls.com/2016/12/electromagnetic-pulse-uavs/>

Dec 09 – According to South Korean military officials, the country has been developing a technology to bring down unmanned North Korean aircraft using electromagnetic pulse (EMP).



The Agency for Defense Development (ADD) has developed a directional, high-powered EMP generator, and it has been trying to devise ways to implement it against small North Korean unmanned aerial vehicles.

An EMP occurs when a nuclear device is detonated at a high altitude, potentially damaging

the power grid and rendering most electronic devices useless.



According to yonhapnews, the ADD is studying unmanned aircraft's potential weaknesses against EMP. The EMP generator and its potential defense against drones were presented during a conference hosted by the Korea Institute of Military Science and Technology recently. The ADD is also preparing for research on neutralizing North Korean UAVs with other technologies, including the use of artificial intelligence to detect and track drones.



In addition, the ADD and the national defense industry are considering developing GPS jamming technology and small guided rockets to crash unmanned planes.

North Korean UAVs have emerged as new threats over the recent years. During August, South Korea detected but failed to bring down North Korean UAVs that crossed the military demarcation line (MDL) five times.



The robot that can diagnose cancer: Supercomputer dubbed Watson can treat the disease in 40 seconds - faster than 15 leading medics working together

Source: <http://www.dailymail.co.uk/news/article-4021288/The-robot-diagnose-cancer-Supercomputer-dubbed-Watson-treat-disease-40-seconds-faster-15-leading-medics-working-together.html>

Dec 11 – A 'robot' doctor called Watson has been pitted against a panel of 15 leading medics – and found to be just as good as them at treating cancer.

In a development that will send a chill down the spine of health professionals everywhere, the IBM-designed computer program worked out the best way to treat patients in a fraction of the time that it took the highly paid specialists.

Working together, 15 consultant oncologists took 12 minutes on average to recommend a treatment plan for each patient. But it took the supercomputer, dubbed Watson For Oncology, just 40 seconds.

Man and machine were each given notes from 638 former breast cancer patients to assess – minus one vital piece of information: the treatment plan their doctors had chosen.

In nine out of ten cases of early-stage breast cancer, both human and artificial intelligence came up with identical recommendations, according to the results of the study.

Watson, which works in a similar way to mobile phone personal assistants such as Siri, has been 'taught' to weigh up evidence by doctors at the world-renowned Memorial Sloan Kettering Cancer Centre in New York.

It has already assimilated 200 medical textbooks, the case files of four million patients, and has access to cutting-edge research.



Cancer expert Dr Andrew Nordon, deputy chief health officer at IBM Watson Health, said: 'It doesn't get tired, it isn't susceptible to human biases, and it has a limitless capacity.'



But Watson and the human panel had to agree to differ when it came to treating more advanced disease, where breast cancer had spread. In such cases they disagreed 55 per cent of the time. Dr Nordon also conceded: 'It can't look a patient in the eye and understand their emotional state – yet.'

Nevertheless, Watson is already being used in a number of leading US cancer centres, and some in India and Thailand.

But top UK cancer doctor Professor Jack Cuzick remained unfazed. He said: 'Real doctors will always be one step ahead of a machine that can only review data retrospectively.'



AnimalNaturalis protest – Barcelona, Spain Dec 2016

Every year more than 60,000,000 animals (32,000,000 in EU) are killed for their fur...



A close-up portrait of a man with dark hair, a goatee, and a blue jacket. He is looking directly at the camera with a serious expression. The background is slightly blurred, showing an indoor setting.

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

ΕΣΤΙΑ

02.06.13

www.cbrne-terrorism-newsletter.com



What Is the US President's Daily Brief?

Source: http://www.nytimes.com/2016/12/12/us/politics/president-daily-brief.html?_r=0

Dec 12 — President-elect Donald J. Trump has indicated that he does not intend to receive daily intelligence briefings about global affairs and national security threats after his inauguration, breaking with a tradition that commanders in chief from both parties have followed since the Cold War.

Mr. Trump has received only a few briefings since his election victory, largely declining the intelligence



community's offer to give him the same "President's Daily Brief," or P.D.B., that President Obama receives each morning. Defending his practice in a Fox News interview broadcast on Sunday, Mr. Trump noted that Vice President-elect Mike Pence and "my generals" were receiving the daily briefings, and said he saw no need to do so, too.

"You know, I'm, like, a smart person," Mr. Trump said. "I don't have to be told the same thing and the same words every single day for the next eight years. It could be eight years — but eight years. I don't need that. But I do say if something should change, let us know."

What is the P.D.B.?

The President's Daily Brief is a summary of high-level intelligence and analysis about global hot spots and national security threats written by the Office of the Director of National Intelligence. While the intelligence community produces many reports and assessments, the P.D.B. is written specifically for the president and his top advisers. Its origins trace back to a daily intelligence summary given to President Harry S. Truman starting in 1946, [according to the C.I.A.](#) Its current form began with C.I.A. briefings for President Lyndon B. Johnson in 1964, according to David Priess, a former C.I.A. analyst and intelligence briefer during the Clinton and George W. Bush administrations, who has written a history of the P.D.B., ["The President's Book of Secrets."](#)

What is in it?

The intelligence community tailors the P.D.B. to each president's interests and style of absorbing information. At times, the briefing has included a

"deep dive" into a specific question that a president may have asked or information that briefers believed he needed to know, such as the early August 2001 briefing Mr. Bush received at his Texas ranch reporting that Osama Bin Laden was determined to strike inside the United States.

After the Sept. 11, 2001, attacks, Mr. Bush received a supplement called the "threat matrix," which listed more detailed intelligence about potential terrorist plans. Under Mr. Obama, the brief has taken on some new topics and different forms, including a periodic update on cyberthreats against the United States. The P.D.B.'s form has also evolved. For example, Mr. Bush preferred oral briefings to accompany the document, while Mr. Obama has preferred to read the briefing on a secure tablet computer that lets him page through, underlining specific details.



Is it dangerous not to receive it each day?

Several former senior intelligence officials said that getting the briefing every day is not strictly necessary, especially if Mr. Trump delegates substantial amounts of authority to his subordinates. But they stress that regular briefings are still important because it is helpful in a fast-moving crisis if a president already has a baseline of knowledge about topics, such as a foreign leader's thinking and military abilities. Also, briefings permit a president to quiz briefers on inconsistencies and questions of fact or interpretation that form the basis for the most important national security decisions — those only the president can make.

Matt Olsen, the former director of the National Counterterrorism Center, said that "it's critical for the president to get an intelligence briefing, if not every day, almost every day" rather than just checking in periodically. "Ultimately these decisions come to the president, so as much as you could rely on staff to track intelligence, you are being called on constantly to make operational decisions that put American lives in jeopardy," he said.

Why might it seem boring?

Why might it seem boring?

One possible problem, said Andrew Liepman, a former senior C.I.A. official who helped write P.D.B. entries on the Middle East and terrorism for several presidents, **is that the intelligence community has developed a formulaic and repetitive style of writing.** The reason, he said, is policy makers wrestling with difficult dilemmas have tended to seize on any variations in analysts' wording as meaning that something significant must have changed — even if nothing has.

"I think over time, the intelligence community has overcorrected and become almost boring and robotic in its language," he said. "The community takes great pride in that predictability and consistency."

Another possible problem, said Michael Morrell, a former C.I.A. deputy director and analyst who helped brief Mr. Bush, **is that Mr. Trump is being offered a P.D.B. that was written for Mr. Obama at the end of eight years in office.**

"It is tactical — it presupposes a tremendous amount of knowledge on the part of the reader, and the number of strategic places in there are few and far between because of where Obama is in his presidency and how much he knows," Mr. Morrell said. "So I'm not surprised Donald Trump looks at this and says, 'This is weird.'"

But if that is the case, Mr. Morrell added, it is the responsibility of Mr. Trump's briefers to use the P.D.B. as a jumping off point for a broader discussion that will engage him.

How might it evolve for Mr. Trump?

It is the job of the intelligence community to figure out how to brief Mr. Trump so that he will recognize the value of intelligence, Mr. Priess said. He suggested that they try being more succinct.

"It may be that he is more suited to intelligence briefings essentially in the form of tweets — short, punchy statements that leave out some of the nuances but give him the core message without giving him the sense of being talked down to or getting repetitive text," he said. "Sometimes you've got to come up with a way to make this more interesting."

Dubai's \$36 Billion Plan to Build the World's Biggest Airpor

Source: <https://www.bloomberg.com/news/articles/2016-12-15/dubai-said-to-plan-36-billion-spend-on-world-s-biggest-airport>

Dec 15 – **Dubai aims to spend \$35.7 billion to develop its second airport and logistics hub in the south of the city and is likely to rely on debt for a significant part of the financing**, two people with knowledge of the plan said.

The investments will be made in Dubai World Central and associated facilities, including Al Maktoum International airport, over the next 12 years, the people said, asking not to be identified because the information isn't public.



Upon completion, Al Maktoum will become the world's largest airport with an ultimate capacity exceeding

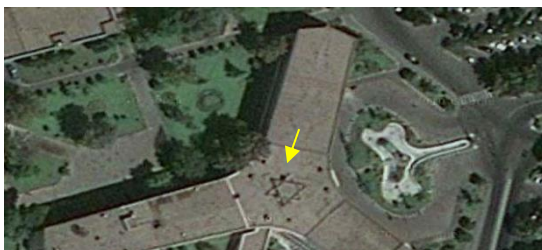


220 million passengers and 16 million tons of cargo per year. Al Maktoum is close to the World Expo 2020 site and Dubai plans to move flagship carrier Emirates there by 2025. A spokesman for Dubai's department of finance declined to comment.

Dubai International Airport expects to become the world's busiest within this decade, overtaking Beijing and Atlanta, spurred on by the expansion of Emirates airline, Dubai Airports Chief Executive Officer Paul Griffiths said in October. The facility, which overtook London Heathrow, expects passenger traffic climbing to 83 million this year and expects 90 million people to use the facility next year.

EDITOR'S COMMENT: This is why I like Dubai people very much: They always think BIG and they MAKE big things!

Two comments though: (1) It is strange the shape chosen for the new airport infrastructure (at least for



a Muslim country – remember the strange buildings' complex at US Coronado Naval Base or the Star of David on the roof of Iran Air headquarters at Tehran's airport?); and (2) The central buildings (yellowish in article's photo), provide a clear visible targets for attacks from above. Nasty thoughts one might say – but we live in a nasty planet...

German school in Istanbul cancels Christmas

Source: <http://www.dw.com/en/german-school-in-istanbul-cancels-christmas/a-36818135>

Dec 18 – A German-funded school in Istanbul has told teachers they cannot even talk about Christmas in class. Berlin has expressed outrage as the school is financed with public funds. Berlin expressed its dismay on Sunday that a German high school in Istanbul had canceled its Christmas celebrations.



"We do not understand the surprising decision of the leadership at Istanbul Lisesi," said the foreign ministry. "It is a great pity that the good tradition of the intercultural exchange in the pre-Christmas period



was suspended at a school with a long history of German-Turkish" friendship, the government said. The elite high school was founded more than a century ago, employs around 35 German teachers and is co-financed by German public funds. Each December, the school has a small celebration for Christmas and

'Completely unacceptable'

"Completely unacceptable," said Frank Josef Jung, a lawmaker from Chancellor Angela Merkel's Christian Democratic Union (CDU), who is in charge of religious issues. "If Germany is financing the teachers at this school, it has a say in what they teach," said Jung, "and the government needs to make that clear to Ankara." The move was seen by German politicians as part of a larger change under President Recep Tayyip Erdogan away from secularism across Turkey. One German lawmaker, Sevim Dagdelen of the opposition Left party, even went so far as to call the decision at the school a sign of "Islamic dictatorship" in Turkey.

German newspaper "Die Welt" put its own spin on the situation, depicting Erdogan as the fiendish green Grinch famous in Dr. Seuss' children's tale for stealing Christmas.



◀ The new issue of Charlie Hebdo (noyez = drawn)

BUT

Les Grecs ne meurent jamais, quoi qu'il arrive!



Islamism in Europe

Source: <https://www.gatestoneinstitute.org/9566/islamism-europe>

Dec 19 – German authorities and those across Europe seem finally to be strengthening their campaign against the militant far-right, including Muslim extremists, during the past few weeks.

This awakening, however, seems to be coming after a major price that Europe had to pay in terms of death and chaos unleashed by terrorists in Germany, Belgium, France, Denmark, and so on.

Governments across the Europe seem to be switching into panic mode to prevent the rise of European radicalism through the rise of the far-right, racism and nationalism throughout the entire continent.

German Chancellor Angela Merkel sounds as if she is **backing down** a bit from championing the influx of migrants and her slogan of "We can do it!" in developing a multicultural society. She not only vowed to Germans in an address last week that the migrant crisis must never be repeated; she also **called for an all-out ban** on the full-face veil covering in Germany.

Following Merkel's lead, Interior Minister Thomas de Maizière also **proposed** a partial ban on veils, and pronounced them contrary to assimilation.

The dramatic shift in policy might be a consequence of the planned and perpetrated acts of terrorism by extremist Muslims, many of whom are the migrants on whom Merkel placed her hopes. It might also be the result of the resultant rise of European neo-Nazis. More likely, it would appear to come from an eye to re-election.

Merkel was declared by many the only defender of the free world after the election of Donald Trump as U.S. president. Perhaps, after the surprising victory of Donald Trump, she realized that it might be a good idea finally to address the grievances of her fellow countrymen.

The brutal **rape and murder** of a 19-year-old German woman, Maria Ladenburger, apparently by Afghan migrant who **claims** to be 17 years old, seems to have been the last nail in the coffin of Merkel's open-door migrant policy, which she had promised to not to let go even after extreme opposition from within her own party's leadership.

Ladenburger had been a medical student volunteering at a migrant housing facility. Her murderer had reportedly seen her in the shelter. The incident set off shockwaves not only in the Germany but also across Europe, especially after promises by Germany's interior ministry to deport as many Afghan citizens as possible after failing to confirm any credible claims for asylum. In the meanwhile, authorities in Berlin last weekend announced the arrest of an Afghan citizen who was actively involved in terrorist attacks in Afghanistan, while living part-time in Germany.

German police a few weeks back also launched an operation against a Salafist group in the country, whose members were brainwashing Muslim youths, mostly in Germany, to get jihadist training and join the Islamic State's battle against the world in Syria and Iraq.

The Salafist organization had registered itself as a social work entity under the cover of distributing the Quran in markets and public places, and claiming to be bridging the gap between the West and Islam.

One suspect was arrested in Aschaffenburg and another was detained in Mannheim, on the allegation of plotting an Islamically motivated attack on a public place.

This recent shift in strategy is also a lesson that the West has learnt a bit too late, despite having experienced similar assaults not that long ago by the Nazis, Mussolini, Lenin, Stalin as well as terror organizations such as Baader Meinhof, al-Shebaab, ETA, the Red Brigades, Hamas, Al Qaeda, Palestinian Islamic Jihad and Hezbollah, to name just a few.

Since the unprecedented terror attacks in France, Belgium and Germany, citizens across the Europe have been living in constant fear. They seem to be sick and tired of the Muslim extremists; children might be in danger on their way to school, and shopping takes place under the protection of soldiers.

With Brexit, the election of Donald Trump, and Italy's referendum, there seems to be a snowball effect. The growing influence of Alternative for Germany (AfD), the National Front in France, the Party for Freedom in



the Netherlands, the Freedom Party Austria and the Five Star Movement in Italy all appear to be byproducts of the same rhetoric.

The dull reaction of a vast number of European Muslims to the rising wave of terror and violence has also contributed to this shift. Increasing numbers of native-born Europeans seem angry and distrustful of their fellow Muslim citizens, especially when everyone else has come out loud and clear in denouncing terrorist crimes. Ironically, those who dare to speak out against extremists either face severe consequences, such as death threats, or are called anti-Muslim bigots. This kind of response often discourages progressive voices from speaking out, and understates the progress of counter-extremism even within the Muslim community. Opposition voices still might be there -- more than ever. They just go underground.

The majority of Muslims in the West seem oblivious to the fact that they would be the greatest victims of empowered lunatic extremists such as ISIS or neo-Nazis, because both would try to punish progressive Muslims either for remaining silent about terrorist attacks or for not joining the bandwagon for ISIS. Progressive Muslims should realize that their voices matter at this sensitive time if they do not want to end up being losers between those two extremes.

The failed political policies of the global powers have started to translate into a dreadful future for humanity where a clone of Abu Bakr al-Baghdadi, Anders Breivik or a Neville Chamberlain clone might be calling the shots, and the civilized world would become a hell for those caught in the middle, the rest of us.

Khadija Khan is a Pakistan-based journalist and commentator.



New capability for hazardous materials ID within sealed containers using a portable spatially offset Raman spectroscopy (SORS) device

By Robert J. Stokes, Mike Bailey, Stuart Bonthron, Thomas Stone, Guy Maskall, Oliver Presly, Eric Roy, Craig Tombling and Paul W. Loeffen

Cobalt Light Systems Ltd. (United Kingdom)

Proc. SPIE 9995, Optics and Photonics for Counterterrorism, Crime Fighting, and Defence XII, 999506 (November 16, 2016); doi:10.1117/12.2241540

Source: <http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=2575913>

Abstract

Raman spectroscopy allows the acquisition of molecularly specific signatures of pure compounds and mixtures making it a popular method for material identification applications. In hazardous materials, security and counter terrorism applications, conventional handheld Raman systems are typically limited to operation by line-of-sight or through relatively transparent plastic bags / clear glass vials. If materials are concealed behind thicker, coloured or opaque barriers it can be necessary to open and take a sample. Spatially Offset Raman Spectroscopy (SORS)^[1] is a novel variant of Raman spectroscopy whereby multiple measurements at differing positions are used to separate the spectrum arising from the sub layers of a sample from the spectrum at the surface. For the first time, a handheld system based on SORS has been developed and applied to hazardous materials identification.

The system - "Resolve" - enables new capabilities in the rapid identification of materials concealed by a wide variety of non-metallic sealed containers such as; coloured and opaque plastics, paper, card, sacks, fabric and glass. The range of potential target materials includes toxic industrial chemicals, explosives, narcotics, chemical warfare agents and biological materials. Resolve has the potential to improve the safety, efficiency and critical decision making in incident management, search operations, policing and ports and border operations. The operator is able to obtain a positive identification of a potentially hazardous material without opening or disturbing the container - to gain access to take a sample - thus improving safety. The technique is fast and simple thus suit and breathing gear time is used more efficiently. SORS also allows Raman to be deployed at an earlier stage in an event before more intrusive techniques are used.

Hospital preparedness and response in CBRN emergencies: TIER assessment tool

By Olivieri, Carlo; Ingrassia, Pier L.; Della Corte, Francesco; Carenzo, Luca; Saponi, Jean-Marc; Gabilly, Laurent; Segond, Fredrique; Grieger, Fiene; Arnod-Prin, Philippe; Larrucea, Xabier; Violi, Chrisitan; Lopez, Cédric; Djalali, Ahmadreza

European Journal of Emergency Medicine

(Published ahead of print)

Source: http://journals.lww.com/euro-emergencymed/Abstract/publishahead/Hospital_preparedness_and_response_in_CBRN.99323.aspx

Abstract

Introduction: Chemical, biological, radiological, and nuclear (CBRN) emergencies need particular hospital preparedness and resources availability. Also, specific skills and capabilities are required for efficient response to these types of events. The aim of this study was to develop an assessment tool to evaluate hospital preparedness and response performance with respect to CBRN emergencies.

Methods: An evaluation tool was developed using the Delphi technique. A panel of experts from 10 countries, both European and non-European, with more than 5 years of experience



in research or practice in CBRN emergency management was involved in this study. The study was run online, and the experts were asked to evaluate a list of items on hospital preparedness and response in CBRN emergencies. A threshold of 85% agreement level was defined as the consensus of experts in this study.

Results: The first-round questionnaire was answered by 13 experts. Consensus on the preparedness section was reached for all 29 items during the first round and one item was also added by the experts. Consensus on the response performance indicators were reached in 51 out of the 59 items, during the first round, and eight items were modified and then approved in the second round by the experts.

Conclusion: Hospitals need a specific level of preparedness to enable an effective response to CBRN emergencies. The assessment tool, developed through experts' consensus in this study, provides a standardized method for the evaluation of hospital preparedness and response performance with respect to CBRN emergencies. The feasibility and reliability of this assessment tool could be evaluated before and during simulated exercises in a standardized manner.

10 Countries that Have Weapons of Mass Destruction

By Gabriela Vatu

Source: <http://www.insidermonkey.com/blog/10-countries-that-have-weapons-of-mass-destruction-495052/>



Nov 30 – The world we live in seems to always be on edge, to always look for reasons to fight whether they're real or made up, so it's particularly frightening to know there are many countries that hold the future of the world in their hands, such as these **10 countries that have weapons of mass destruction**. Weapons of mass destruction come in many forms, including nuclear, radiological, chemical, biological or any other type of weapon that can kill large numbers of people or cause great damage to various structures. They have been used in the past, perhaps the most famous ones being those dropped on Hiroshima and Nagasaki which ended World War II. Following the wars, multiple international conventions and treaties were signed to prevent such events from ever taking place. The Nuclear Non-Proliferation Treaty, for instance, seeks to prevent the spread of nuclear weapons and weapons technology, promoting the peaceful uses of nuclear energy. Then there's the Biological and Toxin Weapons Convention which was created to supplement the Geneva Protocol which prohibits the use, but not the possession or development, of chemical and biological weapons.

These documents and more are in place because the world needs a way to make sure that such weapons are not deployed, because just because we are able to create them, it doesn't mean that we should. Living in a fear that nuclear weapons may be deployed or that chemical



weapons may be used in war areas is not a great way to live. The two bombings from 1945 at Nagasaki and Hiroshima killed over 129,000 people and that's nothing compared to the damage such weapons could do today.

These are only some of the issues in the world we can think about these days, as there are much more, such as these [10 Biggest Health Problems in the World in 2016](#). If we all don't try to take certain measures to change the way things are going globally regarding these and other relevant issues, the question remains whether or not our grandchildren are going to have a safe place to live.

Back on the main topic – as we said earlier, there are multiple types of weapons that can cause mass destruction, varying from nuclear, chemical, biological and radiological, to name a few. We took a look at some of the numbers on these topics for the [countries](#) around the world. For some we found [hard numbers](#), for others we awarded points if they had a [working program](#) in the development of such weapons. Of course, since this type of programs are mostly kept under wraps by authorities, there are allegations left and right, some more credible than others, therefore they should all be taken with a grain of salt.

JCBRN Center of Excellence 2017 Course Catalogue

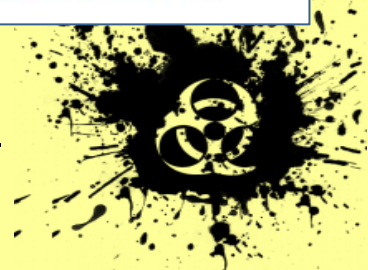
Source: http://www.jcbrncoe.cz/tp/pluginfile.php/450/block_html/content/Course%20Cat%202017.pdf



CONTENTS

1. Introduction
 - 1.1 JCBRN Defence COE Status
 - 1.2. Mission
 - 1.3. Organization
2. Residential Courses
 - 2.1. OPS-NC-2003 CBRN Warning and Reporting Course
 - 2.2. OPS-NC-3004 CBRN-Analysis Super User – Refresher Course
 - 2.3. OPS-NC-4002 CBRN Unit Evaluators Course
 - 2.4. OPS-NC-4007 Consequence Management after CBRN Incident Course
 - 2.5. OPS-NC-3014 Live Agent Training Course
 - 2.6. OPS-NC-2001 Introduction to the International CBRN Training Curriculum Course
 - 2.7. OPS-NC-3012 International Radiological Consequence Management Training Course
 - 2.8. OPS-NC-2008 International Radiological Assistance Program Training for Emergency Response Basic Course (I-RAPTER Basic)
 - 2.9. OPS-NC-3009 International Radiological Assistance Program Training for Emergency Response Advanced Course (I-RAPTER Advanced)
 - 2.10. OPS-NC-2011 International Medical Management of Radiation Injuries Course
3. MOBILE Courses
4. ADL Courses
5. Contact

E-mail: assistant@jcbrncoe.cz
courses@jcbrncoe.cz
Website: www.jcbrncoe.cz

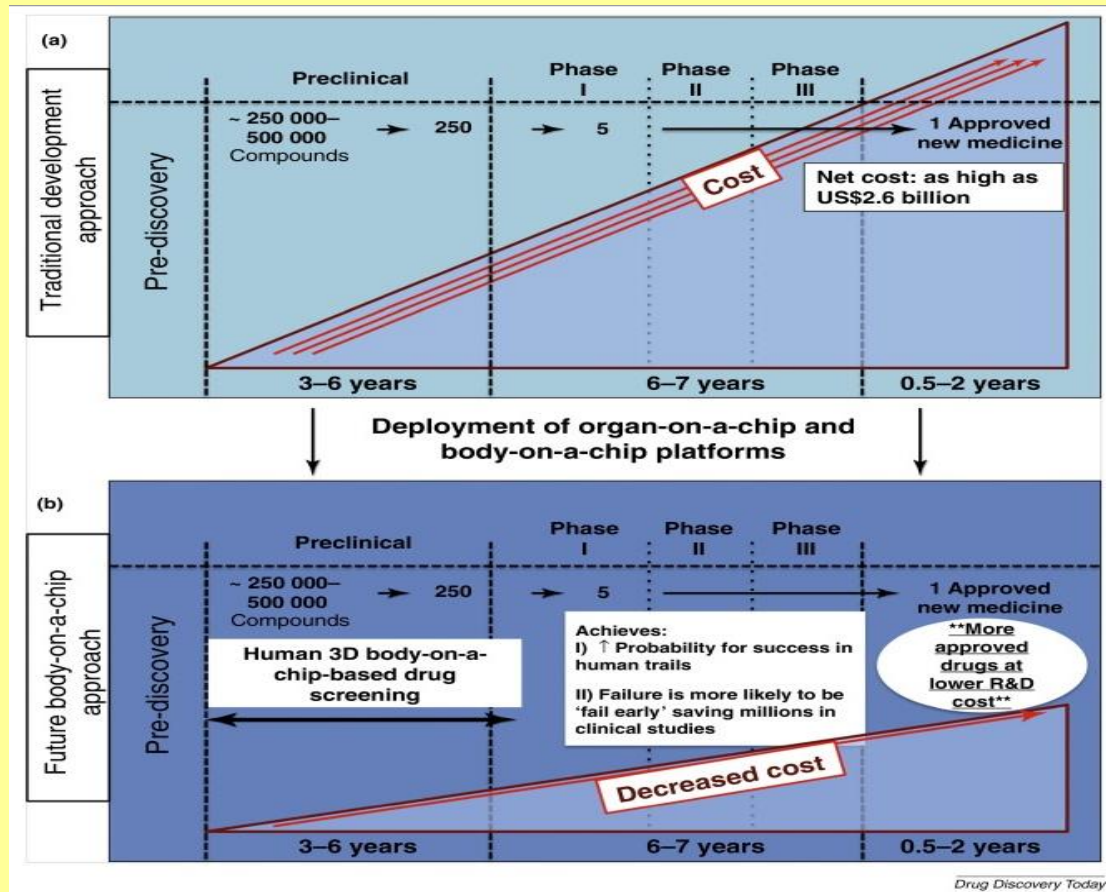


How Does the Body Respond to Chemical/Biological Agents – Answers Soon

Source: <http://i-hls.com/2016/12/modeling-body-response-chemical-biological-agents/>

Dec 02 – A new project models the human body's response to chemical and biological agents. The U.S. Army Edgewood Chemical Biological Center (ECBC) is collaborating with researcher Anthony Atala, director of the Wake Forest Institute for Regenerative Medicine, on a project to help combat the effects of chemical and biological substances.

