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Editorial

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

Editor-in-Chief
CBRNE-Terrorism Newsletter
Athens, Hellas

Dear Colleagues,

There is no doubt that current situation in Greece plays high in the news list worldwide. We all expect logic to prevail but logic is rare in modern times. We are involved in a strange pocker-chess game that nobody knows how it will end. Both IMF and ECB want their money back – right here, right now; international and national mass media are trying to influence politics and apply pressure by terrorising citizens; our allies worry that we move from West to East; big powers are overtly and covertly fighting about the crossroad between three continents and frogs are terrified by the dancing of the elephants. What is really going on? Nobody knows! From my long medical experience I can say this: whenever I had a patient with a very complicated medical history or with a disease that was not progressing well despite state-of-the-art therapy, then the best solution was to start over again by asking his name and continue from scratch. In most cases, a missing link was discovered and situation improved rapidly and successfully. Of course both parts involved (patient – physician) had the same ambition: to solve the problem based on logic and information analysis.

Having said that, I think that we need to change some of the common abbreviations we use in our field of work: WMD and CBRNE. Since only nuclear weapons really can cause "mass destruction" (experts do know this very well) let us start addressing them as "weapons of mass disruption". In that content let us change CBRNE to **C²BRNE²** (double "C" for Chemical and Cyber; double "E" for Explosives and Economic). Computers and financing are two additional means of producing terrorism and disruption in societies and people. Come and live in Greece for a week or so; enjoy our beautiful homeland, sea and sun, but you have to watch the news on television three times a day. You are free to email me your comments and I am sure that you will support my above proposal. In times of crisis you discriminate your friends from your "friends". You realize the way they are thinking and how honest they were so far in all aspects of your life. On the other hand a crisis is an opportunity to reboot your system and retrospectively analyze your mistakes individually and collectively. Do we do that? Unfortunately not! Perhaps we need an inspiration from our government not currently available; perhaps we need to apply eugenic clearance to the political generations that gambled in our backs for the last 50 years and start over again; perhaps we have to start thinking about what is best for our country and not what is best for others; perhaps we need a war to zero the counter and regenerate on a new model based on values and hard collective work. We might have a more concrete picture by the end of June: a honest solution or the beginning of new unpleasant adventures.

Illegal immigration continues to thrive both in Italy and Greece. Europeans are willing to give money or take military actions but are not willing to host immigrants or at least share the problem. The only "heavy industry in Greece is directly threaten by waves of illegal immigrants filling our top touristic destinations (Greek islands) and the no-solution to transfer them to Athens is becoming problematic. Oh! I wish Greece was somewhere close to the Arctic Circle away from visible problems that can be solved but nobody really wants to do so.

In a 2014 editorial I wrote that we have to keep MERS under surveillance because the problem was not over. Recent outbreak in South Korea proved that I was right. But what is most important of all is the fact that we do not learn from our mistakes. Front-line health professionals are not well informed about what is happening in the world and



therefore continue to practice medicine as usual. It happened with Ebola in the US; it happened again with MERS in Korea: physicians did not ask a very simple question: "Did you travel abroad recently?" What is the reasoning for identifying a problem if it never become a lesson learned? Ebola continues to kill in Africa and so does MERS in Asia while we have cases in Europe as well (Prague, Germany). The question is: are we prepared to simultaneously deal with ten cases of these patients? I am not sure if the answer is positive. Are we working towards effective solutions? I am not sure if again the answer is positive...

On top of our biological worries came the accidental transportation of live anthrax samples from US labs to many countries abroad – all the way to Japan and Korea. Mistake? Negligence? On purpose? Who knows? It is a fact that we have to address globally and in cooperation to avoid unpleasant surprises.

There is a lot of discussion regarding the possession of chemical (and radiological) weapons by the Islamic State. There is no smoke without fire and we have to seriously address this potential mainly because their so far attitude and immense brutality shown so far strengthens the possibility of using them against populace at local and international targets. Are we prepared to deal with such an incident in modern urban environment? Is the medical/hospital sector prepared and trained to receive mass casualties into their premises? Again another negative answer. I recently addressed this issue during the 41st World Military Medicine Congress (17-22 May, 2015) in Bali, Indonesia. The reaction of the audience was amazing and I wish I had recorded their questions and personal discussions we had in the aftermath of the related presentation. I only hope that my message was strong enough to motivate as many as possible and in as many countries as possible. No country is immune and no hospital (big or small) is safe or fortune protected!

Finally a new church shooting happened in Charleston, USA. Nine people were killed this time by a white young shooter – including the pastor of this Afro-American church. The big debate now is if it was "terrorism" or "hate crime"! How can we be so stupid to play with words over fresh blood. When we will realize that "terrorism is not about killing many!; it is about injecting the feeling that we are next!" When we will realize that "radicalization" is not a word related to Muslims and their actions, but a virus equally affecting races, religions, nations and people. Once we realize that, certain actions need to be taken. Preferably yesterday!

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We wish you all a happy Summer time and may logic prevail but also keep in mind the following:

"I am convinced that the act of thinking logically cannot possibly be natural to the human mind. If it were, then mathematics would be everybody's easiest course at school and our species would not have taken several millennia to figure out the scientific method."

– Neil deGrasse Tyson, *The Sky is Not the Limit: Adventures of an Urban Astrophysicist*

"When dealing with people, remember you are not dealing with creatures of logic, but with creatures bristling with prejudice and motivated by pride and vanity."

– Dale Carnegie, *How to Win Friends and Influence People*

“Logic will get you from A to Z; imagination will get you everywhere.”

Albert Einstein

The Editor-in-Chief



Greek-American restaurant owner helps man eating from trash

Source: <http://en.enikos.gr/international/29623,Greek-American-restaurant-owner-helps-man-eating-from-trash-VIDEO-PHOTOS.html>



A man was seen by employees of a Virginia Beach restaurant digging through a trash can looking for something to eat and the business took action.

Eleni Fotidou is the owner of Zorba's, a Greek restaurant on Princess Anne Road in Virginia Beach.

"I never want to see anyone like that," says Fotidou.

Last Friday, she and others were disturbed.

"We didn't quite realize what he was doing at first, but to take a better look at it at him, you realize he's searching for food," says Samantha McCauley.

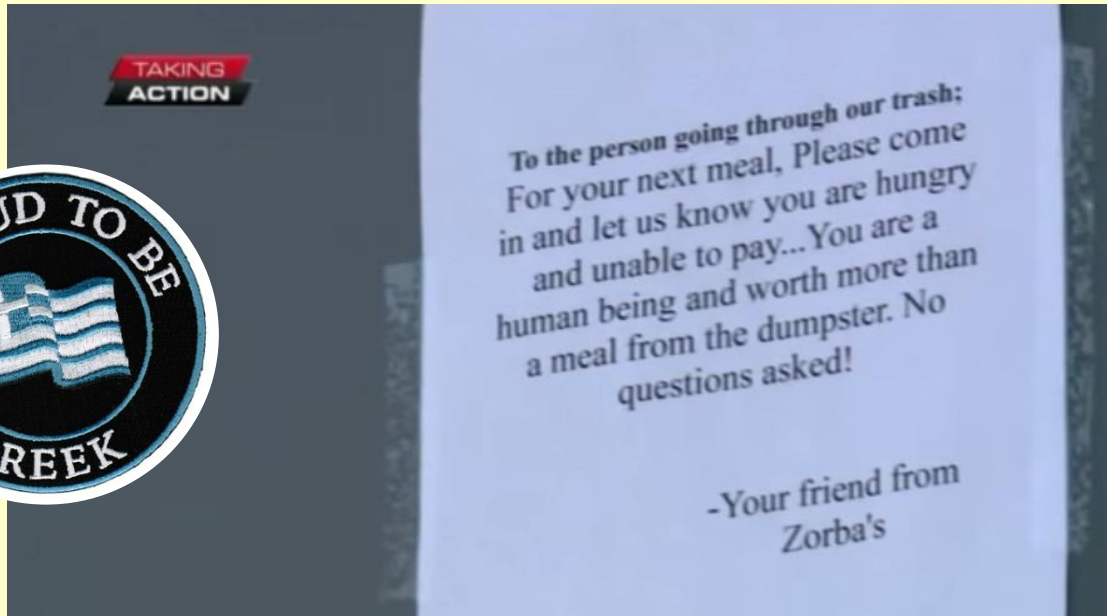
The owners say they were heartbroken when they looked outside and saw the man looking for food in the trash.

"No one is allowed in 2015 to go to bed starving," says Fotidou.

The owners showed us their security video from last Friday. They said minutes after the man was searching through the trash, you can see him walking away.

A woman who works nearby ran after him to give him water. They offered him food but he declined and seemed upset.

So they took action and hung up signs near the trashcans encouraging anyone in need of food to come inside.



They said hanging the signs are easier than having an awkward conversation with someone in need who might be too embarrassed.

The owners at Zorba's said helping others is what they are accustomed to doing.

"In Greece, it's the home of hospitality. We learn to do that, in Greece we are all big families. We always help each other, love each other," says Fotidou.

They said they have only seen a handful of people going through the trash and the area doesn't see too many homeless people. But these owners said the thought of just one person without any food is too much, and they're happy to take action and fill the stomach of someone in need.



Could better tests have predicted the rare circumstances of the Germanwings crash? Probably not

By Norman A. Paradis

Source: <http://www.homelandsecuritynewswire.com/dr20150602-could-better-tests-have-predicted-the-rare-circumstances-of-the-germanwings-crash-probably-not>



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When people do terrible things, it seems reasonable to believe we should have taken steps to identify them beforehand. If we can do that, then surely we can prevent them from doing harm.

The crash of Germanwings Flight 9525 in March, which appears to have been an intentional act, is an example. It shocks us (and understandably so) when a trusted professional harms those who have entrusted their lives to him or her.

So why not identify pilots at risk and take steps to prevent similar events from ever occurring again?

Because it is likely impossible, and maybe even counterproductive.

And that's not just my opinion. The limits of what can be achieved in predicting an event represent a dilemma we face all the time in biomedical testing.

Let me take you through such an analysis, and show you how futile such programs would likely be in preventing events like the air crash in Europe.

Medical test can be sensitive or specific, but rarely both

Any interview or written survey instrument intended to identify individuals at risk of perpetrating rare and horrific acts is essentially a medical test. And the performance of such tests is described by its sensitivity and specificity. Simply put, sensitivity is the ability of the test to detect the disease, and specificity is the accuracy of its result.

For most tests, you make trade-offs between one or the other: sensitivity versus specificity.

For instance, highly sensitive tests generally have many false positives — they call patients sick when the patient does not have the disease. And highly specific tests often have many false negatives — they miss many patients with the disease.

Generally, you can have a sensitive test or a specific test, but you can't have a sensitive *and* specific test. Using a simple metaphor, this can be called the "no free lunch law" of medical testing.



This limitation becomes overwhelming when biomedical tests are used in populations with a very low incidence of the disease tested for.

An absurd example can help to understand this. Modern pregnancy tests are very accurate, over 99 percent. However, let's say you apply a pregnancy test in a population of 10,000 men. You will get a handful of positive tests, 100 percent of which will be false positives.

For this reason, standard blood tests cannot generally be used to screen for very rare diseases without being paired with a second specific confirmatory test.

Turning our attention back to Germanwings Flight 9525, the incidence of an event like this is so uncommon that it is within a rounding error of male pregnancy.

There have been 660 million commercial airline departures since 1959, with only a handful of crashes believed to have been intentional acts by the pilot. Even if we assume there may have been crashes intentionally caused by pilots but not attributed to them, it is still a very rare event. Maybe not the rarest of events (at least one person among the approximately 100 billion people who have ever lived claims to have been both struck by lightning and bitten by a shark), but for our purposes it's particularly unusual.

So, even if we could develop a test or a screening process to find a pilot who would intentionally crash a plane, and that system was very, very good — both specific and sensitive — virtually all positives would be false positives.

Psycho-social medical tests aren't very accurate

And there is a hierarchy for test performance that makes all of this more complicated. Tests in which you cut the patient open and examine tissue under a microscope have the best performance, with nearly perfect sensitivity and specificity. Imaging tests, such as CAT scans and MRIs, provide millions of visual data points and also have very good performance. But by the time we get down to measuring the concentration of molecules in blood, problems develop. Such tests should not be used without a thorough understanding of the incidence of the disease.

At the very bottom of the hierarchy of performance are psycho-social survey instruments — tests in which a series of questions are asked with the intention of making psychological diagnosis. Some experts have asserted that once publication bias (the tendency to publish only positive results) is removed, most if not all such instruments will be found to lack any predictive performance whatsoever.

A large systematic review published in the British Medical Journal studied the performance of assessment tools for the prediction of violence in people at risk and found that two people would need to be detained, or somehow otherwise prevented from acting, to prevent one violent act. They concluded "even after thirty years of development, the view that violence, sexual, or criminal risk can be predicted in most cases is not evidence based."

Prediction can lead to false positive results

Even precisely diagnosing a disease is more difficult than most people realize. There is also a hierarchy when it comes to disease diagnostics. Well-understood and immediately life-threatening illnesses such as advanced cancer or heart disease can often be easily diagnosed. On the other end of the spectrum, nonspecific aches and pains, or diseases in their very early stages, challenge even the best clinicians.

Don't be misled by the vast psychiatric and psychological literature; the underlying pathophysiology and molecular biology of these disorders are not really understood. It comes as no surprise that our ability to definitively predict their risk is minimal.

So what would happen if we used some interview-based diagnostic instrument to predict the risk that a pilot might intentionally crash a plane? For the purposes of argument, let's assume that such an event might occur in the range of one in a few hundred million take-offs.

Since we're dealing with poorly performing diagnostic tools, in the setting of a poorly understood behavioral disease, it is likely that we will get tens of thousands of positive tests. And because we are trying to predict an extraordinarily rare



complication of that disease, all, or almost all, positives will be false positives.

Even worse, these false positives may not be benign. There are at least two additional dimensions inherent to this exercise that make it worrisome:

1. The airlines and regulatory organizations may overreact to the recent crash by revoking the flying credentials of pilots who “fail” such a testing.
2. Because their job is at risk, pilots will attempt to hide dark thoughts and concerns that are normal to all human beings.

It is possible — even likely — that such a program might cause pilots with symptoms of depression to hide their disease and possibly avoid treatment for a treatable and not altogether uncommon condition — increasing the overall risk to passengers, since diseases like depression may be associated with cognitive and performance impairment when untreated.

False positives can have major consequences

These concepts, by the way, are applicable in settings less rare than plane crashes. They come into play whenever a test — or even a test equivalent — is used to refine our estimation that something exists or may happen. Medical testing is the classic example, but the detection of defective jet turbine blades would be equally valid.

The extreme rarity of a pilot intentionally crashing an airliner, and the poor performance

of psychological tests, make it easy to conclude that such “testing” would be futile. It is much more difficult to figure out what to do with things like screening for breast cancer or predicting risk of Alzheimer’s dementia.

But it is also much more important.

The underlying mathematics informs us that one needs to know the performance of the test and the incidence of the outcome of interest. What the math doesn’t teach us is that our response to the result is also very important.

If the use of a test only causes us to non-invasively recheck more frequently or more carefully, that is one thing. It is a whole other thing to respond by cutting open a patient or exposing them to X-rays.

When the consequences of a false-positive test are large, we must be much more careful if we are to avoid harm.

One of my favorite examples is the drug testing of athletes. The organizations responsible act like their programs perform to a high degree of certainty. But unless they are using laboratory tests with performance unavailable to clinical medicine, and the incidence of drug use among athletes is very high, their false-positive rate is likely greater than people realize.

It may be possible to prevent rare events such as this one — “smart” cockpit doors or some such technological solution. But predicting their occurrence by looking more closely at the individuals involved is doomed to fail. It is an extreme version of a problem we all confront daily, mostly without realizing it.

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

Better detection of diseases, fraudulent art, chemical weapons, and more

Source: <http://www.homelandsecuritynewswire.com/dr20150602-better-detection-of-diseases-fraudulent-art-chemical-weapons-and-more>

From airport security detecting explosives to art historians authenticating paintings, society’s thirst for powerful sensors is growing. Given that, few sensing techniques can match the buzz created by surface-enhanced Raman spectroscopy (SERS).

Discovered in the 1970s, SERS is a sensing technique prized for its ability to identify chemical and biological molecules in a wide

range of fields. It has been commercialized, but not widely, because the materials required to perform the sensing are consumed upon use, relatively expensive and complicated to fabricate.

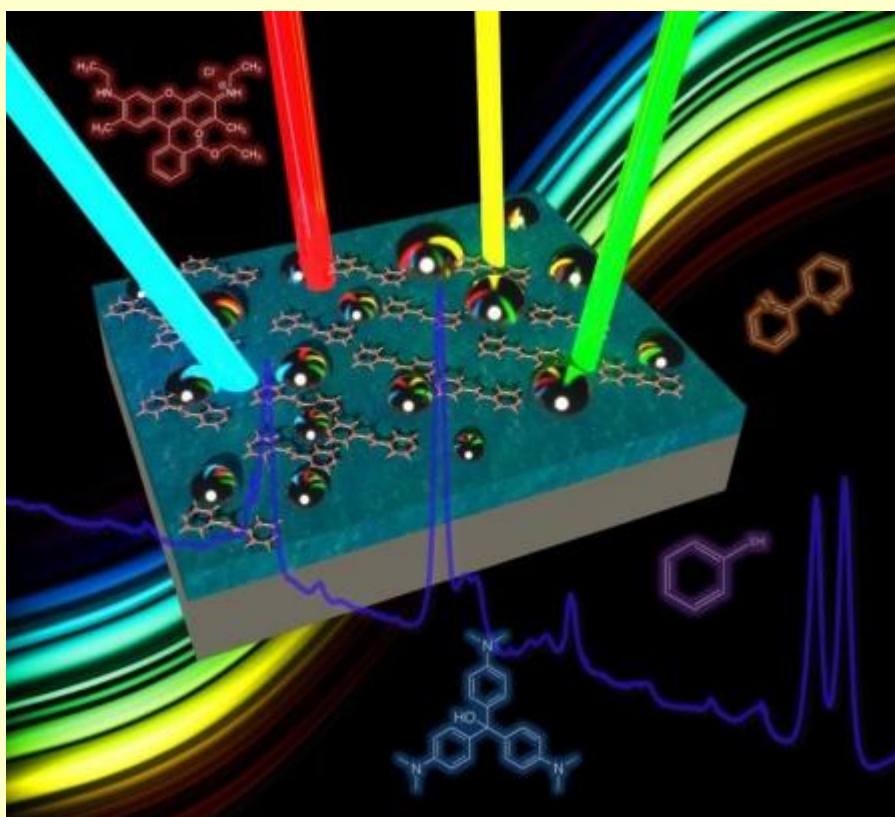
That may soon change.

A UB release reports that an international research team led by University of Buffalo engineers



has developed nanotechnology that promises to make SERS simpler and more affordable. Described in a research paper published yesterday in the journal *Advanced Materials*

SERS addresses the problem by utilizing a nanopatterned substrate that significantly enhances the light field at the surface and, therefore, the Raman scattering intensity. Unfortunately, traditional substrates are typically designed for only a very narrow range of wavelengths. This is problematic because different substrates are needed if scientists want to use a different laser to test the same molecules. In turn, this requires more chemical molecules and substrates, increasing costs and time to perform the test.



The technology (depicted above) consists of a thin film of silver or aluminum that acts as a mirror, and a dielectric layer of silica or alumina. The dielectric separates the mirror with tiny metal nanoparticles randomly spaced at the top of the substrate. Credit: Qiaoqiang Gan.

Interfaces, the photonics advancement aims to improve our ability to detect trace amounts of molecules in diseases, chemical warfare agents, fraudulent paintings, environmental contaminants and more.

“The technology we’re developing — a universal substrate for SERS — is a unique and, potentially, revolutionary feature. It allows us to rapidly identify and measure chemical and biological molecules using a broadband nanostructure that traps wide range of light,” said Qiaoqiang Gan, UB assistant professor of electrical engineering and the study’s lead author.

When a powerful laser interacts chemical and biological molecules, the process can excite vibrational modes of these molecules and produce inelastic scattering, also called Raman scattering, of light. As the beam hits these molecules, it can produce photons that have a different frequency from the laser light. While rich in details, the signal from scattering is weak and difficult to read without a very powerful laser.

The universal substrate solves the problem because it can trap a wide range of wavelengths and squeeze them into very small gaps to create a strongly enhanced light field. The technology consists of a thin film of silver or aluminum that acts as a mirror, and a dielectric layer of silica or alumina. The dielectric separates the mirror with tiny metal nanoparticles randomly spaced at the top of the substrate.

“It acts similar to a skeleton key. Instead of needing all these different substrates to measure Raman signals excited by different wavelengths, you’ll eventually need just one. Just like a skeleton key that opens many doors,” Zhang said.

“The applications of such a device are far-reaching,” said Kai Liu. “The ability to detect even smaller amounts of chemical and biological molecules could be helpful with biosensors that are used to detect cancer, Malaria, HIV and other illnesses.”

It could be useful identifying chemicals used in certain types of paint. This could be helpful detecting forged pieces of art as well as restoring aging pieces of



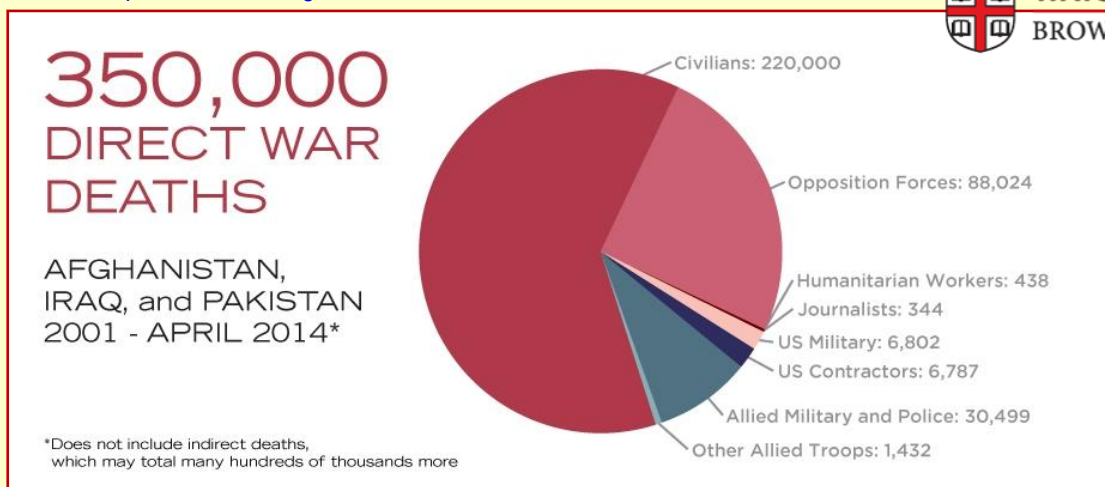
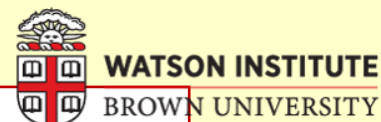
art. Also, the technology could improve scientists' ability to detect trace amounts of toxins in the air, water or other spaces that are causes for health concerns. And it could aid in the detection of chemical weapons.

The National Science Foundation supported the research in a grant to develop a real-time in-vivo biosensing system

— Read more in Nan Zhang et al., "Ultrabroadband Metasurface for Efficient Light Trapping and Localization: A Universal Surface-Enhanced Raman Spectroscopy Substrate for "All" Excitation Wavelengths," *Advanced Materials Interfaces* (29 May 2015).

Over 350,000 Killed by Violence, \$4.4 Trillion Spent and Obligated

Source: <http://costsofwar.org/>



The wars begun in 2001 have been tremendously painful for millions of people in Afghanistan, Iraq, and Pakistan, and the United States, and economically costly as well. Each additional month and year of war adds to that toll. Moreover, the human costs of these conflicts will reverberate for years to come in each of those four countries. There is no turning the page on the wars with the end of hostilities, and there is even more need as a result to understand what those wars' consequences are and will be.

The goal of the Costs of War Project has been to outline a broad understanding of the domestic and international costs and consequences of those wars. A team of 30 economists, anthropologists, political scientists, legal experts, and physicians were assembled to do this analysis. Their research papers are posted and summarized on this website.

We asked:

- What have been the wars' costs in human and economic terms?
- How have these wars changed the social and political landscape of the United States and the countries where the wars have been waged?
- What have been the public health consequences of the wars?
- What will be the long term legacy of these conflicts for veterans?
- What is the long term economic effect of these wars likely to be?
- Were and are there alternative less costly and more effective ways to prevent further terror attacks?

Some of the project's findings:

- Our tally of all of the war's recorded dead — including armed forces on all sides, contractors, journalists, humanitarian

workers and civilians — shows that over 350,000 people have died due to direct war violence, and many more indirectly.



- Indirect deaths from the wars, including those related to malnutrition, damaged health infrastructure, and environmental degradation, must also be tallied. In million -- is equivalent to all of the people of Massachusetts fleeing their homes.
- Iraq's health, infrastructure, and education systems remain war-devastated.

SUMMARY COSTS of WAR in IRAQ, AFGHANISTAN, and PAKISTAN

FY2001-2014 in BILLIONS of CURRENT DOLLARS

	\$BILLIONS
FEDERAL APPROPRIATIONS AND OBLIGATIONS	
Iraq (DOD and State)	823.8
Afghanistan (DOD and State)	718.6
Pakistan (DOD and State) War Related Aid and Reimbursement	19.4
Operation Noble Eagle	29.0
War Related Increases to Pentagon Base ¹	836.1
War Related Veterans Care and Disability ²	160.4
Estimated Homeland Security War Related Increase	471.6
Interest Payments for Direct War ³	315.7
TOTAL SPENT FY2001-FY2014	3,374.5
Estimate of Obligations Incurred for Veterans Care, NPV 2015-2053 ⁴	1,000
TOTAL SPENT AND OBLIGATED THROUGH FY2014	4,374.5
Additional Cumulative Interest on Past Pentagon and State/USAID War Appropriations FY2001-2013 by 2053	>7,900
Share attributable to Iraq: c. \$1.71 trillion, not including future war costs of veterans care; \$2.21 including future costs of veterans care to 2054.	
Share attributable to Afghanistan/Pakistan: c. \$1.65 trillion, not including future war costs of veterans care; \$2.15 trillion including future costs of veterans care to 2054.	

- previous wars, these deaths have far outnumbered deaths from combat and that is likely the case here as well.
- 220,000 civilians have been killed as a result of the fighting at the hands of all parties to the conflict, and more will die in Afghanistan, Iraq, and Pakistan as the violence continues. But most observers acknowledge that the number of civilians killed has been undercounted. The true number of civilian dead may be much larger when an adequate assessment is made.
 - While we know how many US soldiers have died in the wars (over 6,800), what is startling is what we don't know about the levels of injury and illness in those who have returned from the wars. New disability claims continue to pour into the VA, with 970,000 disability claims registered as of March 31, 2014 [1]. Many deaths and injuries among US contractors have not been identified.
 - Millions of people have been displaced indefinitely and are living in grossly inadequate conditions. The number of war refugees and displaced persons -- 6.7

- The armed conflict in Pakistan, which the US helps the Pakistani military fight by funding, equipping and training them, is in many ways more intense than in Afghanistan although it receives less coverage in the US news.
- The United States is at war in Yemen, having made an estimated 76 drone strikes in that country.
- The wars have been accompanied by erosions in civil liberties at home and human rights violations abroad.
- The human and economic costs of these wars will continue for decades, some costs not peaking until mid-century.
- The US federal price tag for the Iraq war — including an estimate for veterans' medical and disability costs into the future — is about \$2.2 trillion dollars. The cost for both Iraq and Afghanistan/Pakistan is going to be close to \$4.4 trillion, not including future interest costs on borrowing for the wars. Many of the wars' costs are invisible to Americans, buried in a variety of budgets, and so have not



- been counted or assessed. For example, while most people think the Pentagon war appropriations are equivalent to the wars' budgetary costs, the true numbers are twice that, and the full economic cost of the wars much larger yet.
- As with former US wars, the costs of paying for veterans' care into the future will be a sizable portion of the full costs of the war.
 - The ripple effects on the US economy have also been significant, including job loss and interest rate increases, and those effects have been underappreciated.
 - While it was promised that the US invasions would bring democracy to Afghanistan and Iraq, both continue to rank extremely low in global rankings of political freedom, with warlords continuing to hold power in Afghanistan with US support, and Iraqi communities more segregated today than before by gender and ethnicity as a result of the war.
 - Women in both countries are essentially closed out of political power and high rates of female unemployment and widowhood have further eroded their condition.

- During the US troop withdrawal from Iraq, President Obama said that the United States military was leaving behind a "sovereign, stable, and self-reliant Iraq." This was not only an inaccurate account of Iraq's situation at that time, but the country has since become less secure and politically stable
- Serious and compelling alternatives to war were scarcely considered in the aftermath of 9/11 or in the discussion about war against Iraq. Some of those alternatives are still available to the US.

There are many costs of these wars that we have not yet been able to quantify and assess. Given limited resources, we focused on the human toll in the major war zones, Afghanistan, Iraq and Pakistan and on US spending, as well as on assessing the claims made for enhanced security, democracy, and women's condition. There is still much more to know and understand about how all those affected by the wars have had their health, economies, and communities altered by the years of war, and about what solutions exist for the problems they face as a result of the wars' destruction. (Page updated as of June 2014).

► Notes are available at source's URL.

Read also:

<http://www.costsofwar.org/sites/default/files/%28Home%20page%20figures%29%20SUMMARY%20-%20Direct%20War%20Death%20Toll.pdf>

<http://www.costsofwar.org/sites/default/files/Summary%20Costs%20of%20War%20NC%20JUNE%2026%202014.pdf>

Abu Dhabi Police are test driving a Lykan HyperSport

Source: <http://www.thenational.ae/uae/abu-dhabi-police-are-test-driving-a-lykan-hypersport>

June 03 – The last time you saw a Lykan HyperSport, Vin Diesel was driving it through a window of an Etihad Towers skyscraper in the movie Furious 7.



The next time you see one it might be driven by an **Abu Dhabi Police** officer. The force is thinking of adding the supercar to its fleet. "We brought it into the country last week for pilot-testing," said Brig Hussain Al Harthi, director of central operations (photo). "We haven't bought it yet because we want to test it first to see if it fits Abu Dhabi Police's requirements."

W Motors, a Dubai company, produces the car in Turin, Italy, with Magna Steyr. It costs Dh12.5 million.

Abu Dhabi Police took delivery of the car on Monday.

"It will be on tour in Abu Dhabi from this week onwards," a spokesman for W Motors said.



The Lykan HyperSport is the first Middle Eastern supercar and one of the world's fastest. Powered by a 3.8-litre twin-turbo flat-six engine, it goes from 0 to 60kph in less than three seconds and has a top speed of 395kph. It was first displayed at the Dubai Motor Show in November 2013, and was recently in



the spotlight at the Shanghai Auto Show 2015.

In Furious 7, the latest instalment of the Fast and Furious franchise, the car has diamond-coated LED headlights.



The pilot-testing of the Lykan comes on the heels of unveiling a Rolls-Royce Phantom with a 999 number plate to mark the opening of the GCC Traffic Week in March. The luxury car is being used for special events and not on daily patrols.



Dubai Police's fleet of supercars includes a Lexus RCF, equipped with computers and cameras, a McLaren MP4-12C, Aston Martin One-77, Audi R8, Bugatti Veyron, Mercedes SLS, BMW M6, Lamborghini Aventador, Ferrari FF, and a Bentley Continental GT.



Dubai Police chief Maj Gen Khamis Al Muzeina said the cars were used to patrol heritage sites as well as other places visited by tourists

EDITOR'S COMMENT: "We haven't bought it yet because we want to test it first to see if it fits Abu Dhabi Police's requirements." Brig Hussain Al Harthi, director of central operations: **A man with great sense of humor!!!**

Turkish Islamists Target Historic Hagia Sophia Church

By Burak Bekdil

Source: <http://www.meforum.org/5292/turkey-islamists-hagia-sophia>

In 2014, a group of marketing gurus produced impressive visual material that became Turkey's public relations (PR) face across the globe. The campaign, aiming to make Turkey one of the world's top five tourist destinations by 2023, danced around the slogan "Home of..." "Home of Coffee," one poster said. "Home of Trade," said another. The list included "Home of Troy," "Home of Ancient Gods" and "Home of the Iliad," too. But not just that. According to the PR campaign, Turkey was also "Home of Virgin Mary" and "Home of Christianity." The latter two sufficed to make Turkey "Home of Bad Jokes."

Ironically, as the PR campaigners put out posters telling the world that Turkey was "Home of Christianity," crowds of Islamic religious "imam school" graduates gathered in Istanbul and issued a press statement demanding that the historic Hagia Sophia Church function as a mosque: The Hagia Sophia, for us, is not just a prayer house; it symbolizes,



together with the Conqueror's (Sultan Mehmed II) heritage, our independence... Without it being opened to (Muslims) prayers, there is no way we, the Turkish nation, can be fully independent.

The story of Hagia Sophia is a sad one. Its Christian builders could never imagine that the country that would host it centuries later would

between 1238 and 1263, it had been converted to a mosque after Mehmed II conquered the city in 1461. Its frescos were covered in whitewash. In 1964, the church-mosque was turned into a museum, only to be converted into a mosque once again in 2012.

But this did not satisfy the local Muslim congregation. Conservative newspapers complained that, "Muslims are being forced to pray 'in a mosque' in front of 'Christian icons and fresco.'" Muslims were demanding the lifting of restrictions on the destruction of such historical objects at their "mosque." No one even asked why there were Christian objects at a mosque.

[Protestors gather outside of Hagia Sophia on May 24 to demand its conversion into a mosque.](#)

In April, the top Muslim official in Ankara said that Pope Francis's labeling of the mass killings of the Ottoman Armenians as "the first genocide of the 20th century" would only accelerate the reopening of Hagia Sophia to Muslim worship. Professor Mefail Hizli, the mufti of Ankara, said: "Frankly, I believe that the pope's remarks will only accelerate the process for Hagia Sophia to be re-opened for [Muslim] worship."

More recently, a large rally in Istanbul demanded that the Turkish government convert the Hagia Sophia into a mosque. The rally was led by the Humanitarian Relief Foundation (IHH), the organizers of the Gaza-bound Mavi Marmara flotilla raided by Israeli forces in May 2010. At the rally, protesters carried signs that said, "Hagia Sophia needs to be reopened as a mosque" and "Let our lives be sacrificed for Islam."

Shortly before the rally, Turkey's Religious Affairs Directorate launched the exhibition "Love of Prophet" as part of a weeklong event dedicated to the commemoration of the birth of the Islamic Prophet, Muhammad. It was at this exhibition that the Hagia Sophia Church saw its first Quran recitation under its roof in 85 years.

Turkey has no shortage of mosques. On the contrary, devout Turks enjoy the comfort of more mosques per 1,000 population than Sharia state Iran. The

never feel "independent" unless it was converted into a mosque.

The Hagia Sophia Church was originally built in 537 in the Byzantine capital Constantinople. Until the fall of the city to Ottoman Turks in 1453 it served as an Eastern Orthodox cathedral and seat of the Orthodox Patriarchate, except between 1204 and 1261 when the Latin Empire converted it to a Roman Catholic church.

In 1453, Mehmed II ordered the cathedral to be converted into a mosque. The bells, altars, iconostasis, sacrificial vessels and other relics were removed from the holy building. Mosaics depicting Jesus, Mother Mary and Christian saints and angels were removed or plastered over; and Islamic features were added to the Orthodox-Roman Catholic-and now Muslim prayer house. In 1935, the Orthodox-Roman Catholic-Muslim prayer house was turned into a museum. Since then Turkey's pious Muslims have launched numerous campaigns to open the unfortunate "Orthodox-Catholic-then Orthodox again-Muslim prayer house-and now a museum" to Muslim prayers again.

The Hagia Sophia, in fact, has a namesake in the Black Sea province of Trabzon (originally "Trapezounta" in Greek). Built by Manuel I



campaigns for the "Hagia Sophia Mosque" have nothing to do with a shortage of Muslim prayer houses in Turkey's most populous city. They merely reflect an Islamic crusader mindset. The Turks physically "conquered" Istanbul back in 1453, but pious Turks apparently think the conquest is incomplete with "Christian heritage" around. If the "conquest" is to be complete, all traces of "Christian heritage" must be wiped out. It is the

same mindset that convinces Turks that Jerusalem, first built about 10 centuries before the birth of Islam, is a sacred Islamic city.

With the possible reopening of the Hagia Sophia to Muslim prayers, Turkish Islamists will feel victorious. They will have conquered another holy edifice of Christianity. Then, at the Hagia Sophia mosque, they will gather to pray for the "liberation" of the "holy Muslim city" of Jerusalem.

Burak Bekdil, based in Ankara, is a columnist for the Turkish daily Hürriyet and a fellow at the Middle East Forum.

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Five Years Later, Mavi Marmara Still Resonates in Turkey

By Burak Bekdil

Source: <http://www.meforum.org/5294/mavi-marmara>

Five years ago this week, on May 31, 2010, a Turkish flotilla with hundreds of pro-Palestinian activists aboard sailed toward the Gaza Strip in order to break Israel's naval blockade. Israel had established the blockade to prevent weapons from being shipped to the Hamas terrorist organization, which rules Gaza and is openly committed to Israel's destruction.

Before reaching the Gazan shore, however, the Turkish ship, *Mavi Marmara*, was boarded by Israeli commandos, and 10 activists were killed

in what would become the worst ever diplomatic crisis between Turkey and Israel. Later, a UN-sponsored probe into the *Mavi Marmara* incident would accuse Israeli soldiers of excessive use of force, but declare Israel's blockade as legal.

With the *Mavi Marmara*, the Turkish government wanted to provoke Israel and cause an incident. Then the whole world learned who benefitted.



By discreetly encouraging the flotilla, and possibly calculating its aftermath, the Turkish

In Istanbul, tens of thousands gathered in front of the Fatih mosque for the *Mavi Marmara* commemoration. They carried Palestinian flags and banners with Arabic script. A choreographed show featured the words "Freedom for Quds (Jerusalem)." Still wondering what relevance Jerusalem could have to an incident off the Gazan coast? A prominent Islamist columnist, Abdurrahman Dilipak, explained it in a speech: "The liberation of Quds (Jerusalem) is the liberation of Mecca and Medina. The liberation of Mecca and Medina is the liberation of our mosques."



government aimed at two things: boosting then Prime Minister [now president] Recep Tayyip Erdogan's popularity on the Arab Street and consolidating his votes among Turkey's conservative masses. The first aim has dramatically failed, except in the Palestinian territories and Qatar; but the second has been achieved.



The Palestinians and Islamist Turks commemorated their "martyrs" on the fifth anniversary of the *Mavi Marmara* affair without realizing how much they fancy the "show" side of political Islam while dutifully ignoring facts. "We salute you, Turkish people," banners read in Gaza City, where Palestinians placed a wreath on a memorial built for the victims. "We have gathered here today to honor those who had made the biggest sacrifice and died for Palestine," said Jamal al-Hudari, president of the Popular Committee Against the Siege. "We send our greetings to the relatives of the martyrs and President Recep Tayyip Erdogan." Bassem Naeem, a Hamas official, described the *Mavi Marmara* incident as "seminal" in the history of the Palestinians and demanded that Israel be brought to trial for killing the activists. As always, in Turkey, the show was more pro-Palestinian than any show in the Palestinian territories. A group set off from the central Anatolian city of Konya and stopped in Ankara to perform morning prayers in front of the Israeli ambassadorial residence, in commemoration of the incident. Then they went to Istanbul to join a bigger event.

Typically, Dilipak argued that the deaths of 10 activists aboard the *Mavi Marmara* were "a merry event" as they had become "martyrs." And Bulent Yildirim, head of the Humanitarian Aid Foundation (IHH), the organizers for the *Mavi Marmara* flotilla, claimed in a speech that "we could kill at least 100 Israeli soldiers if we wanted to."

Judging from the scenes in Gaza and Turkey, one might think that the Turks are the eternal saviors of their Palestinian brothers, or that Turkey is the biggest benefactor of the Palestinian territories.

One day, perhaps, the Palestinians will understand that their "cause" is, for their Turkish brothers, merely an ideological feel-good motive and an instrument in the quest of many Turks to consolidate power both at home and in the Arab world.

Ironically, about a week before the *Mavi Marmara* commemoration, hysteria gripped Turkey: a World Bank report revealed that the



Turkish government had failed to deliver a large portion of the aid it had pledged for the reconstruction of Gaza during an international donors' conference last year.

The report said that Turkey has so far delivered only 0.26% of the aid it had pledged at the donors' conference in Cairo last October. Turkey, which pledged \$200 million, has provided only \$520,000 the report said.

Turkey's unofficial aid for Gaza did not reflect the Palestinian-fetish visible across the country, either. All that 77 million Turks could collect to donate to Gaza stood at \$32 million, or about 40 cents per person. In other words, the Turkish generosity for "our Palestinian

brothers" was a mere 0.004% of the country's national income.

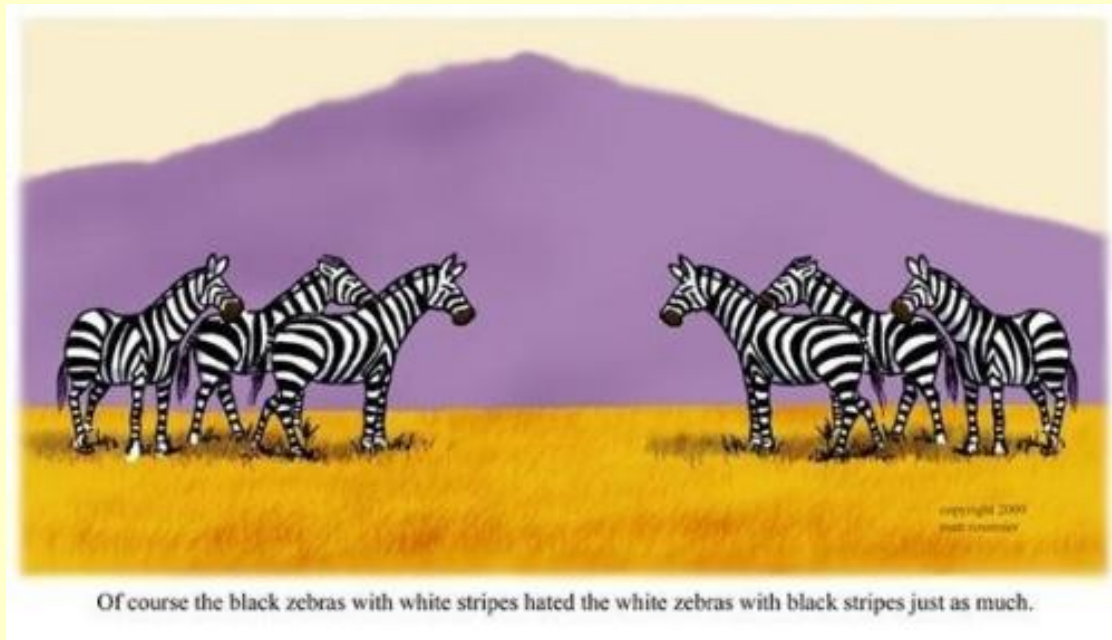
"This is a clear picture showing the AK Party's true colors. They turn Gaza into a political pawn and exploit it, then fail to honor the pledge ... It's tragic. How could you not honor your promise to Gaza?" asked Mehmet Gunal, an opposition member of parliament.

Turks love to play the generous benefactor of the Palestinians and the custodians of the Palestinian cause. Underneath, its "pro-Palestinian" mindset, Turkish solidarity with the Palestinians is less related to the Palestinian cause and more to the Islamists' devotion to the dream of "conquest."

Burak Bekdil, based in Ankara, is a columnist for the Turkish daily Hürriyet and a fellow at the Middle East Forum.

11 Most Racist Countries in Europe

Source: <http://www.insidermonkey.com/blog/11-most-racist-countries-in-europe-347956/>



When we talk about 11 most racist countries in Europe, our mind fails to understand why some human beings have to still live in that darkness. There is no denying the fact that we have made great progress in almost every aspect of our lives. Whether it is technology, medicine, space discoveries and understanding other inhabitants of our planet; we have breakthroughs in every field. Sometimes it hurts that our kind has discovered solutions to some of the most problematic and complex

things but have failed to solve the simplest of questions.

With all the breakthroughs and discoveries we have made, it seems that we are drifting away from nature and natural ways of living. We might have succeeded in discovering life on other planets but we have failed to tolerate each other and that too miserably.

Apart from wars, murders, terrorism, and rape, racism has



been a continuous disgrace to mankind. We have come a long way from where it was considered pretty okay treating a man badly solely on the basis of cast and color. A lot of progress is also been made in spreading awareness and laws are now in practice to eliminate racism at all levels. Despite all our efforts, what seems missing is the sincere will of general public to eliminate it once and for all. On the whole, most people are not saying anything to deliberately hurt anyone or make them feel bad about their caste or the color of their skin, but there still exist those who do – those who live in Stone Age and for whom racism is like a part of life.

No matter what, we should remain hopeful that one day this world would be a better, more peaceful place to live in and things like racism and terrorism will find no place among ourselves. Until that actually happens, it would not be a bad idea to go through our list of most racist countries in Europe or our previous post regarding [the 10 most racist countries in the world](#).

Racism ranking, used in this list, is a scoring system based on riots, general people behavior, past history and a few more useful indicators of racism.

11. Germany

Often referred to as “the land of the free” Germany is pretty racist when it comes to Americans and English speaking people. It might not reflect politically but it is true. Germany has racism rating of 2.89/5

10. Poland

Riots in Poland can get pretty messy. The advice would be to stay inside your home even if there is a slightest of sniffs of riots outside. It can easily get pretty bloody in Poland! Racism rating of Poland is 2.9

9. Austria

Austria is undoubtedly a beautiful country but when it comes to racism it can all get pretty dark very quickly. With Racism rating of 3/5, Austria is a country where racism exists in some parts.

8. Russia

Number eight on our list of 11 Most Racist Countries in Europe is Russia. The people here are pretty nice and extreme nationalists. It is best to avoid discussing controversial matters with the locals if you're visiting Russia. Rating 3.2/5!

7. Hungary

With racism rating of 3.3/5, Hungary is a landlocked country of central Europe. Hungary other than its rich culture and heritage is also known for a bit of drama and that is racism. Its racism rating is around 3.5/5

6. Ukraine

Ukraine is a country in Eastern Europe. It has been dealing with tough racism issues and things can quickly take up the shape of riots in here. Racism rating of Ukraine is 3.7/5

5. Denmark

Danish people are pretty peace loving and liberal generally but racism exists and sometimes things can go out of control. It is advised that tourists should do a little research about the places they are going to visit in Denmark. Rating 3.8/5

4. Spain

Spain has got its own culture and you can easily distinguish its people and tradition from the rest of the Europe. Like many countries in the continent, Spain is also troubled a great deal by racism and its rating is 3.9/5



3. Sweden

In Sweden you are 50% more likely to get an interview call if you have a Spanish sounding name. People in general are nice but may get pretty aggressive on sensitive topics. Racism rating here is around 4.

2. Great Britain

It might look all peaceful but Great Britain is greatly troubled by racism and riots based on racism. The racism rating for Great Britain is dangerous 4.5/5.

1. Switzerland

It is hard to believe but it is true that Switzerland is at the top spot on our list of **11 Most Racist Countries in Europe**. It is a very beautiful country but has surprising racism rating of 5/5.



9 Misconceptions About Drones That Engineers Wish You'd Shut Up About

Source: <http://gizmodo.com/9-misconceptions-about-drones-that-engineers-wish-you-d-1709827612>

They're robots. They fly. They're watching you. And they're increasingly found everywhere: Yup, they're drones. You may think you know exactly what they are and what they do. You don't.

Like lots of emerging technologies, drones are often misunderstood, especially early in their existence. To help you navigate our brave new world filled with swooping, buzzing, photo-snapping machines, we reached out to some of the greatest experts in the field. We asked them, what are the most bogus drone myths? What drives you crazy? What do you wish you could shout from the rooftops? Here's what they said.



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1. They're not actually called drones, nor quadcopters

Calling them "drones" in the first place is a no-no, according to Vijay Kumar, an engineering professor at the University of Pennsylvania. (He's not the only one who thinks so, either.) He and his research team work on aerial robots in his lab.

"The only thing that is drone-like about our robots is that they make a continuous humming sound," Kumar says. "If I was an airforce pilot controlling a **remotely piloted vehicle** (which is what they are) and you called it a drone, I would be insulted. I can't think of anything in the definition of a drone that is suggestive of what the pilot does. Certainly the characterization the pilot does no work does not do him or her justice."

While we're at it, Kumar also says calling a robot with four rotors a "quadcopter" is "just plain wrong English."

"'Quad' refers to four. 'Copter' is short for helicopter. A quadcopter describes four helicopters. A robot with four rotors is a helicopter, perhaps a **quadrotor helicopter**. It is not a set of four rotorcrafts."

What should you be calling "drones"—like the flying robots Kumar and his team make at his lab at Penn—instead? Kumar says: "The military uses RPVs (remotely piloted vehicles). When the vehicles are autonomous (like ours), they are robots."

2. The biggest danger from drones isn't invasion of privacy

Kumar admits that many people live in fear of camera-equipped drones. But the problem is that the legislation designed to combat these supposed privacy threats doesn't actually deal with how RPVs actually work.



FAA regulations say you can't fly personal drones above 400 feet over personal property. But is keeping drones at, say, 410 feet any more private? Your creepy neighbor leaning over your fence, taking photos with his phone is a bigger threat to your privacy than anything, as well as a more realistic one.

"Do people think about the number of pictures of them on the internet that were taken without their knowledge by smart phones and digital cameras?" Kumar asks. "Can you really prevent drones from taking pictures that [can't already] be obtained on Google Earth?"

Mary Cummings, associate professor at the Department of Mechanical Engineering and Materials Science at Duke University, takes the argument a step further.

"It is actually very difficult to make sense out of what a ground control person sees from a drone camera," she says. "It is like looking through a soda straw." The military has the resources and trained personnel to do much more comprehensive surveillance, so she believes you shouldn't worry about some inept peeping tom's personal drone, like the ones we sometimes hear about in the news.

Brendan Schulman, an attorney specializing in laws surrounding unmanned aerial vehicles, points out that we don't need special laws to prevent drones from invading our privacy. He says, "People also don't seem to realize that existing laws concerning invasion of privacy, peeping toms, stalking, or unlawful surveillance already apply to the kind of concerns people keep talking about [with drones], so there is no need for an overreaching law specifically targeting drone technology. If someone is actually invading someone's privacy, it is the misconduct that should be unlawful, regardless of the technology used."

But... you should still be a little worried. Not about surveillance, per se, but that like any technology, flying robots can be used for nefarious purposes if they're in the wrong hands.

"Any 'drone' can be hacked by a smart student in an hour," Vijay Kumar points out. "Should we not be worrying about this instead? While the FAA is flogged for not being decisive, they are the only ones thinking seriously about safety. It amazes me that hobbyists can use 'drones' in populated areas, when we need drivers licenses to drive cars."

3. They're not all killing machines

Drones rose to mainstream public consciousness in the last decade as the US started deploying them in conflict zones in the Middle East. This offensive UAV warfare cultivated a bad rap that haunts the 'bots to this day.

"Drones are just a platform that we—the US—launch weapons from," Mary Cummings says. "People often want to blame drones for collateral damage in war strikes, but there is no question that drones cause much less collateral damage than if the US military were to use manned aircraft. People want to blame the technology when it is policy that is the real culprit."

4. They can't take down planes

Jet engines accidentally slurping up sky-high drones is unlikely, and the chances of it actually triggering a crash are even smaller.

Attorney Schulman points out that pilots have spotted model airplanes in their vicinities for years, but it wasn't until last year that the FAA started requiring pilots and air traffic control to report all drone sightings to a national security system. Of those 190 sightings, Schulman points out that a lot of the media described these incidents as "near misses."

In a lot of these supposed "near misses," Schulman says that many of these sightings were from the ground, or in other situations that didn't pose a risk. In some cases, he says it wasn't even clear if a drone was what pilots sighted. It's unlikely a drone could even reach thousands of feet in the air—and even if they did, newer models like the Phantom 3 come with geofencing that automatically employs GPS to avoid swooping near airports.

5. You can't hear them coming a mile away

While the name "drone" connotes constant insect-like humming, noisiness isn't a trait you can assign to all flying robots.

"Commercial rotorcraft drones like those from DJI and 3DR are noisy enough, and Bezos has been rumored to say 'they're too loud' of his current Amazon drones," says Todd Humphreys, an assistant professor of aerospace engineering at the University of Texas, Austin. His research team at UT was the first to prove that



UAVs can be commandeered via GPS signals from an outside source.

“But fixed-wing powered gliders, or rotorcraft in near free fall, can be as silent as a thief in the night,” Humphreys says. “This point is relevant for those who hope to detect drones by their acoustic signature, including the Secret Service guarding the White House.”

That could be a problem for the companies that already exist who promise to catch suspicious drones by those very acoustic signatures—that is, the unique sounds that each type of drone emits. Those kind of companies already exist in Japan and the US.

Reducing drone noisiness is one of the main goals in UAV technology: Over in the UK, the Royal Society for the Protection of Birds uses a tiny drone with six electric motors to monitor Britain’s endangered bird species. The society says that ambient noises like wind drown out the already hushed robot so as to allow the drone to sneak up on the animals.

6. They don’t need a human controlling them

There are lots of stories of supposedly-unsavory characters getting caught flying drones near sensitive areas, like tourist-filled attractions, from afar. But UAVs are becoming more and more autonomous in every sense of the word. As in, there’s no human controlling them. “A UAV may detect a target on the ground and automatically follow or track the motion of the target without involvement of pilot,” Hugh Liu says. He’s a professor at the University of Toronto’s Institute for Aerospace Studies. He just won \$1.65 million from the Natural Sciences and Engineering Research Council of Canada to train 150 new experts in using UAVs for a range of tasks, like agricultural and environmental monitoring.

We’re already seeing these autonomous capabilities in commercial drone prototypes, like this one that can be programmed to shadow the user automatically. DJI has a drone that allows you to preprogram GPS waypoints you want the ‘bot to hit, then let it go into the wild for a self-guided journey. And there’s research being done by engineers like Kumar to get drones to automatically follow one another—like bees or ants in a swarm following each other, or birds flying in formation.

7. They are not toys

While some UAVs are indeed essentially RC toys, most aren’t. They’re fully-fledged robots, and should be treated as such.

Liu says UAVs are “not just one vehicle,” but an “integrated system” chock full of onboard sensors, flight actuators, and more. And like Kumar, Liu prefers the term UAS (unmanned aerial system) over UAV (unmanned aerial vehicle).