The project, **"Ex Vivo Console of Human Organoids"** (ECHO), is attempting to model the body's response to chemical and biological agents and after examining the results, develop coping methods and



potential treatments.

"Our mission is to assess threat agent compounds in a human model, especially as we identify a new threat agent," Robert Kristovich, chief of the Molecular Toxicology Branch at ECBC told homelandprepnews.com. "This method provides more rapid and more robust results."

According to ECBC's website, Atala is leading the research effort with his team through a Cooperative Research and Development Agreement with ECBC. Other partners include the Defense Threat Reduction Agency, which provided \$24 million in funding for the project; Harvard University, Johns Hopkins University, Morgan State University and the University of Michigan.

The research teams are developing three-dimensional organ-buds that display realistic micro-anatomy, called organoids, for assessing the toxicity of threat agent compounds. The teams are focusing on four organoids for their projects: liver, heart, vascular and lungs.

If successful, the researchers said the new technology could completely eliminate the use of animal testing in medicine. "We're looking at how the organs communicate with each other, how they metabolize and influence each other," Kristovich said.



Chemical Weapons in Syria: National and International Responses

By Dr. Houssam Alnahhas

Source: <http://www.cbrneportal.com/the-use-of-chemical-weapons-in-syria-national-and-international-responses/>

Since the beginning of the Syrian crisis in 2011, more than 470,000 people had been killed, of whom 1,500 (0.3%) were killed after being subjected to various attacks using chemical agents. This means that using chemical weapons is not the only nor the major method of killing, but it is rather among the other types of weapons used. consequences on both the physical and psychological status of the people subjected to them.

Nov 29 – When talking about the use of chemical agents as weapons against civilians in Syria, the “one” chemical attack in the Damascus countryside, which killed nearly 1,400 people, is not the only one being addressed here, but rather the 160+ strikes using three different types of chemical agents, causing at least 1,500 deaths and 14,500 casualties including people exposed to either primary or secondary contamination by chemical agents.

UNSC Resolution 2118 was adopted after the attack that targeted the Damascus countryside in 2013. However, in regards to the Framework for Elimination of Syrian Chemical Weapons, 80% of all the chemical attacks occurred after that resolution. Various provinces were targeted using chlorine gas, which was not included in the list of substances which would be destroyed.

That means one of two things: either the inability to properly document such violations locally, or the lack of desire, among the international community, to intervene and put an end to the use of such illegal weapons in order to avoid another similar attack to the one that occurred in the Damascus countryside on 21 August 2013.

OPCW and its Role in Syria

The Organization for the Prohibition of Chemical Weapons (OPCW) announced on January 4th 2016 the end of the destruction process of Syria’s chemical arsenal. However, during this time, chemical agents were still being used as weapons. The Fact Finding Mission (FFM) investigated the possibility that chlorine gas was used against civilians in Kafr Zita and Telmns between the 11th and 21st of April 2014, and issued a report that confirmed these allegations in September of the same year.

After that, new investigations began under Security Council Resolution 2235 to determine who was responsible for the use of chemical weapons in Syria, through the Joint Investigation Mechanism (JIM), which issued its report on August 30th 2016. It proved the involvement of both the Syrian Government and ISIS in using chemical weapons in three incidents at least, one of which happened in Telmns (chlorine) in the Idlib countryside in 2014 and two events in 2015, one in Srmin (chlorine), in the Idlib countryside, and the other in Mare’ (Sulphur-Mustard), in the governorate of Aleppo.

Therefore, if examining the work done by the OPCW retrospectively and the time-frame it took to identify the perpetrators for only a few dated attacks, this would indicate that to investigate all of the reported incidents and to identify the perpetrators, it might take at least another 100 years of work to achieve that.

Chemical Attack Threats and National Responses

Hospitals, in non-government controlled areas, are not prepared to respond to any attack using chemical agents in terms of medical personnel, specialized equipment and medications due to the inability to procure specific antidotes or protective equipment from any governmental or non-governmental organization. Preparedness measures and activities are focused only on public awareness of people and medical staff. After the attack that targeted the Damascus countryside on August 21st 2013, the lack of proper measures to deal with such chemical attacks led to the large number of injuries and deaths due to secondary contamination among the victims, medical personnel and rescue teams.



On August 31st 2013, twenty-five medical relief organizations operating inside Syria met in order to form a response team called the Chemical Biological Radiological Nuclear Task Force (CBRN-TF). Their mission was to improve the response to such chemical attacks and provide the needed services at healthcare facilities which would enable them to respond to the threats of chemical attacks through public awareness and medical training, as well as by providing accredited centers with the necessary equipment, medication and properly trained medical staff, to face such attacks.

During the period between September 2013 and December 2014, 526 workers within the medical field were trained during 22 different training courses conducted in northern Syria. Seventeen decontamination points were equipped with protective equipment and medications.

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

Houssam Alnahhas was born in Syria in 1988. He worked as the Local Coordinator for the CBRN Task Force of the International Union of Medical Relief and Care Organizations (UOSSM) and is now the research and information management officer for UOSSM. As such, he has extensive first-hand experience of the chemical attacks in Syria and their treatment. Dr. Alnahhas studied clinical medicine at Aleppo University, but the Syrian Civil War prevented him from completing his education. He is now studying at the Cerrahpaşa Medical School of Istanbul University. During the Syrian Crisis, he led a medical team people to treat casualties and coordinated efforts between various NGOs to direct humanitarian efforts. During his career as a doctor, Dr. Alnahhas was responsible for developing preparedness and response protocols and manuals in case of chemical attacks.

Expert: Don't ignore Iran's chemical, biological weapons threat while enforcing nuclear deal

Source: <http://www.homelandsecuritynewswire.com/dr20161206-expert-don-t-ignore-iran-s-chemical-biological-weapons-threat-while-enforcing-nuclear-deal>

Dec 06 – While President-elect Donald Trump will likely be stricter in enforcing the terms of the nuclear deal with Iran, the incoming administration should not ignore the threat that Iran's chemical and biological weapons programs pose, Benjamin Weinthal, a research fellow at the Foundation for Defense of Democracies, [wrote](#) Monday at *Forbes*.

Enforcing the nuclear deal will be a priority for the new administration, Weinthal observed, since Iran has been violating the accord since its implementation in January. Last month, the International Atomic Energy Agency reported that Iran [violated](#) its limit on heavy water for a second time. It has also pursued ballistic missile development in continued [defiance](#) of United Nations Security Council [Resolution 2231](#), which codified last year's nuclear deal.

Additionally, according to intelligence documents from federal states, Iran has since January [attempted](#) to covertly acquire nuclear-related materials, as well as to advance its chemical and biological weapons capabilities, which the nuclear accord does not address.

A recent Congressional Research Service (CRS) report on Iran's military policies noted that "U.S. reports indicate that Iran has the capability to produce chemical warfare (CW) agents and 'probably' has the capability to produce some biological warfare agents for offensive purposes, if it made the decision to do so."

"This raises questions about Iran's compliance with its obligations under the Chemical Weapons Convention (CWC), which Iran signed

on January 13, 1993, and ratified on June 8, 1997," the report observed.



Germany's 16



However, the CRS report reached its conclusion without citing the recent German intelligence documents, Weinthal noted.

The state of Rhineland-Palatinate's intelligence agency warned in its 2015 annual report that Iran had sought to acquire equipment that could be used to manufacture "atomic, biological and chemical weapons in a war." Intelligence agents added that "these goods could, for example, be applied to the development of state nuclear and missile delivery programs."

Baden-Württemberg's intelligence service similarly reported Iranian efforts to obtain technology for the production of "nuclear, chemical and biological weapons programs," while Saarland's intelligence agency noted that both Iran and North Korea tried to acquire "technology for atomic, biological or chemical weapons."

While Iran claims that it would never use chemical weapons because its soldiers were targeted by lethal nerve agents during the Iran-Iraq War, the evidence from these intelligence reports suggest that Iran must be compelled to allow international inspectors to confirm that it is adhering to the Chemical Weapons Convention. The need to ensure Iran's compliance with the CWC has been made more urgent by reports

from Kurdish fighters last month that Iranian troops deployed chemical weapons against them in western Iran. Moreover, Gen. Michael Flynn, former director of the Defense Intelligence Agency and Trump's newly appointed national security advisor, wrote in his new book that one of the letters recovered from Osama Bin Laden's compound reported that al-Qaeda was "working on chemical and biological weapons in Iran."

In addition to these reports, Iran has also been silent about its client, the regime of Syrian President Bashar al-Assad, using chemical weapons against civilians. Iran even opposed a recent condemnation of Syria and the Islamic State by the Organisation for the Prohibition of Chemical Weapons.

It is therefore imperative that Trump's pledge to "police that contract [nuclear deal] so tough they [the Iranians] don't have a chance" to violate it should also be applied to its chemical and biological weapons programs, Weinthal wrote.

Given that Iran is a primary state sponsor of terrorism, new sanctions against Iranian entities involved in its chemical and biological weapons programs would be "a solid first step" in fighting its "drive for hegemony in the Middle East," he concluded.

US Embassy donates \$25 million in CBRN equipment to Jamaica Fire Brigade

Source: <http://www.loopjamaica.com/content/us-embassy-donates-25-million-crbn-equipment-jamaica-fire-brigade>

Nov 30 – The US Embassy, through the Regional Security Office and the Office of Anti-Terrorism Assistance, handed over a mobile trailer on Wednesday containing Chemical, Biological, Radiological and Nuclear (CBRN) response equipment to the Jamaica Fire Brigade.

The handover which was held on the embassy compound marks the culmination of a four-week Chemical, Biological, Radiological and Nuclear (CBRN), multi-agency training course, from October 24 to November 18.

This training course is one of the most robust Chemical and Biological incident response courses offered by the U.S. Department of State and brings with it four subject matter experts who have over 100 years of combined



Chemical, Biological, Radiological and Nuclear (CBRN) incident response experience.

Twenty student participants included members from Passport,



Immigration and Citizenship Agency (PICA), Military Intelligence Unit (MIU), Counter Terrorism and Organized Crime Branch (C-TOC), National Intelligence Bureau (NIB), and Ministry of National Security (MNS).

The three-week CBRN course was also extended to first responders of the Jamaica Constabulary Force, Jamaica Fire Brigade, Ministry of National Security, Kingston Public Hospital and Ministry of Health. A subsequent one-week CBRN refresher course provided a skills review to 15 former students trained in 2014.

On Thursday, November 17, the four week training iteration culminated in a real-life exercise where U.S. Embassy staff, including Ambassador Luis G. Moreno and Deputy Chief of Mission, Eric Khant, participated in a one-of-a-kind Chemical and Biological response exercise.

Nearly 40 first responders, a dozen “victims” and over 250 observers took part in a mock CBRN incident.

The goal of the training is contamination mitigation, and the exercise demonstrated the

different stages of the decontamination process in the case of a CBRN incident.

Observers from the different partner agencies received a first-hand view of the training which also included opportunities to volunteer as first responders and victims.

Ambassador Moreno congratulated the participants and training officers, sharing how impressed he was with the execution of the training exercise. “This training is another example of the enduring partnership between our two governments, as it concerns equipping our emergency crew and first responders in the security and safety of the Jamaican people.”

CBRN incident response training includes all measures taken to minimize or negate the vulnerabilities and/or effects of a chemical, biological, radiological, or nuclear incident.

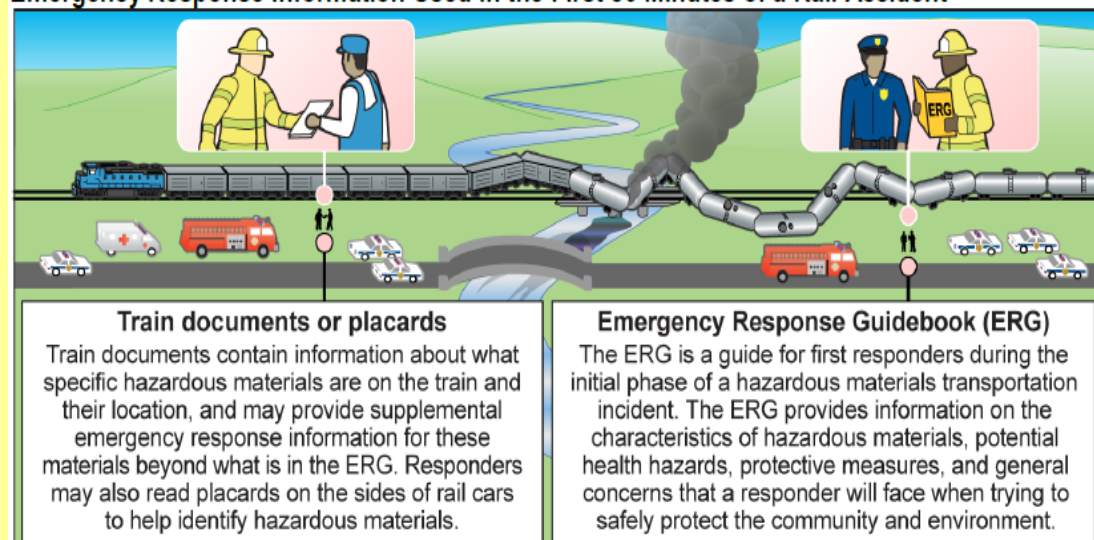
Today’s equipment donation is valued at **J\$25 million** and includes a mobile trailer, CBRN protective suits, stretchers, CBRN sampling equipment, radiation detectors, first aid kits, respirator masks and a decontamination tent.

EDITOR’S COMMENT: 25mil Jamaican Dollars = 180,000 euro [193,000 USD] (because I was surprised by the title omitting the “J” written in the last sentence of this article!)

Hazardous Materials Rail Shipments: A Review of Emergency Response Information in Selected Train Documents

Source: <http://www.gao.gov/assets/690/681378.pdf>

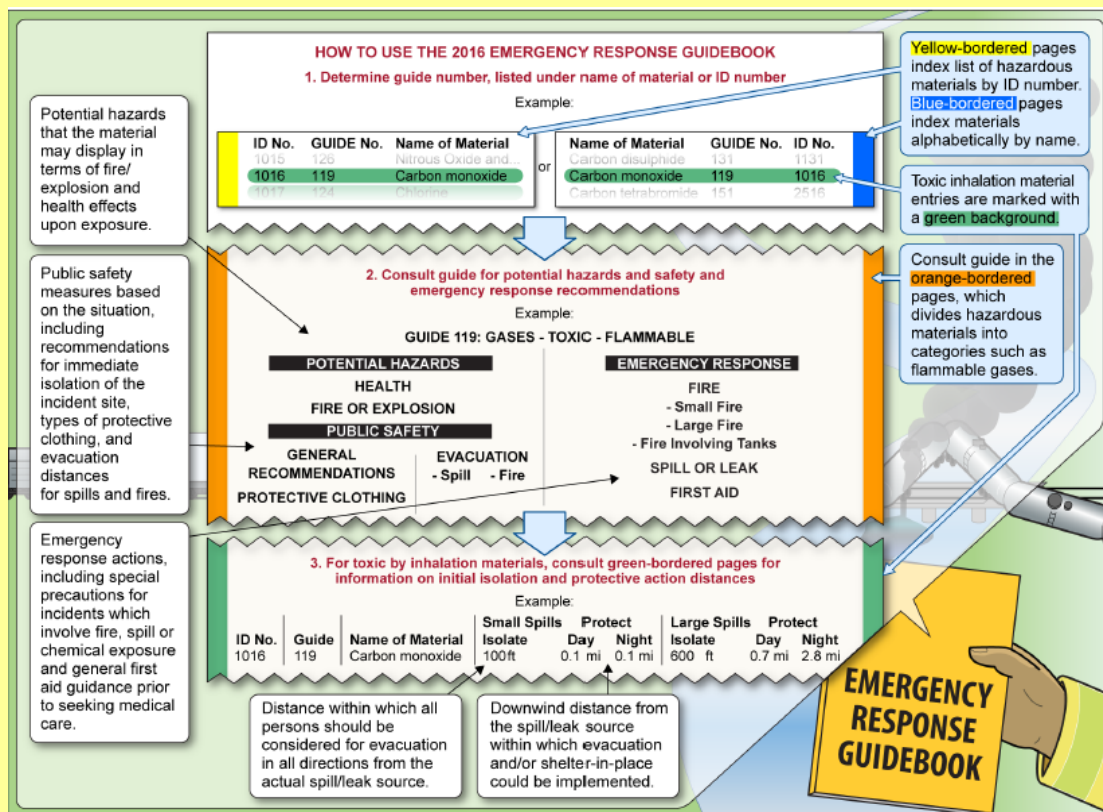
Emergency Response Information Used in the First 30 Minutes of a Rail Accident



Source: GAO analysis. | GAO-17-130



Dec 05 – This report examines: (a) what emergency response information is carried on trains by selected



railroads transporting hazardous materials and how responders use it; and (b) how selected railroads' supplemental emergency response information compares to information in the Department of Transportation's *Emergency Response Guidebook* (ERG).

Protect against carbon monoxide as researchers hunt antidote

Source: <http://www.sfgate.com/news/medical/article/Protect-against-carbon-monoxide-as-researchers-10780702.php>

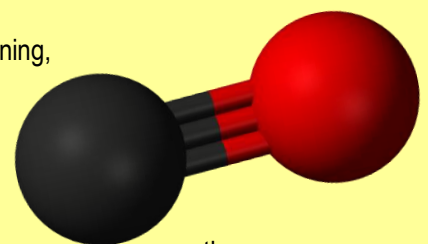
Dec 07 – Scientists are on the trail of a potential antidote for carbon monoxide poisoning, an injected "scavenger" that promises to trap and remove the gas from blood within minutes. It's very early-stage research — but a reminder that, however it turns out, there are steps people should take now to protect themselves from this silent killer.

We can't see or smell carbon monoxide as it builds up from car exhaust, a faulty furnace or some other cause. It elbows oxygen out of red blood cells and thus starves the brain and other tissues. Today's only treatment is to get that oxygen replaced in time.

"We have antidotes for cyanide poisoning, for snakebite, but we don't have antidotes for carbon monoxide poisoning and it's the most common poisoning," lamented Dr. Mark Gladwin of the University of Pittsburgh, who is leading new research to develop one.

His team has engineered a protein that can selectively target carbon monoxide, rapidly binding to it so it can't attach instead to the hemoglobin in red blood cells. The compound saved mice from otherwise lethal doses of carbon monoxide, Gladwin reported Wednesday in the journal *Science Translational Medicine*.

More research is needed before the approach could be tried in people. Here are some things to know about the work and how to prevent carbon monoxide exposure in the first place — such as by installing an alarm that warns when the gas is around.



the



CARBON MONOXIDE POISONING IS FAR TOO COMMON

This colorless, odorless gas is a leading cause of poisoning deaths worldwide. In the U.S. alone, accidental carbon monoxide poisonings that aren't linked to fires cause more than 20,000 emergency room visits a year, and more than 400 people die, according to the [Centers for Disease Control and Prevention](#). Children especially are vulnerable, and survivors often suffer lasting neurologic problems. Carbon monoxide is produced when fuel is burned. And while it can be a cause of death during fires, other preventable accidents occur when fumes produced by cars, portable generators, gas stoves or heaters, and other sources build up in enclosed spaces. Winter is a particularly risky time.

SYMPTOMS ARE VAGUE



Symptoms include headache, dizziness, weakness, nausea, vomiting, chest pain or confusion — signs to get into fresh air and seek help.

HOW IT HARMS

Hemoglobin carries oxygen in red blood cells. Carbon monoxide sticks to hemoglobin better than oxygen does. So when someone breathes carbon monoxide, that gas replaces oxygen in the bloodstream. Providing direct oxygen to flush out the toxin can work, depending on how quickly it's started and how severe the poisoning. But there is no true antidote, a compound designed to directly target the carbon monoxide and give oxygen therapy a better chance.

SCAVENGING THE POISON

Gladwin's team started with a hemoglobin-like protein found in the brain called neuroglobin, and genetically engineered it to snatch up carbon monoxide. This artificial neuroglobin binds to carbon monoxide about 500 times more tightly than the gas normally can attach to hemoglobin. In lab tests using human red blood cells, the researchers reported the antidote eliminated carbon monoxide many times more rapidly than oxygen, as measured by what's called its half-life — the time it takes for half of it to disappear.

That translated into survival for seven of eight mice exposed to usually lethal carbon monoxide doses. Researchers gave additional mice lower doses of carbon monoxide, and measured as the antidote restored blood pressure and improved oxygen levels before being excreted in urine.

WHAT'S NEXT

Mouse studies are very preliminary so more research is needed to be sure the approach is safe before scientists could test if it works in people.

But there's a need for a quick-to-administer antidote, such as by a paramedic on the scene, said resuscitation specialist Dr. [Lance Becker](#), emergency medicine chairman at [Hofstra Northwell School of Medicine](#), who wasn't involved with the new research.

"I'm cautiously very optimistic," Becker said. "It's very early but this is a very novel sort of approach," and a logical one, he added.



He's seen carbon monoxide's devastation too often, including "one of the most upsetting nights of my career" when a family was poisoned while sleeping in their car on a wintry night. Doctors saved the parents but couldn't revive their children.

TAKE PRECAUTIONS AGAINST CARBON MONOXIDE

Among the CDC's safety tips:

- ✓ Install a carbon monoxide detector, that's battery operated or has a battery back-up, where it will wake you if you're sleeping.
- ✓ Have your furnace and any other gas and oil appliances inspected every year, as well as your chimney.
- ✓ Make sure gas appliances are properly vented.
- ✓ Don't run a car or truck inside a garage attached to the house even if the door is open.
- ✓ Only use a portable generator outdoors, placed far from windows, doors or vents.
- ✓ Never use a gas oven for heating, and never use a charcoal grill or camp stove indoors.

CHEMICAL WEAPONS CONVENTION and its application against the use of chemical warfare agents

By Alba Iannotti¹, Igino Schraffi², Carlo Bellecci^{1,3}, Pasquale Gaudio^{1,3}, Leonardo Palombi^{1,4}, Orlando Cenciarelli^{1,3}, Daniele Di Giovanni^{1,3}, Mariachiara Carestia^{1,3} & Andrea Malizia^{1,3,4}

¹International Master Courses in Protection Against CBRNe Events, Department of Industrial Engineering - School of Medicine and Surgery, University of Rome Tor Vergata, Italy

²Department of Law, LUMSA University, Rome, Italy

³Department of Industrial Engineering, University of Rome Tor Vergata, Italy

⁴Department of Biomedicine and Prevention, University of Rome Tor Vergata, Italy

Source:

http://www.mastercbrn.com/uploads/various/201611041952699525_iannotti_Malesiano_2016.pdf

ABSTRACT

The history of the serious efforts to achieve chemical disarmament that culminated in the conclusion of the Chemical Weapons Convention (CWC) began more than a century ago. Although toxic chemicals have been used as a method of warfare throughout the ages, it is clear from some of the earliest recorded incidents that such weapons have always been viewed as particularly abhorrent. In this article a special attention will be paid to each part of the Convention itself, the main aim of the Convention which is the destruction of chemical weapons owned by the signatory states and the control of production, stockpiling and use of chemical for civil use as well. Any violation of the obligations, even inside a state territory, is punished with sanctions provided for in the Convention. The purpose of the article is to understand the obligations that the signatory states are required to observe, the inspection mechanism of specialized organizations, the possible sanctions in case of violations of the obligations verified after the inspections and the future perspectives after the global changes. In this paper the authors will analyze the creation and the evolution of CWC.

EUROPOL 2016 TESAT (CBRN substances)

- In former-Soviet Union countries, nuclear and radioactive materials have continued to appear on the black market since the early 1990s
- Nuclear power plants and nuclear weapon facilities in the EU remain an important target for jihadist terrorists or groups
- Chemical facilities or companies, especially these perceived as having a low profile until recently, can become a vulnerable target
- Terrorists prefer the use of conventional firearms and explosives because of their availability, simplicity and effectiveness.



The likelihood of a CBRN attack occurring is assessed as being low, but the consequences of such an incident remain serious. **In 2015 no major terrorist incidents with chemical, biological, nuclear or other radioactive materials were disclosed by the EU Member States.** To date terrorists and criminals seem to remain interested in using weapons that are easily available, not too complex to operate, and which have direct and lethal effects. These three factors – availability, uncomplicated knowledge and effectiveness – encourage terrorists to use conventional firearms and explosives.



Although CBRN materials remain highly attractive to terrorists, they are difficult to acquire, transport, handle and deploy without particular scientific knowledge and technology.

Nevertheless, several incidents in 2015 involved the actual or attempted malevolent use of CBRN materials with criminal or unknown intentions. In recent years, jihadist terrorists and their sympathisers have regularly expressed threats involving CBRN materials in their propaganda.

In 2015 two unrelated events involving attacks on chemical facilities took place in France. Although they were not specifically classified as CBRN terrorist incidents, they perhaps illustrate the vulnerability of such facilities. In the first incident in June, the perpetrator drove his van into gas, acetone and liquid air containers, and attempted to ignite canisters containing flammable

chemicals. He also decapitated his former employer and attempted to kill two other persons. It was apparent that he used his accreditation and insider knowledge to prepare and execute the attack. This event has been categorised as a jihadist terrorist act.

In the second incident in July, two massive simultaneous explosions took place at a petrochemical plant in southern France. The explosions set alight two petrochemical tanks. A third explosion failed to ignite another tank. French authorities recovered remains of explosive devices and discovered holes cut in the fence protecting the plant. The motivation of the perpetrators remains unknown. In both cases, perpetrators were able to easily access the facilities, ignite highly flammable chemicals, create explosions and cause significant damage at the facilities. Organisations usually implement protection mechanisms and set security levels for their facilities based on the perceived risks and constraints of regulations. These incidents demonstrate that chemical plants – seen as having a low profile until recently – are now becoming a target of choice for terrorist groups.

Nuclear power plants and nuclear weapon facilities in the EU also remain potential targets for terrorists. Of note is a case that occurred in December 2015 in Belgium. It was reported that, during a house search of a suspect linked to the November Paris attacks, a video was found containing surveillance footage of a senior executive of a nuclear research site.

The deliberate contamination of **water supplies** is seen as a plausible CBRN scenario. A few days after the November 13th terrorist attacks in Paris, a number of protective suits, gloves and masks used to protect individuals from exposure to biological contaminants, were reported missing from a locked room in a hospital in Paris. On the same day, when the incident was reported to law enforcement, the French Prime Minister warned that the risk of biological and chemical attacks cannot be ruled out in France, and he increased the country's security level and measures. Subsequently, the public water supply company in Paris took preventive measures to counter the potential threat, and to allow water quality inspectors and investigators to detect any contamination more easily. Additionally, access to the company's main premises was significantly reinforced and was strictly limited.

Thefts of radioactive sources are usually financially motivated, often due to the value of shielding containers or housing devices, and not necessarily for the source itself. In 2015 for example, two incidents involving the theft of radioactive sources, which are commonly used in various authorised applications in industry, medicine and research, were reported by Poland. Nevertheless, there were no reported cases of radioactive materials being used to deliberately injure or poison people.



In the European Union, **trafficking** cases are rare because nuclear and other radioactive materials are relatively well safeguarded, both by regulation and enforcement. However, in EU neighbouring former-Soviet Union countries, nuclear and radioactive materials have continued to appear on the black market since the early 1990s. In 2015 incidents involving the attempted sale of radioactive materials by organised crime groups occurred in Moldova, Ukraine and Turkey. Although there is no information on potential links between the groups involved in these three cases and terrorist organisations, criminals with access to these materials can potentially play a role in acquiring and selling radioactive materials to terrorists.

The procurement of **biological toxins** such as abrin and ricin has been reported as taking place in underground marketplaces on the Darknet, on occasion using virtual currencies. Individuals and groups may attempt to acquire such substances for terrorist use.

In addition it is difficult to control their **precursors** because they are found in the natural environment.

The phenomenon of individuals travelling for terrorist purposes to conflict zones increased the risk that expertise in the use of chemical weapons can be transferred to the European Union by returning foreign terrorist fighters. The use of chemical weapons in conflict areas is largely conditioned by availability and means of dissemination in the region. In the past, both Syria and Iraq had chemical weapon programmes, with production facilities and stockpiles that might not have been completely destroyed, despite international community and OPCW efforts. In Europe, like in most countries of the world, such production, stockpiling and use of chemical weapons are banned, leaving the threat level almost non-existent. Additionally, CBRN materials and their precursors are under strict control of governments, keeping the threat at a minimal level. As a consequence, the risk lies particularly in the ability of those terrorist groups to transport such weapons in their entirety or in part onto EU soil, or to produce them locally within EU borders.

NIH Awards 19M for Development of Nerve Agent Medical Countermeasures

Source: <https://globalbiodefense.com/2016/12/06/nih-awards-19m-development-nerve-agent-medical-countermeasures/?sthash.Di7msxX8.mjjo>

Dec 06 – The National Institutes of Health (NIH) has awarded Rutgers University a five-year grant for more than \$19 million for research that would lead to the development of drugs to treat toxicity from chemical agents used in a terrorist attack.

The grant – which first received funding in 2006 and again in 2011 – provides scientists at Rutgers, New York Medical College and Lehigh University the funds they need to continue a decades-long collaboration, aimed at devising drug therapies to use if deadly chemical poisons were released into the general population. Over the course of this project, NIH has provided more than \$60 million to these investigators for this research.

“Our preparedness in case of an attack in the United States and how you treat it is still of the utmost importance,” said Jeffrey Laskin, director of the Rutgers University CounterACT Research Center of Excellence, a federal program pursuing medical countermeasures. “Another important issue is for our military, the warfighters

who may be exposed to chemicals on the battlefield.”

The U.S. government wants researchers to develop drug products that would work as an antidote for individuals exposed to mustard gas, a chemical weapon banned under the 1925 Geneva protocol. First used by the German military against Allied troops in World War I and in subsequent wars including the Iran-Iraq conflict during the 1980s, symptoms range from skin irritations and conjunctivitis to severe ulcerations, blistering of the skin, blindness and irreversible damage to the respiratory tract.

More recently, **The Islamic State used chemical weapons, including sulfur mustard gas agents at least 52 times since 2014 on the battlefield in Syria and Iraq,** according to a London-based intelligence collection and analysis service. News reports have indicated that ISIS militants have also loaded the gas into artillery



shells and fired on people living in small villages miles away.

“Many people don’t think of mustard gas anymore,” said Laskin, professor of environmental and occupational health at Rutgers University School of Public Health and the Rutgers Environmental and Occupational Health Sciences Institute (EOHSI). “But more than 100 years after it was used in World War I, it is still being used in Syria. It remains a great concern to both public health officials and the military.”

Laskin said the Rutgers CounterACT team has met with the U.S. Food and Drug Administration

to discuss its research and promising new drugs, and how long it will take to get drug approvals once the drug products get into the pipeline.

The principal investigators besides Jeffrey Laskin include co-director, Donald Gerecke at Rutgers Ernest Mario School of Pharmacy; Marion Gordon, Debra Laskin and Patrick Sinko, also at the Rutgers School of Pharmacy; Diane Heck at New York Medical College; and Ned Heindel at Lehigh University. They work closely with MRIGlobal in Kansas City, where mustard gas experiments are being carried out.

AVON Protection: CBRN Threat Assessment: Iraq, Syria & Europe

Read: <https://www.poolre.co.uk/cbrn-threat-assessment-iraq-syria-europe/>

Following the terrorist attacks in Paris, the threat of chemical and biological attacks has heightened. Avon Protection has produced a report providing more detail on the current situation, focusing specifically on Iraq, Syria and Europe.



Report Date:	Friday, 20 November 2015	Report Time (UK):	10:37
Report Type:	Assessment	Agent Type (CBRN):	Chemical
Reference No:	ATC/20151119/Europe/Chemical		

Chemical, Biological and Radiological (CBR) Threat Assessment Iraq, Syria and Europe

1. **Introduction.** The following CBR threat assessment has been created in response to the recent terrorist attacks in Paris, events in Syria and Iraq and press releases from French officials. There are 2 current open source reports, one report states that France are readying medical counter measures to treat G Nerve (Tabun, Soman, Sarin) and another which says there is a more generic threat from a Chemical and Biological attack in France. It is not entirely clear, at this stage, where the intelligence has originated from however, the consensus of opinion is that they are likely to be as a result the recent raids in France and Belgium.

2. The ability of IS to carry out a Chemical or Biological attack is based on a number of factors including but not exclusively:

- a. Determination.
- b. Previous use.
- c. Propaganda of the deed.
- d. Limitation to other means of attack.
- e. Accessibility to resources required.
- f. Accessibility to agents or pre-cursors.
- g. Funding.



Chemical dangers in the battle for Mosul

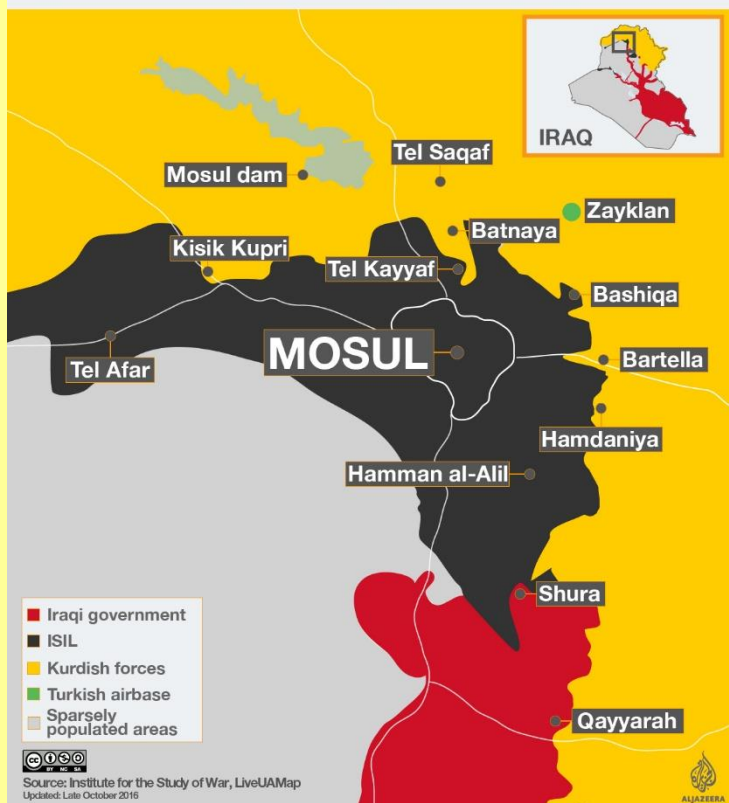
Source: <http://www.aljazeera.com/indepth/opinion/2016/10/chemical-dangers-battle-mosul-161026091359992.html>

Oct 30 – It feels like this is the beginning of the end of the campaign to liberate Mosul from the Islamic State of Iraq and the Levant, and some seem to be predicting that ISIL fighters will drift away at some stage to fight another day in Syria.

Those more than 100 suicide bombers seen in the first week of the assault and those who set light to al-Mishraq chemical plant would suggest this is not the case and that ISIL (also known as ISIS) will throw the kitchen sink at the coalition to stave off losing Mosul.

With ISIL's Iraq strongholds gone, so is most of the caliphate, no doubt with a final battle in Raqqa - but the war hinges on Mosul.

Mosul: Who controls what



In this forthcoming apocalypse ISIL will fight with every means available, and this will include the use of their extensive chemical weapons capability.

Built up over the past two years, ISIL has been making mustard agent and fashioning toxic industrial chemicals into improvised weapons, which it has been testing by attacking the Peshmerga of Iraqi Kurdistan.

More than 20 times in the past 12 months ISIL has fired mortars and rockets at Peshmerga troops in the Makhmour area containing the "blister agent" mustard gas and chlorine, a choking gas. Chlorine and mustard gas were first developed in World War I as chemical weapons and both can be fatal if gas masks are not used.

These chemicals have killed few but injured many, and as General Sirwan Barzani, commander of the Peshmerga Black Tigers of Sector 6, told me in August near Gwer: "I know chemicals are not as dangerous as bombs and bullets, but my men have few gas masks and they fear chemicals."

A toxic legacy

The Kurds know all about chemical weapons; it was Saddam Hussein who tried to exterminate them in the 1980s in the [Anfal campaign](#), killing up to 100,000; and most notably 5,000 in a single day at [Halabja](#) on March 16, 1988, using the deadly nerve agent sarin.

Bashar al-Assad [used the same chemical weapon](#) in Ghouta on August 21, 2013 to horrific effect. It is now Saddam's Baathist scientists who are developing ISIL's chemical capability.

On both occasions the death toll was very high because it was innocent civilians who were attacked who had no way or knowledge to save themselves.

The Ghouta attack in Syria helped Assad to stay in power for three years, and prevented Damascus from falling.

His forces have also prevented ISIL from taking the strategic military base at Deir Az-Zor for the past two years with the use of chlorine barrel bombs. This, I believe, has had a profound effect on ISIL when planning their defence of Mosul.

The first element of the defence of Mosul was seen last week [when ISIL set fire to](#) al-Mishraq chemical plant 30km south of Mosul.

This is putting huge amounts of deadly hydrogen sulphide and sulphur dioxide into the atmosphere, which is mixing with poisonous fumes from oil fires to produce a deadly cocktail.



To date, several are reported dead and 1,000 injured. The cloud is currently sitting over the military base Qayyarah, forcing the United States military personnel into gas masks and others indoors.

From a military perspective this is a good move by ISIL, as it cuts through the advancing Iraqi army, not all of whom have gas masks, as they march towards Mosul.

If this toxic cloud were to move eastwards to more populated areas this could be of grave concern. Saddam Hussein set fire to Mishraq in 2003, as the US coalition advanced into Iraq. It burned for two months, caused thousands of casualties, and allegedly burned a hole in the ozone layer.

The capacity for terror

To underestimate ISIL's capacity for terror is an error, and to underestimate its ability to conduct chemical warfare would be very unwise.

ISIL scientists have developed an extensive if crude chemical arsenal including mustard agent, chlorine and other toxic industrial chemicals.

Chemical weapons are extremely effective for defending built-up areas and cities, as they put attackers into gas masks which make fighting "hand-to-hand" exceedingly difficult.

And if they don't have masks, as some Peshmerga and Iraqi army don't, chemical weapons could make them think twice about entering the city.

It is the psychological effect of these abhorrent weapons which is of most use to the defender; and it is this fear which must be overcome by the attacker.

This could be achieved by good training and leadership, which the coalition must continue to provide to Baghdad and Erbil.

Even if this fear is overcome and Mosul is conquered militarily, the final battle will not be won unless we invest into a vast humanitarian programme.

The millions of souls left who have had to endure two years of ISIL brutality will not thank us if we cannot feed and clothe them, give them water and electricity, and prevent a potential environmental disaster left behind as ISIL's toxic legacy.

Executing these vital tasks will involve the support of NGOs and those right behind the frontlines. There will undoubtedly be all types of toxic nasties left behind by ISIL, and we must ensure that these NGOs have the wherewithal to deal with them.

Hamish de Bretton-Gordon is a chemical weapons adviser to NGOs working in Syria and Iraq. He is a former commanding officer of the UK Chemical, Biological, Radiological and Nuclear (CBRN) Regiment and NATO's Rapid Reaction CBRN Battalion.

Where are the Terrorist WMD Attacks?

By Dr. Stephen Schwalbe

Source: <http://in homeland security.com/where-are-the-terrorist-wmd-attacks/>

October 2016 – President Obama has declared that terrorist groups and weapons of mass destruction (WMD) remain the greatest threat to the United States. According to a Harvard Kennedy School Belfer Center white paper, President Obama stated, "If an organization like al-Qaeda got a weapon of mass destruction in its hands...just a few individuals could potentially kill tens of thousands of people, maybe hundreds of thousands."

The Department of State reported, "The nexus of weapons of mass destruction and terrorism poses one of the gravest potential risks to the national security of the United States and its global partners." Furthermore, it claims "The U.S. Government places the highest priority...to meet the global challenge of WMD terrorism."

President George W. Bush stated in a 2004 National Defense University speech: "The greatest threat before humanity today is the possibility of a secret and sudden attack with chemical, biological, radiological or nuclear weapons."



Terrorism Experts Say that Terrorist Interest in Weapons of Mass Destruction Is Growing

What do the experts on terrorism believe? The Central Intelligence Agency has said for years that terrorist interest in WMD weapons is *growing*. When former Secretary of Defense Robert Gates was asked by the media what kept him up at night, Gates replied, “It’s the thought of a terrorist ending up with a weapon of mass destruction, especially nuclear.”

Dr. Jessica Stern, a terrorism expert and Boston University research professor, wrote that WMD “seem to be ideal for terrorists, who seek to inspire fear in a targeted audience.”

Why Has There Been No WMD Attack by Terrorists?

It has been over 15 years since such assessments about the use of WMD by terrorists began to be publicized. There still has been no major WMD attack by any terrorist group in the United States.

Interestingly, there is [no internationally agreed definition of either terrorism or WMD](#).

The U.S. Code and the FBI [define terrorism](#) as the “unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof in furtherance of political or social objectives.”

WMD is a term adopted from the former Soviet Union. The Federal Emergency Management Agency (FEMA) defines WMD as “any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination or impact of toxic or poisonous chemicals; disease organisms; radiation or radioactivity; or explosion or fire.”

With chemical, biological and radioactive agents, their [presence in any attack is not easily detected](#), making it difficult to determine when and where they were originally deployed.

The main issue with defining WMD is what determines “mass destruction?” Is it the number of people affected? The amount of damage to property caused? This aspect of WMD is highly subjective. In any case, perhaps WMD is not even relevant regarding terrorist goals.

Terrorist Groups More Focused on Publicity and Recruitment, Not Weapons

There are numerous terrorist groups recognized by the U.S. Department of State. These groups include al-Qaeda, ISIS, HAMAS, Hezbollah, Abu Nidal, Abu Sayyaf, Aum Shinrikyo, al-Shabaab, Boko Haram and the al-Nusrah Front. These terrorist groups conduct attacks for two purposes: to gain publicity that demonstrates the ineffectiveness and illegitimacy of the ruling government and to recruit new members. The [most effective terrorist attacks ever were conducted by al-Qaeda](#) on September 11, 2001, against the U.S. Terrorists destroyed the World Trade Center in New York City and damaged the Pentagon in Washington, DC.

These attacks provided weeks of primetime coverage on all the world’s major networks, showing the damage and destruction caused by the hijacked airliners. They killed over 3,000 people (including Muslims) and caused over \$244 billion of damage. Each target was selectively chosen for its symbolic value.

Terrorists put on a big show for television audiences to instill as much fear, horror and panic as possible. Certainly, bombs, explosives and even airliners are effective in creating days, weeks or months of effective news coverage that helps terrorists accomplish their goal of widespread publicity.

After the terrorist attacks on 9/11, no major terrorist attacks with a widespread amount of property damage and human casualties have occurred in the U.S. There have been more than a dozen attacks in America since 2001, but they involved the killing of less than 50 people and relatively little damage.

The biggest terrorist attack over the past 15 years was on June 21, 2016. An American-born man living in Florida named Omar Mateen pledged allegiance to ISIS. Then, early on a Sunday morning he shot and killed 49 people and wounded another 53 at a gay nightclub in Orlando.

The most recent terrorist attack occurred on September 19, 2016, when Ahmad Rahami set off a pipe bomb in Seaside, NJ, which did not injure anyone, and a pressure cooker bomb in Chelsea, NY, which injured 29 people.



This attack and the other dozen or so made a relatively minor impact on the American and world TV audience. The Boston Marathon attack probably had the longest coverage, but that coverage was much shorter than the 9/11 attacks. Fewer people were killed and injured and there was less property damage.

None of these terrorist attacks achieved the goal of terrorist organizations. They were “lone wolf” attacks that were not coordinated and financed by an overseas terrorist group.

Terrorists Unlikely to Use WMD Due to Risks

Out of these 13 domestic terrorist attacks over the past 15 years, none involved a weapon of mass destruction. Using WMD weapons is risky for terrorists because the weapons cannot be tested in advance. Also, the resulting effects are unknown.

So how effective would a chemical, biological or nuclear weapon be in comparison to shootings and bombings?

Chemical weapons, for example, require either toxic industrial chemicals or nerve agents. Both are vulnerable to temperature, wind, sunlight and moisture. They would need to be used indoors to optimize effectiveness, limiting their ability to affect a large population and attract publicity.

Weaponizing chemicals is also a problem. While acquiring chemicals is relatively easy for terrorists, weaponizing them requires an advanced laboratory with people who have expertise in chemistry. And once a chemical weapon has been detonated, depending on whether the weapon is persistent or non-persistent, it could be 10 minutes to weeks before the effects are evident.

The Japanese cult Aum Shinrikyo launched a classic terrorist chemical attack in the Tokyo subway system on March 20, 1995. Members of this terrorist group released sarin gas and anthrax spores on several trains, killing only 13 people – not thousands — as they planned. This terrorist group [had the scientists and the laboratory to develop effective chemical weapons, yet still failed](#) to achieve the terror it hoped to cause.

Biological Weapon Use

With biological weapons, the agents required to manufacture a weapon can be obtained or grown with relative ease. However, the biggest

challenge regarding this type of weapon is its ability to be spread and infect as many people as possible.

Even if a terrorist group produced a biological weapon in a high-tech laboratory (to which terrorist groups are unlikely to have access), the challenges to accomplish a mass infection are significant.

Each biological weapon would have obstacles facing its transmission to a large group. Diseases have different characteristics. For example, anthrax is not contagious from person to person, unlike smallpox, which is highly contagious through the air.

Diseases usually have an incubation period of 12-14 days before their symptoms manifest themselves. There would be a long time span until medical experts determined that a biological terrorist attack took place. There would be an additional delay before the perpetrators of the attack were identified and caught.

The difficulty of developing biological weapons, the lack of immediate publicity from the news media and the issue of no credit for their attacks makes the option of a biological weapon tenuous at best.

Nuclear Weapon Use

Nuclear weapons have both traditional and non-traditional versions. Manufacturing a traditional nuclear weapon requires a lot of expertise, high-tech facilities, scientists and resources.

No one believes any terrorist group today could actually develop its own nuclear weapon. The far bigger concern is that a terrorist group could acquire nuclear weapons by either stealing or buying them.

However, significant problems still exist with using a traditional nuclear bomb for an attack. Nuclear bombs weigh several tons, making them difficult to store and transport. Nuclear bombs also have significant safeguards and self-destruction mechanisms built into them, so actually detonating a nuclear bomb would be a problem.

Non-traditional nuclear bombs, such the radiological weapon commonly known as the “dirty bomb,” are much easier to acquire and deploy. Radiological material is available in



most societies today, if one knows where to look.

For instance, hospitals usually have some amount of radioactive cesium. If a terrorist group clandestinely acquired the right amount of cesium, it could detonate a conventional bomb to spread radioactive cesium throughout a given area, contaminating it with radiation for decades.

The level of radiation, however, would not be sufficient enough to kill most people, but it would cause exposed people to have radiation sickness. However, once any bomb goes off somewhere, few people think about radiation until people are diagnosed with radiation poisoning.

Because the intent of a terrorist attack is to create fear and panic via news sources, none of these types of WMD weapons are really suitable for terrorist use. The damage and loss of life they cause is minimal compared to conventional explosives.

Conventional Bombs Have More Advantages for Terrorists

Bombs, however, have more value to terrorists than other weapons of mass destruction. They are relatively cheap and easy to construct. They are low technology compared to other types of

WMD. And they offer a variety of detonating options to suit the target.

The CIA reports that it is likely that terrorist organizations will continue to use conventional explosives over WMD. Dr. Gavin Cameron, a Senior Research Associate at the Center for Nonproliferation Studies, stated that while “the threat posed by chemical and biological agents cannot be wholly dismissed, the [more immediate terrorist danger to the United States continues to come from the use of conventional weapons](#).”

Terrorist Use of WMD Remains Unlikely in Future

The United States has done a lot to deal with the threat of terrorists using non-conventional WMD over the past 15 years. Some of this effort may have thwarted or even deterred potential terrorist attacks using these weapons.

However, given the technical challenges, the required expertise, the immense manufacturing and deployment costs and the low opportunity for media exposure, the primary reason we have not seen the use of these weapons over the past decade is that terrorist groups have decided to forego using them in favor of more newsworthy conventional explosive weapons.

Dr. Stephen Schwalbe is an associate professor at American Public University. He is also an adjunct professor at Columbia College and Embry-Riddle Aeronautical University. Stephen received a Ph.D. in Public Administration and Public Policy from Auburn University in 2006. His book about military base closures was published in 2009.

EDITOR'S COMMENT: This analysis would be OK for conventional old time terrorists (i.e., AQ). But Daesh is a bit different: (1) They are about to lose [even if it takes time] the war both in Syria and Iraq; (2) They know how to manufacture and deploy chemical weapons (i.e., mustard); (3) They possess stolen radiological material (40kg of U from University of Mosul); (4) They have expertise in IEDs of all kinds along with foreign jihadists with university [related] education; (5) They (still) have the money; and (6) They are humanoids lacking any moral constraints. Put all these together and you will realize why the threat is more real than that described in this article.

Do chemical weapons in Syria threaten Israel?

Source: <http://www.jpost.com/Arab-Israeli-Conflict/Do-chemical-weapons-use-in-Syria-threaten-Israel-474975>

Dec 10 – With Defense Minister Avigdor Liberman's revelation last week that Israel is intervening militarily in Syria - especially when it comes to chemical weapons - how much of a danger does that technology pose for Israel? The answer depends on whether those weapons continue being used by the hands of the Bashar Assad regime or whether they are acquired by Hezbollah.