“The obvious example is, when one flies a model airplane, it’s a fun sport to operate the machine,” says Liu. “When this machine is equipped with camera, all of a sudden, we are wowed by the aerial photos. I do prefer to use the term unmanned aerial system (UAS) rather than UAV to indicate this ‘system’ perspective.” For context: Toys R Us sells an RC toy they call the Sky Viper Camera Drone—which is clearly different from the robots Liu, Kumar and company are talking about.

8. Jamming their signals doesn’t take them down

Todd Humphreys says that another myth he runs into a lot is the idea that we can drop drones out of the sky by jamming their communication signals. But he says almost all GPS-guided drones have a failsafe for just such an event called “lost link protocol.” This protocol ensures that a jammed drone will automatically guide itself to a safe, predesignated location, which a hacker can’t change.

“What’s more, drones can be configured to ignore communications from the ground during flight,” he explains. “In this mode, no one, not even a legitimate operator, could deter them from executing their mission. This ‘I can’t hear you’ mode might be attractive to vandals or terrorists who want to turn their fixed-wing drone into a home-brew cruise missile. This is essentially how the original drone, the V1 flying bomb, operated.”

9. They won’t be delivering your mail (or your pizza) anytime soon

Many people think drones will eventually buzz around neighborhoods and drop packages on stoops like weird flying robotic milkmen. But such a world is still be a way’s off.

Mary Cummings says delivery drones can’t go very far, and they



don't do well at all in bad weather. She says we might see some in the future; but that more likely we'll see them used for search-and-rescue missions. Drones already have already saved lost hikers, for example, and there are plans to deliver medical supplies to hard-to-reach areas or to deliver humanitarian aid in war zones.

But it's not going to be happening quickly. Cummings says: "We need a lot of work in developing new air traffic control paradigms and also making sure this new technology is robust in the face of weather and human ill intent. My seven-year-old would definitely throw rocks at a drone trying to land."

The West just basically told Eastern Europe's NATO members that they're on their own if Russia attacks

Source: <http://www.businessinsider.com/less-than-half-of-democrats-and-europeans-would-want-to-defend-a-nato-state-attacked-by-russia-2015-6>

The Pew Research Center has just released a monster piece of research on public attitudes

beginning of Moscow's annexation of eastern Ukraine. But those concerns don't seem to be translating into support for action to help the countries bordering Russia.

A significant cohort of Americans and a majority of the public in several European countries are firmly against intervening to support a NATO ally in the result that it's attacked.

Just over half of Americans, 56%, agree that the "US should use military force to defend a NATO ally against Russia" if the situation arises. That may not be much comfort to the nine NATO nations that were once Warsaw Pact countries.

But there's a big political split on the issue — 69% of Republicans support the statement, but just 47% of people identifying as Democrats agreed.

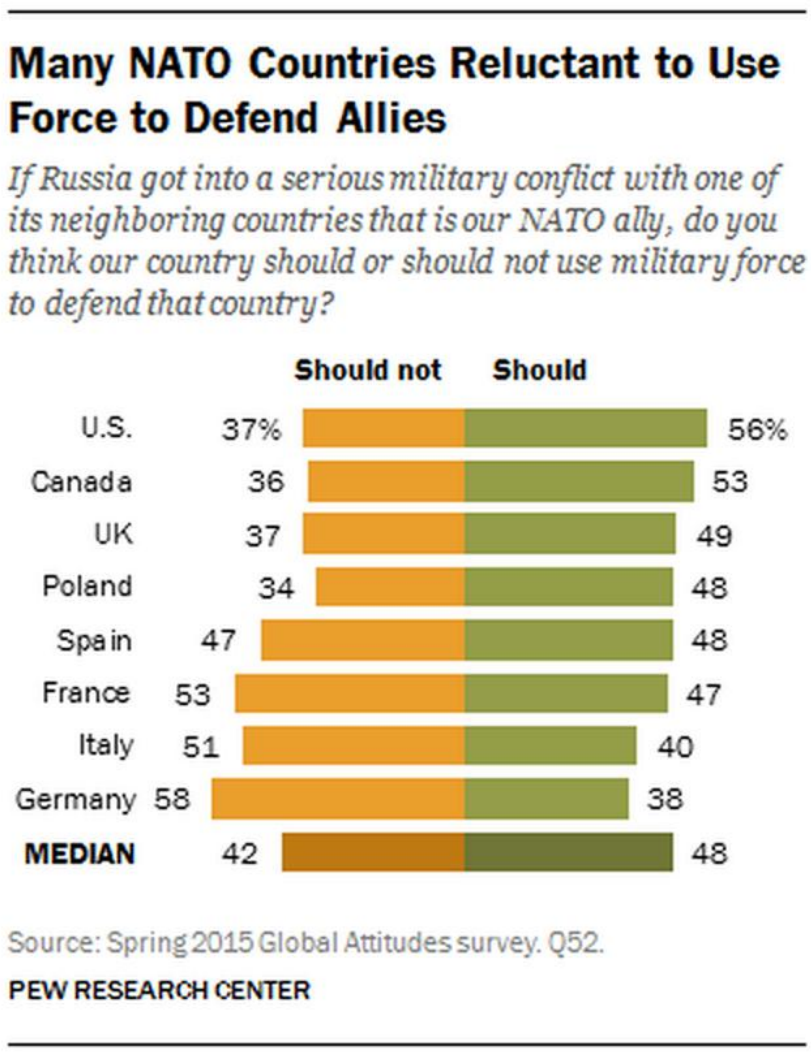
On net, Poland is one of the nations least confident that assistance would come if they were attacked: 49% think it would, and 31% disagree.

Based on some figures, they should be even more skeptical.

In Italy, Germany, and France, three

of the European Union's four biggest countries, more people think their country should not

toward NATO, Ukraine, and Russia. Fears of Russian expansion have been making daily headlines for more than a year, since the



come to the defense of a NATO ally than think it should. Spain is pretty evenly divided, while

U.S.-German Divide Over Ukraine

Support for ___ in response to the situation involving Russia and Ukraine

	U.S. %	Germany %	Diff
NATO sending arms to Ukraine	46	19	-27
Ukraine joining NATO	62	36	-26
Use military force to defend NATO ally	56	38	-18
Decreased sanctions on Russia	10	29	+19
Western countries sending economic aid to Ukraine	62	71	+9

Source: Spring 2015 Global Attitudes survey. Q48a-b, d, Q50 & Q52.

PEW RESEARCH CENTER

military support in the event of a Russian attack.

Germany is particularly lukewarm about doing anything to support the Ukrainian government. Nearly one out of three Germans think sanctions against Russia should be relaxed, and less than one-fifth of the German public thinks NATO should send arms to Ukraine. But Germans seem marginally more supportive of sending economic aid to Kiev than Americans are.

Here's how Pew sums up the attitudes:

NATO publics support economic aid, but do not favor arming Ukraine. Most people in the eight NATO countries surveyed (a median of 70%) are happy to see Western countries send economic aid to Ukraine. Many also support Ukraine joining NATO and, in half the EU countries surveyed, favor Ukraine joining the European Union. But people in these NATO countries made it clear that they did not support sending arms to Ukraine — a median of just 41% supported doing so.

Poland and the UK are more supportive. When weighted for their populations, that suggests 52% of Europeans would be against

EDITOR'S COMMENT: It would have been interesting to include more EU countries (i.e. Greece) in this poll. On the other hand: why should coalitions always look for an "enemy" to excuse their existence? Why the backstage shadows always dream of wars and catastrophes especially far away from homeland?

Fastest Growing Religion In Each Country Around The World

Source: <http://brilliantmaps.com/fastest-religion/>

The map above shows which religion is the fastest growing in each country around the world based on data from Pew Research Center's The Future of World Religions: Population Growth Projections, 2010-2050.

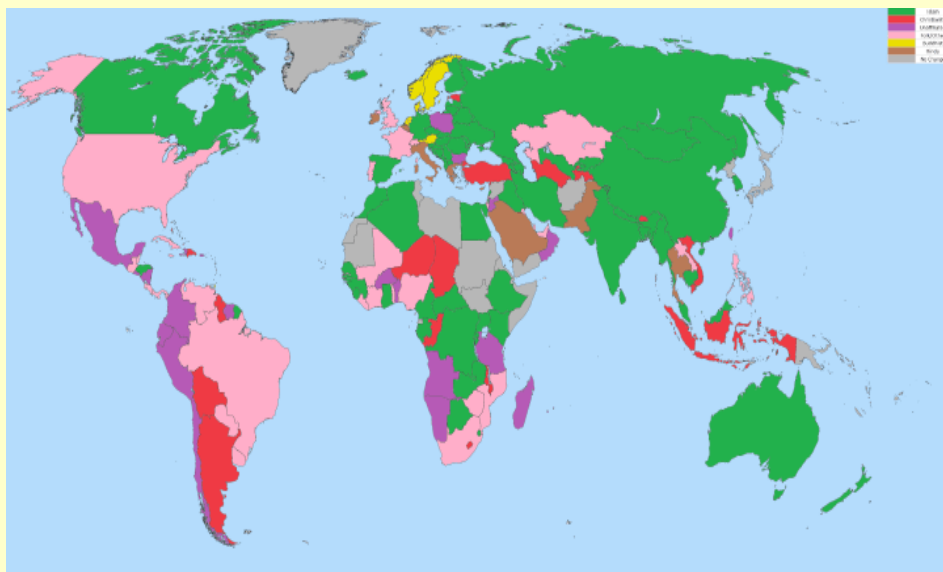
The colours are as follows:

- Green = Islam
- Red = Christianity
- Purple = Unaffiliated
- Pink = Folk/Other
- Yellow = Buddhist
- Brown = Hindu
- Grey = No Change

It's important to note that the map shows which religion will have the largest relative, not absolute, increase between 2010 and 2050.

So for example, Folk and other

regions are expected to grow from 0.8% of the US total in 2010 to 2.0% (150% increase) in



2050, while Christianity is expected to fall from 78.3% to 66.4% (15% decrease) in the same time period.

However, the total size of the Christian population of the US will still increase from around 243 million today to 261 million (18 million more) in 2050, while folk and other religions will increase from 2.5 million to 7.9 million (5.4 million more) in the same time period.

In relative terms Islam is doing well, becoming the fastest growing religion in both China and India (the world's two most populous countries) and Russia and Canada (the world's two largest countries by area). However, despite anti-immigrant feelings in the UK or France it's not the fastest growing religion in either country.

Christianity is growing fastest in a few interesting place such as the predominantly Muslim countries of Turkey and Indonesia.

Unaffiliated groups are growing fastest in some of the more Catholic countries around the world in South America, Mexico and Poland along with several countries in Africa.

Folk/Other religions are doing well in the United States, UK, France, Brazil and many other countries.

Buddhism seems to be growing fastest in the Scandinavian countries (plus Austria and the Netherlands), far from its base in Asia.

Hindus are growing quickly in an interesting mix of countries from Muslim Saudi Arabia and Pakistan to Catholic Italy, Ireland and Belgium.

Here's how PEW defined each group:

Islam/Muslims:

There are two major branches of Islam – Sunni and Shia. As of 2010, it was estimated that the overwhelming majority (87-90%) of Muslims were Sunnis; about 10-13% were Shia Muslims. However, with little data on population differences among Muslim subgroups around the world, this report does not project the future size of Sunni and Shia populations.

Christianity:

This analysis looks at Christians as a single religious group and does not project changes among Christian subgroups.

Note: the report includes Catholics, Protestants, Orthodox as Christians along with

Mormons, Christian Scientists and Jehovah's Witnesses.

Unaffiliated:

The religiously unaffiliated population includes atheists, agnostics and people who do not identify with any particular religion. However, many of the religiously unaffiliated do hold some religious or spiritual beliefs.

Folk/Other:

Folk religions are closely tied to a particular people, ethnicity or tribe. In some cases, elements of other world religions are blended with local beliefs and customs. These faiths often have no formal creeds or sacred texts. Examples of folk religions include African traditional religions, Chinese folk religions, Native American religions and Australian aboriginal religions.

Other:

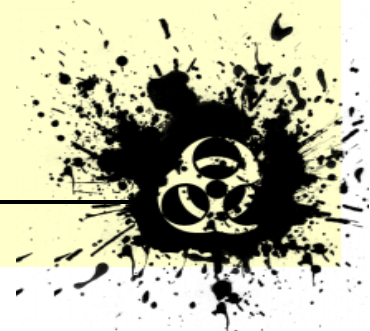
"Other religions" is a residual category composed of groups not classified elsewhere. This very diverse category includes followers of religions that often are not measured separately in censuses and surveys: the Baha'i faith, Jainism, Shintoism, Sikhism, Taoism, Tenrikyo, Wicca, Zoroastrianism and many other religions. Because of a lack of data on these faiths in many countries, the individual religions within this category are not projected separately. Rather, they are combined and treated as a whole. This means the growth trajectories of specific religions in this category could vary greatly.

Buddhist:

The three major branches of Buddhism in the modern world are Mahayana Buddhism, Theravada Buddhism and Vajrayana (sometimes described as Tibetan) Buddhism. [...] The Buddhist population figures in this study also include members of other groups that identify as Buddhist, such as Soka Gakkai and Hoa Hao.

Hinduism:

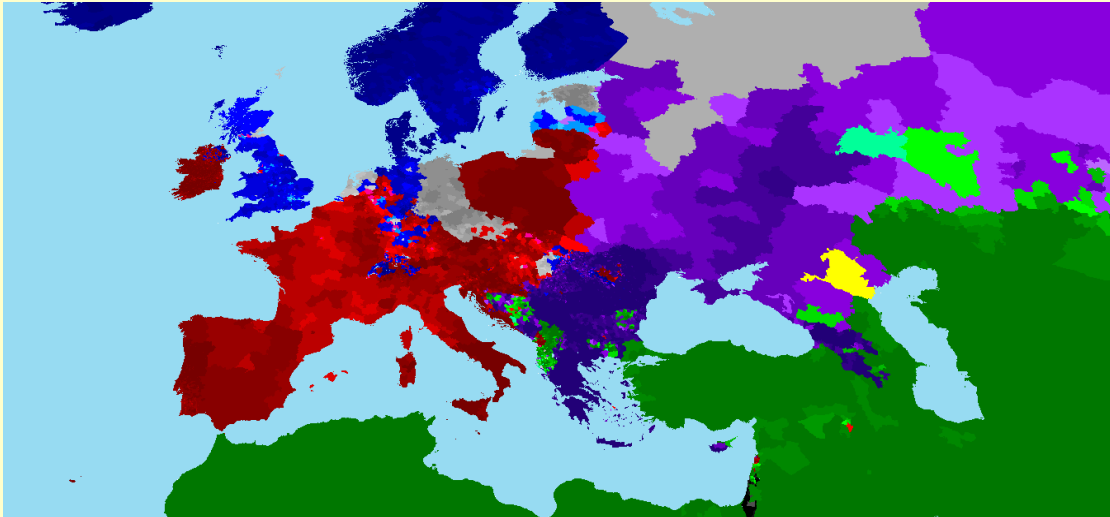
Major traditions within Hinduism include Vaishnavism, which is devoted to worship of the god Vishnu, and Shaivism, organized around worship of the god Shiva.



Because of a lack of census or survey data on subgroups of Hindus in most countries,

however, reliable estimates of the global size of various Hindu traditions are not available.

You can see data for each country in the [full report here](#).
 For the current state of the world's religions check out:
[Incredibly Detailed Maps Of The World's Religions](#)



Blood Borders: A Proposal To Redraw A “New Middle East”

Source: <http://brilliantmaps.com/new-middle-east/>



The map above is a 2006 proposed plan to redraw the borders of the Middle East by Ralph Peters, a retired United States Army lieutenant colonel, author, and Fox News commentator. **It was original published in the Armed Forces journal in an article titled Blood borders: How a better Middle East would look.**

The map would make sweeping changes throughout the region such as:

- Israel: Returns to its pre-1967 borders.
- Turkey, Syria, Iran and Iraq All lose territory to create a Free Kurdistan.



- **Free Kurdistan:** New state created for the Kurds.
- **Greater Lebanon:** a reborn Phoenecia that also gains territory at the expense of Syria.
- **Greater Jordan:** gains territory at Saudi expense.
- **Sunni Iraq:** One of three successor states to Iraq, this one would obviously be primarily Sunni.
- **Arab Shia State:** Another succsor state to Iraq, would house Iraq's current Shia population along with gaining territory from Iran.
- **Islamic Sacred State:** A new state that would act as an Islamic Vatican carved from Saudi Arabia.
- **Saudi Arabia:** Loses territory to Jordan, Arab Shia State, Yemen and the Islamic Sacred State.
- **Yemen:** Gains land from Saudi Arabia.
- **UAE:** Loses territory to Arab Shia State, although Dubai likely to remain an independent playground for the rich.
- **Kuwait and Oman** would retain their current borders.
- **Azerbaijan:** Gains territory from Iran.
- **Iran:** Loses land to Kurdistan, Arab Shia State, Azerbaijan and Free Baluchistan but gains territory from Afghanistan. The goal is to make Iran even more Persian.
- **Free Baluchistan:** New state for the Baluch people to be carved from Pakistan and Iran.
- **Afghanistan:** Loses land to Iran in the west but gains land from Pakistan in the east.
- **Pakistan:** Loses territory to both Free Baluchistan and Afghanistan. It now lies almost entirely east of the Indus.



Keep in mind this map is nearly 10 years old and does not reflect recent developments such as the Arab spring, Yemen civil war or rise of Islamic State.

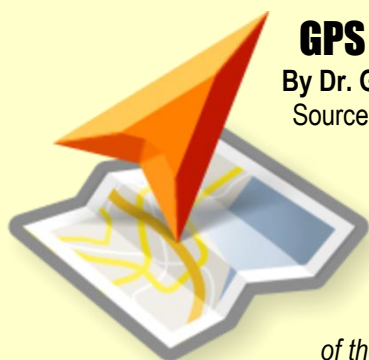
For a complete explanation why these changes are proposed you should read the original article at: <http://www.armedforcesjournal.com/blood-borders/>

EDITOR'S COMMENT: "How a better Middle East would look" – "better" for whom? At what cost? Is current situation proceeding according to "plan"?

GPS Vulnerability: Options and Alternatives

By Dr. Gene H. McCall

Source: <http://acdemocracy.org/gps-vulnerability-options-and-alternatives/>



The Global Positioning System (GPS) was declared operational on December 8, 1993. Since that time the system and the receivers that use it have been improved to a level of performance unimagined by its creators. Also, the system has been integrated into the daily life of societies all around the world. It is, generally, agreed that a disruption of the system would deal a heavy blow to many of the world's users. Failure of systems ranging from aircraft navigation to cell phones and automatic teller machines would occur. Suddenly, after more than 20 years of operation, there is an almost frenzied rush to find alternatives to the system in case of a sudden failure. This paper discusses some of the proposals that have been made and possible alternatives to those proposals. It argues that a rational approach is needed, rather than a rush to judgment.

Dr. Gene H. McCall is an Affiliate Research Professor, Desert Research Institute, Reno Nevada. He completed an assignment as the Chief Scientist with Air Force Space Command at Peterson Air Force Base, Colo. Dr. McCall's areas



of expertise are: Lasers, laser-matter interactions, non-linear optics, nuclear weapon science and technology, Plasma physics, Z-pinch physics, explosive modeling and applications, positioning and timing systems, satellite navigation, aircraft navigation and landing systems, weapon systems. He has now retired from Los Alamos National Laboratory as a Laboratory Fellow.

► Read the full paper at source's URL.

Hungary Considers Barrier to Stop Illegal Immigrants Entering the EU

Source: <http://www.wsj.com/articles/hungary-considers-barrier-to-stop-illegal-immigrants-entering-the-eu-1434129054>

June 12 – Hungary's prime minister on Friday said his government will consider building a physical barrier on the nation's southern border as part of his quest to stop illegal immigrants from entering the European Union.

EDITOR'S COMMENT: Read the article in the link below to **admire EU solidarity** the moment that both Italy and Greece are invaded by waves of illegal immigrants from North Africa and Asia (Turkey):

<http://www.wsj.com/articles/hungary-considers-barrier-to-stop-illegal-immigrants-entering-the-eu-1434129054>

Worst refugee crisis since WWII: United Nations

Source: http://www.terrorismwatch.org/2015/06/worst-refugee-crisis-since-wwii-united.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+terrorismwatch%2FJTvK+%28Terrorism+Watch%29

June 12 – **Eleven million people were uprooted by violence last year, most propelled by conflict in Syria, Iraq, Ukraine and Afghanistan.** Conflict and poverty have also pushed thousands out of parts of sub-Saharan Africa and Southeast Asia. A look at the response to what has become the worst migration crisis since World War II, according to the United Nations.

Syria & Iraq

Syria's neighbours have been making it harder for migrants to cross into their territories.

Taxing the neighbours

Years of violence in Iraq and Syria have stretched the capacities of neighbouring countries to accommodate the displaced. In Jordan, unemployment has almost doubled since 2011 in areas with high concentrations of refugees, according to a recent International Labour Organisation study. Lebanon began to require visas from Syrians in January. Refugees now make up about 20 per cent of Lebanon's population. In March, Turkey announced it would close the two remaining border gates with Syria.

Mediterranean

The European Union wants to stop smugglers near the African coast. European governments are divided over the fates of those who reach shore.



How to respond

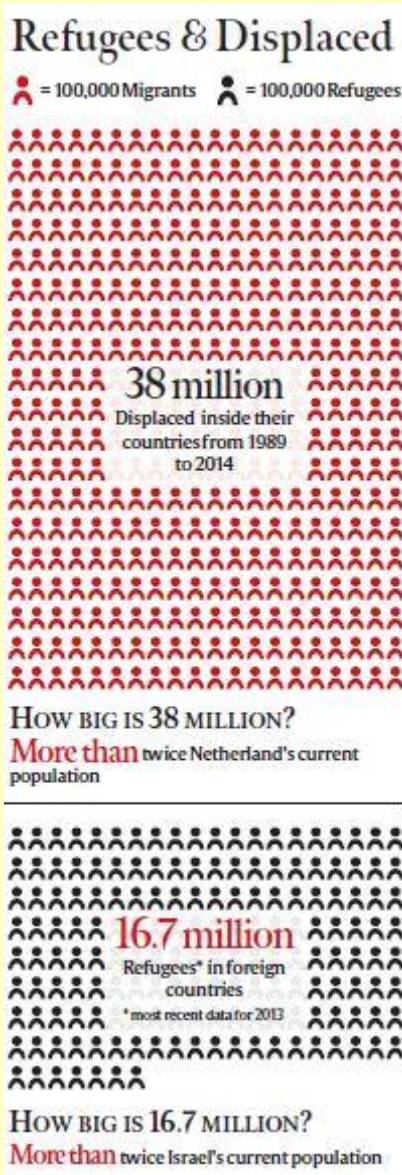
In May, European leaders said they would form a naval force based in Italy to combat people-smuggling. Last week, the European Commission appealed to the bloc's member states to accept quotas of migrants to relieve the burden on states like Italy and Greece, which are the main landing points for them. Poverty and war in places like Libya, South Sudan and Nigeria are driving migrants to make the journey across the Mediterranean Sea.

Southeast Asia

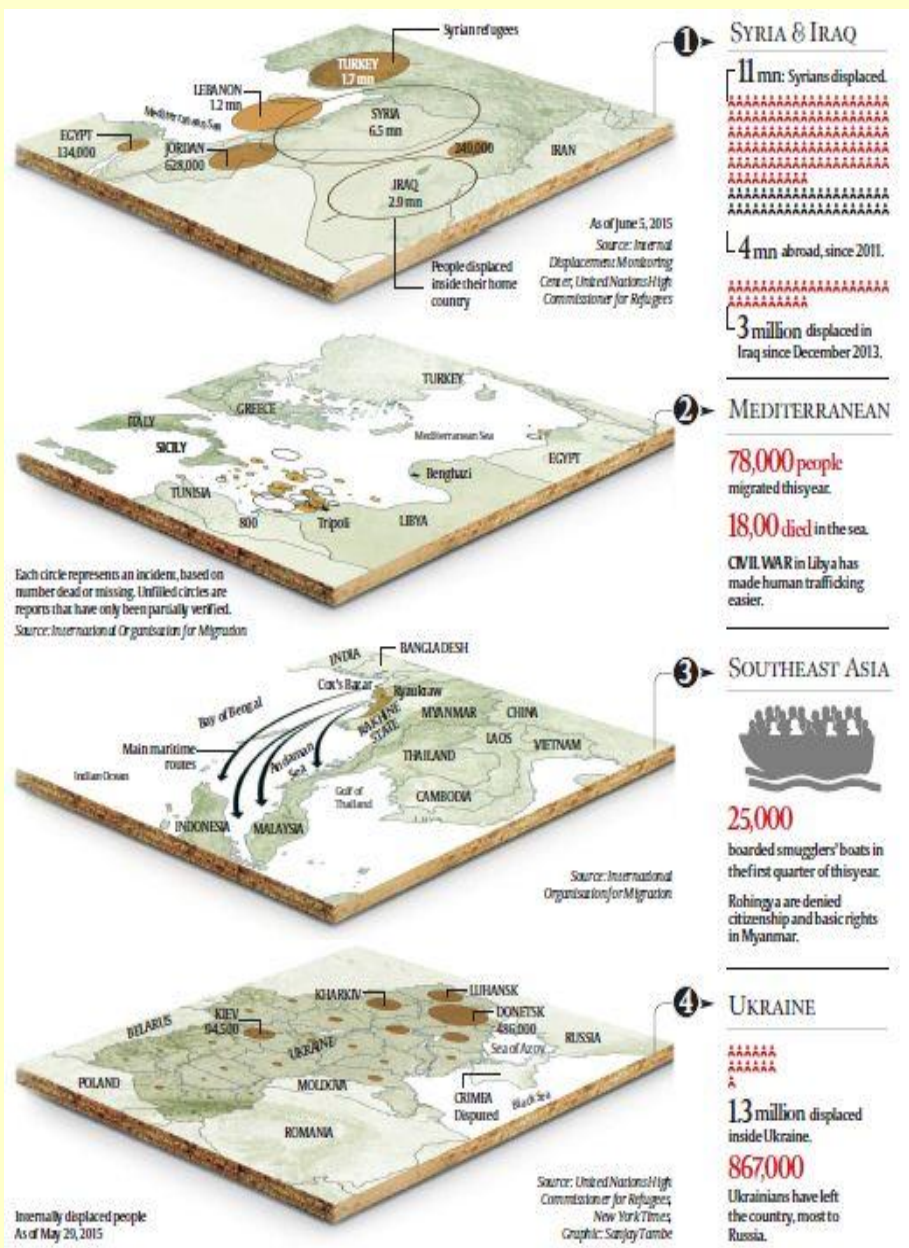
Thousands of Bangladeshis and Rohingya have fled from poverty and persecution.

Fleeing by sea

Indonesia and Malaysia, countries that in the past have quietly taken in many refugees from Bangladesh and Myanmar, first reacted to the new rise in



migrants by vowing to send back smugglers' boats. Facing public pressure, they reversed their stance in mid-May, saying they would provide shelter to migrants still at sea. An absence of landings and a paucity of sightings suggest that the inflow has



subsided.

Ukraine

Fighting between Ukrainian troops and pro-Russian separatists has severely damaged Ukraine's industrial belt.