Assad and ISIS, of course, have used chemical weapons against each other, with a spike in usage by regime forces in recent months in Assad's fight to re-take Aleppo.

But does this spike mean Israel is in greater danger of those same chemical weapons being directed against it? If so, why hasn't the government adopted the State Comptroller's recommendations to continue to distribute gas masks – instead completely halting distribution? If not, why would transferring



chemical weapons to Hezbollah change anything? A recent history recap is required.

Among the most horrifying aspects of the five-year-old Syrian civil war was Assad's use of chemical weapons in late 2012, including the massive August 2013 sarin gas attack that killed more than 1,400 civilians in the Damascus suburb of Ghouta.

The attack on Ghouta led the US to threaten to intervene militarily to destroy Assad's chemical weapons arsenal. After some of the most intense rounds of diplomacy in recent memory, Russia convinced the US to back off as part of an agreement in which Assad would quickly and verifiably declare and eliminate Syria's arsenal of 1,308 metric tons of chemical agents, storage and production facilities, and associated equipment.

While the Obama administration was criticized for backing off its now infamous "red-line," there was also at least a partial net-gain for Israel in that the deal did effectively eliminate the threat of further large-scale chemical weapons attacks by the Assad regime against the Jewish state, which is technically still in a state of war with Syria.

But in October, after a 13-month-long investigation, the fourth report of the UN-Organization for the Prohibition of Chemical Weapons (OPCW) Joint Investigative Mechanism (JIM) confirmed that **Assad's forces have continued to drop chlorine-filled barrel bombs on civilian areas from Russian-supplied military helicopters. The JIM report also said that the helicopter flights originated from two bases where the 253rd and 255th and 618th Assad Syrian air squadrons are located.**

Arms Control Association Executive Director Daryl Kimball has recently noted that "although less destructive and deadly than sarin nerve agent, Assad's industrial chlorine barrel bomb attacks violate the CWC and are war crimes. These are the first-ever documented cases that a CWC member state has used chemical weapons."

As far as Israel is concerned, Kimball and most Israeli intelligence assessments have said that the chemical weapons being used now by Assad in Syria are primarily chlorine and not the more dangerous chemical weapons such as sarin, VX and sulfur mustard (the US has said ISIS is using a small volume of poorly weaponized mustard gas).



Although the deal removed the most dangerous substances, but it did not get rid of stocks of chlorine, which can be used in everything from purifying drinking water to whitening laundry.

Eliminating chlorine is an arduous process; Assad seems to be implementing ad-hoc chemical warfare, packing chlorine canisters into barrel bombs - crude metal containers pushed out of helicopters onto the target, including civilian neighborhoods.

The Syrian American Medical Society has published a report stating there have been 161 documented chemical attacks in Syria from the beginning of the conflict through 2015. The report said that 77 percent of attacks came after the UN resolution and deal that got rid of its more dangerous weapons, with the vast majority of attacks being chlorine-based.

Chlorine can absolutely be fatal, and its use in World War I was what led to the first convention banning the use of chemical weapons, the 1925 Geneva Protocol, one of the oldest and most widely observed conventions on the planet.

But unlike hitting poorly armed Syrian civilians and rebels, in a battle with Israel, it is more of a poor-man's weapon than a game-changer.

Israeli intelligence posits that the "really bad" chemical weapons really are close to all gone, with an extremely reduced capability to deliver them. The barrel bomb tactic would be ineffectual against Israel, as the regime's helicopter fleet would come up against the vastly superior Israeli Air Force.

It is then no mistake that the Israeli government stopped handing out gas masks, with observers saying that distribution was more of a show for the public.

Besides the primary chemical weapons threat being gone, commentators say that the main deterrent against Syria from using chemical weapons was never gas masks – it was the same deterrent which got the Germans, the English, and eventually the rest of the world to sign on to the anti-chemical weapons protocol.

Since everyone saw the mutually assured battlefield destruction in World War I, observers argue that no country has used chemical weapons against another country with equal or more powerful WMDs, including during World War II and throughout the Cold War.

Imagine Syria trying to use chlorine or any remaining sarin, VX or mustard gas against Israel, with Israel reportedly capable of responding with an estimated 75 to 400 nuclear weapons, according to foreign sources.

In other words, all of the chemical weapons use by Assad on his own civilians has no bearing on the chances of his using them on Israel.

If that theory is correct, and Assad is not going to use chemical weapons on Israel, why does Israel feel the need to attack regime facilities? Therein lies the true threat – transferring weapons of mass destruction to Hezbollah.

Hezbollah may not be any more likely to launch a major chemical weapons assault on Israel than Assad. But it might be far more likely to use them in small increments in any future military engagements with the IDF.

Whether in short skirmishes or in the next war, it would be another strategic increase in Hezbollah's firepower that Israel would rather prevent.

Israel's strategic doctrine is still primarily to win quickly or "bring the pain" to the other side to leverage a ceasefire from rocket attacks. Whether it is antiaircraft weapons or even lower-grade chemical weapons, any additional powerful and unpredictable weapon that Hezbollah acquires could kill more soldiers on the front, or alter that balance and keep rockets flying longer than in the past.

Russia Destroyed Over 96% of Chemical Weapons Stockpiles – Commission

Source: <https://sputniknews.com/russia/201612061048236034-weapons-chemical-russia-stockpiles/>

Dec 06 – Russia has already destroyed over 96 percent of its chemical weapons stockpiles,

Chairman of Russia's State Commission on Chemical



Disarmament Mikhail Babich said on Tuesday. He pointed out that toxic agents at six out of seven sites had already been destroyed, while the work on the liquidation of the consequences of chemical weapons destruction started.

"Russia will fulfill its obligations to destroy chemical weapons, this work is in the final stage, for the moment **more than 96 percent of all chemical weapons stockpiles** on the territory of the Russian Federation have been destroyed," Babich, who is also the presidential envoy in the Volga Federal District, said at a press conference.

Babich stressed that according to the plan, **Russia had to destroy its chemical agents' stockpiles in 2018**, adding that Russian efforts were "recognized by the international community."

He highlighted that the United States, on the contrary, delayed their deadline from 2020 to 2023, which meant Russia would finish the process much earlier, deflating all talks about the non-implementation of its international commitments.

Russia is among 165 states, that signed the international Chemical Weapons Convention (CWC), outlawing development, production, acquisition, stockpiling, retention, transfer and use of chemical weapons by signatories.

In 2015, the Organization for the Prohibition of Chemical Weapons (OPCW), responsible for the CWC implementation, **extended** the deadline for toxic agents' destruction to 2020.

Bottles of chemical liquid found at house of C. Java terrorist suspect

Source: <http://www.thejakartapost.com/news/2016/12/12/bottles-of-chemical-liquid-found-at-house-of-c-java-terrorist-suspect.html>



Under investigation – Personnel of the National Police's Densus 88 counterterrorism squad search the boarding house of suspected terrorist Kafid Fathoni, 23, in Kampung Keputren, Kartasura, Sukoharjo, Central Java, on Monday. (JP/Ganug Nugroho Adi)



Dec 12 – Personnel of the National Police's Densus 88 counterterrorism squad searched the boarding house of suspected terrorist Kafid Fathoni, 23, in Kampung Keputren, Kartasura, Sukoharjo, Central Java, on Monday. **They confiscated dozens of bottles containing chemical liquid, a rice cooker, a laptop and a number of documents during the raid.**

Kafid is a student of Islamic banking at the Surakarta State Islamic Institute (IAIN). He was arrested at his house in Kampung Gebang, Walikukun village, Widodaren, Ngawi, East Java, on Sunday. It is suspected that he is part of a terrorism network, together with five other suspects. They are Nur Solihin, Agus Supriyadi, Dian Yulia Novi, Sutanto alias Abu Izzah and Wawan Prasetyo. The two-hour search began at around 10 a.m. Dozens of Mobile Brigade (Brimob) personnel blocked road access to Kafid's boarding house, which is not far from the former Kartasura Palace compound.



Evidence – Police officers discover dozens of bottles containing chemical liquid, a rice cooker, a laptop and several documents during their search at the house of suspected terrorist Kafid Fathoni, 23, in Kampung Keputren, Kartasura, Sukoharjo, Central Java, on Monday. (JP/Ganug Nugroho Adi)

Suripto, the head of a neighborhood association in Keputren, said Kafid had only lived in the boarding house for past two months. Before that, Kafid lived in a boarding house in Pucangan sub-district, not far from the IAIN Surakarta campus.

"He moved here just two months ago. I haven't even received a copy of his ID card," said Suripto, who witnessed the search.

Sukoharjo Police chief Adj.Sr.Comr.Ruminio Ardano said the search was a follow up of Kafid's arrest in Ngawi on Sunday. He is suspected of being involved in bombing plots with several other terrorism suspects arrested in three cities in Central Java, namely Karanganyar, Klaten, and Surakarta; Bekasi in West Java and Jakarta.



What if there's a chemical attack? Rutgers is on it

Source: <http://nj1015.com/what-if-theres-a-chemical-attack-rutgers-is-on-it/>



Dec 13 – **Research is ongoing at Rutgers about what to do if the unthinkable happens — a terror attack using chemical weapons. The university has a new \$19 million grant from the National Institutes of Health to continue ongoing research.**

Jeffrey Laskin, chief of Rutgers' division of toxicology, said that at the heart of the research "there is a concern that we might be subjected to chemical terrorism in this country, and the question becomes, 'What do we do about it?'" According to Laskin, chemical weapons for warfare have been used for a very long period of time, in terms of "modern warfare." Mustard gas was used about 100 years ago, during World War I, then many times since. "We are certainly concerned about it, especially in terms of protecting our war fighters," Laskin said.

He said the medical community is greatly concerned, because if people who are exposed come to the hospital or emergency room, first-

responders have to treat people out in the community, "and right now, for almost all of these chemicals that could be used in terrorism, there is really no good treatment."

The National Institutes of Health has decided to invest in this area, to try to understand how these chemicals work.

Laskin said it is not only about terror or warfare. He suggested a scenario where a railroad tank car overturns, and there is a dangerous leak of a highly-toxic chemical. In a place like New Jersey, with its high concentration of chemical industries, that is always a dangerous possibility, he said.

He said the research has been ongoing for 11 years and Rutgers has already received \$40 million for this work.

"Based on observations about how these chemicals work, we will try to use our resources at Rutgers to come up with antidotes to these chemicals," Laskin said.

The Rutgers research is being conducted in concert with other agencies and the military

QSAR software

Source: <https://www.qsartoolbox.org/>

The QSAR Toolbox is a software intended to be used by governments, the chemical industry and other stakeholders to fill gaps in (eco-)toxicity data needed for assessing the hazards of chemicals. The Toolbox incorporates information and tools from various sources into a logical workflow. Grouping chemicals into chemical categories is crucial to this workflow.

►► The **latest version** of the QSAR Toolbox (Version 3.4) as well as release notes can be downloaded here:

[QSAR Toolbox 3.4](#)

[Toolbox 3.4 Release Notes](#)

Statement from the OPCW Director-General on allegations of chemical weapons use in Uqayribat, Hama Governate, Syria

Source: <http://reliefweb.int/report/syrian-arab-republic/statement-opcw-director-general-allegations-chemical-weapons-use>

Dec 13 – The allegations regarding the use of chemical weapons in the area of Uqayribat, in the Hama Governate in Syria, reported by the media recently are of serious concern. This area is located to the northwest of Palmyra and in territory understood to be controlled by the so-called Islamic State of Iraq and the Levant (ISIL).



States Parties to the Chemical Weapons Convention deem the use of chemical weapons by anyone under any circumstances as reprehensible and wholly contrary to the legal norms established by the international community.

The OPCW through its ongoing Fact-Finding Mission continues to examine any credible reports it receives including pertinent information that might be shared by States Parties to the Chemical Weapons Convention.

Background

The Chemical Weapons Convention comprehensively prohibits the use, development, production, stockpiling and transfer of chemical weapons. Any chemical used for warfare is considered a chemical weapon by the Convention.

As the implementing body for the Chemical Weapons Convention, the OPCW oversees the global endeavour to permanently eliminate chemical weapons. Since the Convention's entry into force in 1997 – with its 192 States Parties – it is the most successful disarmament treaty eliminating an entire class of weapons of mass destruction.

To date, nearly 94 per cent of all chemical weapon stockpiles declared by possessor States have been destroyed under OPCW verification. For its extensive efforts in eliminating chemical weapons, the OPCW received the 2013 Nobel Prize for Peace.

DEC'POL®

Source: <https://www.ouvry.com/CBRNe/-armed-forces-.html>

Polyvalent device for emergency decontamination :

DEC'POL® mitt: superabsorbent material with active agents synergy.

- Transfer and destruction of chemical and biological contaminants
- Reduction of re-aerosolization and cross contamination risks
- For immediate and emergency decontamination of surfaces, equipments and skin.

The DEC'POL ® mitt is intended for dual use: Defense, First-Responders and Industry.

DEC'POL ® is a simple, rapid and effective solution in case of chemical and biological contamination, which avoids cross-contamination.



Characteristics

1. Instructions for use:
 2. Identify area of contamination
 3. Open the package by the tear notch
 4. Put on DEC'POL ® mitt
 5. Decontaminate the entire area according to the protocol described in the user's guide
- After use, follow procedure for contaminated waste disposal

Technical data

Transfer

Material's absorption capacity : **600 % NF T 90-361**

Absorbed volume for 1 mitt : **140 mL NF T 90-361**

Surface treatment ability : **9 m²**



Surface decontamination factor by transfer : > 99 % of the toxic deposited on the surface

Destruction

Destruction of CWA G, V, H, and absorbed TIC'S : > 90% within 3h according to PR NFX 52-123 and BPL-OCDE-1998 on VX simulant (paraoxon)

Biological decontamination factor

- 7 log de E.coli in 1h
- 3 log de S.aureus in 3h

Additional information

Storage time in its original bag : 5 years

Mass : 60 g

Compact Packaging

One-size

Packaged in cartons of 20

EZAIR™ Airflow system

The airflow system EZAIR™ blows purified and cooler air directly to the mask, through an air supply hose. It improves the chemical protection and reduces the mask-wearing fatigue by

providing the ability to breathe easier due to better airflow, with low breathing resistance.

Easy to use, the airflow system fits with most of the masks and canisters on the market and works with commercial batteries. There is no air supply contamination even when battery is removed during operation and no special tooling is required. The splash proof cover prevents the liquid ingress.



MEDIC'OPS®

MEDIC'OPS® bag is developed to carry first aid equipment in CBRN contaminated environment.

The bag ensures a protection against all chemical warfare agents in liquid, vapor and aerosol form for more than 24 hours according to NATO standards.

Characteristics

Lining: SARATOGA® filter fabric based on activated carbon spheres.

Outershell: extremely resistant, oil and water repellent treated.

Designed to protect against risks of CBRN contamination.

Easy to use even with CBRN gloves.

Description:

- Closing system with zipper protected by an additional filtering layer
- Optimized design to avoid stagnation of liquids and to facilitate the access of the inside materiel
- 2 lateral pockets for auto injectors and tourniquet
- Leg harness to allow an easy transportation
- Velcro to maintain the bag in open position
- Plastic reinforcements



Chemical protection

Whole System Test Pass AEP 38

CWA protection > 24 hours HD liquid test - 10 g/m²

CBRN Socks

Air permeable CBRN socks grant a 24h protection against all chemical warfare agents in contaminated atmospheres

They are manufactured with SARATOGA® filter fabric, which offers an optimal fit and comfort. Socks can be worn with intervention shoes under regular socks or in place of it. They offer an excellent mobility and an optimum comfort to the user.

**Description**

SARATOGA® Filter fabric based on activated carbon.

Special seams to avoid irritation and blisters.

Ribbing for optimal fit without excessive pressure on the calf.

Colour: black.

Technical characteristics

Mechanical features:

- Dimensional stability (ISO 25077) < 8 %
- Bursting pressure (ISO 13938-2) > 130 kPa

Confort:

- Air permeability (ISO 9237 (100 Pa)) > 500 l/s.m²
- Water-vapour resistance (Ret) (EN 31092) < 5,5 m² Pa/W

Chemical protection :*

- In contaminated atmosphere (HD Vapor test 20 mg/m³, 0.17 cm/s) < 200 mg.min/m³

**Tested in accredited and recognized CBRN laboratories*

Chemical and Explosives Detectors – Autonomous Vehicles Compatible Kit

Source: <http://i-hls.com/2016/12/chemical-explosives-detectors-autonomous-vehicles-compatible-kit/>

Dec 16 – Some of the most dangerous threats encountered by the military, law enforcement, first responders and emergency personnel – like toxic, airborne chemicals – are often unseen. Whether investigating a potential chemical suicide, raiding a possible meth lab or conducting military reconnaissance in a hostile theater, ensuring safe breathing conditions is paramount to the safety of all involved.



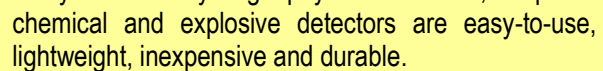
Morphix Technologies, which specializes in the science of detection devices for dangerous chemicals, announced that its chemical and explosive detectors can be paired with unmanned vehicles like aerial drones, throwable robots and EOD robots to detect dangerous chemicals and explosives, keeping military, law enforcement and first responders safe.

According to ammoland.com, the Chameleon Chemical Detector and TraceX Explosives Detection Kit are colorimetric (work through

color change) and have several advantages over electronic detectors when used with an unmanned vehicle.



collaboration between the unmanned vehicle manufacturer and the chemical/explosive detector manufacturer. Many small unmanned vehicles are only able to carry a light payload. However, Morphix's



The Chameleon is wearable, attached to the arm, or can easily be attached to a ground unmanned vehicle (UGV) or an aerial unmanned vehicle (UAV), using the Chameleon armband, or the hook and loop on the bottom of the Chameleon holder.

Once the Chameleon is attached, the user simply maneuvers the unmanned vehicle to the area of

According to the company's website, the Chameleon chemical detector is designed for use in arctic, tropical and desert conditions, and it can be immersed in water, thus often used by naval boarding teams.

A photograph of a person's forearm and hand wearing a Chameleon wristband. The wristband is black and features two rows of sensors. The top row has five sensors, each with a small display showing a blue or yellow light. The bottom row has five sensors, each with a small display showing a blue or yellow light. The brand name 'CHAMELEON' is visible on the black strap. The person is wearing a dark-colored long-sleeved shirt.

The TraceX Explosives Detection Kit is designed to help identify bombers, bomb-makers, and their bomb-making facilities. The kit can fit into a pocket and once deployed can detect most common explosive materials and their precursors at trace levels in a single test.

While most colorimetric kits are not compatible with an EOD robot, the TraceX collector works with any EOD or bomb squad robot that has an arm and claw. This approach allows the user to keep a safe distance away from the suspicious material.

Syrian Authorities Provide OPCW With Evidence of Mustard Gas Use by Militants

Source: <https://sputniknews.com/middleeast/201612181048702003-syria-chemical-weapons-opcw-evidence/>

Dec 18 – Syrian authorities have provided the Organization for the Prohibition of Chemical Weapons (OPCW) with evidence of mustard gas use by militants in Aleppo province near the village of Maarat Umm Hawsh, official representative of Syrian national authority for the implementation of Chemical Weapons Convention Samer Abbas said Sunday.

"We have presented the [OPCW] mission all the documents, they have been checked and accepted. Mission will come to Syria again to collect the samples which will be analyzed later," Abbas said.

Greece – poisoning supermarket products (?)

Source: Greek media

Dec 19 – In a 2003 copycat action, a terrorist group notified (via a letter to media) that have poisoned certain products available from supermarkets in the wider area of Attica Prefecture. Companies mentioned (Coca Cola, Nestle, Unilever [Pummaro tomato sauce; Hellmans Caesar salad] and ΔΕΛΤΑ [fresh milk]), removed these products from market selves. Group described in details their methodology (use of chlorine and hydrochloric acid).

The warning (in Greek)

"Προϊόντα των μεγαλοεταπειρών Coca Cola, Nestle, Unilever και ΔΕΛΤΑ (αναλυτικότερα αναφέρονται παρακάτω) έχουν δηλητηριαστεί με χλωρίνη και υδροχλωρικό οξύ. Για ένα διάστημα, το οποίο δε θα αποκαλύψουμε καθώς δε θέλουμε να αποσυρθούν μερικές οι παρτίδες που κυκλοφορούν, απαλλοτριώσαμε από γνωστες αλυσίδες super market σε όλη την Αττική τα προϊόντα αυτά.

Η σάλτσα για Ceasar σαλάτες της Hellmans (που ανήκει στην Unilever) ήταν αρκετά εύκολη. Απλά τραβήξαμε το καπάκι με δύναμη, χωρίς να ξεσφραγιστεί, αφαιρέσαμε 10mL του προϊόντος και προσθέσαμε 10mL χλωρίνη. Ανακινήσαμε, και το προϊόν δεν παρουσιάζει καμία εμφανή αλλοίωση.

Για το "Φρέσκο γάλα" της ΔΕΛΤΑ ήταν επίσης απλή η διαδικασία. Το μόνο που χρειάστηκε ήταν να εμβολίσουμε μια σύριγγα στο πάνω μέρος της συσκευασίας, να γείρουμε τη συσκευασία, να αφαιρέσουμε 20mL του προϊόντος και να γεμίσουμε με 20mL υδροχλωρικό οξύ (HCl). Ξαναπιεσαμε το χαρτόνι για να σιγουρευτούμε ότι δε στάζει και βεβαιωθήκαμε πως είναι σαν καινούργιο.

Για τις σάλτσες ντομάτας Pummaro (της Unilever) ακολουθήθηκε η ίδια διαδικασία με το γάλα, με τη διαφορά ότι χρειάστηκε να ανασηκώσουμε λίγο το πάνω μέρος της συσκευασίας, ώστε να τοποθετηθεί η σύριγγα, να αφαιρέσουμε 10mL προϊόν και να γεμίσουμε με 10mL υδροχλωρικό οξύ. Έπειτα απλά συγκολλήσαμε τα πλαϊνά του πάνω μέρους με λίγη κολλα σε ένα λεπτό πινέλο.

Για τα προϊόντα της Nestle και της Coca Cola ακολουθήθηκε η εξής διαδικασία: ξεκολλήσαμε ελάχιστα την ετικέτα τους, και στο σημείο της κολλας ανοίξαμε με πυρωμένο τσιμπίδακι πολύ λεπτή τρυπα ώστε να χωρά ισα ισα η μύτη της σύριγγας και να αφαιρέσουμε 20mL απ' τα προϊόντα, επανατοποθετώντας 20mL υδροχλωρικού οξέως. Σφραγίσαμε την τρυπα με ελαχιστη σιλικόνη και απλά ξανακολλήσαμε την ετικέτα. Δεν υπήρξε κάποια εμφανής παραμόρφωση του προϊόντος.

Καθ' όλη τη διάρκεια τις διαδικασίας φροντίσαμε ώστε να μην αφήσουμε καθόλου γενετικό υλικό που να μπορεί να μας ταυτοποιήσει, και επίσης μετά το τέλος τις διαδικασίας για όλα τα προϊόντα, καθαρίστηκαν επαρκώς, για ακόμα μεγαλύτερη σιγουριά.

Πιο συγκεκριμένα, απαλλοτριώθηκαν και δηλητηριάστηκαν:

- 12 σάλτσες για Ceasar σαλάτες της Hellmans (Unilever)
- 23 συσκευασίες σάλτσα ντομάτας Pummaro "Κλασσική" (Unilever)
- 11 συσκευασίες σάλτσα ντομάτας Pummaro "Πιο συμπυκνωμένη" (Unilever)
- 35 συσκευασίες "Φρέσκο γάλα" της ΔΕΛΤΑ
- 12 μπουκάλια Nestea ροδάκινο, της Nestle



-10 μπουκάλια Nestea λεμόνι, της Nestle

-29 μπουκάλια Coca Cola Light

Τα δηλητηριασμένα προϊόντα θα επανατοποθετηθούν στα ράφια μεγάλων αλυσίδων super market σε όλη την Αττική. Να είστε σίγουροι ότι δεν πρόκειται να αποτραπεί κάπως η διαδικασία επανατοποθέτησης, καθώς όπως τα απαλλοτριώσαμε έτσι και θα τα βάλουμε πίσω (μακριά από κάθε είδους "ματία", ηλεκτρονικά και μη). Η επανατοποθέτηση των προϊόντων θα ξεκινήσει 3 μέρες ακριβώς μετά την αποστολή του συγκεκριμένου μηνύματος (δηλαδή θα ξεκινήσει από τις 22/12/2016) και θα διαρκέσει ακριβώς 2 εβδομάδες (μέχρι τις 5/1/2017).

Επιχειρησιακή στοχοθεσία της συγκεκριμένης δράσης είναι το σαμποτάζ των παραπάνω εταιρειών μέσω της πλήρους απόσυρσης των προϊόντων τους για τις 2 αυτές εβδομάδες, καθιστώντας σαφές πως δεν αποσκοπούμε να προκαλέσουμε οποιαδήποτε ζημία σε καταναλωτές. Χτυπώντας το μαρκετιστικό προφίλ των συγκεκριμένων μεγαλοεταιρειών, επιδιώκουμε να τους προκαλέσουμε οικονομικό πλήγμα, καθώς, αν θέλουν να είναι "ασφαλείς" οι πελάτες τους, θα πρέπει να αποσύρουν όλες τις παρτίδες των προϊόντων που θα είναι στα ράφια για όλο το διάστημα κατά το οποίο θα διαρκέσει η δράση. Για τη δημοσίευση του συγκεκριμένου προειδοποιητικού μηνύματος καθιστούμε υπεύθυνα τα καθεστωτικά μέσα στα οποία έχει αποσταλεί (Καθημερινή, Ζούγκλα, Bloko, Newsbeast). Σε περίπτωση μη δημοσίευσης, με ο,τι αυτό συνεπάγεται, καθαρά υπεύθυνα θα είναι πάλι τα συγκεκριμένα μέσα.

Με την ολοκλήρωση της δράσης θα δημοσιευτεί αναλυτικό κείμενο ανάληψης ευθύνης".





Symptom-free Ebola infections detected in West Africa

Source: <http://www.medicalnewstoday.com/releases/314150.php>

Nov 16 – Between 2013 and 2016, tens of thousands of people in West Africa contracted Ebola virus disease, making the epidemic the largest and longest on record. But the number of reported cases - roughly 28,000 - may be an underestimate of the total number of people infected, since it includes only people who showed symptoms of disease. Researchers reporting in *PLOS Neglected Tropical Diseases* have discovered individuals in Sierra Leone who showed no signs of the disease but have evidence of prior Ebola infection in their immune systems.

An estimated 10-80 percent of people who show symptoms of Ebola virus disease (EVD) die, depending on their access to intensive care. However, **researchers have also seen some evidence that a minority of people may catch the Ebola virus without developing symptoms.** During the 2013-2016 outbreak, however, these so-called "minimally symptomatic infections" were not considered epidemiologically relevant to models, projections, or intervention efforts so were not studied or tracked in detail.

From October 2015 through January 2016, a year after the peak of the Ebola epidemic, Eugene Richardson, of Partners In Health, and colleagues conducted a survey of people living in Sukudu, Kono District, Sierra Leone, a village of 900 inhabitants which had been a major "hotspot" of Ebola. **The team identified 193 adults and children over age 4 who had lived with or shared a latrine with a confirmed case of Ebola during the period of active transmission but were never identified as EVD cases.** The researchers collected blood from 187 of these individuals. They then tested the blood samples - as well as positive and negative controls from known Ebola cases and people not exposed to the virus - for Ebola glycoprotein antibodies, the presence of which indicates a past Ebola infection.

Of the 187 exposed individuals, none of whom were previously known to have Ebola virus disease, the researchers identified **14 who tested positive for Ebola antibodies. Two of these 14 admitted having a fever while being quarantined, while the other 12 denied any signs or symptoms.** However, the study could not pinpoint the timing of any past infection, nor guarantee that any individuals were not prevaricating about a lack of symptoms. The results also can't be extrapolated to other villages affected by the outbreak without more data.

"The findings provide further evidence that Ebola, like many other viral infections, presents with a spectrum of clinical manifestations, including minimally symptomatic infection," the researchers write.

"These data also suggest that a significant portion of Ebola transmission events may have gone undetected during the outbreak."

Article: *Minimally Symptomatic Infection in an Ebola 'Hotspot': A Cross-Sectional Serosurvey*, Eugene T. Richardson, J. Daniel Kelly, Mohamed Bailor Barrie, Annelies W. Mesman, Sahr Karku, Komba Quiwa, Regan H. Marsh, Songor Koedoyoma, Fodei Daboh, Kathryn P. Barron, Michael Grady, Elizabeth Tucker, Kerry L. Dierberg, George W. Rutherford, Michele Barry, James Holland Jones, Megan B. Murray, Paul E. Farmer, *PLOS Neglected Tropical Diseases*, doi: 10.1371/journal.pntd.0005087, published 15 November 2016.

Decontamination of Subway Railcar and Related Materials Contaminated With Bacillus Anthracis Spores Via the Fogging of Peracetic Acid and Aqueous Hydrogen Peroxide

Source: <https://www.domesticpreparedness.com/reports/>

Nov 20 – In the event of a biological incident in a transportation hub such as a subway system, effective remediation of railcars, subway tunnels and stations will require the use of various decontamination approaches. The study described in this report builds on previous fogging decontamination research, but with a focus on decontaminating subway railcars and related materials.



Exec summary

The Department of Homeland Security's (DHS's) Underground Transport Restoration (UTR) Program was established to identify potential methods for rapid characterization, cleanup, and clearance of biological

contamination in an underground transit system. This would include physical structures (tunnels and stations) and rolling stock (railcars). The UTR Project is expected to improve the capability for transit systems to recover rapidly from a biological release event and thereby addresses a high-priority need expressed by the Transportation Security Administration (TSA) and local transit systems. As part of this UTR Project, the U.S.

Environmental Protection Agency (EPA) is evaluating multiple methodologies for the decontamination of subway and railcar materials contaminated by a biological agent.

This project supports the U.S. EPA Office of Research and Development's (ORD's) Homeland Security Research Program (HSRP) mission of helping protect human health and the environment from adverse impacts resulting from the release of chemical, biological, or radiological agents. With an emphasis on decontamination and consequence management, water infrastructure protection, and threat and consequence assessment, the HSRP is working to develop technology and information that will help detect the intentional introduction of chemical or biological contaminants in buildings or water systems; contain these contaminants; decontaminate buildings, water systems, or other infrastructure; and facilitate the disposal of material resulting from restoration activities.

In the event of a biological incident in a transportation hub such as a subway system, effective remediation of railcars, subway tunnels and stations will require the use of various decontamination approaches. One potential decontamination tool that could be used in such an event is the fogging of sporicidal liquids. The study described in this report builds on previous fogging

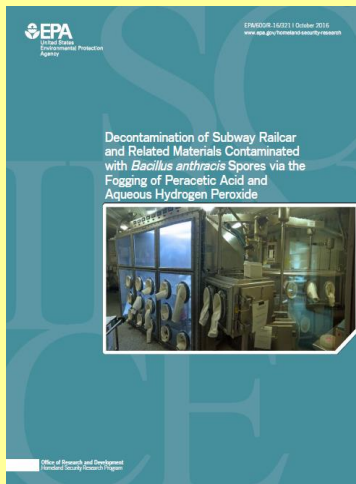
decontamination research, but with a focus on decontaminating subway railcars and related materials. More precisely, the purpose of this study was to evaluate the efficacy of fogging to decontaminate a variety of subway railcar materials contaminated with *Bacillus anthracis* (*B.a.*; Ames strain) spores. Multiple variables were investigated to assess their effect on decontamination efficacy, including spore species (*B.a.* and *Bacillus atrophaeus* aka *Bacillus globigii*, or *B.g.*), railcar or tunnel material, fogger types, air temperature, sporicidal liquid (peracetic acid [PAA] or aqueous hydrogen peroxide [H₂O₂]), quantity of liquid fogged, and location within the test chamber.

Summary of Major Findings

This evaluation focused on the decontamination of eleven types of subway railcar materials and a common subway tunnel material (unpainted concrete). Decontamination efficacy tests were conducted with spores of virulent *B.a.* Ames and non-virulent *B.g.*, to assess the potential use of *B.g.* as a surrogate for future studies with fogging equipment of sporicidal liquids. A summary of the decontamination efficacy results, in terms of average log₁₀ reduction (LR) by material and microorganism, is shown in Table ES-1. A decontaminant product is considered to be an effective sporicide or sporicidal decontaminant if a 6 LR or greater is achieved based upon appropriate laboratory testing.

The data and statistical analyses generated from this evaluation suggest that *B.g.* may be a suitable surrogate for *B.a.* Ames for future tests assessing the decontamination efficacy of PAA or H₂O₂ using fogging equipment.

Many of the subway railcar materials were effectively decontaminated (achieved a 6LR or greater) by fogging PAA. These materials include the rubber flooring, seat upholstery, aluminum seat backing, Mylar[®] glass coating, and both new and used cabin air filters. Fogging of PAA was ineffective for the carpet, concrete, and grease (with spores mixed in/encapsulated into grease); and moderately effective (approximately 3-6 LR) for the interior fiberglass side panel



material, and the clean and dirty railcar grease (spores left on top of grease).

With respect to the effect of air temperature, while the higher temperature (20 °C) resulted in a greater probability of complete spore population kill and greater LR values compared to the results at 10 °C (an average of 1-2 LR better), many of these differences were not statistically significant.

The two types of foggers yielded similar LR values when compared at 20 °C. Testing conducted using the same parameters but at 10 °C generally yielded higher LR for the Sani-Tizer™ fogger as compared to the Minncare

equipment. Overall, however, statistical analysis using the logistic regression model indicated that the type of fogger did not have a significant effect on LR.

There was minimal effect of location within the test chamber on decontamination efficacy. However, as would be expected, coupons stationed horizontally on a cart facing upward, in the center of the chamber, were more likely to show a complete kill compared to the other four locations in the chamber (i.e., vertical orientation on wall, in the duct, underneath the table, and on the floor near the corner).

Region's first infectious diseases hospital opens in Qatar

Source: <http://dohanews.co/regions-first-infectious-diseases-hospital-opens-in-qatar/>



HMC - Communicable Diseases Center

The first hospital in the region dedicated to treating and researching infectious diseases has formally opened in Qatar.

The Communicable Diseases Center was inaugurated by the country's prime minister yesterday. It specializes in illnesses such as Tuberculosis (TB), Middle East Respiratory Syndrome (MERS), measles, hepatitis, influenza, leprosy and HIV, Hamad Medical Corp. (HMC) said in a statement. The CDC will also host Qatar's first travel clinic, which will give vaccinations and preventative information for people traveling overseas. Additionally, it will provide post-travel treatment for those returning to Qatar with illnesses.

That clinic is scheduled to open in January 2017.

The center is situated next to the new [Hamad Bin Khalifa Medical City](#) – a QR2.4 billion medical complex on a 227,000 square meter site in Rumaila (central Doha).

The complex was originally supposed to open in 2014, but has faced many delays.



What is the center?

The 9,000 square meter hospital has 65 single bedrooms, which can be converted into isolation units in the case of serious pandemics.

Each of the rooms has specially designed air filtration and ventilation systems to help patients whose immune systems have been compromised.

A fresh air exchange feature prevents any cross-contamination between rooms, HMC added.

As well as in-patient facilities, the CDC also has outpatient clinics. Services include pre-marriage counseling and education for people who have infectious diseases.

Robot pharmacy

To speed up delivery of medication to patients, the center will have an automated pharmacy.

HMC opened its one of its first “robot pharmacies” at Hamad General Hospital in March this year.



This can deliver up to 1,200 prescriptions an hour. In comparison, human pharmacists can give out some 1,800 prescriptions during an entire day.

As well as treating and advising patients, the center will also conduct research, with specialist teams collecting and analyzing data on infectious diseases.

Qatar’s public health minister Dr. Hanan Al Kuwari, who is also managing director of HMC, said:

“This new CDC will provide a dedicated facility for the identification and treatment of infectious diseases in Qatar, giving patients direct access to the most advanced treatment options available.”

It will also be a teaching center, used to train medical staff on how to better diagnose and treat infectious diseases, said Dr. Abdullatif Al Khal, deputy chief medical officer and head of infectious diseases at HMC.

New medical city

The center’s opening precedes the upcoming launch of three hospitals in Hamad Bin Khalifa Medical City.

In yesterday’s statement, HMC added that **four new hospitals are expected to open in Qatar in “the next six months.”**





Ashghal - Ambulatory Care Center



Hamad Bin Khalifa Medical City

It did not say which these would be, but earlier this year pledged **to launch some seven hospitals by the end of next year.**

These include the medical city's Women's Wellness and Research Center, Ambulatory Care Center and the Qatar Rehabilitation Institute. Additionally, three hospitals dedicated to the treatment and care of blue-collar male expats will open in the coming year. These will be in Doha's Industrial Area, Al Khor and Mesiaeed.



Comparison of the Airtraq laryngoscope versus the conventional Macintosh laryngoscope while wearing CBRN-PPE

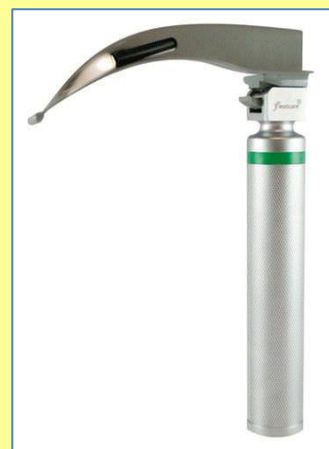
By Claret, Pierre-Géraud; Bobbia, Xavier; Asencio, Renaud; Sanche, Emilie; Gervais, Emmanuelle; Roger, Claire; Sebbane, Mustapha; de La Coussaye, Jean-Emmanuel

European Journal of Emergency Medicine: April 2016 - Volume 23 - Issue 2 - p 119–123

Source: http://journals.lww.com/euro-emergencymed/Abstract/2016/04000/Comparison_of_the_Airtraq_laryngoscope_versus_the.8.aspx

Abstract

Objective: The rapid management of respiratory failure after exposure to a CBRN agent (chemical, biological, radiological and nuclear) is a priority leading to a decrease in mortality. We studied the performance of orotracheal intubation (OTI) with the **Airtraq laryngoscope** (left) compared with the **Macintosh laryngoscope** (right) by emergency physicians in protective CBRN type III personal



protective equipment.

Materials and methods: In this prospective, randomized, cross-over, single-center study, emergency room volunteer physicians with a thesis level performed, with each of the devices, six OTI tests on manikins with conventional airway. The OTI time and the OTI success rate for each device were studied. Each physician then evaluated the ease of use of each laryngoscope.

Results: The average OTI time for Macintosh and Airtraq was 24 ± 12 versus 37 ± 28 s ($P < 0.01$) and the success rate of OTI was 177/180 (98%) for Macintosh and 139/180 (78%) for Airtraq ($P < 0.01$). Twenty-one out of 30 doctors preferred the Macintosh device to the Airtraq device for its overall ease of use ($P < 0.05$), speed of grip ($P < 0.05$), and ease of correct insertion of the probe ($P < 0.01$).



Conclusion: This study on manikins shows that the **Macintosh laryngoscope is superior to the Airtraq laryngoscope in terms of OTI speed, efficiency, and overall ease of use.** The Macintosh device is one of the alternatives in the OTI of normal airways by emergency doctors in CBRN personal protective equipment clothing.

EDITOR'S COMMENT: What about the **Airtraq Guided Video laryngoscope**? Should be particularly helpful when in PPE with limited visibility and head flexion capability usually due to the position of the filter – although in this article hoods and PAPRs were used. **Read also:**



Airtraq laryngoscope versus conventional Macintosh laryngoscope: a systematic review and meta-analysis.

By Lu Y¹, Jiang H and Zhu YS

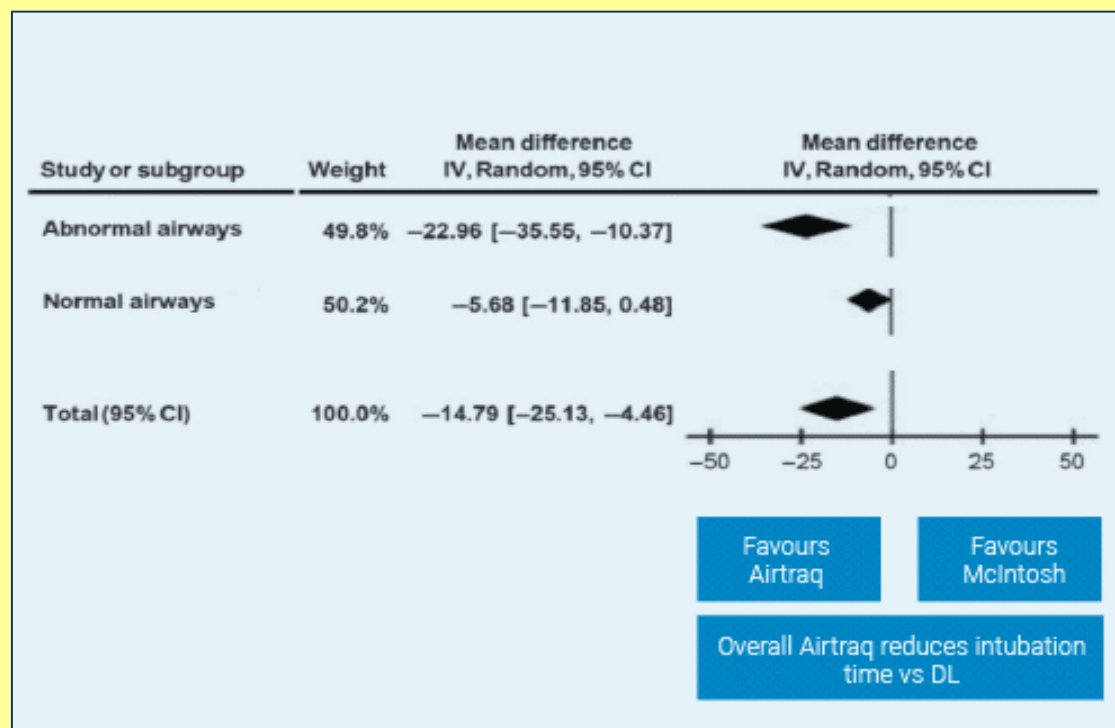
¹Department of Anaesthesiology, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University, School of Medicine, Shanghai, China.

Anaesthesia. 2011 Dec;66(12):1160-7.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/21883130>

Abstract

The Airtraq laryngoscope is a single-use laryngoscope designed to facilitate tracheal intubation in patients with either normal or difficult airways. The aim of this systematic review and meta-analysis was to **compare the Airtraq with the conventional Macintosh laryngoscope**. Data were retrieved from



Medline, Embase, the Cochrane register of controlled trials, and by a manual search of bibliographies. Twelve randomised controlled trials (published between 2006 and 2011) including 1061 patients met the inclusion criteria. The Airtraq reduced intubation time significantly (mean difference -15 s; 95% CI -25 to -4 s, $p < 0.00001$) used by both experienced anaesthetists and novices, and it increased the first attempt success rate only in novices (relative risk 1.25; 95% CI 1.05-1.49, $p = 0.07$). The incidence of oesophageal intubation (relative risk 0.12; 95% CI 0.03-0.48, $p < 0.05$) was significantly reduced by the Airtraq. **We conclude that the Airtraq laryngoscope facilitates a more rapid and accurate intubation, especially when used by novices.**

Responding to the Next Ebola

By Jonathan Fielding

Source: <http://www.usnews.com/opinion/policy-dose/articles/2016-11-29/after-ebola-4-ways-to-prepare-for-our-next-public-health-emergency>

Nov 29 – Earlier this year, the World Health Organization declared that Ebola is no longer a public health emergency. While there are still outbreaks of patients infected with Ebola in



Africa, local health officials are able to quickly identify and treat patients, keeping the virus from spreading. All that is good. But we can't put our guard down just because Ebola is not making headlines. We must be prepared for the next epidemic.

Ebola and other pathogens are zoonoses, viruses and other infectious agents that can be naturally transmitted from animals to humans. The Institute for Infectious Animal Diseases at Texas A&M University [reports](#) that at least 60 percent of all human pathogens are zoonotic. And according to the [Centers for Disease Control and Prevention](#), 75 percent of recently emerging infectious diseases that affect humans come from animal reservoirs. In the future, zoonotic transmission may become an even greater threat to public health as the population in parts of Africa, Asia and Latin America increases, pushing humans into closer proximity and more frequent contact with animal disease reservoirs.

Two studies published in a recent edition of [Cell](#), a respected scientific journal, found that the Ebola virus got stronger and replicated more aggressively in human cells as the disease spread through West Africa. Thus, movement from animals to humans may well have contributed to the length and severity of the Ebola epidemic.

Stronger cooperation with other countries is needed to identify and fight outbreaks early. Collaborative efforts can prevent escalation from limited outbreaks to epidemics that threaten large populations and wide swaths of territory.

The steps our nation must take are [discussed in detail](#) in the "Report of the Independent Panel on the U.S. Department of Health and Human Services (HHS) Ebola Response," which I chaired. The report summarizes what went right and what went wrong in our involvement in the fight against Ebola. Based on the findings, it lays down strong recommendations for how to be better prepared for the next epidemic.

Here are several high priority recommendations:

First, the U.S. must help the World Health Organization and countries with limited ability to determine the size and severity of disease outbreaks and limited clinical capacity strengthen their surveillance and response capabilities. In many countries this means channeling training and resources to nongovernmental organizations that are on the front lines of health care delivery. Early detection of outbreaks in Africa, Asia and Latin America before they become public health threats is the best way to protect Americans. In Brazil, it was five months between the initial isolation of the virus and the declaration of national public health emergency.

Second, HHS needs a pot of discretionary funds that can be accessed and spent both here at home and abroad in case of public health emergencies without getting prior approval from Congress or the federal Office of Management and Budget. HHS took funds from other needed vaccine development efforts to fight Ebola during the long wait for a congressional appropriation. But the independent panel concluded that some necessary steps were delayed or not taken at all because funds were not readily available. This is no way to conduct the response to a public health emergency.

Third, we need the capacity to call on the right people to combat public health threats. Governmental experts need back-up to fulfill their other important responsibilities, and additional hires of outside staff need to be done quickly. HHS was hampered in its response to the recent Ebola outbreak by the inability to hire people without first getting approval from Office of Personnel Management. Even hiring for emergencies can take several months or more. HHS should be given direct hiring authority for public health emergencies, even if the hires are temporary or subject to later review.

Fourth, we need clear and decisive guidelines on when and under what circumstances the U.S. is willing to send clinical medical care personnel to other countries. During the recent Ebola crisis, the [CDC deployed](#) more than 1,200 staff to West Africa including experts in surveillance, laboratory testing, logistics, infectious disease control and other key support roles. President Barack Obama sent 3,000 U.S. troops to Liberia to support response activities. And the Agency for International Development's Office of U.S. Foreign Disaster Assistance sent staff to assist in the effort. However, we sent only a small number of clinicians, who were desperately needed to care for the rapidly expanded number of very sick Ebola patients.



We also need to reassure those who go into the eye of epidemics that if they become infected, we will transport them to the U.S. or another country that can provide the most advanced quality of care. Many of us remember Dr. Kent Brantley, an American volunteer with a religious organization, who was the first health care Ebola victim returned to the U.S.

It is unlikely that we can replicate the quality of care Brantley and others received in the U.S. at

locations around the world where outbreaks and epidemics are more likely to originate. But there is a lot we can do to better detect and limit the spread of the next menacing outbreak.

More importantly, by helping to build up resources and capacity to respond, we will do a better job protecting Americans here at home from the next public health emergency.

Jonathan Fielding, M.D., is distinguished professor of public health and pediatrics at UCLA.



Canadian lab worker released after Ebola infection scare

Source: <http://www.cbc.ca/news/canada/manitoba/canadian-lab-worker-released-after-ebola-infection-scare-1.3871609>

Nov 28 – The Winnipeg laboratory worker whose torn suit raised fears he had been exposed to the Ebola virus has been released from quarantine after he displayed no symptoms, a government official said on Monday.

The man is well and his quarantine has ended, said a Manitoba health department official, who asked not to be identified as she was not authorized to speak publicly. She gave no further details.

The worker noticed a 2.5-cm split in his suit's seam while showering earlier this month after working with pigs infected with Ebola in an experiment at the National Centre for Foreign Animal Disease in Winnipeg.

Ebola, which killed thousands in a West Africa outbreak in 2014, spreads through contact with body fluids and tissues of an infected person.



Changes required to fortify U.S. blood system against financial, biological threats

Source: <http://www.homelandsecuritynewswire.com/dr20161129-changes-required-to-fortify-u-s-blood-system-against-financial-biological-threats>

Nov 29 – Medical advances have reduced the demand for blood in the United States, creating financial pressure on the nation's blood collection centers and threatening their future survival, according to a new RAND Corporation study.

While the existing system continues to function well, more government oversight of the nation's blood system may be needed to safeguard the future of the blood supply and prevent blood shortages from posing a risk to the public's health, according to the report.

"The U.S. blood system operates effectively, but it is in a state of flux and uncertainty," said Andrew Mulcahy, lead author of the study and a policy researcher at RAND, a nonprofit research organization. "Financial pressures, changes in health care practice and technology, and the emergence of external threats such as the Zika virus are pressuring the system and may potentially threaten the available supply of blood. We need a better, more-efficient and more-sustainable system."

RAND notes that the U.S. blood system collects, tests, processes, and distributes the blood that is ultimately used in clinical practice. In 2013, more than 14 million units of blood were collected in the United States from about 15.2 million individuals, with 13.2 million units transfused.

The RAND report finds changes, such as less-invasive surgeries and new drugs, have lowered the demand for blood over the past decade, while the size of the blood collection and distribution system has downsized only slightly. At the same time, consolidation of hospital ownership has shifted negotiation power toward hospital buyers and away from blood centers. The result has been increased competition among blood centers that has led to falling prices for blood, which slices into blood centers' already thin margins and revenue.

Meanwhile, technological innovation and the emergence of pathogens, such as the Zika virus, are adding new production and testing

costs for blood suppliers. A dwindling pool of active donors poses another challenge.

In the short term, unexpected and sudden changes, such as the closure of multiple blood centers, could potentially affect the timely availability of safe blood products and have other negative consequences, according to researchers. In the long term, however, consolidation among blood centers may be necessary and may result in a stronger blood system.

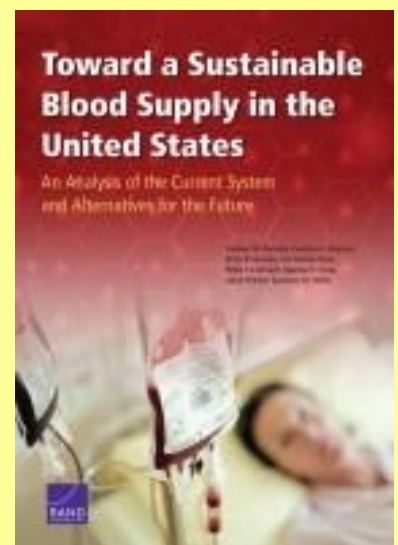
Researchers conclude the best option for fortifying the U.S. blood system would be for the federal government to play a targeted role in ensuring blood system sustainability — rather than continuing the status quo or having the

government assume operation of the blood system as is done in some nations.