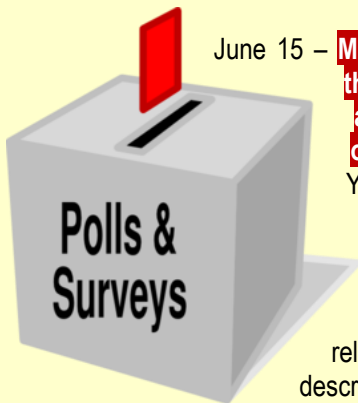
Crippled economy

Hundreds of thousands of Ukrainians have fled to Russia. But European Union countries, like Poland, Germany and Italy, which are among the top destinations for asylum seekers, have rejected most applications from Ukrainians. Less than a third of the \$316 million needed in 2015 for the United Nations' humanitarian response has been raised so far. The conflict was particularly damaging to Ukraine's economy, which is expected to shrink 9 percent by the end of the year.

EDITOR'S COMMENT: United Nations are always good with numbers and conclusions. It would be nice to see some actions as well... Read also article in p.49.

Think Muslim, think terrorist: Poll reveals British attitudes toward Islam

Source:<http://www.christiantoday.com/article/think.muslim.think.terrorist.poll.reveals.british.attitudes.toward.islam/56254.htm>



June 15 – **More British people associate the word "Muslim" with terror and terrorism than with any other quality,** according to a YouGov survey commissioned by the charity Islamic Relief.

The poll was aimed at identifying British views about Muslims and their religion. It revealed attitudes described as "extremely worrying" by Islamic Relief's UK director Jehangir Malik.

The charity asked people to name the three words they associate with the term "Muslim" and found that more think of "terror/terrorism/terrorist" (12 per cent) than "faith" (11 per cent) or "mosque" (nine per cent). Also represented were "anti-women",



"extremist", "fanatic" and "intolerant", though all at levels of around four or five per cent.

The poll also found that attitudes toward refugees had hardened, with 42 per cent saying Britain should not take in foreign nationals fleeing conflict or persecution in their own countries. The figure rises to 47 per cent who say that people fleeing Syria and other Middle Eastern countries should not be given asylum, raising the concern that the perceived religion of the refugees from the region is influencing British attitudes towards them.

The Refugee Council's head of advocacy, Dr Lisa Doyle, said religion should not play a part in shaping the response to humanitarian crises. "These findings should provide the Government with a grave reminder of the importance of leadership when setting the tone of the debate around refugee and asylum policy," she said.

Islamic Relief's Jehangir Malik said: "The results of this poll are extremely worrying because they show that public attitudes towards



Muslims are hugely negative and attitudes towards refugees have hardened significantly. "It's time we celebrated the role British Muslims play as part of the solution rather than

demonising the Muslim community as part of the problem."

Australians very fearful of Islamic State and terrorism, Lowy poll finds

Source: <http://theconversation.com/australians-very-fearful-of-islamic-state-and-terrorism-lowy-poll-finds-43279>

The Abbott government's anti-terrorism pitch is tapping into and feeding a deep vein of national

Risks relating to terrorism ranked one, two and three when people were given a list of eight potential risks to Australia's security in the next decade.

The highest ranking is "the emergence of Islamic State [IS] in Iraq and Syria", with nearly seven out of ten (69%) rating this as a high risk to Australia's security. Terrorist attacks on Australians overseas (55%) and home-grown terrorism in Australia (53%) ranked second and third.

IS and terrorism raised far more fears than potential regional dangers. The possibility of "military conflict between the United States and China in Asia" ranked lowest among the threats listed. Only one in five people saw it as a high risk.

Just more than one-quarter (26%) rated as high risk to Australia's security "maritime disputes between China and its neighbours in Asian territorial seas".

A little under one-quarter (24%) saw a breakdown of law and order in Papua New Guinea as high risk. Potential epidemics such as ebola was seen as high risks by 22%.

In contrast, **people are quite concerned about a cyber attack on Australian critical infrastructure, with 45% rating it a high risk.**

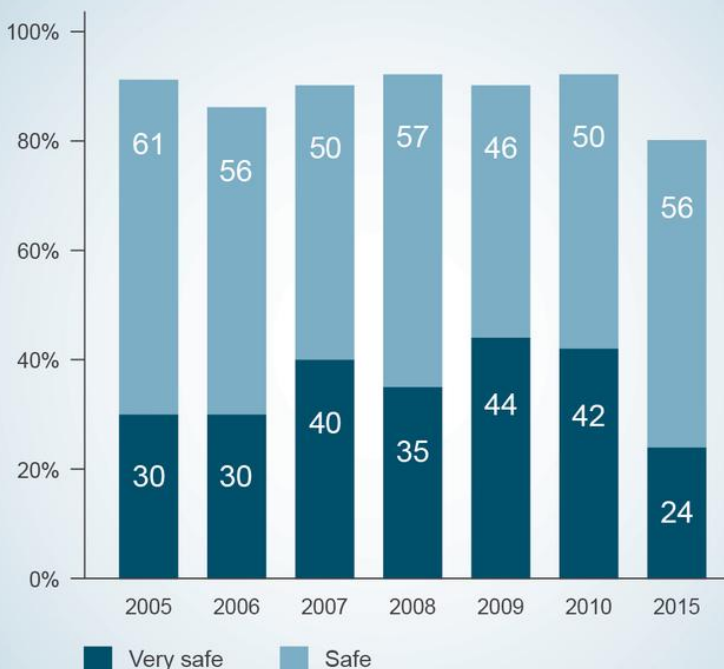
The annual Lowy poll of 1200 was done in late February to early March, with supplementary polling extending into April-May.

In polling in April, most Australians (69%) supported Australia's military involvement against IS; only 22% were against.

But 55% believed that Australian participation in military action against IS in Iraq increases the risk of terrorism in Australia now; 47% said it increased the risk "in the future". About three in ten thought it made no difference to the threat, now or in the future.

Fig. 1: Feelings of safety

Now about world events, how safe do you feel?



security fear in the Australian population, the Lowy Institute's 2015 poll shows.

As the Coalition prepares to introduce to parliament a tough law to strip citizenship from dual nationals involved in terrorism, the poll shows the lowest feelings of safety among Australians in relation to world events in the 11 years it has run. The threat of terrorism is apparently the primary cause.

Fewer than one in four (24%) feel "very safe", 18 points lower than the 42% who felt very safe in 2010. The total proportion who feel "safe" has dropped from 92% in 2010 to 80%.

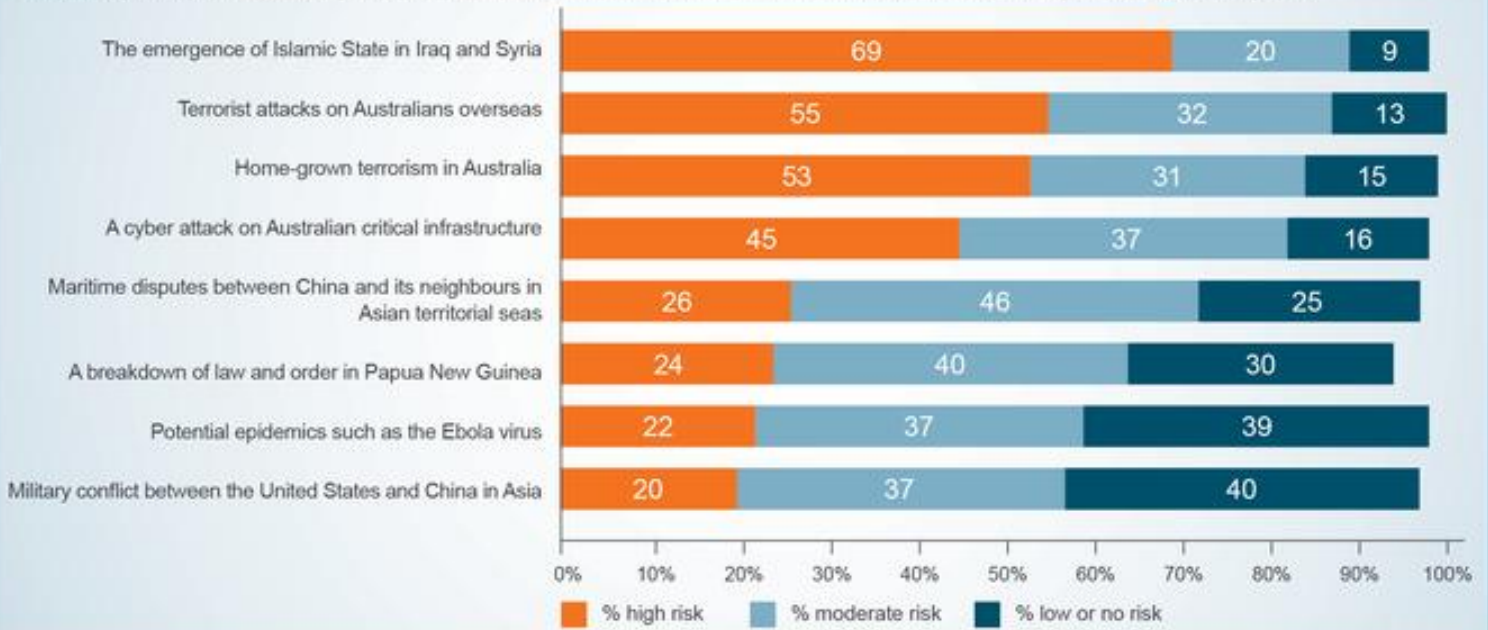


On other issues the government is not doing as well. "After more than a year in office, the Coalition government's performance on its key policy

at the height of the global economic crisis. "It is the single largest fall in optimism recorded in our poll since 2005." The poll found that Australians' feelings

Fig. 2: Global risk priorities for Australia

Now I am going to read out a list of possible risks to Australia's security in the next ten years. For each one, please select whether you see this as a high risk, a moderate risk or a low or no risk to Australia's security in the next ten years:



platforms – turning back asylum seeker boats, improving the budget bottom line and reducing debt, and abolishing the carbon tax – appears to have left Australians unimpressed," the poll says.

Asked to mark the government out of ten (where ten is excellent, five average and one very poor), people award the government 4.9 for handling the arrival of asylum seekers by boat.

The Coalition also scored 4.9 on managing the economy and 4 for managing the issue of climate change – the lowest score in the list.

It scored 5.9 for responding to the threat of terrorism, and 6 for representing Australia's interests on the United Nations Security Council and the G20. The highest mark was received for maintaining a strong alliance with the US – 7.1.

The poll saw a big decline in economic optimism. While 63% are optimistic about Australia's economic performance in the world over the coming five years, this is a fall of 13 points since 2013 and is 23 points lower than the peaks of 86% recorded in 2009 and 2010

towards Indonesia have fallen to their lowest level in eight years. Even before the execution of the two Australians "Indonesia registered a cool 46° on the Lowy Institute thermometer of feelings towards other countries [where 100° is the warmest rating]".

The only time sentiment toward Indonesia has been around this low in the poll was in 2007 in the wake of the Schappelle Corby's sentencing and Australia granting asylum to Papuans.

"Indonesia's reading this year is eight points lower than the peaks of 54° in 2010, after the Australian visit of then-president Susilo Bambang Yudhoyono, and again in 2012. This places Indonesia, in Australians' eyes, on a par with Russia (45°) and Egypt (48°)."

People overwhelmingly (87%) believe Indonesia should do more to help Australia combat people smuggling; 85% say it should do more to combat the risk of Islamic terrorism.

Three-quarters (76%) agree that Australian prime ministers should work harder to develop personal relationships with their Indonesian counterparts.



With the Paris climate conference coming up at the end of this year, the 2015 poll has recorded the third consecutive rise in Australians' concern about global warming.

In a tracking question put since 2006, 50%, up five points since 2014 and 14 points since 2012, now say "global warming is a serious and pressing problem. We should begin taking steps now even if this involves significant costs". But the number remains considerably

lower than the 2006 peak of concern when 68% said this. 63% say the government should commit to significant emission reductions in the international climate negotiations so that other countries will be encouraged to do the same.

On what has recently become a hot topic – foreign investment in Australian residential real estate – 70% said Australia allowed too much of this investment from China.

New technologies developed to deal with growing illegal migration

Source: <http://www.homelandsecuritynewswire.com/dr20150617-new-technologies-developed-to-deal-with-growing-illegal-migration>

June 17 – During April's Defense, National Security, and Climate Change Symposium in Washington, D.C., Brigadier General Stephen Cheney, CEO of the American Security Project think tank, discussed "conflict and climate change" with representatives from homeland and national security agencies as well as industry representatives from defense contractors. A few months before the symposium, the Obama administration issued a warning that the warming of the planet is "an urgent and growing threat to our national security."

Much of the conversation about climate change in national security and defense circles have revolved around bulking up military and defense infrastructure at home and abroad to combat the effects of climate change. The U.S. Army's "Net Zero" initiative aims to make its U.S. bases water-and-energy-independent through green technology. The army is also assessing the vulnerability of its roughly 7,000 overseas bases to climate change.

Migration is one result of climate change which will, and has already, led to conflict and war. A drought of "unparalleled length and severity" in Syria in the mid- 2000s, Cheney explained, led to the mass internal migration of about 1.5 million Syrians from rural to urban areas, such as Damascus, "where they had no jobs, no food — that's what started and fomented the civil war."

Today, Syrian refugees are flooding into Europe.

"We know for a fact that (climate change) is already driving internal and cross-border migration," Cheney said. Bangladesh, considered the "ground zero" of global warming, is expected to see rising sea levels that could displace fifteen million people by 2050. Environmentalist Norman Myers has projected that there could be as many as 200 million "climate refugees" by mid-century. The desertification in the borderlands between Chad and Nigeria "has caused a lot of migration," and Boko Haram has "taken advantage of that," Cheney added.

Mass migration driven by climate change is pushing the global demand for border security solutions. *In These Times* notes that it is not just that climate change displaces people through floods, storms, and rising sea levels; it also displaces them through scarcity of food and water, and by the conflicts that are in turn sparked by scarcity and migration.

Sociologist Christian Parenti calls this "collision" of political, economic, and ecological disasters the "catastrophic convergence." "One of the important drivers of strife," Cheney noted, is "high prices and drought." The influx of Central American migrants into the United States via the southern U.S. border last summer was partly due to severe droughts in Mexico, Honduras, Guatemala, and El Salvador, which caused massive crop failures.



Companies specializing in border solutions are developing new technologies to help border

today. The state of Texas claims to have spent nearly \$700 million on border security



agents track and identify illegal migrants and contrabands. The Democratic Republic of Congo uses American Science and Engineering's "Z Backscatter Van" (ZBV), a cargo and vehicle screening system, to detect

tropical wood that is illegally logged and smuggled out of the country. The X-ray-based technology is the top-selling cargo and vehicle screening system in the world, capable of detecting drugs, explosives, and other organic threats. At the ninth annual Border Security Expo in Phoenix this past April, more than 100 vendors displayed their latest border security solutions to representatives of both U.S. and foreign border agencies. Engineering company Gans & Pugh Associates displayed surveillance cameras designed to look like rocks. "(A) log, all kinds of things. You name it. We basically need a sample or a picture ... and you tell us what you want to put in it," said the company's vendor. These innovations help add to what some consider the most massive border enforcement apparatus in U.S. history. **The number of U.S. Border Patrol agents have increased from 3,500 in the early 1990s to more than 18,000**



operations since 2012, and Governor Greg Abbott wants Congress to reimburse the state for its border security-related expenses. "Texas is willing to shoulder the responsibility; we expect the federal government to foot the

bill," he said. Abbott recently signed the \$310 million House Bill 11, part of an \$800 million border security package, to bolster the ranks of state police, increase technology, and establish intelligence operations unit on the Texas-Mexico border. Just a few days after the signing of House Bill 11, Paul Mackler, President & CEO of Eagle Eye Expositions, producers of Border Security Expo, announced that the annual event would move to San



Antonio, Texas for the 2016 exhibition. “Given the confluence of federal and state events over the past year on the southwest border, including the newly formed Joint Task Force West, Southern Border Approaches Campaign, headed up by Director Robert Harris, being

headquartered in San Antonio, and the sweeping \$800 million border security legislation signed into law by Texas Gov. Abbott, a change of venue to Texas in 2016 is in order to continue to best serve the needs of the border security community.”

EDITOR'S COMMENT: First you create a problem (i.e. a war); the problem creates immigrants; then you use technology to counter the problem! Nice...

Global conflicts on the rise

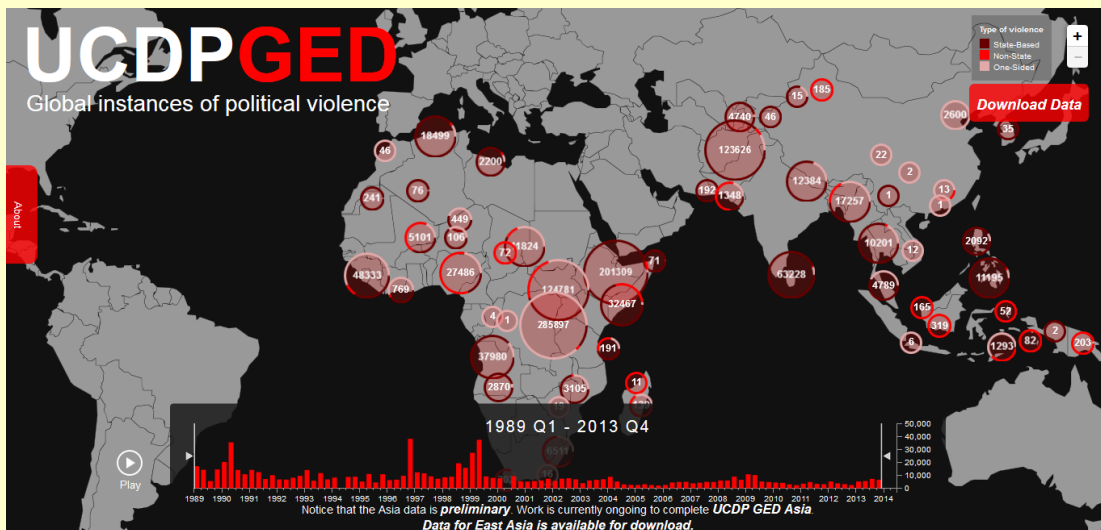
Source: <http://www.homelandsecuritynewswire.com/dr20150618-global-conflicts-on-the-rise>

June 18 – In 2014, the conflict in Syria and the escalating violence in countries like Iraq, Afghanistan, Nigeria, and Ukraine, resulted in the highest yearly death toll in the post-Cold War period.

In an article in the *Journal of Peace Research*, the Uppsala Conflict Data Program (UCDP) describes the recent trend in armed conflicts and battle-related deaths. During 2014, forty armed conflicts, causing at least twenty-five

UCDP. “This illustrates the variations in the number of conflicts, and the difficulties of speaking of the long term trend.”

An Uppsala University release reports that **the number of conflicts which are defined as wars, resulting in at least 1,000 battle-related deaths per year, has also increased, from six in 2013 to eleven in 2014. This represents the largest relative increase since the early 1960s.** In recent years, the



battle-related deaths, were active. After the end of the cold war, the number of conflicts in the world decreased substantially. However, for the last ten years the UCDP has recorded an uneven, yet clearly visible upward trend. In particular, the number of conflicts involving troops from other states, so called internationalized conflicts, has increased.

“Nevertheless, this ten-year period is also where we find the year with the lowest number of active conflicts in the post-cold war period,” says Therése Pettersson, project leader at the

number of battle-related deaths has increased dramatically, largely due to the developments in Syria. In 2014, the UCDP recorded the highest number of battle-related deaths since the end of the cold war.

“Besides Syria, we have also seen violence escalating in several other conflicts, such as Iraq, Afghanistan, Nigeria and Ukraine,” Pettersson says. “Even when excluding Syria, 2014 witnessed the highest number of battle-related deaths in 15 years.”



One positive development is that ten peace agreements were signed during 2014, four more than in 2013.

"We have for example seen a historic agreement signed in the Philippines," says

Peter Wallensteen, UCDP's director. "Unfortunately, several attempts at negotiations in the most violent conflicts have collapsed, one reason being the tensions between the West and Russia."

► The map is interactive: <http://www.pcr.uu.se/research/ucdp/?languageId=3> - (Click on: UCDPGED icon)



Security at Places of Worship: More Than a Matter of Faith

June 17, 2009

By Scott Stewart and Fred Burton

Source: https://www.stratfor.com/weekly/20090617_security_places_worship_more_matter_faith



In recent months, several high-profile incidents have raised awareness of the threat posed by individuals and small groups operating under the principles of leaderless resistance. These incidents have included lone wolf attacks against a doctor who performed abortions in Kansas, an armed forces recruitment center in Arkansas and the U.S. Holocaust Memorial Museum in Washington, D.C. Additionally, a grassroots jihadist cell was arrested for attempting to bomb Jewish targets in the Bronx and planning to shoot down a military aircraft at an Air National Guard base in Newburgh, N.Y. In addition to pointing out the threat posed by grassroots cells and lone wolf operatives, another common factor in all of these incidents is the threat of violence to houses of worship. The cell arrested in New York left what they thought to be active improvised explosive devices outside the Riverdale Temple and the Riverdale Jewish Community Center. Dr. George Tiller was shot and killed in the lobby of the Reformation Lutheran Church in Wichita. Although Abdulhakim Mujahid Muhammad conducted his attack against a Little Rock recruiting center, he had conducted preoperational surveillance and research on targets that included Jewish organizations and a Baptist church in places as far away as Atlanta and Philadelphia. And while James von Brunn attacked the Holocaust Museum, he had a list of other potential targets in his vehicle that included the National Cathedral.

In light of this common thread, it might be instructive to take a more detailed look at the issue of providing security for places of worship.

Awareness: The First Step

Until there is awareness of the threat, little can be done to counter it. In many parts of the world, such as Iraq, India and Pakistan, attacks against places of worship occur fairly frequently. It is not difficult for religious leaders and members of their congregations in such places to be acutely aware of the dangers facing them and to have measures already in place to deal with those perils. This is not always the case in the United States, however, where many people tend to have an "it can't happen here" mindset, believing that violence in or directed against places of worship is something that happens only to other people elsewhere.

This mindset is particularly pervasive among predominantly white American Protestant and Roman Catholic congregations. Jews, Mormons, Muslims and black Christians, and others who have been targeted by violence in the past, tend to be far more aware of the threat and are far more likely to have security plans and measures in place to counter it. The Jewish community has very well-developed and professional organizations such as the Secure Community Network (SCN) and the Anti-Defamation League that are dedicated to monitoring threats and providing education about the threats and advice regarding security. The Council on American-Islamic Relations has taken on a similar role for the Muslim community and has produced a "Muslim community safety kit" for local mosques. The Church of Jesus Christ of Latter-day Saints (LDS) also has a very



organized and well-connected security department that provides information and security advice and assistance to LDS congregations worldwide.

There are no functional equivalents to the SCN or the LDS security department in the larger Catholic, evangelical Protestant and mainline Protestant communities, though there are some organizations such as the recently established Christian Security Network that have been attempting to fill the void.

Following an incident, awareness of the threat seems to rise for a time, and some houses of worship will put some security measures in place, but for the most part such incidents are seen as events that take place elsewhere, and the security measures are abandoned after a short time.

Permanent security measures are usually not put in place until there has been an incident of some sort at a specific house of worship, and while the triggering incident is sometimes something that merely provides a good scare, other times it is a violent action that results in tragedy. Even when no one is hurt in the incident, the emotional damage caused to a community by an act of vandalism or arson at a house of worship can be devastating.

It is important to note here that not all threats to places of worship will emanate from external actors. In the midst of any given religious congregation, there are, by percentages, people suffering from serious mental illnesses, people engaged in bitter child-custody disputes, domestic violence situations and messy divorces. Internal disputes in the congregation can also lead to feuds and violence. Any of these situations can (and have) led to acts of violence inside houses of worship.

Security Means More than Alarms and Locks

An effective security program is more than just having physical security measures in place. Like any man-made constructs, physical security measures — closed-circuit television (CCTV), alarms, cipher locks and so forth — have finite utility. They serve a valuable purpose in institutional security programs, but an effective security program cannot be limited to these things. Devices cannot think or evaluate. They are static and can be observed,

learned and even fooled. Also, because some systems frequently produce false alarms, warnings in real danger situations may be brushed aside. Given these shortcomings, it is quite possible for anyone planning an act of violence to map out, quantify and then defeat or bypass physical security devices. However, elaborate planning is not always necessary. Consider the common scenario of a heavy metal door with very good locks that is propped open with a trashcan or a door wedge. In such a scenario, an otherwise "secure" door is defeated by an internal security lapse.

However, even in situations where there is a high degree of threat awareness, there is a tendency to place too much trust in physical security measures, which can become a kind of crutch — and, ironically, an obstacle to effective security.

In fact, to be effective, physical security devices always require human interaction. An alarm is useless if no one responds to it, or if it is not turned on; a lock is ineffective if it is not engaged. CCTV cameras are used extensively in corporate office buildings and some houses of worship, but any competent security manager will tell you that, in reality, they are far more useful in terms of investigating a theft or act of violence after the fact than in preventing one (although physical security devices can sometimes cause an attacker to divert to an easier target).

No matter what kinds of physical security measures may be in place at a facility, they are far less likely to be effective if a potential assailant feels free to conduct preoperational surveillance, and is free to observe and map those physical security measures. The more at ease someone feels as they set about identifying and quantifying the physical security systems and procedures in place, the higher the odds they will find ways to beat the system. A truly "hard" target is one that couples physical security measures with an aggressive, alert attitude and sense of awareness. An effective security program is proactive — looking outward to where most real threats are lurking — rather than inward, where the only choice is to react once an attack has begun to unfold. We refer to this process of proactively looking for threats as protective intelligence.



The human interaction required to make physical security measures effective, and to transform a security program into a proactive protective intelligence program, can come in the form of designated security personnel. In fact, many large houses of worship do utilize off-duty police officers, private security guards, volunteer security guards or even a dedicated security staff to provide this coverage. In smaller congregations, security personnel can be members of the congregation who have been provided some level of training.

However, even in cases where there are specially designated security personnel, such officers have only so many eyes and can only be in a limited number of places at any one time. Thus, proactive security programs should also work to foster a broad sense of security awareness among the members of the congregation and community, and use them as additional resources.

Unfortunately, in many cases, there is often a sense in the religious community that security is bad for the image of a particular institution, or that it will somehow scare people away from houses of worship. Because of this, security measures, if employed, are often hidden or concealed from the congregation. In such cases, security managers are deprived of many sets of eyes and ears. Certainly, there may be certain facets of a security plan that not everyone in the congregation needs to know about, but in general, an educated and aware congregation and community can be a very valuable security asset.

Training

In order for a congregation to maintain a sense of heightened awareness it must learn how to effectively do that. This training should not leave people scared or paranoid — just more observant. People need to be trained to look for individuals who are out of place, which can be somewhat counterintuitive. By nature, houses of worship are open to outsiders and seek to welcome strangers. They frequently have a steady turnover of new faces. This causes many to believe that, in houses of worship, there is a natural antagonism between security and openness, but this does not have to be the case. A house of worship can have both a steady stream of visitors and good security, especially if that security is based upon situational awareness.

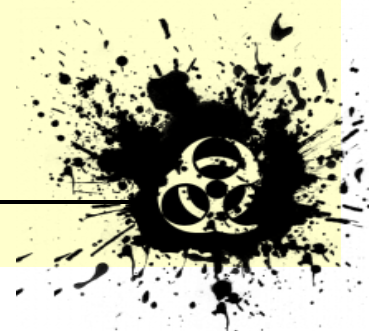
At its heart, situational awareness is about studying people, and such scrutiny will allow an observer to pick up on demeanor mistakes that might indicate someone is conducting surveillance. Practicing awareness and paying attention to the people approaching or inside a house of worship can also open up a whole new world of ministry opportunities, as people "tune in" to others and begin to perceive things they would otherwise miss if they were self-absorbed or simply not paying attention. In other words, practicing situational awareness provides an excellent opportunity for the members of a congregation to focus on the needs and burdens of other people.