Fundamental to strengthening the blood system is for federal officials to begin collecting comprehensive data about performance of the blood system, including details about both blood use and financial arrangements between blood centers and hospitals.

The researchers also recommend regulators better define appropriate levels of surge capacity to respond to public health emergencies and subsidize the ability of blood centers to maintain that capacity. They also urge government agencies to build relationships with other participants in the blood system to form a blood safety net.

Additionally, they recommend the development of a value framework for new technologies to provide information about costs and benefits, and guide decisions



about adoption. And where technologies do not justify investments from a business perspective — yet have clear public health and preparedness benefits — policymakers may want to require adoption and pay directly for

those investments. The researchers also recommend the implementation of emergency use authorization and contingency planning for key supplies and inputs.

Key Findings

Overarching Findings

- The U.S. blood system under the status quo operates effectively and, in many cases, efficiently.
- The U.S. blood system is in a period of flux and uncertainty.
- There are unlikely but possible scenarios in which the supply of blood would be disrupted.

Threats to Sustainability

- The current system is not conducive to private investments in innovation.
- Suppliers to blood centers face significant uncertainty and contribute to concerns about sustainability.
- Services provided by local blood banks may be at risk.

Opportunities to Improve Sustainability

- Stakeholders want support in making technology adoption decisions.
- Blood center stakeholders are contemplating different market structures for the future.
- All stakeholders recognize the important role of blood as a public health good.

Recommendations

- Collect data on blood use and financial arrangements: Stakeholders have access to statistics on blood use and transactions tied to their individual organizations, but the U.S. government does not have access to comprehensive data describing the performance of the blood system.
- Develop and disseminate a vision for appropriate levels of surge capacity: Describing a desired level of surge capacity from a public health and preparedness perspective will help stakeholders and policymakers plan and estimate the costs associated with maintaining surge capacity.
- Subsidize blood centers' ability to maintain surge capacity: Surge capacity to respond to serious events and emergencies falls outside the typical financial arrangements between hospitals and blood centers, so there is an argument that the government should separately finance this surge capacity.
- Build relationships with brokers and other entities to form a blood "safety net": A well-established set of relationships can reduce emergency response times.
- Build and implement a value framework for new technology: We recommend that HHS invest in health technology assessment research for existing technologies with low adoption rates and for technologies on the horizon.
- Pay directly for new technologies in which there is no private business case for adoption: Technologies often have clear public health and preparedness benefits. In these cases, U.S. government financing of technology acquisition costs might be appropriate.
- Implement emergency use authorization and contingency planning for key supplies and inputs: The FDA could implement emergency use authorizations for replacement supplies and other inputs in the event of a shortage.

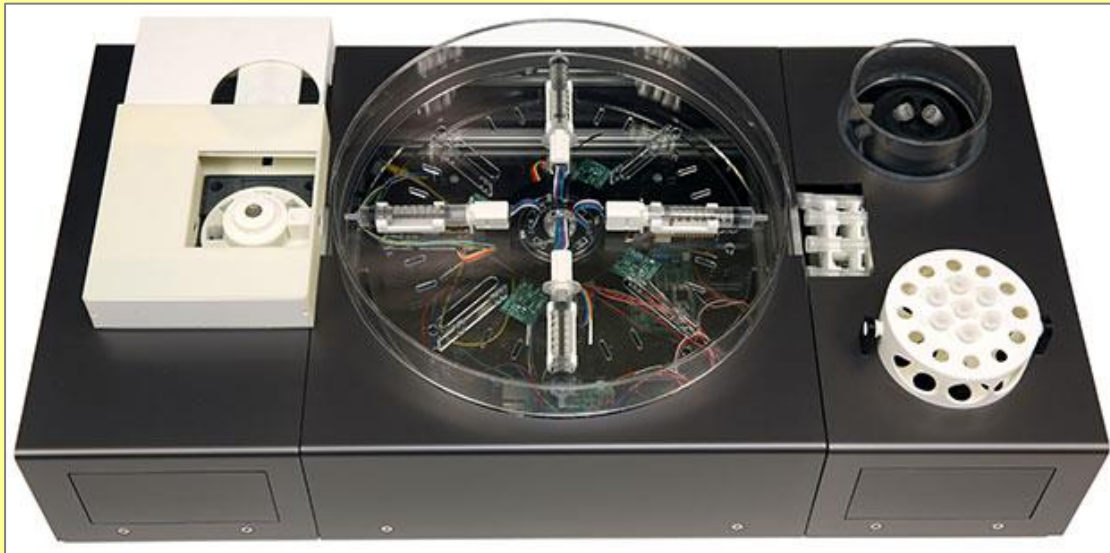
— Read more in Andrew W. Mulcahy et al., [*Toward a Sustainable Blood Supply in the United States: An Analysis of the Current System and Alternatives for the Future*](#) (RAND Corporation, 2016)



Tools for Would-Be Biohackers: Here Come 3 Mini-Labs

By Eliza Strickland

Source: <http://spectrum.ieee.org/the-human-os/biomedical/devices/tools-for-would-be-biohackers-here-come-3-mini-labs>



Biorealize – The Microbial Design Studio automates the boring parts of genetic engineering

Nov 29 –“The moment I enter a lab, I kill everything,” says Daniel Grushkin, one of the world’s most prominent and successful DIY biohackers.

Grushkin cofounded the famed community lab [Genspace](#) in Brooklyn in 2010, and he runs the international [Biodesign Challenge](#), which encourages art students to try their hands at biohacking and showcases winning projects at the Museum of Modern Art. His mission is to make everyday people feel comfortable messing around with biology.

Yet at the recent [Biofabricate conference](#) held at Parsons School of Design in New York City, Grushkin and others said that mission has been ill-served by media reports suggesting that anyone can build a biohacking lab in a bedroom closet. Grushkin says the message—that citizen scientists can easily carry out experiments in growing microbes and genetically engineering cells—doesn’t match reality. “Biology is hard,” he says, “and those promises and headlines don’t make things work in the lab.”

No one at Biofabricate was suggesting that would-be biohackers should give up, however; the conference organizers want more people to take life and death into their own hands. And three startups were present to argue that DIYers just need a little technological assist. The companies, [Amino Labs](#), [Biorealize](#), and [Spiderwort](#), all make DIY bio instruments that automate some of the tricky and tedious parts of biology experiments.

These entrepreneurs say the current moment in synthetic biology is akin to the 1970s in computer science, when microcomputers first appeared in kits that could be assembled in hobbyists’ basement workshops. Make it cheap and easy to tinker, they say, and revolution will follow.

Bioproduction Lab

Julie Legault was a designer doing research at the MIT Media Lab when she became fascinated by synthetic biology. But she was daunted. “I got access to a lab, but I was terrified,” she says. “Am I going to blow myself up with the autoclave? What organisms should I order? I didn’t know anything.”



Legault decided to make a genetic engineering kit that she compares to a kid's easybake oven or a chemistry set. Now she's the CEO of Amino Labs; she's shipping her first batch of [Bioproduction Labs](#) to backers from her [Indiegogo crowdfunding campaign](#), and she's taking orders for more. This first set of about 70 machines was lovingly hand-crafted; Legault says she's currently looking into manufacturers.



[Amino Lab](#)

The Bioproduction Lab makes genetic engineering easy: It walks the user through steps to insert DNA into bacteria and grow bacterial colonies on a plate. The company sells kits with all the ingredients for a simple experiment that results in colorful bacteria, with the microbes expressing one of seven pigments (the buyer can specify cyan, magenta, violet, etc). Legault says her team is working on kits that will make aromatic bacteria (vanilla, banana, or mint) as well as microbes that glow with bioluminescence.



The lab is somewhat pricey at **\$1700**, but

Legault says it replaces several pieces of lab equipment that would cost many thousands of dollars to assemble. It was carefully designed to avoid the intimidation factor, Legault says; with its wooden exterior, "it looks like something that belongs in the home."

The company also sells a more basic device for \$350, the [DNA Playground](#), which Legault says was inspired by brightly colored children's toys.

Amino Lab plans to sell kits for many different experiments, which teachers and makers can browse through like an app store. But Legault also hopes that DIYers will gain enough confidence to invent their own experiments. Using the kits is like using an early microcomputer to play a premade BASIC game, she says, but things really got interesting when hobbyists started creating their own.



Microbial Design Studio

[Orkan Telhan](#) teaches a studio art course on biological design at the University of Pennsylvania, and he wanted to make things easier for his students. So he set out to build a tool that would streamline the processes of genetic engineering so the students wouldn't have to worry about sterilization, incubation, and other boring biology steps. "They can worry only about the design," Telhan says. His startup, Biorealize, is making a tool that wouldn't seem out of place in an atelier or art studio.

With the [Microbial Design Studio](#), the user can work on eight organisms simultaneously. The user places little DNA cartridges into the machine and the DNA is automatically inserted into the microbes, which are parceled out into eight plastic syringes that serve as incubators. The machines can also add reagents to the tubes during incubation, and can kill the microbes at the end of the process and prepare the sample for analysis.



Biorealize

At Biofabricate, Telhan was showing off the third-generation machine. He's now making 20 units for beta testing by key biohacking groups, including the university teams that participate in the Biodesign Challenge. He estimates that a finished unit will cost between **\$3000 and \$5000**, but stresses that he's trying to make it as cheap as possible. He hopes to start sales in September.

To demonstrate the Microbial Design Studio's capabilities, Telhan worked with a product designer on an experiment kit that shows the user how to engineer "golden yeast" that produces vitamin A. The yeast can then be used to bake what Telhan's team calls "[microbial donuts](#)." The resulting bioengineered donuts look tasty, but can you eat them? "Pending regulation, I say no," Telhan says.

Telhan says his machine is good enough for use by professional scientists who will see it as a cheap replacement for grad student labor, but he also foresees people doing serious science in their own homes. As an example, he points to the [Open Insulin Project](#) started by California biohackers, who are trying to insert a gene for insulin production into bacteria. "In the future, more and more people will need these machines not just to tinker, but to make things for their own consumption," Telhan says.

Spiderwort Open CO₂ Incubator

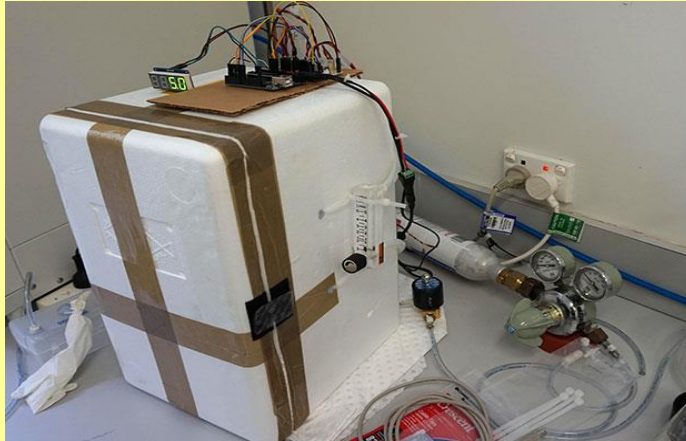
For the biohacker who wants to move beyond microbes, Spiderwort's [CO₂ incubator](#) for growing human and animal cells may be just the thing. Andrew Pelling, who [runs a lab](#) at the



University of Ottawa, decided to build it based on his frustration with expensive lab equipment. “An incubator is basically a warm box that costs \$10,000,” he says. “Every lab has them: We have four in my lab.”

So, while he was on sabbatical at the University of Western Australia, he decided to build an incubator out of garbage. He ended up making a functional incubator that controlled temperature and CO₂ level

(which affects the pH of solutions) for about \$300. He only had to plunk down money for the CO₂ sensor and an Arduino board to run the controls.



Spiderwort

It wasn't pretty. But he proudly posted his [open-source design online](#). “I obsessed over this for four months, and wanted to give back to the biohacker community,” Pelling says. “So I was extremely disappointed the next day to find all these emails from

people who wanted to buy the incubator. Nobody wanted to dig around in the garbage.”

Now Spiderwort's incubator is a polished product in beta testing, and Pelling is planning a Kickstarter campaign for early 2017 to fund the move into production. He expects to price the incubator at around **\$1000**.



Spiderwort

Pelling's also working on other pieces of open-source lab equipment for DIYers. He can't wait to see what people will do when they can mess around with animal and human cells. “It's just a platform,” he says. “It's waiting for people to use their imaginations.”



Senior Associate Editor *Eliza Strickland* joined IEEE Spectrum in March 2011 and was initially assigned the Asia beat. She got down to business several days later when the Fukushima Daiichi nuclear disaster began. Strickland shared a Neal Award for news coverage of that accident and wrote the definitive account of the accident's first 24 hours. These days she covers the biomedical engineering beat and recently managed Spectrum's special report "Hacking the Human OS." That report spawned the new Human OS blog about emerging technologies that are enabling a more precise and personalized kind of medicine. The blog reports on wearable biometric sensors, big-data analytics, and implanted devices that may turn us all into cyborgs. Strickland's current passion is reporting on neural modulation techniques that researchers are using to tweak people's movements, moods, and memories. Strickland has reported on science and technology for 15 years, writing for such publications as Discover, Nautilus, Sierra, Foreign Policy, and Wired. She holds a master's degree in journalism from Columbia University.

Symptomless Ebola – questions need to be answered before the next outbreak

By Edward Wright

Source: <http://www.homelandsecuritynewswire.com/dr20161202-symptomless-ebola-questions-need-to-be-answered-before-the-next-outbreak>

Nov 02 – Scientists know that Ebola can cause anything from severe hemorrhagic fever to no symptoms at all (asymptomatic infections). What wasn't known, until now, is the number of people who experienced asymptomatic infections during the 2013-2016 outbreak of Ebola in West Africa.

This is not the first report of potential asymptomatic cases of Ebola. About one in five people who came into contact with individuals infected during the 1976 outbreak in Sudan had detectable antibodies against Ebola but had not been ill. A 2005-2008 survey of the public in Gabon, which had its first outbreak of Ebola in 1994, suggested 15 percent had been infected with Ebola but did not show symptoms. Interestingly, 7 percent of healthy Germans have antibodies against Ebola or closely related viruses.

Not uncommon

Ebola is not alone in this respect. **There are several other viruses that cause severe disease but have also been suggested to cause asymptomatic infections in some people.** Rabies virus kills well over 99 percent of infected people who have not previously received a rabies vaccine. However, antibodies to the virus have been detected in indigenous groups living in Amazonian villages who had not been vaccinated. It is also estimated that 88 percent of Crimean Congo hemorrhagic fever virus cases in Turkey are symptomless.

These studies have principally been based on detection of antibodies to these viruses. Antibodies are stimulated against the virus in the first few days following infection, but they can linger for months following clearance of the virus. Because of this, they can only really be used to document historical infections. So it's not possible to say when these people were infected. Also, these studies rely on self-

reporting of symptoms to determine severity of disease. Or, as in the asymptomatic cases, a lack of any. As a result, there is a significant risk of recall bias in these types of studies.

If the number of asymptomatic Ebola cases being reported are to be believed then this could have major consequences. Are these people infectious? Does the virus persist for weeks after clearance from the blood as has been reported for a fraction of symptomatic cases? If the answer to these questions is yes, then it should be taken into account when diagnosing and treating the disease.

Although these asymptomatic individuals are unlikely to be infectious – current dogma suggests that people are only infectious when symptomatic – it cannot be ruled out. Conversely, there are potential benefits. If large proportions of the population in an outbreak area are naturally generating an immune response against the virus without



becoming ill, then this could limit the ability of the virus to spread in that population.

Elite controller

It also throws up questions about why there is such a wide spectrum of disease severity in people infected with the Ebola virus. Thanks to studies undertaken during the outbreak in West Africa, we are now aware of [factors](#) that can predispose someone to severe disease.

The virus has also been shown to have evolved during the outbreak, enabling it to [more readily infect human cells](#). However, the existence of asymptomatic cases gives rise to the possibility that there may also be “elite controllers” – people who are able to naturally block infection by Ebola virus. This is something that has been seen with other viruses, including [HIV](#).

Some of these elite controllers are thought to arise from a constant evolutionary battle between humans and pathogens, with each genetically adapting to get the upper hand – the so-called [Red Queen hypothesis](#). But we don't

know if these people are genetically primed to have a much faster and more potent response to infection with Ebola. It is also possible that they were exposed to a smaller dose of the virus, not enough to cause infection but enough to stimulate an immune response.

Given the vast amount of genetic information that was gathered during the West Africa outbreak, it would be of great interest to know what genetic version of the virus was circulating near the village at the time this study was conducted. Had the virus mutated to become weaker? There are reports that [not all species of Ebola cause disease in humans](#).

So, while this new report of asymptomatic cases of Ebola virus infection is not unique, it does raise important questions that need to be answered. Over the last couple of years, governments and global public health agencies have increased resources to tackle these questions. Hopefully, we will be better equipped and prepared for the next outbreak.

Edward Wright is Senior Lecturer in Medical Microbiology, University of Westminster.

Zika virus: the fear travels by mosquitoes - Social and psychological impact of the outbreak

By Orlando Cenciarelli,^{1,2†} Mariachiara Carestia,^{1,2} Stefano Pietropaoli,³ Gian Marco Ludovici,² Valentina Gabbarini,² Sandro Mancinelli,^{2,4} Andrea Malizia,^{1,2*} Daniele Di Giovanni,^{1,2} Pasquale Gaudio^{1,2} and Leonardo Palombi^{2,4}



¹Department of Industrial Engineering, University of Rome Tor Vergata, Rome, Italy;

²International Master Courses in Protection Against CBRNe events, Department of Industrial Engineering and School of Medicine and Surgery, University of Rome Tor Vergata, Rome, Italy;

³Department of Science, University of Rome 3, Rome, Italy;

⁴Department of Biomedicine & Prevention, School of Medicine and Surgery, University of Rome Tor Vergata, Rome, Italy.

Biomedicine & Prevention (2016) - vol. 1 - (47) - DOI:10.19252/00000002F

Source: <http://www.biomedicineandprevention.com/manuscript/zika-virus-fear-travels-mosquitoes-social-and-psychological-impact-outbreak>

Predicting disease outbreak in a hyper-connected world

Source: <http://www.homelandsecuritynewswire.com/dr20161209-predicting-disease-outbreak-in-a-hyperconnected-world>

Dec 09 – At the first hints of a disease outbreak, epidemiologists, health care providers, policy makers, and scientists turn to sophisticated predictive models to determine how an



illness is spreading and what should be done to minimize contagion. A research collaboration between the New York University Tandon School of Engineering and Politecnico di Torino in Italy is upending the traditional modeling process, yielding predictions that are both simpler to calculate and more attuned to a hyper-connected world.

All predictive models correlate the movement of an illness through a population over time, but current simulations fail to account for a seemingly obvious idea: that mobility and activity varies among people, and that these variations impact the likelihood of contracting or spreading an illness.



NYU says that a new paradigm was explained in a paper published in *Physical Review Letters* by Maurizio Porfiri, a professor of mechanical and aerospace engineering at NYU Tandon, Alessandro Rizzo, a visiting professor at NYU Tandon and an associate professor of control engineering at Politecnico, and Lorenzo Zino, a Politecnico doctoral student in pure and applied mathematics.

The researchers assume that some people are more active, some less so, and their model accounts for how these differences may impact disease spread. Their approach permits nuanced modeling of different illnesses — from a highly contagious airborne virus such as influenza, which moves quickly among people with high mobility but is limited by those who seclude themselves, to a virus like HIV, which has a long latency period and slower transmission rate.

“The way I move is the way I catch a disease,” said Porfiri. “We’re changing the point of view from which we start outbreak simulations because we can’t understand how a small outbreak evolves into an epidemic without understanding how different people’s activity levels help spread it.”

Several traditional models assume homogeneity within the community. “It’s like sick people are all in a specific place, connecting with a set number of people, and that’s not realistic,” said Rizzo. “Some people make more connections than others, and the scale of those connections may be comparable to the scale of the disease.”

Porfiri and Rizzo explained that traditional simulations use a “discrete time/continuous activity” approach, which typically requires extensive and lengthy simulations. The researchers employ simpler systems of coupled differential



equations that allow for the manipulation of factors that can influence disease spread.

This is the first piece of research to emerge from a three-year, \$375,000 National Science Foundation grant awarded to the team to study the concurrent evolution of the dynamics of infectious diseases and the networks through which they spread. The research was also funded in part by grants from the U.S. Army Research Office (ARO) and Compagnia di San Paolo.

NYU notes that the team has developed one of the few disease modeling approaches that uses heterogeneities in activity levels as a factor in spreading disease. In experiments to test their model, the team successfully predicted the movement of influenza on a university campus and the spread of a trending topic on Twitter.

“We have infinite possibilities to see the impact of interventions,” said Porfiri. “We can understand how vaccines, quarantine, or other parameters influence contagion. Some illnesses catch fire, while others are quashed immediately. This framework allows for analysis of why and how that happens.”

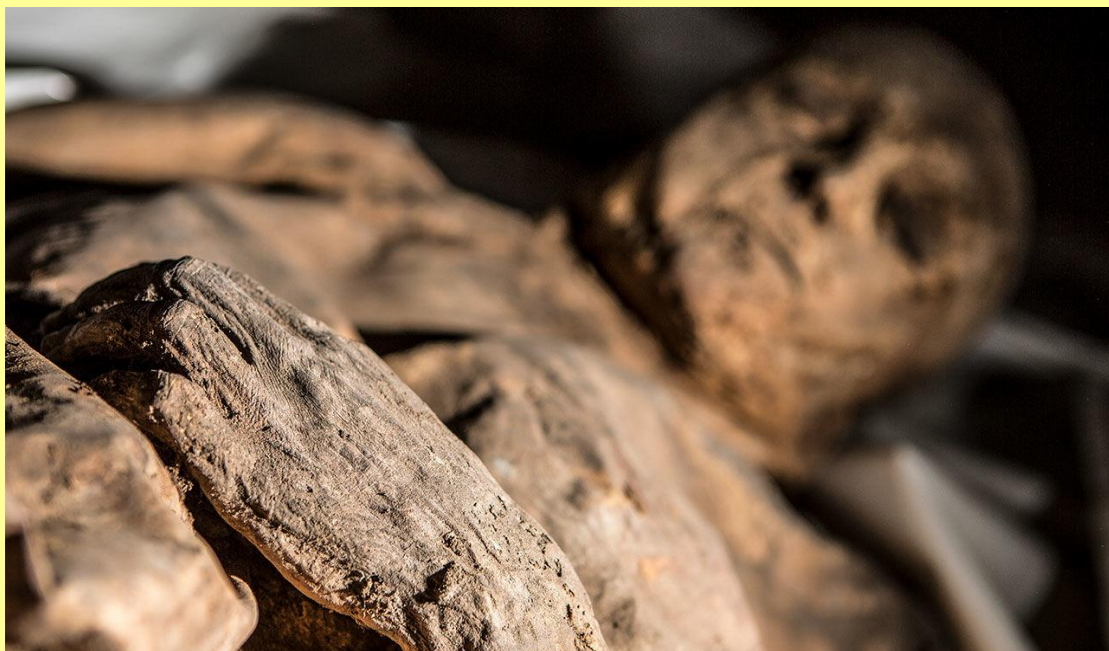
In the future, the researchers expect that this model will aid management efforts during an outbreak, including implementing vaccination strategies, evaluating the risks and benefits of travel bans, and gauging the effectiveness of disease prevention campaigns.

— Read more in *Lorenzo Zino et al., “Continuous-Time Discrete-Distribution Theory for Activity-Driven Networks,” [Physical Review Letters](#) 117, no. 22-25 (23 November 2016).*

When Did Smallpox Emerge? 17th Century Lithuanian Mummy Could Rewrite History Of The Deadly Disease

By Avaneesh Pandey

Source: <http://www.ibtimes.com/when-did-smallpox-emerge-17th-century-lithuanian-mummy-could-rewrite-history-deadly-2457670>



A mummy found in the same Lithuanian crypt where researchers extracted DNA from a small child, thought to have died of smallpox. Photo: KIRIL CACHOVSKI

Dec 09 – Scientists have long thought that smallpox — one of the most devastating diseases to ever afflict humankind — has been around for thousands of years. The [World](#)

[Health Organization](#), for instance, states that smallpox, caused by the Variola virus, has existed for at least 3,000 years.



However, a **new study based on the genetic analysis of the viral DNA obtained from the partially mummified remains of a 17th century Lithuanian child has called this belief into question.** The research, published Thursday in the journal *Current Biology*, reveals that the disease may be just hundreds, rather than thousands, of years old.

“Scientists don’t yet fully comprehend where smallpox came from and when it jumped into humans,” senior author of the study Hendrik Poinar, the director of McMaster University’s Ancient DNA Centre, said in a [statement](#) released Monday. “This research raises some interesting possibilities about our perception and age of the disease.”

For their research, the scientists extracted a heavily-fragmented smallpox virus DNA from the corpse of a child believed to have died between 1643 and 1665 — a period when smallpox outbreaks were common throughout Europe. When they sequenced the DNA and compared it to the 20th century samples, they found that all available strains of the virus emerged from an ancestor that existed in the 1580s.

“This study sets the clock of smallpox evolution to a much more recent time-scale” study co-

author Edward Holmes, an evolutionary biologist from the University of Sydney, said in the statement. “Although it is still unclear what animal is the true reservoir of smallpox virus and when the virus first jumped into humans.”

Tracing the evolutionary history of the deadly pathogen also unearthed a surprising finding — evolution of the virus into a major and a minor strain only began after 1796, when the English physician and scientist Edward Jenner developed a vaccine.

“This raises important questions about how a pathogen diversifies in the face of vaccination,” co-author Ana Duggan, a post doctoral fellow at the McMaster Ancient DNA Centre, said in the statement. “While smallpox was eradicated in human populations, we can’t become lazy or apathetic about its evolution — and possible reemergence — until we fully understand its origins.”

The last known case of smallpox was recorded in Somalia in 1977.

The virus no longer exists naturally, and all its remaining live stocks are currently being held in two secure laboratories — one in the U.S. and the other in Russia.



For Trauma Use — Dried Blood Powder, Just Add Water

American Society of Hematology 58th Annual Meeting. Abstract 1024. Presented December 5, 2016.

Source: http://www.medscape.com/viewarticle/872740?nlid=111249_1362&src=WNL_mdplsnews_161209_mscpedit_emed&uac=82598DG&spon=45&implID=1250550&faf=1

Dec 03 – It may be a decade yet before it becomes a reality, but there was a buzz here today about artificial blood cells that could be used for trauma patients.

The lead indication is use in the battlefield, where a paramedic would mix a bag of red powder with a bag of sterile water to make artificial blood that could be immediately given to any individual, without the need to check blood type.

It could make a difference between life and death.

It is estimated that 25% of in-field deaths of US military personnel are preventable, and hemorrhagic shock is the cause of death in 90% of these cases, where individuals die not from damage to major organs but because they basically bleed to death before they can be

brought to a hospital, commented Allan Doctor, MD, professor of pediatrics, biochemistry, and molecular biophysics at Washington University in St Louis, Missouri.

Another potential use is for trauma victims, again to prevent death from blood loss. The product could be carried by ambulances and rescue helicopters, and it could sit on the shelf for years, without the need for refrigeration, until it is needed, unlike donated blood, which requires special storage conditions and ages, and can eventually no longer be used.

The National Academy of Medicine estimates that, in the United States alone, there are approximately 17,000 preventable trauma deaths per year because of untreated





hemorrhagic shock in the prehospital phase of resuscitation.

These potential uses were described here at the American Society of Hematology 58th Annual Meeting. Dr Doctor will report on the development of the new artificial blood substitute, known as ErythroMer, at a session on December 5 (abstract [1027](#)), but gave a brief preview at today's press briefing.

"This is a conceptual and significant technical advance, as this is a system that can take up oxygen and then deliver it to tissues, which solves a lot," commented press briefing moderator Armand Keating, MD, professor of medicine and biomedical engineering and director of the Cell Therapy Program at the University Health Network in Toronto, Ontario. He said the timeframe of 8 to 10 years before the first in-human studies that Dr Doctor outlined for the product "sounds like a realistic timeframe."

"There is lot of work that still needs to be done," commented Dr Keating. "For example, What's the circulation time? How long are those microparticles going to last? They are one-fiftieth the size of red blood cells, so what are the implications of that? Will they have the capacity to extravasate into tissues? Would they pass through the kidney?" he said.

Donut-Shaped Nanoparticles

The **ErythroMer donut-shaped artificial cells** were developed in partnership with Dipanjan Pan, PhD, at the University of Illinois at Urbana-Champaign.

"The product is a nanoparticle, about one-fiftieth the size of a red blood cell, and it has a synthetic polymer artificial membrane that is encoded with wet-ware that manipulates the oxygen affinity of the particle to imitate that of a red blood cell," Dr Doctor explained. "It catches the oxygen and then it releases it into the tissue."

"In a red blood cell, this is done by a complex set of enzymes," he said. "We have a small molecule that alters the hemoglobin oxygen affinity."

Availability of this small molecule in the particle cavity is controlled by the inner surface of the particle shell in response to changes in blood pH, and this enhances oxygen acquisition in the lungs and then releases oxygen in tissues that have the greatest need, particularly in tissues where there is lactic acid. "It acts like an electromagnet, grabbing oxygen from one place and releasing it in another," Dr Doctor commented.

"This is a feature that was never available before," he said,



describing the innovation as a "design breakthrough."

Previous attempts at developing hemoglobin-based oxygen carriers (HBOCs) have failed, the researchers comment in their abstract, because of design flaws that did not preserve physiologic interactions of hemoglobin with oxygen (they capture oxygen in lungs, but do not release oxygen effectively to tissue) and also with nitric oxide (they trap nitric oxide, causing vasoconstriction). The design of ErythroMer surmounts these weaknesses by encapsulating hemoglobin, controlling oxygen capture/release with a novel 2,3-DPG shuttle, and attenuating nitric oxide uptake through shell properties.

"So now we are able to package the blood carrying protein hemoglobin with a small molecule that alters its behavior," Dr Doctor said.

Thus far, the hemoglobin used in the development of this product has been obtained from donated blood that has passed its use-by date, but to avoid the risk of viral contamination, work is underway to enable possible future production with recombinant hemoglobin genetically engineered in yeast (developed in partnership with the Chalmers University of Technology in Gothenburg, Sweden).

There are also plans to scale up production. So far the product has been made at Washington University in Saint Louis and University of Illinois at Urbana Champaign, but there are plans to scale up production under the newly created company KaloCyte, a biotech start up founded by Drs Doctor and Pan in January 2016.

The proof-of concept study in genetically engineered mice was conducted in partnership with Greg Hare, MD, PhD, at the University of Toronto, Ontario. Using bioluminescence, researchers showed that ErythroMer takes up oxygen in the lungs and delivers it to tissues in a pattern indistinguishable from that seen in a control group of mice injected with their own blood.

In another set of studies conducted in rats, ErythroMer effectively resuscitated animals in shock following acute loss of 40% of their blood volume, the team reports.

The team also reports that ErythroMer matches the oxygen-binding feature of human red blood cells within 10% and say this should be sufficient to stabilize a bleeding patient until a blood transfusion can be arranged.

"The ErythroMer prototype has passed rigorous initial *ex vivo* and *in vivo* 'proof-of-concept' testing and bench testing," the researchers conclude. "In models of major bleeding/anemia, ErythroMer reconstitutes normal hemodynamics and oxygen delivery, observed at the system, tissue, and cellular level."

The next steps are tests in larger animals, ongoing safety assessment, optimizing pharmacokinetics, and ultimately in-human trials.

If all goes well, researchers hope that ErythroMer could be available for use by field medics and early responders within 10 to 12 years.

Proof-of-Concept in Mice



Battlefield Wound Dressing (XSTAT-30) Okayed for Civilian Use

Source: <http://www.medscape.com/viewarticle/855578>

Dec 07 – A novel wound dressing now used to control severe bleeding on the battlefield will be available to civilian first responders treating trauma patients, the US Food and Drug Administration (FDA) has announced.

The agency today cleared XSTAT-30 (RevMedX) wound dressing for patients at high risk for immediate, life-threatening, and severe hemorrhagic shock and noncompressible junctional wounds when they can't be treated at an emergency-care facility within minutes. XSTAT-30 is not indicated for certain parts of the chest, abdomen, pelvis, or tissue above the collarbone, according to an FDA news release.





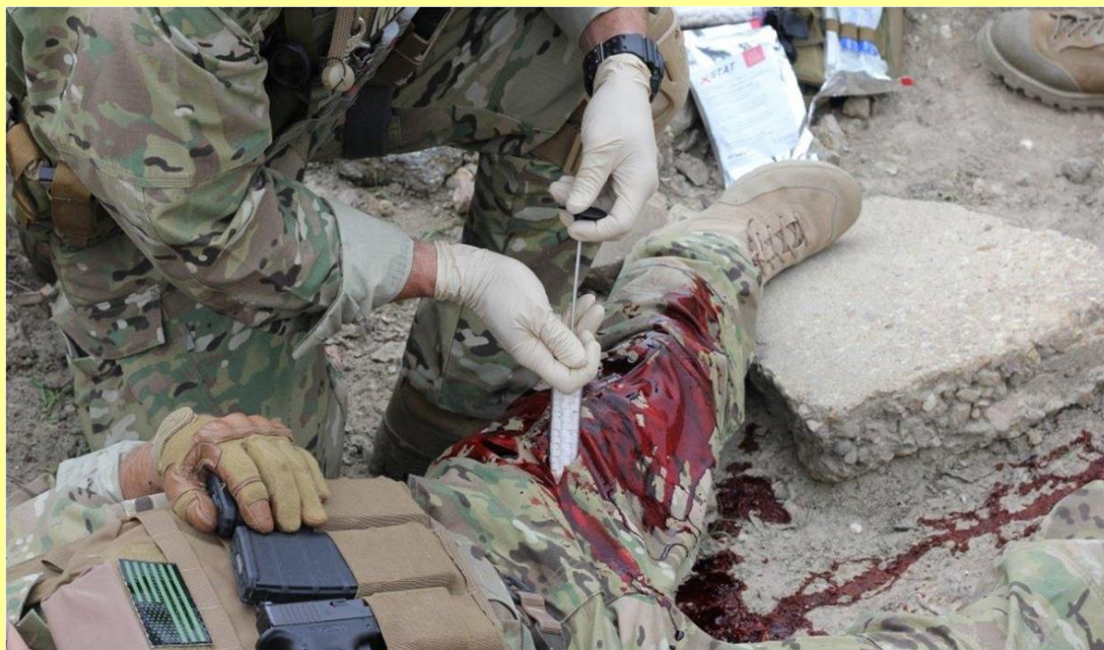
The wound dressing product consists of a syringe-style applicator holding 92 compressed cellulose sponges with an absorbent coating. The sponges expand with blood and fluid to fill the wound cavity, temporarily blocking blood flow for up to 4 hours. Each applicator's worth of sponges can absorb about one pint of blood, although the number of sponges needed to control bleeding will vary by the size and depth of the wound.

The FDA cited research by the US

Army showing that 30% to 40% of civilian deaths from traumatic injury result from hemorrhaging, often before the patient reaches the hospital.



The FDA approved an earlier version of the product — XSTAT — for military use in April 2014. Will Fox, vice president of sales and marketing at RevMedX, said his company had always envisioned a civilian application for the blood-absorbing sponges. People injured in car wrecks, industrial accidents, and shootings have the same kind of severe wounds seen on the battlefield, Fox told *Medscape Medical News*.



The agency limited the initial product to military use last year to give it a trial run before expanding the indication, he said.



The FDA cleared XSTAT-30 through its 510(k) review process, in which the manufacturer showed that the product was substantially equivalent to its XSTAT predecessor in terms of safety and effectiveness.

► **More information** on today's FDA decision is available on the agency's [website](#).

Experimental Drug May Stop Vascular Leak in Ebola

Source: <http://www.medscape.com/viewarticle/837177>

Dec 2014 – An experimental drug developed to treat hemorrhagic shock may help treat vascular leakage symptoms in Ebola, according to a case study [published online](#) December 19 in the *Lancet*.

The drug is known as FX06 (MChE-F4Pharma), an experimental fibrin-derived peptide. Studies of FX06 in mice with dengue hemorrhagic shock have suggested the drug can reduce vascular leakage, a known physiologic effect of Ebola. A phase 2 clinical trial of FX02 used after myocardial infarction suggested the drug was well tolerated.

During Ebola infection, increased permeability of the vascular endothelium causes leakage of fluid, coagulation factors, and platelets into the tissues. This results in severe hypotension, edema, and tissue damage that can lead to multiorgan failure, the authors write.

Timo Wolfe, MD, from the Department of Medicine, Infectious Diseases Unit, University Hospital Frankfurt, Frankfurt/Main, Germany, and colleagues **describe the case of a 38-year-old Ugandan male physician who survived after being evacuated to Germany for intensive care unit treatment.** The patient was in charge of an Ebola virus treatment center in Lakka, Sierra Leone, where he tested positive for Ebola on September 28, 2014. After steadily worsening, the patient was airlifted to Germany on day 5, where he was treated under biosafety level 4 isolation conditions at University Hospital Frankfurt.

After 72 hours, the patient developed symptoms of vascular leak and multiorgan failure of the lungs, kidneys, and gastrointestinal tract.

The patient was intubated and placed on mechanical ventilation, as well as renal dialysis. He received 3 days of FX06 (from day 11 to 13) and improved from day 13 onward. He had undetectable viremia by day 19, was extubated on day 22, and fully recovered. He is now at home with his family, according to a press release.

During his treatment, the patient also received broad-spectrum antibiotics, norepinephrine, and the experimental drug favipiravir, an RNA polymerase inhibitor active against influenza.

Dr Wolfe and colleagues mention another patient with Ebola who was airlifted to Leipzig and treated with FX06 from day 11 to 13. This patient died on day 13 from diffuse hemorrhage, without evidence of vascular leak syndrome.

"On the basis of our experience, we feel that FX06 warrants further evaluation in the treatment of vascular leak syndrome in Ebola virus disease," the authors write.

"We suggest FX06 as a potentially valuable therapeutic candidate for vascular leak syndrome in Ebola virus disease."

Without further study, however, no conclusions can currently be drawn because FX06 was used in only two patients, one of whom died, and there is no standard of care to which to compare FX06, according to Cameron Wolfe, MD, an assistant professor of medicine affiliated with the Duke Preparedness and Response Center at Duke University in Durham, North Carolina.

"Every Ebola patient in the [United States] and Europe, at least to my knowledge, has had at least two experimental therapies given simultaneously, so how you judge what provided the benefit is very challenging," Dr Wolfe said. "I can't say for sure that the improvement in vascular leak wasn't simply standard for someone who was improving at this point."

Vascular leak symptoms seemed to improve after treatment with FX06, Dr Wolfe explained. This improvement, however, coincided with decreasing viral load and the appearance of Ebola virus-specific antibodies, suggesting the patient was already mounting an immunologic response when he received FX06.

One way of parsing things out is to look at the mechanism of action, Dr Wolfe suggested. Favipiravir is an antiviral directed against the infection itself, whereas FX06 was designed to



counteract the vascular complications resulting from the virus. All the other experimental products used so far are antiviral drugs or antibodies from survivors that directly target the virus itself, he continued.

"FX06 presents a novel way of tackling Ebola, since it is aimed solely at treating the complication of fluid leakage," Dr Wolfe stated.

Dr Wolfe commends the care team in their heroic efforts to help this patient survive.

"The capacity to deliver care is very different when using the infection control guidelines that we all have to use [for Ebola]," Dr Wolfe said. Auscultating the chest, inserting arterial and central lines, and intubation are all complicated by having to wear personal protective equipment. For example, because triple gloving interferes with palpation of pulses, the team resorted to ultrasound guidance to insert arterial and central lines.

"To get a guy who's this sick through his hospital stay is phenomenal," Dr Wolfe emphasized, "This case study not only builds on the published experience of the intensive care management of Ebola but helps with considerations of how to set up a hospital to be capable of handling such a patient."

FX06 is available on short notice in the United States for compassionate use from Bachem. An emergency kit has been sent to University Hospital Frankfurt for use as rapid supply stock in Europe.

The researchers presented an abbreviated description of the surviving case patient in a news conference in November.

Hospital in Istanbul under quarantine on suspicion of swine flu

Source: <http://www.dailysabah.com/nation/2016/12/08/hospital-in-istanbul-under-quarantine-on-suspicion-of-swine-flu>

Dec 08 – **The emergency unit of the Esenyurt Public Hospital in Istanbul was put under quarantine late Wednesday following suspicions of swine flu.**

The decision came after the arrival of a 5-year-old child patient with high fever, vomiting, physical exhaustion, which are considered to be symptoms of the H1N1 flu.

At 8:00 pm local time, the accident & emergency department (A&E) unit of the hospital was put under quarantine, and health personnel were seen wearing medical face masks. The zone was cordoned off with barrier tape.

Newer patients arriving at the hospital were redirected to the closest emergency clinics.

Sources report that tests are ongoing to determine whether the 5-year-old girl has swine flu or not.

Swine flu is a contagious respiratory disease caused by influenza viruses. The virus was first identified in Mexico in April 2009, and causing a pandemic after spreading all over the world. In August 2010, the pandemic was over.

Emergent BioSolutions to supply up to \$1 billion of anthrax vaccine to the Strategic National Stockpile

Source: <http://www.homelandsecuritynewswire.com/dr20161212-emergent-biosolutions-to-supply-up-to-1-billion-of-anthrax-vaccine-to-the-strategic-national-stockpile>

Dec 12 – [Emergent BioSolutions](#) last week announced that the U.S. Department of Health and Human Services (HHS) is advancing its anthrax preparedness strategy with multiple contract actions for the company's anthrax vaccines.

- Emergent signed a follow-on contract with the Centers for Disease Control and Prevention (CDC) valued at up to \$911 million to supply approximately 29.4 million doses of BioThrax (Anthrax Vaccine Adsorbed) to the Strategic National Stockpile (SNS) through September 2021. Emergent notes that BioThrax is the only anthrax vaccine licensed by the U.S. Food and Drug Administration (FDA) and is indicated for both pre-exposure prophylaxis and post-exposure prophylaxis of anthrax disease.



- The Biomedical Advanced Research and Development Authority (BARDA), a division within the Office of the Assistant Secretary of Preparedness and Response at HHS, last week issued a notice of intent to procure approximately \$100 million of BioThrax for delivery into the SNS within twenty-four months from the date of contract award, which the company anticipates will be in the first half of 2017. This contract will be separate from and in addition to the follow-on procurement contract with CDC.
- On 30 September, BARDA awarded Emergent a contract valued at up to \$1.6 billion for the development and procurement of NuThrax (anthrax vaccine adsorbed with CPG 7909 adjuvant), the company's next generation anthrax vaccine candidate. The initial procurement of NuThrax for inclusion in the SNS could be initiated in 2019 following Emergency Use Authorization (EUA) pre-approval by FDA, which based on the current plan, is anticipated at the end of 2018. The contract also includes procurement options for the delivery of an additional 7.5 million to 50 million doses of NuThrax to the SNS. The company anticipates amending this contract simultaneously with the execution of the BARDA BioThrax procurement contract, which will result in a revised total contract value of up to \$1.5 billion.



The company says that taken together, the CDC and BARDA contract actions reflect the government's intention to transition the stockpile of anthrax vaccines from BioThrax to NuThrax beginning in 2019.

"Emergent believes these actions reflect the U.S. government's continued assessment of anthrax as a high-priority threat and its firm commitment to protect the nation against bioterrorism," said Daniel J. Abdun-Nabi, president and chief executive officer of Emergent BioSolutions. "We are pleased to be able to make meaningful contributions to helping the government execute its strategy to achieve its preparedness goals."

Deliveries and pricing

Under these contract actions, the company plans to deliver approximately nine million doses of BioThrax in each of 2017 and 2018. In 2019, the company anticipates delivering approximately 10 million doses comprising a combination of both BioThrax and NuThrax. BioThrax pricing in 2017 under the CDC follow-on contract is 2 percent higher than current levels and is subject to a 3 percent annual price escalation over the duration of the contract. Deliveries are scheduled to continue, subject to availability of funding, through September 2021.

The company says it expects that the BARDA procurement contract, which will be separate from and in addition to the follow-on procurement contract with CDC, will require the company to complete delivery of all BioThrax doses covered by that contract within 24 months from the date that the contract is awarded. BioThrax pricing under the BARDA procurement contract is anticipated to be the same as BioThrax pricing in 2017 under the CDC follow-on contract.



Version 6.7 of the GLEAMviz client has been released

Source: <http://www.gleamviz.org/>

Nov 02 – As the growing worldwide population becomes more mobile and urbanized, the risks that infectious diseases epidemic and their associated threats may reach global proportions are constantly increasing.

To effectively limit the social and economic damage caused by infectious diseases, the public health communities need to be in the position to anticipate the spatial and temporal evolution of epidemics and evaluate the potential impact of available containment and prevention strategies.

The global epidemic and mobility model, GLEAM, combines real-world data on populations and human mobility with elaborate stochastic models of disease transmission to deliver analytic and forecasting power to address the challenges



faced in developing intervention strategies that minimize the impact of potentially devastating epidemics.

We've just released a new version of the GLEAMviz simulator client, which features various improvements of the Visualization widgets and some under-the-hood refactoring aimed at providing better stability. The new Visualization Dashboard allows users to explore the disease data aggregating the simulation's output on a weekly basis, making it easier to compare them with official surveillance data. The background maps used for geographical visualizations have been uniformed throughout the widgets, and provide a higher resolution.



Example of the Invasion Tree widget animation visualization when selecting a single city.

The Invasion Tree visualization widget has been extended by showing an animation of the invasion patterns from one city to another, or from one country to another, so to make it easier to perceive both the global flows and the local invasion dynamics.

'G.A.T.E': Gap analysis for TTX evaluation

Conference Paper (June 2016) – DOI: 10.1063/1.4952058

INTERNATIONAL CONFERENCE OF NUMERICAL ANALYSIS AND APPLIED MATHEMATICS 2015 (ICNAAM 2015)

By Ilaria Cacciotti^{a,b}, Daniele Di Giovanni^c, Alessandro Pergolini^c, Andrea Malizia^c, Mariachiara Carestia^c, Leonardo Palombi^d, Carlo Belleccic, Pasquale Gaudio^c

^aUniversity of Rome "Niccolò Cusano", Rome, Italy

^bItalian Interuniversity Consortium on Materials Science and Technology (INSTM), Italy

^cDept. Industrial Engineering, University of Rome "Tor Vergata", Italy

^dUniversity of Rome "Tor Vergata", Dept. Biomedicine and Prevention

Source: https://www.researchgate.net/publication/303912734_'GATE'_Gap_analysis_for_TTX_evaluation

Abstract

A Table Top Exercise (TTX) gap analysis tool was developed with the aim to provide a complete, systematic and objective evaluation of TTXs organized in safety and security fields. A TTX consists in a discussion-based emergency management exercise, organized



in a simulated emergency scenario, involving groups of players who are subjected to a set of solicitations ('injects'), in order to evaluate their emergency response abilities. This kind of exercise is devoted to identify strengths and shortfalls and to propose potential and promising changes in the approach to a particular situation. In order to manage the TTX derived data collection and analysis, a gap analysis tool would be very useful and functional at identifying the 'gap' between them and specific areas and actions for improvement, consisting the gap analysis in a comparison between actual performances and optimal/expected ones. In this context, a TTX gap analysis tool was designed, with the objective to provide an evaluation of Team players' competences and performances and TTX organization and structure. The influence of both the players' expertise and the reaction time (difference between expected time and time necessary to actually complete the injects) on the final evaluation of the inject responses was also taken into account.

►► You can download the full paper from source's URL.

Bioterrorism And Gene Editing: Can Crispr Tool Be Used As Biological Weapon In War?

Source: <http://www.ibtimes.com/bioterrorism-gene-editing-can-crispr-tool-be-used-biological-weapon-war-2460102>

Crispr is a tool that allows for genes to be edited, and has great potential in the treatment of a wide



range of diseases, including some for which there is currently no known cure. It rose to prominence in 2015, when it was chosen as the [breakthrough technology of the year](#) by the American Association for the Advancement of Science, and became even better known in 2016 when scientists behind it were strong contenders for the Nobel Prize (which it finally didn't win) and also appeared in Time magazine's readers' poll for the Person of the Year title.

Even as a legal battle is currently underway for the [patent rights](#) to Crispr (its Cas9 variant, to be specific), the technology is far from perfect right now — scientists are still working on [making it more precise](#) and the [first human test](#) involving

a gene modified using Crispr took place only in October. And yet, it has made it to the list put together by U.S. intelligence agencies on national security threats.

However, in a somewhat surprising announcement in February 2016, Director of National Intelligence James R. Clapper included genome editing in a list of weapons of mass destruction and proliferation while presenting the [Worldwide Threat Assessment](#) of the U.S. Intelligence Community report to the Senate Armed Services Committee.

"Given the broad distribution, low cost, and accelerated pace of development of this dual-use technology, its deliberate or

unintentional misuse might lead to far-reaching economic and national security implications. Advances in genome editing in 2015 have compelled groups of high-profile U.S. and European biologists to question unregulated editing of the human germline (cells that are relevant for reproduction), which might create inheritable genetic changes," the report said.

But it added a sobering line to its own warning: "Researchers will probably continue to encounter challenges to achieve the desired outcome of their genome modifications, in part because of the technical limitations that are inherent in available genome editing systems."



So can Crispr or other gene-editing tools really be made into biological weapons by terrorists to further their hateful agenda?

Paul Dabrowski, CEO of Synthego, a genome editing startup in California, told International Business Times that the threat is unlikely at present, given the level of expertise required.

"To conduct a simple Crispr experiment may be straightforward for an experienced scientist, but to develop something like complex viral strains that actually successfully makes it out of the lab and can persist is something else. Existing technologies prior to Crispr may actually be more accessible and feasible to use for bioterror — for example, decades-old techniques for using selective pressures while breeding can be used to create harmful, invasive insect species. However, in such a case, Crispr may actually be used as part of a quick response to eliminate such a threat," he explained.

Dabrowski also acknowledged the "dual-use" of Crispr, and gave the examples — ammonium nitrate, used in fertilizers for the agriculture industry but also a highly explosive compound; chlorine, used in swimming pools for sterilization but lethal in some forms; and automobiles, which we all use regularly but was used to carry out a terror attack in France — of various other such common things that exist around us to stress accessibility.

"Accessibility can come in many forms: cost, physical access, handling difficulties, etc. Generally, the greater the potential for harm, the more difficult the accessibility to tools and materials. Highly controlled nuclear materials are an extreme example of this. Crispr is not a tool for the common user, but requires significant scientific knowledge and experience especially if attempting to use it for significant harmful purposes," Dabrowski said.

Emergency trainees mistakenly exposed to deadly ricin

Source: <http://www.usatoday.com/story/news/2016/12/15/emergency-responders-mistakenly-exposed-deadly-ricin/95481004/>

Dec 15 – **Because of yet another mix-up with bioterror pathogens, a federal terrorism response training center in Alabama says it mistakenly exposed more than 9,600 firefighters, paramedics and other students to a deadly toxin over the past five years.**



The Federal Emergency Management Agency's Center for Domestic Preparedness blames an outside laboratory for a series of shipping errors since 2011 that resulted in the first-responder

training center using in its classes a potentially lethal form of ricin powder. The poison, made from castor beans, is capable of killing at small doses.