It is important to remember that every attack cycle follows the same general steps. All criminals — whether they are stalkers, thieves, lone wolves or terrorist groups — engage in preoperational surveillance (sometimes called "casing," in the criminal lexicon). Perhaps the most crucial point to be made about preoperational surveillance is that it is the phase when someone with hostile intentions is most apt to be detected — and the point in the attack cycle when potential violence can be most easily disrupted or prevented.

The second most critical point to emphasize about surveillance is that most criminals are not that good at it. They often have terrible surveillance tradecraft and are frequently very obvious. Most often, the only reason they succeed in conducting surveillance without being detected is because nobody is looking for them. Because of this, even ordinary people, if properly instructed, can note surveillance activity.

It is also critically important to teach people — including security personnel and members of the congregation — what to do if they see something suspicious and whom to call to report it. Unfortunately, a lot of critical intelligence is missed because it is not reported in a timely manner — or not reported at all — mainly because untrained people have a habit of not trusting their judgment and dismissing unusual activity. People need to be encouraged to report what they see.

Additionally, people who have been threatened, are undergoing nasty child-custody disputes or have active restraining orders protecting them against



potentially violent people need to be encouraged to report unusual activity to their appropriate points of contact.

As a part of their security training, houses of worship should also instruct their staff and congregation members on procedures to follow if a shooter enters the building and creates what is called an active-shooter situation. These "shooter" drills should be practiced regularly — just like fire, tornado or earthquake drills. The teachers of children's classes and nursery workers must also be trained in how to react.

Liaison

One of the things the SCN and ADL do very well is foster security liaison among Jewish congregations within a community and between those congregations and local, state and federal law enforcement organizations. This is something that houses of worship from other faiths should attempt to duplicate as part of their security plans.

While having a local cop in a congregation is a benefit, contacting the local police department should be the first step. It is very important to establish this contact before there is a crisis in order to help expedite any law enforcement response. Some police departments even have dedicated community liaison officers, who are good points of initial contact. There are other specific points of contact that should also be cultivated within the local department, such as the SWAT team and the bomb squad.

Local SWAT teams often appreciate the chance to do a walk-through of a house of worship so that they can learn the layout of the building in case they are ever called to respond to an emergency there. They also like the opportunity to use different and challenging buildings for training exercises (something that can be conducted discreetly after hours). Congregations with gyms and weight rooms will often open them up for local police officers to exercise in, and some congregations will also offer police officers a cup of coffee and a desk where they can sit and type their reports during evening hours.

But the local police department is not the only agency with which liaison should be established. Depending on the location of the house of worship, the state police, state intelligence fusion center or local joint terrorism task force should also be contacted. By working through state and federal channels, houses of worship in specific locations may even be eligible for grants to help underwrite security through programs such as the Department of Homeland Security's Urban Areas Security Initiative Nonprofit Security Grant Program.

The world is a dangerous place and attacks against houses of worship will continue to occur. But there are proactive security measures that can be taken to identify attackers before they strike and help prevent attacks from happening or mitigate their effects when they do.

Charleston church shooting suspect arrested in North Carolina

Source: <http://edition.cnn.com/2015/06/18/us/charleston-south-carolina-shooting/index.html>



June 18 – The man suspected of killing nine people Wednesday night at a historic African-American church in Charleston, South Carolina, was arrested Thursday morning about 245 miles (395 kilometers) away in Shelby, North Carolina,



law enforcement authorities said.

Dylann Roof, 21 (photo), of Lexington, South Carolina, was taken into custody without incident about 11:15 a.m. during a traffic stop, Charleston police Chief Greg Mullen said Thursday morning.



He said local police were acting on a BOLO (be-on-the-lookout) notice that included a vehicle description, the license tag and the suspect's name.

Roof was armed with a gun when he was arrested, according to a law enforcement official briefed on the investigation. It's not clear if it's the same firearm he allegedly used in the shooting.

A senior law enforcement source told CNN the suspect's father had recently bought him a .45-caliber gun for his 21st birthday.

President Barack Obama mourned the violence and the victims, saying, "Any death of this sort is a tragedy. Any shooting involving multiple victims is a tragedy. There is something particularly heartbreaking about death happening in a place in which we seek solace, we seek peace."

The slayings took place inside the historic Emanuel African Methodist Episcopal Church, near the heart of Charleston's tourist district. The man spent an hour in a prayer meeting before he opened fire, Mullen said Thursday morning.



A law enforcement official says witnesses told them the gunman stood up and said he was there "to shoot black people."

Police were searching for information about Roof.

He was charged earlier this year on a trespassing charge in Lexington County, South Carolina. According to an arrest warrant, Roof was approached by police after a store complained about him.

After a search, **police found an unlabeled pill bottle with "multiple orange in color strips" believed to be suboxone, a drug used to relieve painkiller addiction.** Roof told police that a friend gave him the drugs.

Authorities are investigating whether Roof (whose last name is rhymes with "cough") had links to hate groups.

A picture of him on social media showed him wearing a jacket with what appear to be the flags of apartheid-era South Africa and nearby Rhodesia, a former British colony that was ruled by a white minority until it became independent in 1980 and changed its name to Zimbabwe.



Six females and three males were killed in the church, Mullen said. Among the victims was the church's politically active pastor, the Rev. Clementa Pinckney.



Pinckney was also a state senator and one of the black community's spokesmen after the slaying of an unarmed man by a North Charleston police officer this year. Allen University in Columbia, South Carolina, issued a news release identifying a victim as Tywanza Sanders, a 2014 graduate.

Three people survived, including a woman who received a chilling message from the shooter.

"Her life was spared, and (she was) told, 'I'm not going to kill you, I'm going to spare you, so you can tell them what happened,'" Charleston NAACP President Dot Scott told CNN. She said she heard this from the victims' family members.

Federal authorities have opened a hate crime investigation into the shooting at the oldest AME church in the South, the Department of Justice said.

"The only reason someone would walk into a church and shoot people that were praying is hate," Charleston Mayor Joe Riley said.

There were 13 people inside the church when the shooting happened -- the shooter, the nine people who were killed and three survivors, South Carolina state Sen. Larry Grooms, who was briefed by law enforcement, told CNN. Two of the survivors were not harmed, he said.

It was not clear if the man targeted any individual.

"We don't know if anybody was targeted other than the church itself," Mullen said.

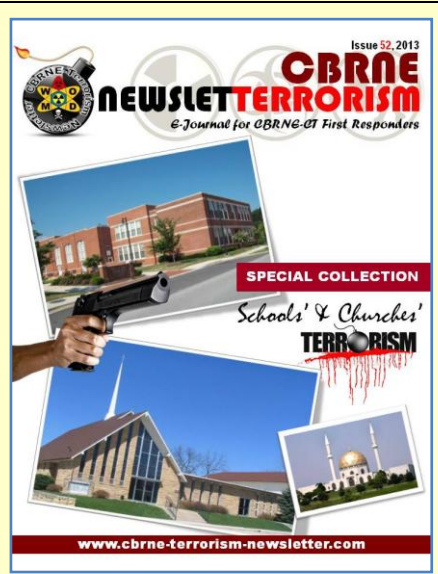
Historic significance

Emanuel African Methodist Episcopal Church has been a presence in Charleston since 1816, when African-American members of Charleston's Methodist Episcopal Church formed their own congregation after a dispute over burial grounds. Known as "Mother Emanuel," it's been the headquarters for civil rights activity over the decades.

It was burned to the ground at one point but was rebuilt. Throughout its history, it overcame obstacle after obstacle -- destroyed by an earthquake, banned by the state. But its church members persevered, making it the largest African-American church in terms of seating space in Charleston today.

EDITOR'S COMMENT: Another incident in a series of church shootings in the US. From personal experience while in Houston, TX these attacks are very easily to execute for two main reasons: the availability of firearms nation-wide (with some exceptions) and the lack of active defense planning. The latter is not expensive (I did one for a small church) and with minor adjusting of existing means, security can greatly enhanced. But in a "church environment" the belief that it will not happen to us" is strong and to some point justifiable. But our insane world rejects logic and in that respect we have to be prepared for the unexpected.

Read also the special issue dedicated to "School and Church Terrorism" at the CBRNE-Terrorism Newsletter (Archives: December 2013 issue) available at: <http://www.cbrne-terrorism-newsletter.com/archives.php>

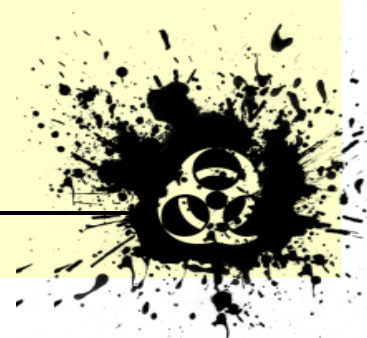


Many Ask, Why Not Call Church Shooting Terrorism?

Source: <http://www.nytimes.com/2015/06/19/us/charleston-shooting-terrorism-or-hate-crime.html>

The massacre of nine African-Americans in Charleston has been classified as a possible hate crime, apparently carried out by a 21-year-old white man who once wore an

apartheid badge and other symbols of white supremacy. But many civil rights advocates are



asking why the attack has not officially been called terrorism.

Against the backdrop of rising worries about violent Muslim extremism in the United States, advocates see hypocrisy in the way the attack and the man under arrest in the shooting have been described by law enforcement officials and the news media.

Assaults like the Boston Marathon bombing in 2013 and the attack on an anti-Islamic gathering in Garland, Tex., last month have been widely portrayed as acts of terrorism carried out by Islamic extremists. Critics say, however, that assaults against African-Americans and Muslim Americans are rarely if ever called terrorism.

Moreover, they argue, assailants who are white are far less likely to be described by the authorities as terrorists.

“We have been **conditioned** to accept that if the violence is committed by a Muslim, then it is terrorism,” Nihad Awad, executive director of the Council on American-Islamic Relations, a civil rights advocacy group in Washington, said Thursday in a telephone interview.

“If the same violence is committed by a white supremacist or apartheid sympathizer and is not a Muslim, we start to look for excuses — he might be insane, maybe he was pushed too

While Attorney General Loretta E. Lynch and South Carolina officials said the shooting on Wednesday night was under investigation as a hate crime, much of the reaction on social media Thursday was caustic, with commentators saying they saw a double standard in such terminology.

“A white supremacist massacres 9 black people in Charleston. It is a hate crime, it is terrorism, it is America 2015,” Remi Kanazi, a Palestinian-American activist and poet, said on Twitter.

Charleston Chief on Church Killings

Greg Mullen, the police chief of Charleston, S.C., says that a shooting on Wednesday at a historic African-American church that left nine dead was “unfathomable.”

Samuel Sinyangwe, a civil rights activist who has helped chronicle violence against African-Americans, wrote on Twitter: “#CharlestonShooting terrorist wore an Apartheid flag on his jacket. If a Muslim man wore an ISIS flag, he wouldn’t get past mall security.”

The definition of terrorism is a shifting and contentious subject, usually with political overtones. The antagonists in the Syrian war and the Israeli-Palestinian conflict, for example,

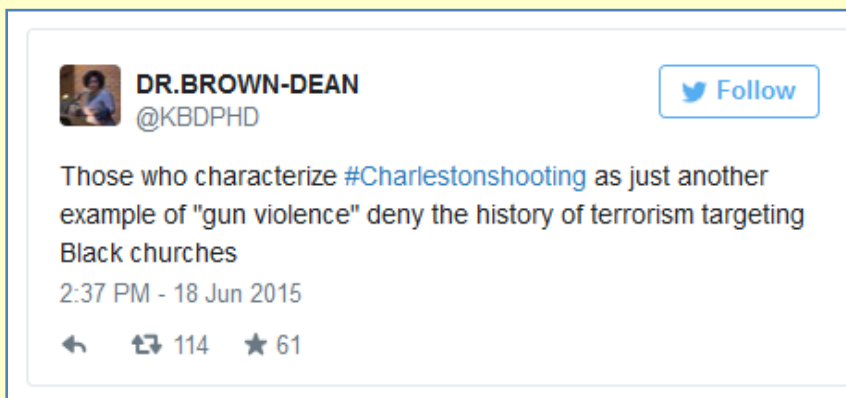
routinely accuse each other of terrorism. Militant organizations such as Al Qaeda and the Islamic State, which consider themselves liberators, are officially regarded by the United Nations, among others, as terrorist groups.

Webster’s New World College Dictionary defines terrorism as “the use of force or threats to demoralize, intimidate and subjugate, especially such use

as a political weapon or policy.”

Civil rights advocates said the Charleston attack not only fit the dictionary definition of terrorism but reflected a history of attempts by the Ku Klux Klan and other white supremacist groups to terrorize African-Americans.

“The first antiterrorism law in U.S. history was the Klan Control Act, so really, this has been the definition of terrorism,” William Jelani Cobb, a writer and director



hard,” Mr. Awad said.

Dean Obeidallah, a Muslim American radio show host and commentator, said it should be obvious that the Charleston killer was a terrorist.

“We have a man who intentionally went to a black church, had animus toward black people and assassinated an elected official and eight other people,” he said. “It seems he was motivated by a desire to terrorize and kill black people.”



of the Africana Studies Institute at the University of Connecticut, said in a Twitter post.

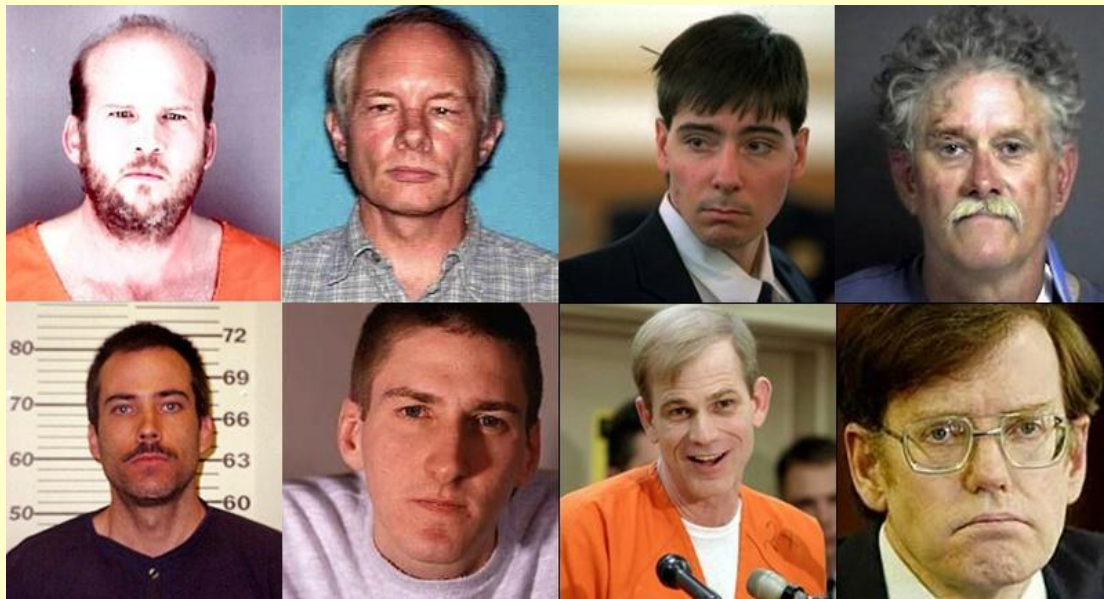
Abraham H. Foxman, national director of the Anti-Defamation League, a venerable civil rights group, said the Charleston massacre looked like terrorism to him.

“While the terrorist label is often applied to attacks, plots and conspiracies carried out on behalf of designated terrorist organizations such as ISIS and Al Qaeda, politically motivated violence is not the sole domain of supporters of designated terrorist groups,” Mr. Foxman said in a statement.

EDITOR'S COMMENT: I highlighted only one word in this article: "contitioned". Because this is our reality. We put labels according to subjective or politica reasoning instead of considering anything evoking mass terror as "terrorism". We are also conditioned to consider "radicalization" as a marginal behavior only when it is religion-related. American love to put the black-white problem under the carpet for decades and this one day will open Aeolus flask.

Here are 10 of the worst domestic terror attacks by extreme Christians and right-wing white men

Source: <http://www.rawstory.com/2015/06/here-are-10-of-the-worst-domestic-terror-attacks-by-extreme-christians-and-right-wing-white-men/>



When white males of the far right carry out violent attacks, neocons and Republicans typically describe them as lone-wolf extremists rather than people who are part of terrorist networks or well-organized terrorist movements. Yet many of the terrorist attacks in the United States have been carried out by people who had long histories of networking with other terrorists. In fact, most of the terrorist activity occurring in the United States in recent years has not come from Muslims, but from a combination of radical Christianists, white supremacists and far-right militia groups.

Below are 10 of the worst examples of non-Islamic terrorism that have occurred in the United States in the last 30 years.

1. Wisconsin Sikh Temple massacre, Aug. 5, 2012. The virulent, neocon-fueled Islamophobia that has plagued post-9/11

America has not only posed a threat to Muslims, it has had deadly consequences for people



of other faiths, including Sikhs. Sikhs are not Muslims; the traditional Sikh attire, including their turbans, is different from traditional Sunni, Shiite or Sufi attire. But to a racist, a bearded Sikh looks like a Muslim. Only four days after 9/11, Balbir Singh Sodhi, a Sikh immigrant from India who owned a gas station in Mesa, Arizona, was murdered by Frank Silva Roque, a racist who obviously mistook him for a Muslim.

But Sodhi's murder was not the last example of anti-Sikh violence in post-9/11 America. On Aug. 5, 2012, white supremacist Wade Michael Page used a semiautomatic weapon to murder six people during an attack on a Sikh temple in Oak Creek, Wisconsin. Page's connection to the white supremacist movement was well-documented: he had been a member of the neo-Nazi rock bands End Empathy and Definite Hate. Attorney General Eric Holder described the attack as "an act of terrorism, an act of hatred." It was good to see the nation's top cop acknowledge that terrorist acts can, in fact, involve white males murdering people of color.

2. The murder of Dr. George Tiller, May 31, 2009. Imagine that a physician had been the victim of an attempted assassination by an Islamic jihadist in 1993, and received numerous death threats from al-Qaeda after that, before being murdered by an al-Qaeda member. Neocons, Fox News and the Christian Right would have had a field day. A physician was the victim of a terrorist killing that day, but neither the terrorist nor the people who inflamed the terrorist were Muslims. Dr. George Tiller, who was shot and killed by anti-abortion terrorist Scott Roeder on May 31, 2009, was a victim of Christian Right terrorism, not al-Qaeda.

Tiller had a long history of being targeted for violence by Christian Right terrorists. In 1986, his clinic was firebombed. Then, in 1993, Tiller was shot five times by female Christian Right terrorist Shelly Shannon (now serving time in a federal prison) but survived that attack. Given that Tiller had been the victim of an attempted murder and received countless death threats after that, Fox News would have done well to avoid fanning the flames of unrest. Instead, Bill O'Reilly repeatedly referred to him as "Tiller the baby killer." When Roeder murdered Tiller,

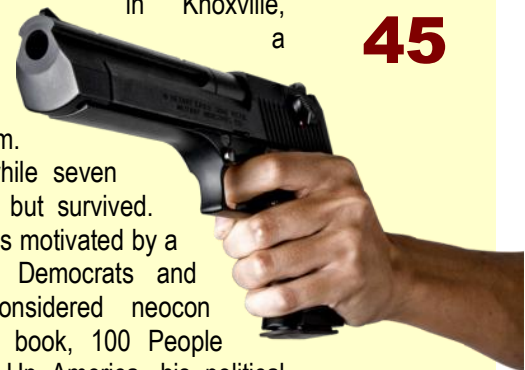
O'Reilly condemned the attack but did so in a way that was lukewarm at best.

Keith Olbermann called O'Reilly out and denounced him as a "facilitator for domestic terrorism" and a "blindly irresponsible man." And Crazy for God author Frank Schaffer, who was formerly a figure on the Christian Right but has since become critical of that movement, asserted that the Christian Right's extreme anti-abortion rhetoric "helped create the climate that made this murder likely to happen." Neocon Ann Coulter, meanwhile, viewed Tiller's murder as a source of comic relief, telling O'Reilly, "I don't really like to think of it as a murder. It was terminating Tiller in the 203rd trimester." The Republican/neocon double standard when it comes to terrorism is obvious. At Fox News and AM neocon talk radio, Islamic terrorism is a source of nonstop fear-mongering, while Christian Right terrorism gets a pass.

3. Knoxville Unitarian Universalist Church shooting, July 27, 2008. On July 27, 2008, Christian Right sympathizer Jim David Adkisson walked into the Knoxville Unitarian Universalist Church in Knoxville, Tennessee during a children's play and began shooting people at random.

Two were killed, while seven others were injured but survived. Adkisson said he was motivated by a hatred of liberals, Democrats and gays, and he considered neocon Bernard Goldberg's book, 100 People Who Are Screwing Up America, his political manifesto. Adkisson (who pleaded guilty to two counts of first-degree murder and is now serving life in prison without parole) was vehemently anti-abortion, but apparently committing an act of terrorism during a children's play was good ol' Republican family values. While Adkisson's act of terrorism was reported on Fox News, it didn't get the round-the-clock coverage an act of Islamic terrorism would have garnered.

4. The murder of Dr. John Britton, July 29, 1994. To hear the Christian Right tell it, there is no such thing as Christian



terrorism. Tell that to the victims of the Army of God, a loose network of radical Christianists with a long history of terrorist attacks on abortion providers. One Christian Right terrorist with ties to the Army of God was Paul Jennings Hill, who was executed by lethal injection on Sept. 3, 2003 for the murders of abortion doctor John Britton and his bodyguard James Barrett. Hill shot both of them in cold blood and expressed no remorse whatsoever; he insisted he was doing's God's work and has been exalted as a martyr by the Army of God.

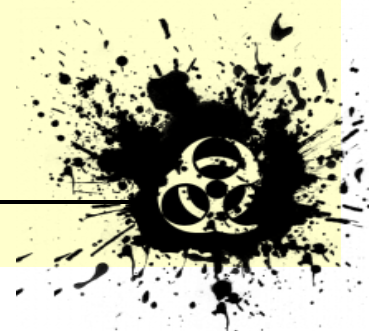
5. The Centennial Olympic Park bombing, July 27, 1996. Paul Jennings Hill is hardly the only Christian terrorist who has been praised by the Army of God; that organization has also praised Eric Rudolph, who is serving life without parole for a long list of terrorist attacks committed in the name of Christianity. Rudolph is best known for carrying out the Olympic Park bombing in Atlanta during the 1996 Summer Olympics—a blast that killed spectator Alice Hawthorne and wounded 111 others. Hawthorne wasn't the only person Rudolph murdered: his bombing of an abortion clinic in Birmingham, Alabama in 1998 caused the death of Robert Sanderson (a Birmingham police officer and part-time security guard) and caused nurse Emily Lyons to lose an eye. Rudolph's other acts of Christian terrorism include bombing the Otherwise Lounge (a lesbian bar in Atlanta) in 1997 and an abortion clinic in an Atlanta suburb in 1997. Rudolph was no lone wolf: he was part of a terrorist movement that encouraged his violence. And the Army of God continues to exalt Rudolph as a brave Christian who is doing God's work.

6. The murder of Barnett Slepian by James Charles Kopp, Oct. 23, 1998. Like Paul Jennings Hill, Eric Rudolph and Scott Roeder, James Charles Kopp is a radical Christian terrorist who has been exalted as a hero by the Army of God. On Oct. 23, 1998 Kopp fired a single shot into the Amherst, NY home of Barnett Slepian (a doctor who performed abortions), mortally wounding him. Slepian died an hour later. Kopp later claimed he only meant to wound Slepian, not kill him. But Judge Michael D'Amico of Erin County, NY said that the killing was clearly premeditated and sentenced Kopp to 25 years to life. Kopp is a

suspect in other anti-abortion terrorist attacks, including the non-fatal shootings of three doctors in Canada, though it appears unlikely that Kopp will be extradited to Canada to face any charges.

7. Planned Parenthood bombing, Brookline, Massachusetts, 1994. Seldom has the term "Christian terrorist" been used in connection with John C. Salvi on AM talk radio or at Fox News, but it's a term that easily applies to him. In 1994, the radical anti-abortionist and Army of God member attacked a Planned Parenthood clinic in Brookline, Massachusetts, shooting and killing receptionists Shannon Lowney and Lee Ann Nichols and wounding several others. Salvi was found dead in his prison cell in 1996, and his death was ruled a suicide. The Army of God has exalted Salvi as a Christian martyr and described Lowney and Nichols not as victims of domestic terrorism, but as infidels who got what they deserved. The Rev. Donald Spitz, a Christianist and Army of God supporter who is so extreme that even the radical anti-abortion group Operation Rescue disassociated itself from him, has praised Salvi as well.

8. Suicide attack on IRS building in Austin, Texas, Feb. 18, 2010. When Joseph Stack flew a plane into the Echelon office complex (where an IRS office was located), Fox News' coverage of the incident was calm and matter-of-fact. Republican Rep. Steve King of Iowa seemed to find the attack amusing and joked that it could have been avoided if the federal government had followed his advice and abolished the IRS. Nonetheless, there were two fatalities: Stack and IRS employee Vernon Hunter. Stack left behind a rambling suicide note outlining his reasons for the attack, which included a disdain for the IRS as well as total disgust with health insurance companies and bank bailouts. Some of the most insightful coverage of the incident came from Noam Chomsky, who said that while Stack had some legitimate grievances—millions of Americans shared his outrage over bank bailouts and the practices of health insurance companies—the way he expressed them was absolutely wrong.



9. The murder of Alan Berg, June 18, 1984.

One of the most absurd claims some Republicans have made about white supremacists is that they are liberals and progressives. That claim is especially ludicrous in light of the terrorist killing of liberal Denver-based talk show host Alan Berg, a critic of white supremacists who was killed with an automatic weapon on June 18, 1984. The killing was linked to members of the Order, a white supremacist group that had marked Berg for death. Order members David Lane (a former Ku Klux Klan member who had also been active in the Aryan Nations) and Bruce Pierce were both convicted in federal court on charges of racketeering, conspiracy and violating Berg's civil rights and given what amounted to life sentences.

Robert Matthews, who founded the Order, got that name from a fictional group in white supremacist William Luther Pierce's anti-Semitic 1978 novel, *The Turner Diaries*—a book Timothy McVeigh was quite fond of. The novel's fictional account of the destruction of a government building has been described as the inspiration for the Oklahoma City bombing of 1995.

10. Timothy McVeigh and the Oklahoma City bombing, April 19, 1995. Neocons and Republicans grow angry and uncomfortable whenever Timothy McVeigh is cited as an

example of a non-Islamic terrorist. Pointing out that a non-Muslim white male carried out an attack as vicious and deadly as the Oklahoma City bombing doesn't fit into their narrative that only Muslims and people of color are capable of carrying out terrorist attacks. Neocons will claim that bringing up McVeigh's name during a discussion of terrorism is a "red herring" that distracts us from fighting radical Islamists, but that downplays the cruel, destructive nature of the attack.

Prior to the al-Qaeda attacks of 9/11, the Oklahoma City bombing McVeigh orchestrated was the most deadly terrorist attack in U.S. history: 168 people were killed and more than 600 were injured. When McVeigh used a rented truck filled with explosives to blow up the Alfred P. Murrah Federal Building, his goal was to kill as many people as possible. McVeigh was motivated by an extreme hatred for the U.S. government and saw the attack as revenge for the Ruby Ridge incident of 1992 and the Waco Siege in 1993. He had white supremacist leanings as well (when he was in the U.S. Army, McVeigh was reprimanded for wearing a "white power" T-shirt he had bought at a KKK demonstration). McVeigh was executed on June 11, 2001. He should have served life without parole instead, as a living reminder of the type of viciousness the extreme right is capable of.

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Evidence of war crimes by Israel, Palestinian militants in summer 2014 war: UN report

Source: <http://www.homelandsecuritynewswire.com/dr20150622-evidence-of-war-crimes-by-israel-palestinian-militants-in-summer-2014-war-un-report>

June 22 – **A UN investigative panel looking into the summer 2014 Israel-Hamas war has found "serious violations of international humanitarian law" which "may amount to war crimes" by both sides.**

The report was released early on Monday in Geneva by a commission of the United Nations Human Rights Council (UNHRC). It says that "impunity prevails across the board" regarding the actions of the Israeli military in Gaza, and urged Israel to "break with its recent lamentable track record in holding wrongdoers accountable."

The commission found that Hamas and Palestinian Islamic Jihad employed methods of "inherently indiscriminate nature" by using rockets and mortars to fire at Israeli civilians. The report also condemned the execution of suspected collaborators, and said Palestinian authorities "have consistently failed" to bring violators of international law to justice.

The report said that the 2014 hostilities saw a huge increase in firepower used in Gaza, with more than 6,000 airstrikes by Israel and approximately 50,000



tank and artillery shells fired. In the fifty-one day operation, 1,462 Palestinian civilians were killed, a third of them children. Palestinian armed groups fired 4,881 rockets and 1,753 mortars toward Israel in July and August 2014, killing six civilians and injuring at least 1,600.

“Comprehensive and effective accountability mechanisms for violations allegedly committed by Israel or Palestinian actors will be a key deciding factor of whether Palestinians or Israelis are to be spared yet another round of hostilities and spikes in violations of international law,” the report says.

“The extent of the devastation and human suffering in Gaza was unprecedented and will impact generations to come,” the chair of the commission, Justice Mary McGowan Davis told a press briefing on Monday. “There is also on-going fear in Israel among communities who come under regular threat.”

Davis, a former justice of the New York State Supreme Court, replaced William Schabas, a Canadian law professor who resigned in February as chair of the commission after a formal complaint by Israel about, among other things, his having worked as a consultant for the Palestine Liberation Organization (PLO).

Haaretz notes that the report also condemns Israel’s strict restrictions on Gaza residents’ travel and trade, saying “the blockade and the military operation have led to a protection crisis and chronic, widespread and systematic violations of human rights.”

Referring to the damage in Gaza caused by the war, the commission says that “the scale of the devastation was unprecedented” in Gaza. The commission report lists 2,251 Palestinian deaths and 18,000 homes destroyed, and also cites “immense distress and disruption to the lives of Israeli civilians,” along with \$25 million in civilian property damage.

“Palestinian and Israeli children were savagely affected by the events,” the report notes. “Children on both sides suffered from bed-wetting, shaking at night, clinging to parents, nightmares and increased levels of aggressiveness.”

The report found that at least 142 Palestinian families lost three or more members during an Israeli air strike on a residential building, which caused 742 deaths. “The fact that Israel did not revise its practice of air-strikes, even after their

dire effects on civilians became apparent, raises the question of whether this was part of a broader policy which was at least tacitly approved at the highest level of government,” the commission found, according to a press release accompanying the report.

“The commission is concerned about Israel’s extensive use of weapons with a wide kill and injury radius; though not illegal, their use in densely populated areas is highly likely to kill combatants and civilians indiscriminately,” the commission found. “There appears also to be a pattern whereby the IDF issued warnings to people to leave a neighborhood and then automatically considered anyone remaining to be a fighter. This practice makes attacks on civilians highly likely.”

The report also noted the “immense distress and disruption to Israeli civilians” resulting from the “indiscriminate” firing of rockets from Gaza.

“With regard to Palestinian armed groups, the commission has serious concerns with regard to the inherently indiscriminate nature of most of the projectiles directed towards Israel by these groups and to the targeting of Israeli civilians, which violate international humanitarian law and may amount to a war crime,” the report said.

“The increased level of fear among Israeli civilians resulting from the use of tunnels was palpable. The commission also condemns the extrajudicial executions of alleged ‘collaborators,’ which amount to a war crime.”

“The commission cannot exclude the possibility that the indiscriminate rocket attacks may constitute acts of violence whose primary purpose is to spread terror amongst the civilian population,” the commission found in its report.

The Israeli government refused to cooperate with the Human Rights Council inquiry, saying it was inherently biased.

During the weekly cabinet meeting on Sunday, Prime Minister Benjamin Netanyahu said that reading the report would be a “waste of time.”

The UNHRC is a “hostile body, not objective regarding Israel... which has made more resolutions against Israel than against Syria, Iran and North Korea combined,” Netanyahu told the cabinet.

Israel has compiled its own report, which according to Cabinet Secretary Avichai Mendelblit describes the war crimes



committed by Hamas and the other Palestinian organizations, the threats of terror against Israel from Gaza, the measures Israel had taken to act in accordance of international law and avoid harming citizens, as well as the investigations and examinations ongoing in Israel since the end of the war.

“Israel is now faced with an unprecedented attack of delegitimization,” Netanyahu said after receiving the Israeli report. “This is a baseless and political attack aimed at sullyng Israel. We will respond to this attack. This is the report that will portray the true picture of what happened in the operation and will prove

that the actions taken by the IDF were done in accordance with international law and out of necessity to protect our citizens from the murderous terror organizations who committed double war crimes — shooting at citizens while hiding behind citizens.”

“Israel is committed to international law not because of UN commissions of inquiry but because it is a democratic state,” Netanyahu added. “We are not afraid to check ourselves when necessary. Israel’s mechanism of investigation and examinations are the leading in the world. When there are credible claims, they are checked.”

► Explore infographics related to this report at:
<http://www.ohchr.org/EN/HRBodies/HRC/ColGazaConflict/Pages/ReportColGaza.aspx#report>

EDITOR'S COMMENT: A bit confused from the content of this article on "war", "crimes" and "war crimes". **Read also a related ICRC article at:**
https://www.icrc.org/customary-ihl/eng/docs/v1_cha_chapter44_rule156

This statistic shows how the nature of war is changing around the world

By Jay Ulfelder, Dart-Throwing Chimp

Source: <http://www.businessinsider.com/the-un-says-there-are-now-a-record-number-of-people-displaced-by-war-2015-6>

The United Nation's refugee agency recently released its annual report on people displaced by war around the world, and the news is bad:

The number of people forcibly displaced at the end of 2014 had risen to a staggering 59.5 million compared to 51.2 million a year earlier and 37.5 million a decade ago.

The increase represents the biggest leap ever seen in a single year. Moreover, the report said the situation was likely to worsen still further.

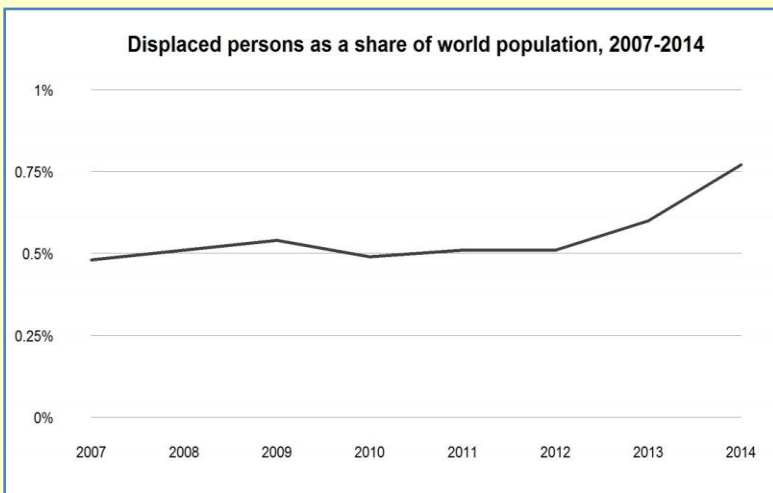
The report focuses on raw estimates of displaced persons, but I think it makes more sense to look at this group as a share of world population. The number of people on the planet has increased by more

than half a billion in the past decade, so we might expect to see some growth in the number of forcibly displaced persons even if the amount of conflict worldwide had held steady.

The chart on the left plots annual totals from the UNHCR report as a share of mid-year world population, as estimated by the US Census Bureau.

Jay Ulfelder, using data from the UN High Commissioner for Refugees and the US Census Bureau

The number of observations in this time series is too small to use Bayesian change point detection to estimate the likelihood that the



upturn after 2012 marks a change in the underlying data-generating process. I'm not sure we need that kind of firepower, though.

After holding more or less steady for at least six years, the share of world population forcibly displaced by war has increased by more than 50 percent in just two years, from about one of every 200 people to one of every 133 people. Equally important, reports from field workers indicate that this problem only continues to grow in 2015.

I don't think I would call this upturn a "paradigm change," as UN High Commissioner for Refugees António Guterres did. But there is little doubt that the problem of displacement by war has worsened significantly since 2012.

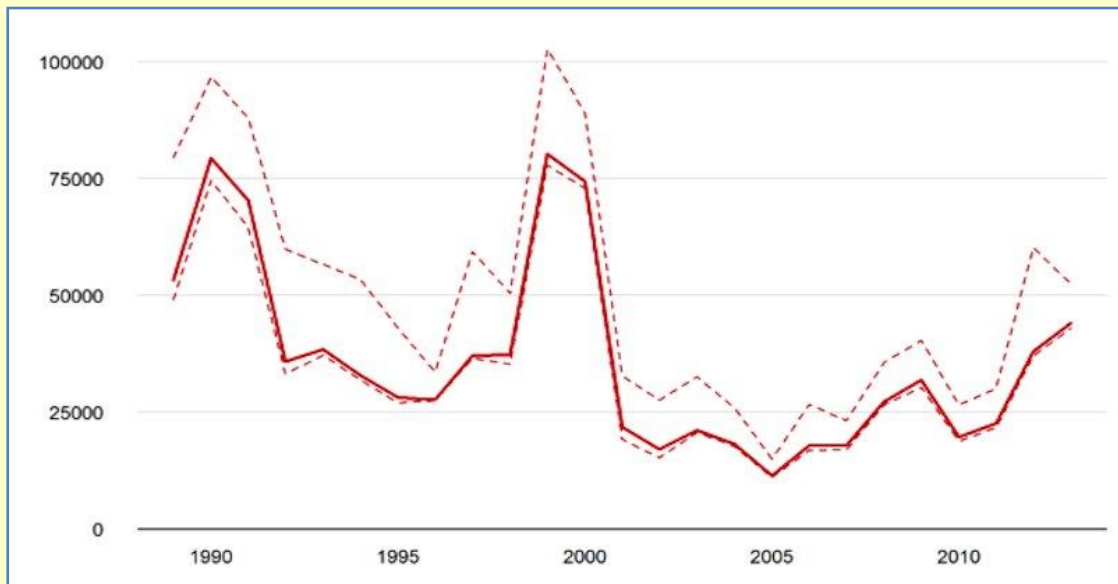
In historical terms, just how bad is it?

Unfortunately, it's impossible to say for sure. The time series in the UNHCR report only starts in 2004, and a note warns that methodological changes in 2007 render the data before that year incomparable to the more recent estimates.

The UNHCR describes the 2014 figure as "the highest level ever recorded." That's technically true but not very informative since recording started only recently. A longer time series assembled by the Center for Systemic Peace supports the claim that the latest raw estimate is the largest ever. But as a share of world population, it's probably still a bit lower than the levels seen in the post-Cold War tumult of the early 1990s.

Other relevant data affirm the view that, while clearly worsening, the intensity of armed conflict around the world is not at historically high levels, not even for the past few decades. Here is a plot of annual counts of battle-related deaths (low, high, and best estimates) according to the latest edition of UCDP's data set on that topic, which covers the period 1989–2013.

Note that these figures have *not* been adjusted for changes in world population.



Annual estimates of battle-related deaths worldwide, 1989-2013 (data source: UCDP)

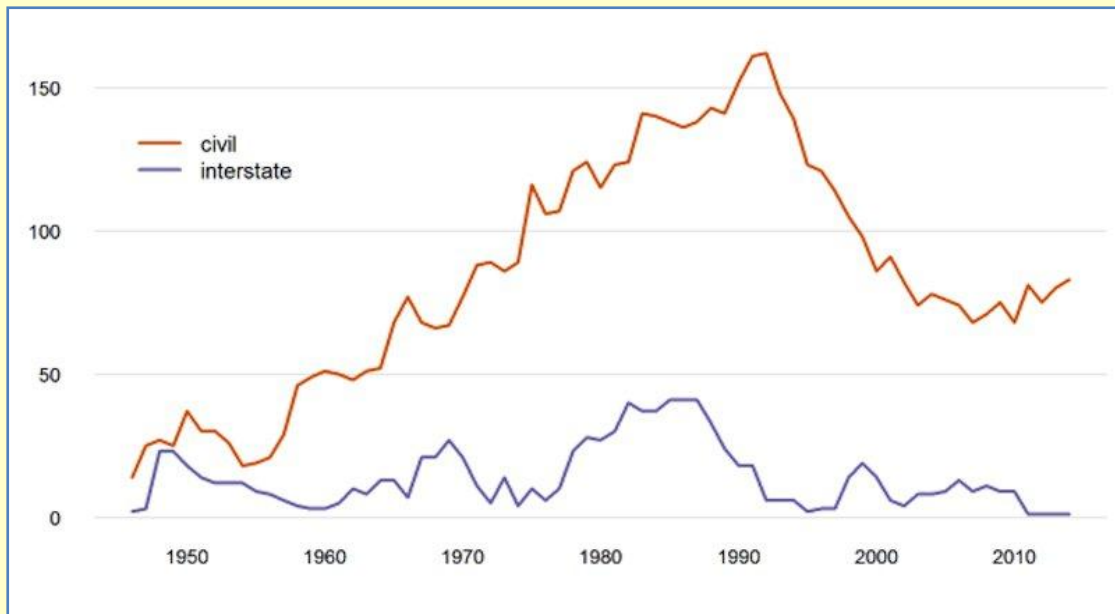
We see a similar pattern in the Center for Systemic Peace's Major Episodes of Political Violence data set, which covers the whole post-WWII period. For the chart below, I have separately summed the data set's scalar measure of conflict intensity for two types of conflict, civil and interstate.

Like the UCDP data, these figures show a local increase in the past few years that nevertheless remains well below the prior peak, which came when the Soviet Union fell apart.

I'll wrap this up by pinning a note in something I see when comparing the shorter-term UCDP estimates to the UNHCR estimates on forcibly displaced persons: adjusting for population, it looks like armed conflicts may be killing fewer but displacing more than they used to.

Annual intensity of political violence worldwide, 1946-2014 (data source: CSP)

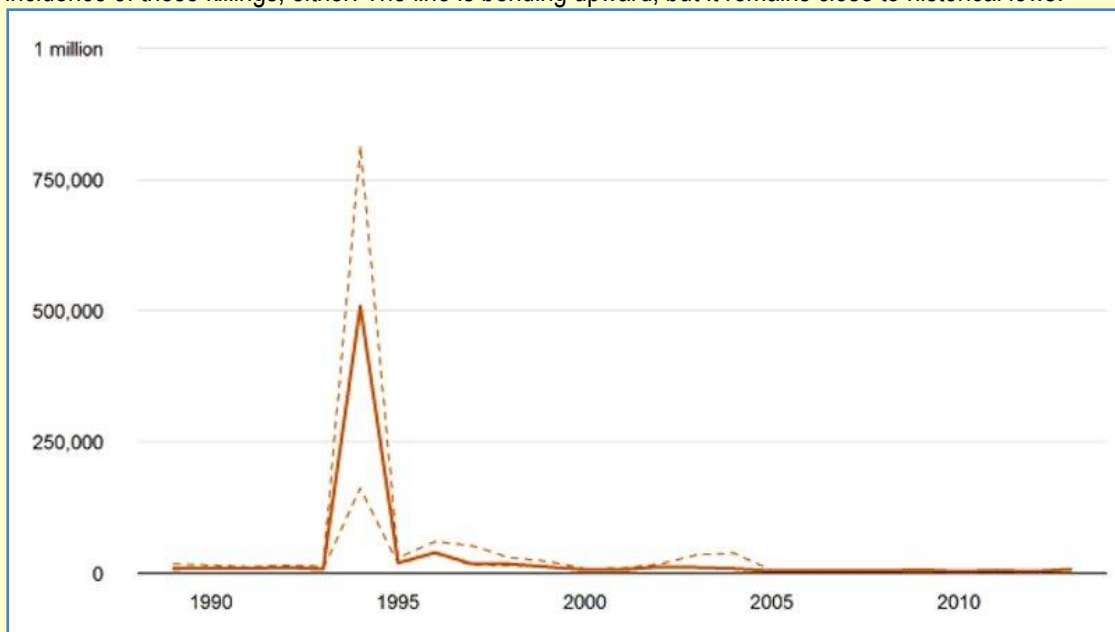




Annual intensity of political violence worldwide, 1946-2014 (data source: CSP)

That impression is bolstered by a glance at UCDP data on trends in deaths from “intentional attacks on civilians by governments and formally organized armed groups,” which UCDP calls “one-sided violence”.

As the plot below shows, the recent upsurge in warfare has not yet produced a large increase in the incidence of these killings, either. The line is bending upward, but it remains close to historical lows.



Estimated annual deaths from one-sided violence, 1989-2013 (Source: UCDP)

So, in the tumult of the past few years, it looks like the rate of population displacement has surged while the rate of battle deaths has risen more slowly and the rate of one-sided violence targeting civilians hasn't risen much at all.

If that's true, then why?

Improvements in medical care in conflict zones are probably part of the story, but I wonder if changes in norms and values, and in the international institutions and practices instantiating them, aren't also shaping these trends. Governments that in the past



might have wantonly killed populations they regarded as threats now seem more inclined to press those populations by other means — not always, but more often. Meanwhile, international organizations are readier than ever to assist those groups under pressure by feeding and sheltering them, drawing attention to their miseries, and sometimes even protecting them. The trend may be fragile, and the causality is impossible to untangle with confidence, but it deserves contemplation.



Greece – Island of Santorine



The challenge of assessing Syria's chemical weapons

By Jerry Smith

Source: http://www.bbc.com/news/world-middle-east-32778193?SThisFB&fb_ref=Default

May 23 – For the past year, since the last declared material left the country, there have been reports that chemicals such as chlorine and ammonia continue to be used for attacks in Syria.

In April this year, members of the UN Security Council witnessed video and heard first-hand reports of one such attack, involving chlorine.

Chlorine is a common industrial chemical, but its use as a weapon is banned by the Chemical Weapons Convention.

There has also been an increasing number of statements expressing concern with the veracity of Syria's initial chemical weapons declaration. In early May, a leaked report acquired by Reuters indicated that evidence of chemical weapons material was found at an undeclared site.



So is the Syria declaration complete? Are chemical weapons still being used in Syria? And why is it so difficult to monitor what weapons they still have?

What has happened so far?

In 2013, Syria signed the Chemical Weapons Convention (CWC) and agreed to the destruction of its chemical weapons. It approved the initiative after the nerve agent sarin was used in an attack on several suburbs of Damascus that killed hundreds of people. Western powers said it could only have been carried out by Syria's government. The regime and its ally Russia blamed opposition forces.

In June 2014, the Organisation for the Prohibition of Chemical Weapons (OPCW) declared that the last of Syria's declared chemical weapons were shipped out of the country for destruction, but since then reports have persisted of chemical attacks.

The OPCW has sought to address this by setting up two teams:

- The Declaration Assessment Team (DAT) was responsible for engaging with Syria's chemical weapons programme leaders to better understand and obtain clarification on issues within the declaration
- The Fact Finding Mission (FFM) whose role was to determine whether chemical weapons were continuing to be used

The FFM's report in late 2014 stated that it had found information constituting "compelling confirmation" that a toxic chemical was used as a weapon "systematically and repeatedly" in a number of attacks on Syrian opposition-held villages.

The report also stated: "The descriptions, physical properties, behaviour of the gas, and signs and symptoms resulting from exposure, as well as the response of patients to the treatment, leads the FFM to conclude with a high degree of confidence that chlorine, either pure or in mixture, is the toxic chemical in question."

Why might Syria want to retain some of its chemical weapons?

There are a number of possible reasons including:

- The desire to retain some sort of strategic capability. Whilst any retained quantity is now probably sub-strategic, if Syria were to hand over the material to Hezbollah, the Lebanese Shia militant group, it might have a strategic effect
- Perhaps more likely is that some may be retained in the event of catastrophic regime collapse. The Alawites - the sect to which President Bashar al-Assad belongs and which dominates senior positions in the government and security services - and any allies may plan to consolidate in their traditional areas of north-west Syria as some form of mini, quasi-state. With little left to lose, chemical weapons may become the weapon of last resort
- It may just be a very simple reason: old habits die hard.

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There may be no specific rational plan. The regime and the programme leaders just don't want to let go of a high-won, extremely expensive capability

What are the difficulties on the ground for inspectors?

OPCW inspections are based primarily on the member state's own declaration. Routine inspection missions occur to verify such information by visits to the declared facilities.

In the course of reviewing Syria's initial declaration, the OPCW encountered a number of issues on which it required further clarification, including Syria's production of ricin (a toxin banned under the CWC), the destruction of mustard agent prior to joining the CWC, and the conversion of unfilled chemical munitions into conventional, explosive ordnance.

The DAT work is an informal process, as OPCW director general Ahmet Uzumcu freely admits. It was reported in March 2015 that the team was on its eighth visit to Syria.

A more formal, but potentially more confrontational, approach would be for a member state to accuse Syria of hiding something. Article IX of the CWC, or a small paragraph tucked away in the UN Resolution and EC Decision allows this option.

An OPCW team could have the mandate to visit any site suspected of containing evidence of a breach to the Convention, a so-called "Challenge Inspection". Thus, rather than working from information supplied in Syria's own declaration, or as a result of the OPCW's own analysis, this mission would be based on a third party's intelligence information. This is likely to raise the tension significantly.

In theory, Syria is obliged to allow this team to go anywhere.

However, unlike the Saddam regime's relationship with UN Special Commission inspections two decades ago, the Syrian government holds all the cards. They have a range of options to impede an inspection team's activities.

They could stop movement to a specific location by simply stating that it too dangerous. If a team ignores this advice, there are a number of options to ensure they do not get to their destination. The ultimate sanction being a

physical attack, deniable under the "fog" of the civil war.

What problems does the chemistry throw up?

What is so challenging about an investigation into a non-persistent toxic substance such as chlorine is the very character of the material.

As a volatile gas, chlorine does not hang around in nature. It is either dispersed to undetectable levels, or binds with other compounds and becomes part of the background. Distinguishing chlorine used as a weapon, either from environmental samples in soil, or from the blood or tissue of victims, is extremely difficult. The only real chance is if samples are taken within a very few hours of an attack.

The 2013 UN investigation led by Prof Ake Sellstrom focused primarily on the August attacks around Damascus. A key reason that his reports were so robust was the relatively short time between the events and the sampling and interviews - less than 100 hours. Whilst sarin nerve agent is also considered to be "non-persistent", its molecular structure means that breakdown products and unique physiological markers remain detectable for a much longer period after use.

What standards must the evidence meet?

To maintain a credible process, particularly in such a politically charged arena, it is not sufficient just to conduct inspections in a scientifically sound manner. So the other key aspect of the Sellstrom mission was his team's robust system of acquiring and managing the evidence. As well as being scientifically rigorous, the investigation was completely impartial, and most importantly it was seen to be so.

Investigators into the alleged chlorine attacks might only really rely on witness interviews and secondary evidence such as videos. Whilst the evidence they acquire might be compelling, it will be challenging to use it for further purposes.

The precise standards of evidence vary around the world, but the common approach is that in criminal cases prosecutors need to demonstrate "beyond reasonable doubt",



whereas civil cases require only a "balance of probability".

The question is whether the evidence in an investigation into these alleged uses is sufficient in either case. The nature of the current Syrian environment is a significant constraint on any investigation. Establishing and maintaining a proper evidence management system, with mutually supporting data, is difficult at the best of times. In this war the challenges increase exponentially.

Jerry Smith is the former head of contingency operations at the OPCW. He was the deputy head of the OPCW-UN Joint Mission to Syria. He is now an independent security risk management consultant.

UK fears chlorine-based chemical terror attack

Source: <http://www.thestatesman.com/news/world/uk-fears-chlorine-based-chemical-terror-attack/65357.html>

The UK counter-terrorism police are focusing their efforts on growing fears of a chemical



attack in the country by British terrorists returning from Syria and Iraq linked to dreaded Islamic State (IS) militants.

Bombs laced with chlorine, which is available to buy in large quantities in Britain, has become the "chemical weapon of choice" for IS fighters, security experts warned.

Colonel Hamish de Bretton-Gordon, a leading expert on chemical warfare, has called on the British government to tighten controls on chlorine sales in Britain.

"As more jihadists return to this country there is a growing chance (of a chlorine bomb attack). That to me puts it through the threshold where we should look into this seriously," he was quoted as saying by The Times newspaper.

The chemical has a range of uses, such as purifying water and disinfecting surfaces, but can prove lethal if inhaled.

Of course it is not impossible. The fact-finding team may be able to further establish some very strong circumstantial evidence.

To some extent this has already occurred: with the reporting that some of the chemical weapons were dropped from an aircraft, thereby implicating the government as the sole user of such military hardware.

But to prove the use of chlorine as a weapon, let alone determine the perpetrator, will be a huge challenge.

An improvised chlorine bomb would cause carnage if detonated on the London Underground network, on the mainline railway network or in a shopping centre.

The chlorine that is often used in bombs in Iraq comes from the cylinders on the back of household fridges.

Militants strip off the steel bottle and attach an explosive charge to make a simple improvised chlorine device something that could be repeated in Britain.

"Somebody could go to a waste site where people chuck away fridges (in Britain) and get a whole bunch of these things and blow them up," Colonel de Bretton-Gordon said.

The former commanding officer of the Joint Chemical, Biological, Radiological and Nuclear Regiment, who left the military in 2011, said that Britain should impose more stringent rules on substances such as chlorine.

There are tight controls in Iraq over the purchase of chlorine. In Britain, by contrast, anyone is allowed to buy 90 tonnes of the substance without a license.

It is understood that the authorities monitor the purchase of chlorine and other materials that could be used in bomb-making, to uncover any stockpiling.

However, as chlorine is freely available across the country, security sources conceded that it posed a risk.



One policing source told the newspaper that counter-terrorism units were aware of the

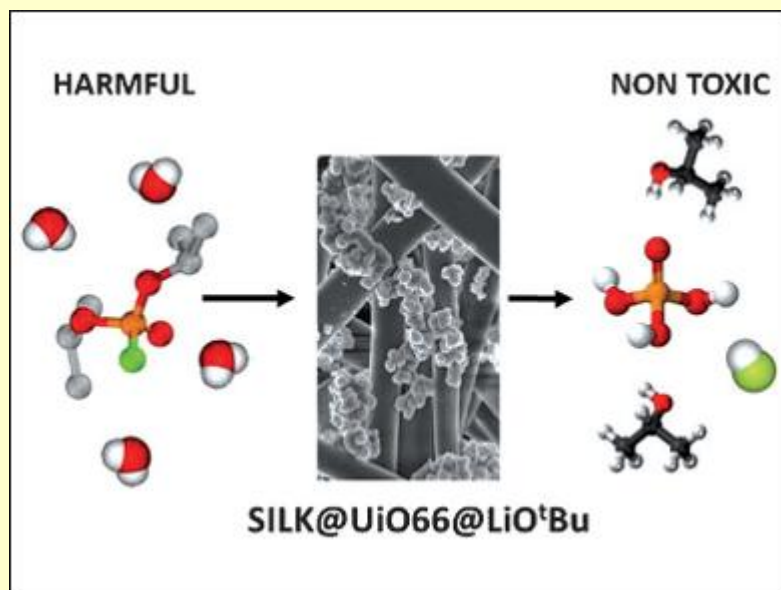
possibility of terrorists using a chlorine bomb on British soil.