The training center says it submitted order forms asking for a type of ricin extract that is unlikely to cause serious harm. But officials from Toxin Technology, the Florida company that sent nine shipments to the center since 2011, told USA TODAY that its ricin products were all accurately labeled as "RCA60" — a scientific name for the whole ricin toxin, which can be deadly. It's unclear why training center staff didn't recognize for years that they were working with a far more dangerous substance. There is no antidote to treat ricin poisoning.

After issuing repeated statements to USA TODAY

since Monday solely blaming the vendor, on Thursday FEMA administrator W. Craig Fugate [called for the Department of](#)



[Homeland Security Office of Inspector General to investigate](#). The training center had already suspended all training with biological agents, which include training with a less-dangerous strain of anthrax.

Former Homeland Security Secretary Tom Ridge said he's stunned that over the past five years the training center never verified that it was receiving the less-toxic ricin product it thought it was ordering.

"It's beyond careless and outrageous. It's almost malfeasance," Ridge said.

Nobody was sickened by the exposures, FEMA spokeswoman Alexa Lopez said. Students, who were being trained to detect the presence of biological agents, were wearing protective gear during the exercises. Workers at the Anniston, Ala., training center prepared ricin training materials in special biosafety cabinets designed to protect against exposures.

Still Ridge and other national security experts say the ricin mix-up is just the latest high-profile incident showing lax safety practices at U.S. biodefense facilities. Hundreds of government, military, private and university laboratories nationwide possess potential bioterror pathogens, which the government calls "select agents," such as those that cause anthrax, botulism and plague. They're used in scientific research and the development of vaccines, medical treatments and for creating and testing detection and personal protection equipment.

In 2014, CDC mistakes with anthrax specimens that were believed to be killed resulted in dozens of the agency's lab workers being potentially exposed to the deadly bacteria. In 2015, the Pentagon discovered that an Army lab in Utah had been mistakenly shipping live anthrax – labeled as killed – to dozens of labs in the U.S. and abroad for more than a decade.

Richard Ebright, a biosafety expert at Rutgers University, said what happened at the FEMA training facility with ricin is the latest incident in which "incompetence by a federal agency" has resulted in a mix-up between biological specimens that were thought to be killed or inactivated – yet weren't.

"The only way those running security agencies will get this message in their heads, is if violators are held accountable," Ebright said. But that hasn't happened, he said.

A [USA TODAY investigation](#) in 2015 found hundreds of safety incidents at labs nationwide and a lax and secretive system of oversight of potential bioterror pathogens that hides serious incidents from the public.

"These kinds of things are continually going to happen until biosafety gets elevated to a major level," said Amesh Adalja, a senior associate at the UPMC Center for Health Security. While the research done into bioterror pathogens is important, the public's trust and support for it will be eroded if safety isn't improved, he said.

Investigators from the Federal Select Agent Program, which regulates labs and other facilities that work with potential bioterror pathogens, traveled this week to the company that supplied the ricin to the FEMA training center. The program is jointly run by the Centers for Disease Control and Prevention and the U.S. Department of Agriculture.

Neither the CDC nor FEMA would name the vendor that supplied the ricin to the training facility when asked by The Anniston Star, which first revealed the incident, nor to USA TODAY. USA TODAY determined through its reporting the vendor was Toxin Technology in Sarasota, Fla.

Information provided to USA TODAY by officials at Toxin Technology and the FEMA training center conflict in several ways and raise significant questions about how ricin materials were ordered and shipped over the years.

FEMA in its statements has repeatedly said the material mix-up was "due to an error by the supplier" and that the "intended use declaration" forms the training center submitted to the vendor specified the center was seeking "Ricin Chain A."

The ricin toxin has two components, referred to as A and B chains. The B-chain needs to be present, experts said, to allow the A-chain to enter and damage cells. FEMA officials say their intent was to use the A-chain ricin in its programs because it was safer and would still react with detection equipment during training classes as if it were the more dangerous whole ricin toxin.

"In November 2016, while making a purchase of ricin A-chain for training, staff at FEMA's Center for Domestic Preparedness recognized an ongoing



discrepancy in the documentation related to the type of ricin being provided,” FEMA said in a statement. But the agency wouldn’t provide any details about what kind of documentation and discrepancy was involved.

However the ordering catalog for Toxin Technology does not list any A-chain ricin products – only a whole ricin product. FEMA told USA TODAY the product it ordered wasn’t in the company’s catalog. “It was a specialty product rather than a standard catalog item,” the agency said.

Raoul Reiser, who founded Toxin Technology in 1984 and sold it to a partner about three years ago, told USA TODAY that he remembers supplying A-chain ricin products to the FEMA training facility while he was there.

Reiser said that while the A-chain ricin product wasn’t in Toxin Technology’s catalog, it was purchased by many customers as far away as Singapore who learned about it through word of mouth.

“We never made the ricin at Tox Tech, we were just repackaging and reselling what Vector Labs was selling,” Reiser said. He said Toxin Technology would buy the A-chain ricin in liquid form from the international biological supply company, then turn it into a powdered form for resale.

Yet officials at Vector Laboratories told USA TODAY their records show they never sold A-chain ricin to Toxin Technology – only a product that contained the whole ricin toxin.

David Weber, Vector Labs chief commercial officer, said the company checked its records going back to early 2005 and found the only product it shipped to Toxin Technology on numerous occasions through August was a whole ricin product.

Reiser said he was surprised to hear this. “I was under the impression we were buying the A-chain toxin, not the holotoxin,” he said Wednesday night. He said all of the purchasing was handled at Toxin Technology by Paul Bina. Bina, who is currently listed on Toxin Technology’s website as vice president and lab manager, said he doesn’t know why Reiser would have been under the impression the product sold by the company was A-chain ricin. Bina told USA TODAY that he was at the company when it first started selling ricin

products and it sold only two and both were whole toxin products. They were labeled as RCA60 in the company’s catalog, website and “on all shipping and manufacturing records,” he said.

Bina said: “I instructed to purchase the RCA60 from Vector Labs for this purpose. At no time did we ever have Ricin A Chain and at no time did we ever repackage RCA60 and sell it as Ricin A Chain.”

Bina said that when he left the company in 2010 for a few years, the ricin products were still being correctly identified as “RCA60.” When he returned, Bina said the multiple lots of ricin produced while he was away “were still all correctly identified as ‘RCA60’ on all shipping and manufacturing documents.”

After USA TODAY asked FEMA to produce documents showing how the ricin products it received were labeled, the agency called for the inspector general investigation.

Bill Rose, manager of Toxin Technology, said it is company policy not to discuss its clients. But he told USA TODAY on Thursday that the company is in the process of contacting all recipients of its ricin products to ensure they are aware they received the whole toxin products. But he said that a review of the company’s available sales and shipping records show the information sent with the products correctly showed they were “Ricin RCA60.”

Although ricin is a select agent, under federal regulations, it’s exempt from regulation if it is held in amounts less than 100 mg. So while Toxin Technology is regulated by the select agent program, the FEMA training center – which never possessed more than 70 mg of ricin – is not.

“That makes no sense,” said Ridge, who has been co-chairing a Blue Ribbon Study Panel on Biodefense that issued a report calling for strengthening U.S. readiness for bioterrorism and response to emerging disease. The panel, co-chaired by former Senate Homeland Security Committee Chairman Joe Lieberman and sponsored by the Hudson Institute and Potomac Institute for Policy Studies, [issued a follow-up report this week](#) noting that Congress still hasn’t done a comprehensive reassessment of the Federal Select Agent Program.



Operational training exercise targets smuggling of nuclear and radiological materials

Source: <https://www.interpol.int/News-and-media/News/2016/N2016-151>

Nov 10 – An international training exercise at Bogotá International Bus Terminal led by Colombian and Peruvian law enforcement in coordination with INTERPOL has seen hundreds of travelers screened as part of efforts to counter the illicit trafficking of nuclear and radioactive materials.

Led by INTERPOL's Radiological and Nuclear Terrorism Prevention Unit (RNTPU), law enforcement and multi-agency representatives in nuclear and radiological security from Colombia and Peru, Operation Stone (1 to 2 November) saw 35 officers deployed to the bus terminal.

With a flow of 1,000 buses per day and 12 million international and regional passengers a year, Bogotá International Bus Terminal also includes a cargo handling area where searches and checks were made on waiting passengers and their baggage.

Radiation readings were made using mobile equipment, including radiological



backpack detectors and other handheld detection devices. These were used in scenarios involving actors who were deployed throughout the terminal and searched for on buses, cargo areas and public spaces. Chemical test kits were also used to check for explosive materials.

The operational activity was preceded by two training courses, including An

Introduction to CBRNE Materials, Evidence and Investigation Course (Lima, August 2016) and a CBRNE Intervention Course (Bogota, September 2016) to help prepare police, customs and border forces to combat the smuggling of nuclear and other radiological materials.

Multi-agency response to bioterrorism incidents focus of INTERPOL exercise

Source: <https://www.interpol.int/News-and-media/News/2016/N2016-131>

Oct 14 – Strengthening the coordination of multi-agency responses to bioterrorism incidents was the focus of a live INTERPOL exercise.

Under the framework of INTERPOL's Operational Response Project, the five-day (2-6 October) exercise brought together forty-five Jordanian participants from law enforcement, specialist CBRNE teams, armed forces and public health to identify the procedures related to command and control, hazard risk assessment and evidence exploitation.



The exercise highlighted the need for inter-agency collaboration and cooperation in order to create a sustainable network of knowledge exchange and preparedness.

Funded by Global Affairs Canada and attended by Canada's Ambassador to Jordan, Peter MacDougall, and Jordan's Assistant Director of the Judicial Police, Brigadier Waleed Batah, the exercise also aimed



to help update INTERPOL's BioTerrorism Incident Response Guide (BIRG), a reference guide for law enforcement agencies and other entities responsible for responding to acts of bioterrorism.

EDITOR'S COMMENT: In the photo above, I would prefer surgical gloves to be over the ChemTape [assuming that rubber gloves are worn], in order to be able to change them to avoid cross-contamination during forensic work.

Developing the National Livestock Readiness Program

Source: <http://www.homelandsecuritynewswire.com/dr20161215-developing-the-national-livestock-readiness-program>

Dec 15 – The [National Agricultural Biosecurity Center](#) has received \$331,118 from the Department of Homeland Security through its Basic Ordering Agreement with K-State to develop the National Livestock Readiness Program.

The project, with its initial deliverables completed by September 2017, will provide a clearinghouse for planning, training, and knowledge products to help state, local, tribal, and territorial entities prepare for transboundary livestock disease outbreaks.

According to Ken Burton, program director at the National Agricultural Biosecurity Center, a central repository of resources to support state

and local animal health emergency management is currently lacking.

"There's good information at the federal level that many states utilize, but there are additional tools and information available which entities can use to do planning, training, and education, but are difficult to locate," Burton said.

K-State notes that in addition to a library of materials and links to available resources, the National Livestock Readiness Program website will offer a chat capability to allow users to ask questions about where to find information. The center's staff and partners will answer inquiries within 24 hours.



The program also entails extensive collaboration of academia, private industry and state governments. Faculty and staff in the Beef Cattle Institute and the College of Veterinary Medicine will provide subject matter expertise and assistance building the website, and student workers will be employed to assist with the project. The center is collaborating with the Kansas Department of Agriculture to build relationships with other state departments of agriculture to ensure adoption of best emergency planning and management practices. The center also has a subcontract

with an individual company to develop a curriculum to teach techniques for writing and evaluating transboundary animal disease response plans.

Burton has been pleased to see K-State taking a leading role in raising the profile of biosecurity concerns.

"We're excited to offer a vital resource to enhance biosecurity plans around the country. K-State has a wealth of knowledge to offer in this area, and protecting our global food systems is a central concern as we work to support our growing population's needs," he said.

Biological emergencies: Incremental progress not enough

Source: <http://www.homelandsecuritynewswire.com/dr20161215-biological-emergences-incremental-progress-not-enough>

Dec 15 – While acknowledging some positive efforts over the past year by the White House and Congress, the bipartisan [Blue Ribbon Study Panel on Biodefense](#) says the incremental progress is not enough to defend against biological emergencies, let alone catastrophic events. The report, [Biodefense Indicators – One Year Later, Events Outpacing Federal Efforts to Defend the Nation](#), states that while the biological threat is real and continues to grow, our nation remains woefully under-prepared for dangerous biological incidents.

During remarks the other day before the National Healthcare Coalition Preparedness Conference, Co-chair Tom Ridge, the nation's first Secretary of Homeland Security, said the Panel welcomes the opportunity to work with President-Elect Trump and leaders of the 115th Congress to make biodefense a national priority.

"The fact is that the federal government continues to be much better organized and able to address threats posed by other weapons of mass destruction than biological weapons," said Ridge. "And emergent diseases obviously challenge our country and the world. Zika revealed weaknesses in U.S. resilience to outbreaks and the health of the U.S. population. We do not sufficiently prioritize funding in advance, we are unable to rapidly develop, approve, and field the medical countermeasures we need, and we politicize our responses to these events. All of this renders us weak, even

while biological events increasingly threaten the nation.

"The burden now falls on the new Administration and Congress to take up – and overcome – this challenge. Nevertheless, they do not need to start from scratch. We have for them a blueprint for biodefense and welcome the opportunity to work together to put it into action."

The Panel assessed biodefense efforts across the spectrum from prevention to recovery, and developed detailed recommendations for the federal government to improve and optimize these efforts. In its [first report](#), released one year ago, the Panel put forward thirty-three recommendations and eighty-seven action items which, if implemented, would dramatically and quickly improve biodefense. They addressed the need for enhanced federal coordination, optimized collaboration with non-federal partners (particularly in the private sector), and timely adoption of innovative solutions for technological and governance challenges.

The Panel determined that the government could achieve these actions in one, three, or five years. It directed each item toward the White House, a department or agency within the Executive Branch, the Congress, or a combination of these. Today's report provides an assessment of how much progress has been made in implementing the short-term, one-year action items.



Of the forty-six actions expected to be acted upon within one year, only two were completed, and seventeen saw partial action, leaving twenty-seven unaddressed. The most significant positive development was that Congress included the requirement for a comprehensive national biodefense strategy in the just-passed [National Defense Authorization Act of 2017](#).

The majority of the recommendations required action by the White House or by the departments and agencies that comprise the Executive Branch. The single most important, given the absence of centralized coordination, was for the president to appoint the vice president as the leader of federal biodefense efforts. This is the single best action the Administration can take to resolve the continued challenges in biodefense.

Panel Co-Chair Senator Joe Lieberman stated, “Our call for the Vice President to be the leader of federal biodefense efforts may be unconventional, but other efforts to date simply have not worked. To ensure the mission receives proper oversight and authority, the nation needs the overarching leadership of the Vice President.”

Lieberman added, “Alone, each of our recommendations facilitates some degree of positive change. However, together, they provide a blueprint for biodefense capable of addressing twenty-first century biological threats and meeting public expectations of the

government to deal with them. We urge the incoming administration and Congress to review and implement our recommendations in their entirety.”

The report concludes by calling upon the next president to institutionalize leadership of biodefense at the White House in the Office of the Vice President, and calling upon Congress to establish a joint oversight agenda for biodefense.

Lieberman noted that in its November 2016 letter to President Obama, the [President's Council of Advisors on Science and Technology](#) detailed recommendations to the President that were either consistent with, or the same as, those made by the Panel.

“As Panel Members of the Blue Ribbon Study Panel on Biodefense, we remain committed to addressing the biological threat,” said Governor Ridge. “We look forward to collaborating with the White House, Congress, federal government, and private sector on this urgent issue. In the coming year, we will continue to assess implementation, examine pressing topics, and address new issues demanding attention.”

In addition to the requirement for a comprehensive national biodefense strategy in the National Defense Authorization Act of 2017, Congress also recently advanced several other legislative proposals to meet a number of the Panel's recommendations, including the [21st Century Cures Act](#) and the [First Responder Anthrax Preparedness Act](#).

The US Zika Pregnancy Registry: A Preliminary Analysis Provides Important Insight

By Amesh A. Adalja, MD, FACP, FACEP, FIDSA

Source: Web: www.upmc-cbn.org | www.UPMCHHealthSecurity.org

Dec 16 – The World Health Organization's (WHO) declaration of a Public Health Emergency of International Concern (PHEIC) regarding Zika--which is no longer in force--was narrowly issued to help determine what role the virus plays in the development of congenital abnormalities such as microcephaly. The causal link between the virus and microcephaly has been definitively established; however, the frequency with which this occurs, cofactors, and any other questions are actively being researched. Modeling studies have given a rate of occurrence of microcephaly of approximately 1% in 1st trimester infections. A new paper, published in *JAMA*, provides a detailed look at the US Zika Pregnancy Registry (USZPR) to date and offers much insight into the impact of Zika.

USZPR: Collaboration Between State and Local Health Departments and CDC

In this study, Honein and colleagues looked at women with exposure to Zika who had completed their pregnancies between December 2015 and September 22, 2015, via reports



made through the USZPR, a collaborative surveillance system established by the Centers for Disease Control and Prevention (CDC). A completed pregnancy included those that resulted in abortion, spontaneous abortion, stillbirth, or live birth.

6% with Defects: All 1st Trimester Infections

This study included 442 pregnant women, with a median age of 28 years. Most of the women (61%) were asymptomatic, and all cases included were travel-related or related to sexual contact with a traveler. Birth defects were noted in 6% of the pregnancies. Defects were noted in the 21 infants that were born live and in 5 fetuses from pregnancy losses. Brain abnormalities and/or microcephaly were present in 85%. In those without brain abnormalities or microcephaly, encephalocele, hearing abnormalities, and eye abnormalities were present. Importantly, maternal symptoms were equally present in those with and without defects, and no birth defects were found in those women exposed in the 2nd or 3rd trimesters of pregnancy.

Improved Patient Counseling with Data

This study is very important because it gives clinicians a greater sense of the full scope of Zika-related fetal manifestations and their frequency. The robustness of the data contained in the USZPR allows clinicians to have some data at hand with which to counsel patients. The most important counseling topics that can be significantly improved by incorporating the data contained in this paper are the danger of asymptomatic infection to a pregnancy and the lack of Zika impact on pregnancies that have progressed to the 2nd trimester. As the data in the USZPR grows, it will be essential to update these findings and determine whether these early trends—especially 2nd and 3rd trimester infection outcomes—are sustained.

Reference

Honein MA, Dawson AL, Peterson EE, et al. Birth defects among fetuses and infants of US women with evidence of possible Zika virus infection during pregnancy. *JAMA* 2016. <http://jamanetwork.com/journals/jama/fullarticle/2593702>.

Chimera Viruses

Source: <http://www.stufftoblowyourmind.com/blogs/10-scariest-bioweapons10.htm>

Plague, smallpox, anthrax -- the world's deadliest biological agents aren't out to get you. Any harmful properties they possess are simply byproducts of their evolution. But what happens when scientists tinker with the genetic makeup of these organisms? What kind of horrors may come to life when we add the human desire to wage war to their natural design? Unfortunately, the creation of such life forms isn't just a page from a science fiction novel -- it's already happening.

In Greek and Roman mythology, the chimera combined elements of lion, goat and serpent into one monstrous form. Artists in the late medieval age often used the creature as a symbol to illustrate the complex nature of evil. In modern genetic science, a chimeric organism is a life form that contains genes from a foreign species. Given its namesake, you might expect all chimeric organisms to be awful examples of man twisting nature for nefarious ends. Fortunately, our increased understanding of genetic science has led to some beneficial creations. One such chimera, which combines the common cold with polio, may help cure brain cancer.

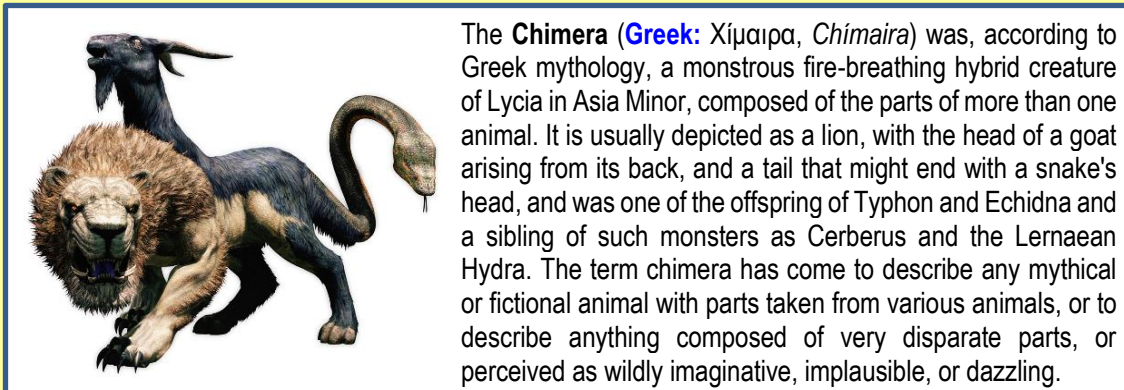
But as the war continues its forward momentum through human history, the abuse of such science is inevitable. Geneticists have already discovered the means to increase the lethality of such bioweapons as smallpox and anthrax by tweaking their genetic structure. By combining genes, however, scientists could theoretically create a virus that triggered two diseases at once. During the late 1980s, the Soviet Union's Chimera Project studied the feasibility of combining smallpox and Ebola into one super virus [source: Alibek].

Other potential nightmare scenarios involve strains of viruses that require certain triggers. A stealth virus would remain dormant for an extended period until triggered by predetermined stimuli. Other possible chimeric bioweapons might require two components to become



effective. Imagine a strain of botulinum toxin that, when combined with the botulinum toxin antidote, only becomes more lethal. Such a biological attack would not only result in a higher mortality rate, but might erode public trust in health initiatives, aid workers and government response to the outbreak.

From splitting the atom to cracking life's genomic riddles, the last century of scientific research has brought about tremendous potential for humans to build a better world -- or destroy the one they have.



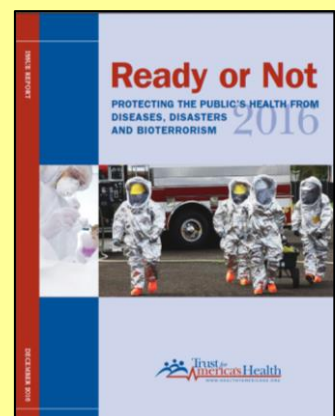
U.S. unprepared to handle threats

Source: <http://healthyamericans.org/assets/files/TFAH-2016-ReadyOrNot-FINAL2.pdf>

Dec 20 – A new report says the United States is often caught off-guard by emerging threats like zika, ebola and bioterrorism.

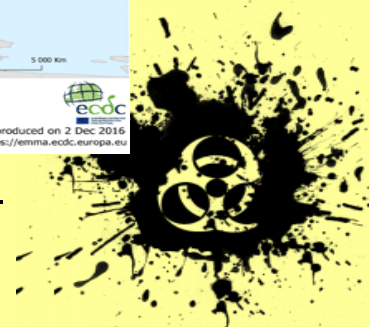
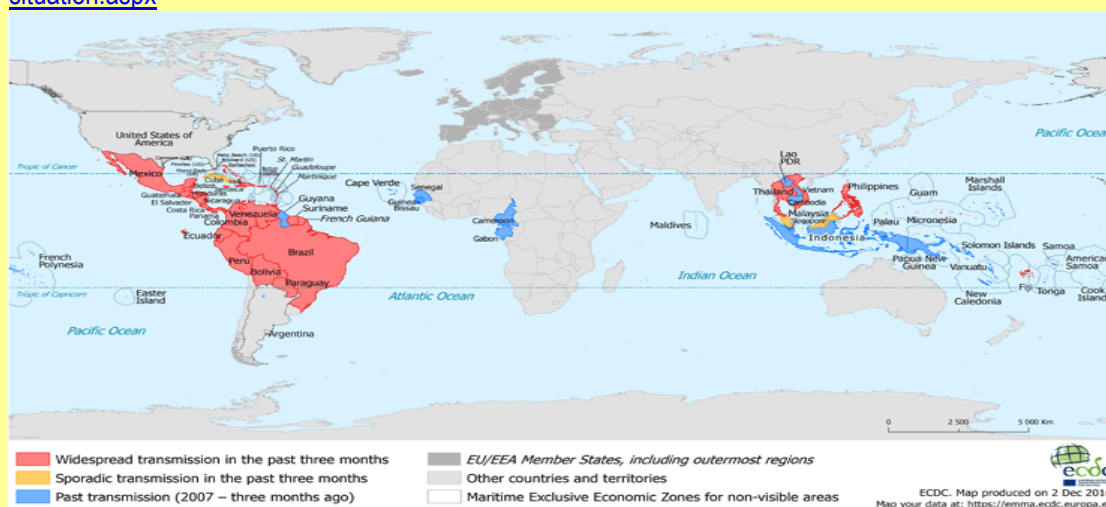
Trust for America's Health gave 26 states and Washington D.C. a score of six or lower on the key indicators of public health preparedness. Those indicators include public health funding, food safety and emergency health care access.

Pennsylvania falls in the middle of the pack with six out of ten points. The worst offenders were Alaska and Idaho, each scoring 3 out of 10. Massachusetts did best at 10 out of 10.



Countries or territories with reported confirmed autochthonous cases of Zika virus infection in the past three months, as of 2 December 2016

Source: http://ecdc.europa.eu/en/healthtopics/zika_virus_infection/zika-outbreak/Pages/epidemiological-situation.aspx



The 2014-2015 Ebola Outbreak: Lessons for Response to a Deliberate Event

Source: <https://www.wiltonpark.org.uk/wp-content/uploads/WP1496-Report.pdf>

Dec 20 – The Ebola outbreak revealed weaknesses in global health and humanitarian responses that must be fixed. This report details an investigation conducted by the United States to determine how the response from intergovernmental organizations and nongovernmental organizations may change, or even cease, if an Ebola outbreak is determined to be intentional.