Self-Detoxifying Filters

Source: http://www.chemistryviews.org/details/ezine/7963391/Self-Detoxifying_Filters.html#.VWMcyN5jQu8.linkedin

Air filters, such as those used in masks, for protection against chemical weapons are mainly based on the adsorption of toxins. Such filters have a limited capacity to capture the toxins and once they are contaminated can become

a dangerous source of emissions themselves. Spanish scientists have now introduced a new approach for making self-detoxifying filters that can degrade the chemical weapons. **As reported in the journal *Angewandte Chemie*, these filters are based on air-permeable textiles that are impregnated with special, catalytically active metal-organic framework materials.**



The disadvantage of conventional activated carbon filters is that though they initially adsorb chemical weapons, they do not destroy them. Contaminated filters are thus dangerous and must be disposed of at a significant cost. A preferable alternative would be filters that not only capture highly toxic substances, but also immediately degrade them.

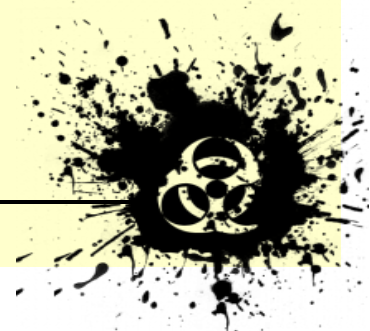
Metal-Organic Framework Materials as a Catalyst

A team headed by Jorge A. R. Navarro and Elisa Barea, Universidad de Granada, Spain, and Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario, La Alberca, Spain, has now developed a new technique for making self-detoxifying filters. Their approach is based on metal-organic frameworks, which consist of metallic "nodes" bound into three-dimensional frameworks by organic components that link them together. The resulting materials are highly porous crystalline solids that can adsorb molecules into their pores. Given the right composition, these materials can also be catalytically active. The researchers made use of this trait to create an MOF tailored to make chemical weapons harmless.

Their starting point was a zirconium-containing MOF called UiO-66, whose special structure allows it to split organophosphates in the presence of moisture. The researchers additionally incorporated special organolithium compounds into the framework. This produces a significantly more catalytically active material that very efficiently splits the phosphorous-fluorine, phosphorous-oxygen, and carbon-chlorine bonds commonly found in chemical weapons.

Air-Permeable Textile Filters

The scientists impregnated silk fabric with this newly developed MOF, which forms nanocrystalline deposits on the silk fibers. This results in air-permeable textiles that can rapidly and efficiently detoxify chemical warfare agents, as demonstrated with tests using harmless, but chemically similar model substances.



The reported breakthrough might be of interest for the future development of self-detoxifying filter technology for both individual and collective protective systems.

Another strategy with the same starting point was chosen by American researchers: by varying the structure of the UiO-66 framework, they were able to achieve a very quick hydrolysis of nerve gas simulants in a plug-flow reactor.

Countering Nuclear and Radiological Materials Illicit Trafficking Through **Maritime** Security Initiatives: Paper Tiger or Concrete Solution? – A Case Study

Source: <http://www.cbrneportal.com/wp-content/uploads/2015/04/Sin-NCT-CBRNe-USA-2015.pdf>

For more than a decade, the threat of weapons of mass destruction (WMD) terrorism has been on the forefront of the international security agenda. In an increasingly globalized society, detecting and interdicting illicit trafficking of radiological and nuclear (RN) materials to prevent individuals and organizations – who are willing to perpetrate the atrocious act of WMD terrorism – from acquiring such materials is of utmost priority and import. In this context, the international community has launched various political and legal initiatives to prevent illicit trafficking of RN materials via maritime means. Indeed, given that over 58 million twenty-foot equivalent units of containers are shipped around the world over 490 maritime trade routes annually, commercial maritime shipping industry is uniquely vulnerable to exploitation by nefarious actors. Yet, are the existing initiatives implemented with efficiency and respected by those connected to the maritime industry, or is the reality far from ideal?

Employing the grounded theory approach, this paper examines ways the international maritime security initiatives (i.e. Proliferation Security Initiative, Megaports Initiative, etc.) are implemented at the Port of Antwerp, Belgium. In doing so, this paper also analyzes the impact different authorities involved in the security and operation of the port have on the implementation of such initiatives. Ultimately, this paper seeks to identify strengths and potential weaknesses of the current legal and political framework designed to curb illicit RN materials trafficking and generate a theoretical foundation and a series of hypotheses that can be tested and utilized to improve the future design of international maritime security initiatives.

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► Read this interesting START paper (May 01, 2015) at sources' URL.

Aerosol Simulants (Chemical and Biological)

Source: <http://www.resrchintl.com/Aerosol-Simulants.html>

This product administers a small aerosol challenge to chemical and biological collection, detection and identification equipment. Many situations arise where it would be useful to have a method for qualitatively determining that equipment is working. With gas detectors, a small pulse of gas is commonly administered to the equipment before it is taken out into the field to see if an upscale reading is obtained. This safety measure is called a 'bump test' and shows that the equipment is operational.

For performing both chemical and biological "bump tests," we provide a medical inhaler that has been charged with a nontoxic pressurized propellant



and in the case of biological bump tests, a small amount of simulant powder. When the inhaler canister base is depressed, a fixed volume of propellant and any suspended aerosol material present is discharged as a turbulent jet. Some applications include:

- Testing air sampling and extraction equipment;
- Testing ultraviolet biological aerosol detectors such as Research International's TacBio™ aerosol detector;
- Testing bioidentification devices such as tickets(lateral flow immunoassays);
- Testing gas detectors that have the propellant used in this product in their gas library
- Studying aerosol dispersion in various settings; and
- Equipment demonstrations for customers

The propellant used in RI's Aerosol Simulants is the same propellant used in most medical inhalers and is of a high purity, with minimal oil and other contaminants. A special high accuracy metered-volume valve is used which provides an output dose that is consistent to within 5% from shot to shot.

Since the simulant materials are physically suspended in the propellant, it is essential that the unit be well shaken before each use. The check source size and shape minimizes issues with airline personnel who otherwise prefer to confiscate all pressurized products found in carry-on luggage.

Advantages	Applications
<ul style="list-style-type: none"> • Compact • Easy to use • Easy to transport • Toxin simulants • Spore simulants • Chemical/flammable gas simulant • Repeatable dosage • Long life- over 100 shots • Nontoxic 	<ul style="list-style-type: none"> • CBW/TIC gas detectors • UV biotriggers • Air samplers • Lateral flow immunoassays • Automated bioanalyzers • Postal room biothreats • Product demonstrations

EDITOR'S COMMENT: This is a good idea! I like it a lot!



INEUROPE

Source: Service de Santé des Armées

An auto-injector containing:

- Atropine: 2mg (anti-cholinergic)
- Pralidoxime: 350mg (reactivator of cholinesterase)
- Avizafone: 20mg (anti-convulsivant)



Point of care determination of Cholinesterase

Source:http://www.securetec.net/cms/front_content.php?lang=2&changelang=2&idart=153&idcat=8

The on-site device is used for in vitro diagnostic determination of cholinesterase levels in whole blood. Based on the photometric measurement, AChE and BChE activity can be measured in a user-friendly way.

Designed for ChE testing in the field

The small, lightweight testing system features the following characteristics:

- Results within 4 minutes
- Convenient and safe finger prick sampling
- Portable and easy-to-use with touch screen



- User gets medical advice to interpret critical results
- Memory for 600 results and USB interface included
- CE labeled: The device meets the requirements of international standards (Directive 98/79/EC for IVD)

Further advantages

The device can be operated at temperatures between +10 and +50 °C. ChE check mobile is battery powered and designed for vehicle use (4.8 to 24 V range). Flash memory technology makes the system future proof and user customisable.



Main handling steps of the assay



1. Start test by determining the background value of cuvette



2. Take blood sample and add glass capillary to cuvette



3. Menu navigates user to measure hemoglobin value



4. Exchange white cap by red "AChE-substrate" cap



5. Dissolve substrate in cap by gently shaking the cuvette



6. Test results are ready within four minutes

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Developed for military and civil purposes

- (1) Organophosphate poisoning in military conflicts and terrorist attacks;
- (2) Acute pesticide poisoning with toxic agrochemicals.

Chemical and biological jihad

By Musa Khan Jalalzai

Source: <http://www.dailytimes.com.pk/opinion/02-Jun-2015/chemical-and-biological-jihad>

Recent debates in the print and electronic media about the possible use of chlorine bombs or biological weapons in the UK have caused deep concerns in government and military circles that the radicalized jihadists returning to the country from Syria may possibly use these weapons. Yet experts have warned that the acquisition of nuclear weapons by the terrorists of Islamic State (IS) poses a

greater threat to the national security of the UK. The gravest danger arises from the access of extremist and terror groups to the state-owned nuclear, biological and chemical weapons of Iraq and Syria. The growing use of chlorine bombs became a matter of concern when a former commander of the Joint Chemical, Biological, Radiological and



Nuclear Regiment told The Times that the UK needed to take strong security measures and control the availability of chemical weapons such as chlorine bombs to the terrorists. Counterterrorism expert Olivier Guitta told The Times that the threat of improvised chemical bombs was also increasing.

The first such incident was that of IS commanders gaining access to the Iraqi nuclear weapons site in Mosul University. Recent cases of nuclear proliferation and attacks on nuclear installations across the globe have further exacerbated the concern about the threat of nuclear attacks in the UK, Pakistan and Afghanistan. The threat of chemical and biological jihad in the UK has raised serious questions about the security of its nuclear weapons. Experts have warned that the UK-based, IS-trained jihadists, the Taliban and Bengali, Afghani, Somali, Nigerian, Arab and Pakistani extremist groups pose a great security threat.

Improvised explosive devices and chemical and biological weapons are easily available in some Asian and African markets and can be transported to the UK through human traffickers. The influx of trained terrorists and organised criminals from several Asian, African and European states has raised concerns that these people who sought asylum through fake documents, or tried to gain citizenship through marriages, could pose a threat to the country. According to the United Kingdom Strategy for Countering Chemical, Biological, Radiological and Nuclear Terrorism (CBRN-2010), "radiological material can be combined with explosives to produce a radiological dispersion device (RDD), sometimes called a dirty bomb which will contaminate people, and buildings."

In his recent dossier, William McNeill warned that the UK Trident system is not very secure. He also reported a host of minor breakdowns and faults, which could be resolved, but there are some issues that require serious investigation. As examples he mentioned some unreported incidents, like the collisions of British and French nuclear weapons submarines. The threat of chemical and biological weapons further intensified when British Home Secretary Theresa May warned that members of IS are trying to acquire nuclear weapons to attack the west. She also warned that jihadists in the UK want to acquire

nuclear and biological weapons to be used within the country. Experts in London have warned that these threats should not be considered small or insignificant.

In a press conference in Australia, President Obama declared that if his government discovered that IS had come to possess a nuclear weapon, he would get it out of their hands. The fear of such attacks still exists in the UK because more than 6,000 British and European nationals have joined IS's military campaign in Syria and Iraq. The British law enforcement and intelligence community's fear that the terrorist group can buy nuclear weapons from the black market or any irresponsible state is justified because IS has reportedly developed nuclear weapons using radioactive materials stolen from an Iraqi university.

In 2013, chemical attacks in the outskirts of Damascus posed a direct threat to the US and its allies, causing the UN Security Council to adopt a resolution on chemical weapons in Syria. The international operation of transporting the components of these weapons out of Syria was completed in the first half of 2014. In 2015, IS tried to gain access to these weapons in Syria and, in some cases, used chlorine bombs for terrorist activities in Iraq and Syria. On January 6, 2015, cases of IS using chemical weapons in Iraq and Syria emerged. These chemical attacks illustrate that IS and the Syrian opposition chose to use chemical weapons preferentially in Iraq and Syria. In Pakistan and Afghanistan as well, IS is seeking these weapons to use them against the armed forces. In the latest issue of its magazine (Dabiq), Islamic State claimed that it wants to buy nuclear weapons from Pakistan but experts view this claim as baseless, saying that countries like Pakistan would never allow IS to purchase nuclear weapons from the country.

IS seeks the allegiance of either the Tehreek-e-Taliban Pakistan or the Afghan Taliban. If IS obtains nuclear explosives or biological weapons in Pakistan, this would be a new chapter in its war against civilians. But with 25,000-30,000 nuclear personnel in the country's army, how could they possibly attain nuclear weapons from Pakistan? The UK's fears can be justified amidst these speculations and looming threats



of nuclear terrorism. I hope that our professional intelligence community is aware of

all these looming threats and can tackle them using their expertise.

Musa Khan Jalalzai is the author of Punjabi Taliban.

Chemical weapon scenario training prepares local response agencies

Source: http://www.al.com/news/huntsville/index.ssf/2015/06/chemical_weapon_scenario_train.html

This is only a test...the following scenario is not really happening but it could one day. That is why Huntsville Fire and Rescue, the Huntsville Police bomb squad and the **Alabama National Guard 46th Civil Support Team** (Weapons of Mass Destruction) have come together for three days of realistic training exercises.



Suppose a security guard has discovered a makeshift lab that appears to be cooking something much worse than meth--suspicious barrels of chemical agents and clues that seem to relate to terrorism. Who do you call and what happens next?

Magpie Enterprises, Inc. out of San Diego, CA specializes in setting up these kinds of training events. Their mission is to make the training as realistic as possible. During the next three days the members of these three agencies will work out the details for handling chemical, biological, radiological, nuclear and high-yield explosives - weapons of mass destruction they may one

day face as the first line of local defense so they can better be prepared.

The training scenario in Huntsville Tuesday required multiple agencies to work together.

After Huntsville Fire & Rescue's HAZMAT team runs an initial inspection, it is time to call in the experts – the 46thCivil Support Team from Montgomery. Their high tech gear and training allows them to more closely evaluate the situation and to analyze the chemicals at the scene. Then the next step is disposing of the chemical agents, which are precursors to weapons of mass destruction, in order to keep the public safe.



There are many questions that arise when you bring in multiple agencies to work together. Who takes the lead? How do the different agencies communicate with each other? Who monitors site safety? How



do you eliminate the danger while preserving a crime scene and evidence? Who is in charge of the decontamination line, air safety, rescue teams, escape routes? Who determines if there are booby traps set up in the building?

That is why they train...to work through the scenario and answer these questions so that if the real thing ever happens they will be prepared to handle the situation.

EDITOR'S COMMENT:
 Just another exercise you might say. Yes! But this one seems well organized; conducted in dark or night environment; dressing is correct and there are some working innovations that make Level-A people's life easier! **Good work Alabama!!!**

Australian Foreign Affairs Minister stated that ISIS is developing chemical weapons

Source: <http://www.theweeklyobserver.com/australian-foreign-affairs-minister-strongly-expressed-that-isis-is-developing-chemical-weapons/1481/>



June 06 – **Foreign Affairs Minister, Julie Bishop, expressed that the Islamic State has already recruited experts to develop chemical weapons for use in its reign of terror across the Middle East.**

Julie Bishop, Minister of Foreign Affairs since 2013, made the comments while speaking to a meeting of the Australia Group, an informal international forum that focuses on stopping the export and development of chemical and biological weapons.

At the 30th anniversary of the Australia Group, which fights the spread of biological and chemical weapons, Bishop said the IS, also

known as Da'esh, had "the technical expertise necessary to further refine precursor materials and build chemical weapons."

"As we have seen, Da'esh are prepared to use any and all forms of violence they can think of to advance their demented cause," she said. "The use of chlorine by Da'esh and its recruitment of highly technically trained professionals, including from the West, have revealed far more serious efforts in chemical weapons development."

Bishop said the counter-terrorism landscape was changing quickly and the potential for chemical terrorism required new security protocols. "Today, we face new challenges from the rise of a range of non-



state actors,” she said. “The counter-terrorism landscape is changing so rapidly that long accepted paradigms can quickly become obsolete. The Plenary this week has looked at the potential for chemical terrorism and worked on challenging new issues, such as curbing the spread of weapons technology on the internet and other means, and the requirement for continuing adjustment of policies and regulations to take account of new technologies.”

Bishop’s comments come as Iraqi Kurdish authorities claim to have evidence that IS used chlorine gas against peshmerga fighters in northern Iraq in January. The Kurdish authorities allege soil and clothing samples taken after an ISIS car bombing attempt contained levels of chlorine that could not be independently confirmed. Bishop also referred to Syria’s “continuing use of chemical weapons” and the \$2 million that Australia contributed to the international effort to destroy the country’s chemical weapon stockpile.

The use of chlorine gas dates back to WWI and is banned under the 1997 Chemical Weapons Convention. Chlorine was one of the first

substances used as a poisonous gas and was deployed during World War I. Chemical weapons and the legislation governing their use have been controversial since weapons were first deemed “chemical.” The devastating effects of chlorine, phosgene, and mustard gas on the battlefields of World War I forced the international community to develop a body of international law governing chemical weapons. During that war, both the British and German armies used chlorine, but they gave up on it because the chemical was so dangerous. Low levels of chlorine sting the skin and eyes. Higher doses cause chemical burns and, if inhaled in large amounts, chlorine

causes fluid to be released in the lungs which can lead to drowning. The Organisation for the Prohibition of Chemical Weapons is investigating allegations of recent chlorine gas attacks in Syrian villages, but President Bashar al-Assad’s government has refused the investigators access to the sites.



CBRNE TC3: A Hybrid Approach to Casualty Care in the CBRNE Envir

Source:http://www.jsomonline.org/storefront/index.php?main_page=product_info&products_id=109

\$31.50

Strain J. CBRNE TC3: A Hybrid Approach to Casualty Care in the CBRNE Environment. 13(2). 44 - 53 (JOURNAL ARTICLE)

The implementation of Tactical Combat Casualty Care (TCCC) guidelines for the Operation Enduring Freedom and Operation Iraqi Freedom contingency operations has dramatically reduced preventable combat deaths. A study of these principles and their application to medical treatment in the chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE), weapons of mass destruction (WMD) environment is presented as a potential readiness and force multiplier for units engaged in this area of operations. Preparing medical operators for support of WMD sampling and mitigation missions requires extensive preventive medicine and post-exposure and downrange trauma threat preparedness. Training and equipping CBRN operators with treatment skills and appropriate interventional material requires pre-implementation planning specific to WMD threats (e.g., anthrax, radiation, organophosphates, and contaminated trauma). A scenario-based study reveals the tactics, techniques, and procedures for training, resourcing, and fielding the CBRN operator of the future.



Detection without Doubt

KeTech

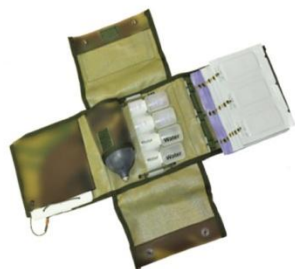
KeTech specialises in detection, communication and information technologies. As market leaders, KeTech designs and develops reliable, fully integrated systems and innovative products that address the specific requirements of both homeland security and transport markets.

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Fido C2™

Source: <http://www.cbrnetechindex.com/p/4020/FLIR-Systems-Inc/Fido-C2>

Fido™ C2 agent disclosure spray is a sensitive CWA detection technology. **After being sprayed directly onto a surface, the Fido C2 enzymes react by changing color to red within 5 minutes of detecting CWAs.** This color change reveals the specific location of contamination, making the invisible threat...visible.



It complements electronic sensors by providing the ability to map contamination for emergency response missions, as well as aid in the decontamination of personnel or equipment after exposure to CWAs, specifically nerve agents (G- & V-series) and sulfur mustard (HD). Fido C2 can be used at many stages of the hazard management process to minimize spread of contamination, while near real-time detection allows for early deployment of counter measures and evacuation before human harm or loss of

life can occur. The spray is offered in three applicator sizes based on mission requirements: handheld, man-portable backpack, and wide-area cart-based systems. It is compatible with a large variety of materials and does not degrade sensitive surfaces. It can be rinsed away with water and contains no hazardous chemicals requiring special disposal consideration. Furthermore, chemical agents are not chemically changed by Fido C2. This allows for evidence collection and downstream forensic analysis of samples.



All Syria chemical weapons effluent destroyed

Source: <http://news.yahoo.com/syria-chemical-weapons-effluent-destroyed-watchdog-155205912.html>

June 17 – The world's chemical weapons watchdog on Wednesday said all effluents from Syria's neutralised chemical weapons arsenal have been destroyed.

"The Organisation for the Prohibition of Chemical Weapons welcomes the disposal of effluents resulting from neutralisation operations aboard the US vessel Cape Ray," the Hague-based watchdog said in a statement.

A total of 1,300 metric tonnes of chemical weapons have been removed from Syria, with the majority neutralised on the US Navy ship MV Cape Ray -- and turned into less harmful effluent.

This effluent is the result of the sea-based destruction of sulphur mustards, commonly known as mustard gas, and methylphosphonyl difluoride, a precursor chemical for sarin gas.

Syria's chemical weapons stockpile was destroyed



after President Bashar al-Assad's regime agreed to an international plan, following a 2013 sarin attack on a Damascus suburb that sparked a global outcry.

The United States threatened military action against Damascus over the attack, but held off following the disarmament agreement.

The OPCW said a waste disposal facility in Finland last Thursday said it had destroyed 5,463 metric tonnes of methylphosphonyl difluoride effluent.

On Friday, a German waste disposal firm destroyed some 335 metric tonnes of sulphur mustard effluent in Germany.

The German disposal has been verified by an OPCW team, while another verification team will shortly be sent to Finland, the watchdog said.

"This is yet another milestone in the path to eliminating chemical weapons stocks in Syria," OPCW director Ahmet Uzumcu said in the statement.

Of the 1,300 metric tonnes of Syria's declared chemical weapons only 16 metric tonnes of hydrogen fluoride remain to be destroyed at a facility in Port Arthur in Texas, the OPCW said.



It is Time to Retire 'Weapons of Mass Destruction'

By Dan Kaszeta

Source: <http://ciceromagazine.com/opinion/it-is-time-to-retire-weapons-of-mass-destruction/>

The West has been using the terms WMD and "weapons of mass destruction" to describe an expanding list of weapons and materials for the past 20 years. It was not a term used when I

biological, radiological and nuclear.



Early in my career, the only

references to WMD I came across were in translations of Soviet military writing. It wasn't until 1995 when I was working in the Pentagon that I actually heard active use of the term. By 1997, it was thoroughly entrenched. Following the build up to the 2003 Iraq War, it became a household word across America. WMD started as a Soviet-era Russian-ism that crept into the American vocabulary. This misguided, unclear, undefined, and unhelpful term needs to be retired from our active lexicon.

The general assumption is that WMD means the same thing as CBRN—chemical, biological, radiological, and nuclear weapons. But this is by no means the case. Earlier uses of the term are documented, with one of the earliest being by Cosmo Lang,

Archbishop of Canterbury, in reference to the 1937 bombing of Guernica during the Spanish Civil War, although this was a conventional attack and not CBRN in nature.

There has since been permutations and gyrations in the definition and usage, as covered by William Safire in the New York



began working in the field. When I first entered the U.S. Army, we used the term NBC—nuclear, biological, and chemical. Some of the old manuals in the library at the U.S. Army Chemical School used CBR (chemical, bacteriological, radiological) or ABC (atomic, biological, chemical). Today the U.S. military has adopted the acronym CBRN—chemical,



Times. The recent capture by ISIS forces of Saddam's former chemical weapons facility at Muthanna has prompted more variation in the definition of the term to the effect that chemical weapons are not WMD.

WMD is vague and over-broad as a term. What does it actually mean? What are WMDs?

The general "street definition" as NBC/CBRN materials is certainly not the only definition. It means different things in different places. US scholar Seth Carus found over 40 meanings in 2006, and more have doubtless emerged since. Examples abound. The old Soviet term covered weapons used to inflict heavy casualties, including nuclear, chemical, and bacteriological agents. But smallpox, for example, can be used as biological weapon and is a virus, not bacteria. Is a dirty bomb spreading radioactive material part of this definition? The definitional problems become clear.

The UN also took a stab at defining WMD as, "Atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above." (S/C.3/32/Rev.1)

The current prevailing—but by no means only—U.S. military definition is from Joint Publication 1-02, but many other U.S. military publications do not bother to define it in detail. JP 1-02 defines WMD as: "Chemical, biological, radiological, or nuclear weapons capable of a high order of destruction or causing mass casualties and exclude the means of transporting or propelling the weapon where such means is a separable and divisible part from the weapon".

But even the U.S. government cannot agree on the definition. There is a definition, enshrined in law, which has much broader scope than the Joint Publication. It creates the absurd position of people using pipe bombs being convicted of using a WMD because of the very broad legal definition enacted into US law (18 USC 2332a). This law states that the following are WMDs:

- 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, or their precursors

- any weapon involving a biological agent, toxin, or vector
- Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life
- Any destructive device under 18 USC 921

This particular law is so overly broad as to be ridiculous. Although the authors mean well, this law is problematic. The precursor clause is troublesome. Sulfur is a direct precursor of the binary form of the nerve agent VX. If I spill a bag of sulfur in the parking lot of a US Post Office, have I just become a WMD terrorist who attacked the U.S. government? Isopropyl alcohol is a precursor to Sarin. So, if you make a Molotov cocktail using isopropyl alcohol, is it a WMD? A zealous prosecutor could argue that such an act would be within the scope of the law. The Boston Marathon bombers were charged with the use of WMD. Though their crime was indeed heinous, it certainly stretches credulity to call their pressure cooker device a WMD.

The "dangerous device" clause broadens WMD to include a whole host of devices already illegal under US law:

- Bombs
- Grenades
- Rockets with propellant charge of four ounces
- Missiles having an explosive charge of one quarter ounce
- Mines
- "Similar Devices"
- Any weapon that has a bore over half an inch in diameter (.50 cal), except for shotguns.

By this U.S. legal definition, every military in the world has WMD. People should not be running around with these kinds of things, but what public policy end is served by making 20mm cannons and 40mm grenade launchers into WMD? Perhaps it is a binary outlook on the subject, but something is either legal or illegal. What end is served by passing more laws to make something that is already illegal even more illegal? Even more troubling is the "similar devices" clause. This clause is enough to enable a keen prosecutor to make anything into a WMD. Fireworks,



smoke grenades, and flare pistols, usually with a bore over half an inch, could all come within the definition.

Various people have argued, both seriously and fatuously, that the term WMD does not really extend to chemical weapons. Professor James Holmes, at the US Naval War College, argues as much in an article in *The Diplomat* in 2013. I think that his points are technically quite correct. More fatuously, when you examine social media over the last year there is some sophistry and, indeed, squirming going on about whether chemical weapons are WMD. The fact that Saddam Hussein really did have Sarin and Mustard is laid bare by the fact that rather a lot of chemical warfare agent—mostly in form of useless residue and detritus—is at a place called Muthanna. The recent loss of this facility to ISIS has forced some people into an ideologically uncomfortable position – If Saddam Hussein never had WMDs, then what's this stuff at Muthanna everyone is now worried about? At least a few commentators have resorted to the flexibility of the WMD term by claiming “chemical weapons are not WMD”. Simply enter the phrase in the search box on Twitter and hold on to your hat. It is a silly argument to make, but the fact that it can occur at all is due to the fact that the phrase WMD is so flexible it has become useless.

The second problem with the term “Weapons of Mass Destruction” is that it is actually linguistically incorrect. Even if we stick to the narrow definition of NBC/CBRN weapons, there is not actually much destruction with the B and the C (biological and chemical). If a weapon does not actually destroy anything, then why call it a weapon of destruction? Nuclear weapons clearly destroy things, and in a well-understood way. But the other categories of NBC/CBRN weapons usually do not. Biological weapons kill people, make them sick, or are injurious to agriculture, but they do not actually destroy anything. Smallpox and plague are quite deadly, but they do not destroy things. Anthrax spores might contaminate something for a long time, but there is a fundamental difference between contamination and destruction.

A lot of chemical or biological weapons do not contaminate anything at all. Chemical warfare agents are not known for destroying anything either. Some toxic industrial chemicals might

cause widespread destruction, but these are generally substances with flammable, explosive, reactive, and/or corrosive properties that actually make them unsuitable for use as chemical weapons in a military setting because they are as dangerous to their user as to their target. Much of Professor Holmes' critique of the term falls under this broad heading, arguing on practical grounds that chemical weapons are not actually a huge problem in naval settings.

Use of WMD as a phrase gives us a third problem—conflation. When we use the phrase WMD as some kind of collective noun, it causes conflation of different materials problems. Even if we are sticking to the narrow definition CBRN materials and weapons, there are fundamental difference between the C, B, R and N. These differences cover practically every aspect of operations: protection, medical countermeasures, detection, decontamination, and emergency response. There is no point in saying that chemical weapons are at all similar to biological weapons, as they are very different. So, why should we conflate them underneath an umbrella term? We can also approach the conflation issue in matters of scale. A single nuclear weapon, even a small one, has quite a potent effect whose use would be dramatic event in human history. A single chemical artillery round, on the other hand, will not have much individual impact. So why would we use intellectual constructs that make the two nominally equal?

I believe that these various points – vagueness, linguistic inaccuracy, and conflation—are sufficient grounds for retiring this contrived and stilted phrase. Many others already have. The Carnegie Endowment, in its publication “Deadly Arsenals”, minimizes its use of the term as problematic. I am proud to join the ranks of WMD refuseniks.

If we retire WMD as a term, what do we replace it with? Why do we need to replace it with anything? If we mean chemical weapons, let us say chemical weapons. If we mean biological weapons, let us say so. We use specific language in many ways in modern discourse. Modern media is capable of differentiating between a bacteria and a virus, and between a diesel or gasoline engine. These are distinctions far



more subtle than the difference between a nuclear weapon and an anthrax spore or a pressure cooker with gunpowder in it. So why

do we need some stilted euphemistic phrase like WMD? We do not need it and we should retire it.

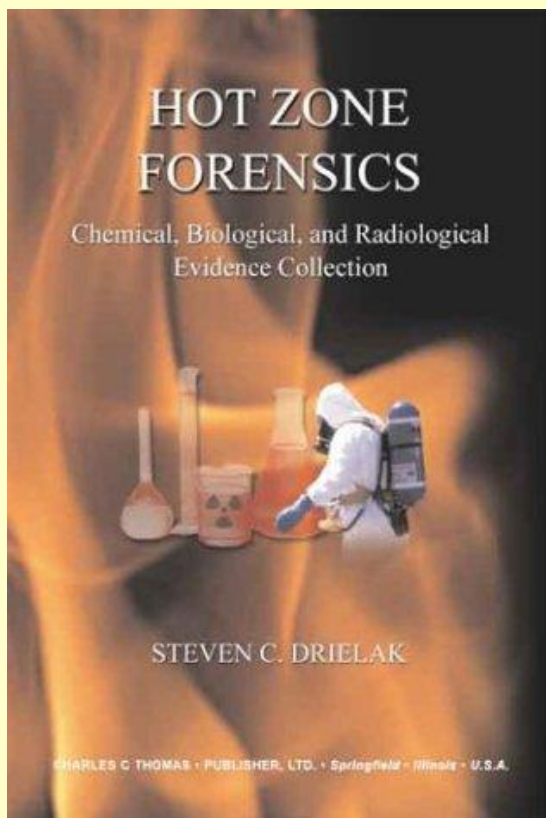
Dan Kaszeta has over twenty years of diverse experience in the defense and security sectors and field of chemical, biological, radiological, and nuclear (CBRN) issues. He was a member of the U.S. Secret Service as a Senior Physical Security Specialist in the Technical Security Division and in the Chemical/Biological Countermeasures Branch. He is an independent consultant at Strongpoint Security and author of CBRN and Hazmat Incidents at Major Public Events: Planning and Response.

Hot Zone Forensics: Chemical, Biological, and Radiological Evidence Collection

By Steven C. Drielak (Author)

Paperback – April 1, 2004

Hot Zone Forensics is a detailed description of the evidence collection protocols that will be required in



criminal cases involving the release of a chemical agent, biological agent, or radiological material. This book sets the standards for the methods that may be used by local, state and federal investigative law enforcement officers when locating and collecting hazardous evidence in airborne, liquid, solid, surface and dermal form. Sampling protocols from OSHA, NIOSH, EPA, DOE, CDC, Chemical Weapons Convention, and the Biological Weapons Convention have each been examined in an effort to provide law enforcement with a clear understanding of the many underlying evidence collection and prosecution issues associated with this type of criminal evidence collection. Detailed evidence collection protocols and equipment requirements for chemical, biological and radiological evidence are provided along with complete explanations as to why each protocol is recommended. The recommended collection protocols provided in this book have been designed to meet the many rigorous challenges that may be faced during the criminal trial process. Criminal investigators and prosecutors will find this book a useful guide when establishing their own evidence collection

standards for chemical, biological, and radiological evidence.

Steven C. Drielak is an internationally recognized expert in the area of environmental forensic attribution. He received his Master's degrees from John Jay College of Criminal Justice in New York City. He has over 30 years of law enforcement experience in senior management and senior leadership positions. Steven was responsible for the establishment of the Suffolk County Environmental Crime Unit in New York and commanded that unit for 16 years. For the past 12 years, Steven has served as a Director within the EPA's Office of Criminal Enforcement, Forensics and



Training in both the Homeland Security and Criminal Enforcement national programs. As the Director of the EPA's National Criminal Enforcement Response Team he was responsible for deploying law enforcement resources and forensic evidence collection teams to numerous environmental disasters throughout the United States including BP Alaska's Prudhoe Bay oil pipeline failures, the BP Deepwater Horizon incident and the West Texas Fertilizer Company explosion. Steven has served as a senior forensic attribution instructor and program developer for the Department of Homeland Security's, Federal Law Enforcement Training Center (FLETC) in Glynco, GA and has served for 17 years as a National Academy Instructor for the EPA's criminal enforcement program. He has also provided environmental forensic attribution training for the FBI's Hazardous Materials Response Unit. He has also provided international training to numerous countries within the European Union. He has authored and co-authored 4 text books in the areas of Environmental Crimes, Weapons of Mass Destruction and Forensic Attribution. He currently serves as an appointed member of the International Association of Chiefs of Police Environmental Crimes Committee and also serves on the President's Interagency Microbial Forensics Advisory Board. Steven Drielak has provided expert testimony at numerous state and federal criminal trials involving releases of hazardous substances to the environment.

Syrian Doctors Present Evidence of New Chlorine Gas Attacks to US Congress

Source: <http://www.globalsecurity.org/wmd/library/news/syria/2015/syria-150617-voa01.htm>

June 17 – Syrian President Bashar al-Assad is again systematically using chemical weapons to kill, terrorize and disperse civilians in rebel-held areas - Syrian doctors and human rights activists told a U.S. congressional committee Wednesday

President Assad had denied the use of chemical weapons, saying there is no evidence. In response to earlier pressure, Assad declared that he had gotten rid of his entire stockpile of chemical weapons.

But Dr. Mohamed Tennari of the Syrian-American Medical Society told members of the House Foreign Affairs Committee that the Syrian military began launching helicopter attacks using chlorine gas on March 16 in his hometown of Sarmin.

Tennari showed the committee disturbing video of dead and wounded children and others from that night, and told what he saw when he went to the hospital to treat the injured.

'Dozens of people experienced difficulty breathing, with their eyes and throats burning, and many began secreting from the mouth,' he said. 'We lay people on the floor as the beds filled up. Our small field hospital became chaotic.'

Tennari presented the panel a dossier of data, photos and other evidence documenting 31 separate chlorine gas attacks in Syria since

March. The witnesses emphasized that only the Syrian leader has the helicopters to deliver the barrel bombs with chlorine gas.

Dr. Annie Sparrow of the Icahn School of Medicine at Mount Sinai works in the region to train doctors, and said she has never seen anything like this.

'I am a doctor, and I am very familiar with death,' she said. 'But I have never seen a more obscene way to kill children.'

Lawmakers, including Representative Elliot Engel, were visibly shaken by the images.

'I am not usually speechless. But after watching those pictures of the children dying, I am speechless,' he said.

Calls for a No-fly Zone

Engel said he and House Foreign Affairs Committee Chairman Ed Royce have asked the Pentagon to seriously consider leading efforts to establish a no-fly zone in Syria. Royce said such a zone would protect civilians from the deadly combination of barrel bombs and chlorine gas dropped by aircraft.

'Syrians would no longer be forced to choose between staying above ground where they could be killed by the shrapnel Assad packs inside his barrel bombs or going below ground where they are more



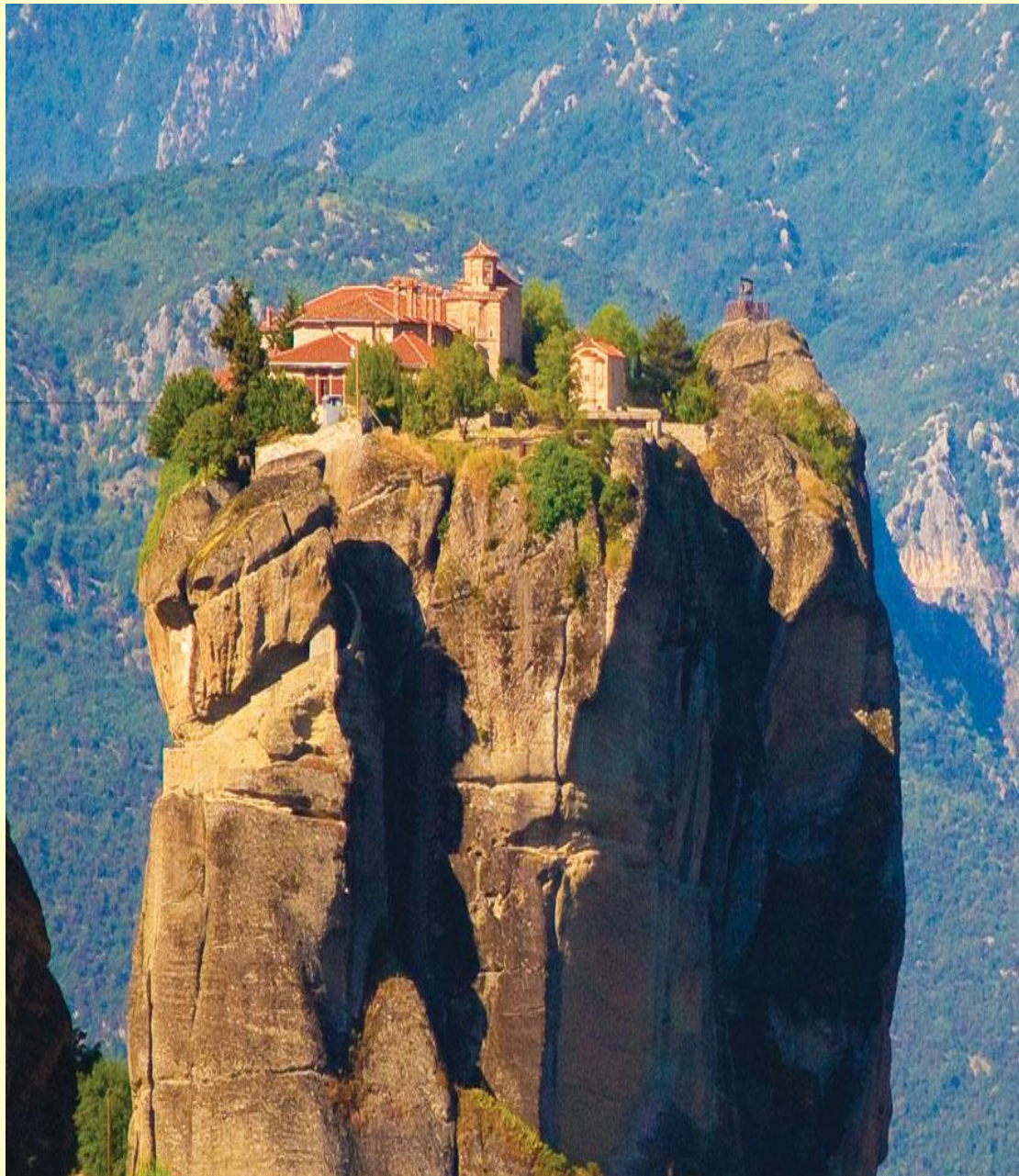
vulnerable to suffocating from chlorine gas,' he said.

Royce said if the United States and its regional allies would set up a no-fly zone, deciding to go to school or the market would no longer be a life or death decision for Syrians.

But other lawmakers, such as Democratic Representative Albio Sires, said he is reluctant to have the United States get involved in a

conflict with the Syrian government. He asked why Syria's Arab neighbors don't do anything to protect suffering civilians.

Asked about a no-fly zone, the U.S. ambassador to the United Nations, Samantha Power, rejected the idea at a House hearing Tuesday. Power said President Barack Obama believes the risk of a direct confrontation with the Syrian military is too high.



Greece – Meteora (central Greece)



Name Your Poison — Exotic Toxins Fell Kremlin Foes

Source: <http://toinformistoinfluence.com/2015/05/24/name-your-poison-exotic-toxins-fell-kremlin-foes/>

May 24 – The discovery of poison from an exotic Asian plant in the stomach of Aleksandr Perepilichny, a wealthy Russian whistle-blower who died suddenly in England in 2012, has raised suspicions of a KGB-style assassination. RFE/RL takes a look at various poisons thought to have been used in attacks — some of them fatal — against Kremlin opponents and critics over the years.

Gelsemium — “Heartbreak Grass”

The most toxic source of Gelsemium poison is Gelsemium elegans, or “heartbreak grass,” a rare variety of a plant that only grows in Asia. Lacing food with heartbreak grass is a known method of assassination by Russian and Chinese contract killers.

Aleksandr Perepilichny

Aleksandr Perepilichny was a Russian oligarch and Kremlin critic who sought refuge in Britain in 2009 and had been helping a Swiss investigation into a Russian money-laundering scheme by providing evidence against allegedly corrupt officials in Moscow. He also provided evidence against Russian officials linked to the 2009 death of anticorruption lawyer Sergei Magnitsky in a Moscow jail.

Shortly before he collapsed and died at the age of 44 while jogging outside his home in Surrey, Perepilichny told his colleagues that he had received death threats.

Although he was the fourth person linked to the Magnitsky case to die in strange circumstances, police in Surrey initially ruled that his death was not suspicious.

But on May 18, British authorities reopened an investigation into his 2012 death after new tests discovered traces in his stomach that could only come from the highly toxic Gelsemium plant.

The Surrey coroner’s court was told the toxicology report raised “serious concerns” that Perepilichny may have been assassinated for helping expose a powerful Russian fraud syndicate.

Polonium-210

Polonium is a rare and highly radioactive element that occurs in uranium ores. Polonium-210 is about 250,000 times more toxic than hydrogen cyanide, which is itself an extremely poisonous liquid that can kill quickly in a concentrated dose.

Aleksandr Litvinenko



Aleksandr Litvinenko was a former officer of Russia’s FSB security service who fled to London with his family in 2000 and was granted political asylum.

Litvinenko was poisoned in a London sushi bar in November 2006 and an autopsy revealed traces of polonium-210 in his body. British radiation experts said he probably was the first person ever to die of the acute radiation effects of polonium-210.

Before he died, Litvinenko wrote a letter accusing Putin of ordering his death.

He had earlier accused the FSB of staging apartment-building bombings and other false-flag attacks in Russia in a bid to bring Putin into power — claims Russian authorities have denied.

Litvinenko also had accused Putin of ordering the killing of Russian investigative journalist Anna Politkovskaya, a Kremlin critic who was fatally shot less than two months before his own death.

Thallium

Thallium is a chemical element that is found in potassium-based ores, but also is a byproduct from refining heavy metal sulfide ores. Small, nontoxic amounts of the radioisotope thallium-201 are used in nuclear medicine scans.

Thallium salts are highly toxic and have been used in rat poisons and insecticides. Thallium poisoning results in hair loss. Because of its use as a murder weapon, it is



sometimes referred to as the “poisoner’s poison.”

Nikolai Khokhlov

Nikolai Khokhlov was a Soviet KGB agent who defected to the United States in 1953 and testified about KGB operations. Khokhlov was treated for thallium poisoning in Frankfurt, Germany, in 1957 after a failed assassination attempt by the KGB — possibly the first radiological attack by KGB agents.

Former KGB officers have claimed that Khokhlov was poisoned by radioactive polonium, exactly as Litvinenko was in 2004, rather than thallium.

Litvinenko’s poisoning by polonium-210 initially was misdiagnosed as thallium poisoning.

Yuri Shchekochikhin

Yuri Shchekochikhin was a Russian investigative journalist and lawmaker who campaigned against corruption and the



influence of organized crime in Russia. Shchekochikhin died in July 2003, just days before he planned to meet FBI investigators in the United States, after suffering from a mysterious illness and displaying symptoms of a severe allergic reaction.

Russian authorities declared that he died from an allergic Lyell’s syndrome, but his medical treatment and autopsy records remain under the control of the FSB.

Some researchers say the symptoms of Shchekochikhin’s illness were similar to the radioactive poisoning symptoms of Khokhlov and Litvinenko.

Tetrachlorodibenzodioxin (TCDD) — “Dioxin”

TCDD — commonly, though inaccurately, referred to as dioxin — is a colorless, odorless solid compound at room temperature. It is the main contaminant in Agent Orange, the

defoliation that was used by the U.S. military in the Vietnam War. TCDD has been classified as a carcinogen for humans by the International Agency for Research on Cancer.

Viktor Yushchenko



Ukrainian politician Viktor Yushchenko was poisoned with hazardous amounts of TCDD in late 2004 while running for president against Russian-favored candidate Viktor Yanukovich. Tests at the time showed he had the second-highest concentration of TCDD ever measured in a human. As a result, his face was disfigured for many years by chloracne, but he has been slowly recovering.

Yushchenko, who favored European integration and Ukrainian membership in NATO, said that his poisoning “was not a private act” and accused Russian officials of hindering an investigation into who was responsible for poisoning him.

Official election results declaring Yanukovich as the winner of the vote led to the Orange Revolution protests. The Supreme Court ruled that there had been widespread fraud in Yanukovich’s favor and ordered a new vote, which Yushchenko won.

Sarin And Other Nerve Agents

Sarin is a colorless, odorless liquid nerve agent that causes death by asphyxia because victims are unable to control the muscles involved in breathing. It is most dangerous when it is inhaled. The liquid easily turns into a gas and vapor concentrations also can penetrate the skin. Sarin has been classified by the United Nations as a weapon of mass destruction. The stockpiling of sarin is outlawed under the Chemical Weapons Convention.



Ibn al-Khattab



The FSB has said that its operatives killed Ibn al-Khattab, a Saudi-born militant who fought alongside Chechen militants in Russia’s North Caucasus during the 1990s and early 2000s. He died in 2002.

Khattab’s relatives and other Chechen sources say he was poisoned after handling a letter that had been laced with a “fast-acting nerve agent, possibly sarin or a derivative.”

Russian press reports say the letter was delivered by a Daghestani double agent who was paid by the FSB.

Micro-Engineered Ricin Pellets

The Soviet Union possessed a weaponized version of ricin poison during the Cold War, when the KGB was suspected in assassination attempts against at least three well-known Warsaw Pact defectors.

Ricin is produced naturally within the seeds of the plant *Ricinus communis*, which are crushed to produce castor oil.

The pulp from eight crushed seeds is considered a dangerous dose for adults. But deaths from eating castor plant seeds are rare because of the seed’s indigestible shell and because the human body can digest the toxin.

Ricin is most toxic when it is inhaled, injected, or otherwise ingested into the bloodstream.

In the form of purified powder, a dose the size of a few grains of table salt is strong enough to kill an adult.

Georgi Markov



The most infamous case is the so-called umbrella assassination of Bulgarian dissident journalist Georgi Markov in London in September 1978.

Markov, who worked for the BBC and Radio Free Europe, died four days after a micro-engineered pellet containing the poison ricin was injected into his leg.

British investigators suspect the pellet was fired by an assassin who used a device hidden in the tip of an umbrella while Markov was catching a bus on London’s Waterloo Bridge.

Vladimir Kostov

A similar assassination attempt had been made 10 days earlier against another Bulgarian defector who worked for Radio Free Europe, Vladimir Kostov.

Kostov was shot in the back with the same type of ricin-laced pellet while walking in a Paris metro station in August 1978, but he only ingested a small portion of the ricin in his blood and survived.

Boris Korczak

In August 1981, an exposed CIA double agent Boris Korczak was struck in his kidney by a similar ricin pellet fired from an air gun while he was shopping for food in Virginia. Korczak also survived the attack and was convinced the KGB was responsible.

Unidentified Poisons

Hafizullah Amin

Hafizullah Amin was an Afghan politician during the Cold War who served as president for three months in 1979 after ordering the assassination of his pro-Soviet predecessor Nur Muhammad Taraki.

Soviet officials alleged that Amin was an agent of the CIA.

A KGB agent who infiltrated the presidential palace and became the chef attempted to poison Amin on December 13, 1979. But Amin suspected he was being poisoned and switched his food and drink with his son-in-law — who became ill and was sent to a hospital in Moscow.

Two weeks later, Amin was assassinated by Soviet forces who stormed Kabul’s Tajbeg Palace. The Soviet Union then



installed Babrak Karmal as Afghan president.

Anna Politkovskaya



Russian investigative journalist, human rights activist, and Kremlin critic Anna Politkovskaya fell violently ill in September 2004 after drinking tea on an Aeroflot flight from Moscow to southern Russia during the Beslan school-hostage crisis.

Politkovskaya believed she was poisoned by the FSB, and media reports said her attackers used an unknown toxin prepared at a former Soviet secret police poison facility.

Politkovskaya survived, but she was shot dead two years later in the elevator of her Moscow apartment building.

Pentagon accidentally ships live anthrax from Utah to labs in nine states

Source: <http://www.homelandsecuritynewswire.com/dr20150528-pentagon-accidentally-ships-live-anthrax-from-utah-to-labs-in-nine-states>

May 28 – **The U.S. Department of Defense yesterday admitted it had accidentally shipped samples of a live anthrax spores – a potential bioweapon – across nine states and to a U.S. air base in South Korea.**

The Pentagon revealed what it described as an “inadvertent transfer of samples containing live *Bacillus anthracis*” from a DoD laboratory in Dugway Proving Ground, Utah. The Pentagon did not say when the inadvertent shipment took place, and also did not name the nine states received samples of the anthrax. One sample was also sent to Osan air base in Pyeongtaek, about sixty-five km south of Seoul.

Colonel Steve Warren, the acting Pentagon press secretary, told reporters on Wednesday that there was “no known risk to the general public,” and lab workers who might have been exposed to the bioagent have not exhibited any symptoms of infection.

Warren said the lab at Dugway was “working as part of a DoD effort to develop a field-based test to identify biological threats in the environment.”

The Pentagon said it was helping with a Centers for Disease Control and Prevention (CDC) investigation, and Warren added that “out of an abundance of caution,” DoD had stopped additional anthrax shipments from its stockpiles.

Experts note that such shipments typically involve only inactive or dead bioweapons samples.

The *Guardian* reports that Pentagon officials were tight lipped about when the shipment was made, who was the official – and what office or unit – were responsible, and whether or not the shipment of active spores was truly inadvertent since, nor how inadvertent it was, given that the shipment appeared from Warren’s account to be part of a bioweapon detection initiative.

ABC News reported the states receiving the anthrax from the DoD lab are California, Texas, Wisconsin, Tennessee, Maryland, Virginia, Delaware, New Jersey, and New York.

Dr. Amesh Adalja, an infectious disease expert at the University of Pittsburgh Medical Center, told the *New York Times* that because the live anthrax was sent to labs working on the dangerous bacteria, researchers there have likely been vaccinated against anthrax, said.

“That’s part of standard biosafety protocol at such labs,” he said. If anyone who has not been vaccinated was exposed, they can undergo post-exposure prophylaxis with vaccination and antibiotics.

CDC said it is investigating the mishap. “All samples involved in the investigation will be securely transferred to CDC” or affiliated labs “for further testing,” said spokeswoman Kathy Harden, adding that CDC has sent officials to the labs “to conduct on-site investigations.”

A Maryland lab alerted CDC Friday night that it had a live



sample. By midday on Saturday, all nine laboratories were notified, a CDC official said. The mishap alarmed biosafety experts. Stephen Morse of Columbia University, a former program manager for biodefense at the Pentagon's Defense Advanced Research Projects Agency (DARPA) told the *Times* that "These events shouldn't happen." Scientists working with the most dangerous pathogens follow a "two-person rule," never handling samples alone. Morse said that the

second pair of eyes is meant to insure scientists take proper precautions during experiments. Two people should also vet shipments of supposedly killed anthrax, Morse said: "We can put greater safeguards in place." CDC last year revealed that a lab in Georgia exposed staff to anthrax after conducting an experiment into the prospect for mass spectrometry providing "a faster way to detect anthrax compared to conventional methods."

Automated Biological Threat Detection

Source: http://www.resrchintl.com/ASAP-II_Mailrooms.html

ASAP II is an automated biological detection and identification system for mailrooms and similar installations. The system can be configured to meet a customer's exact threat deterrent needs. The biothreat-oriented component of the system can be set up to detect and identify from four to eight bioagents. Periodically, or on demand, a concentrated wet biosample is transferred to the bio-identification system. In fifteen minutes the system will identify the presence of any of the pre-selected agents, and automatically notify the operator if the mail is clear or if a pathogen has been detected.



These systems are typically used in a negative pressure room equipped with a down draft table and can handle thousands of pieces of mail per hour. An air sampling module in the system continuously samples air drawn into the downdraft table while mail is being jogged or opened over the table's perforated top surface, providing appropriate samples to the biological identification components. Sampling is a continuous process that goes on until processing of a batch of mail is complete, whether it is a few or several hours. The cost of consumables in these systems is kept to a minimum by using disposable/reusable bioassay coupons that can be reused many times over a

48-hour period. This system is designed to be operated by general mailroom personnel and is fully automated, requiring little operator assistance.

Pentagon: Anthrax shipments broader than first thought

Source: <http://news.yahoo.com/pentagon-live-anthrax-may-sent-australia-212233156.html>

The Pentagon said Friday that the Army's mistaken shipments of live anthrax to research laboratories were more widespread than it initially reported, prompting the Defense

Department's second-ranking official to order a thorough review. In a statement issued Friday evening, the department said 24



laboratories in 11 states and two foreign countries — South Korea and Australia — are believed to have received suspect anthrax samples.

The broadening scope of the problem suggests more extensive flaws in procedures used by the Army's Dugway Proving Ground in Utah to ensure that anthrax samples were made fully inert before shipping them to labs. Deputy Defense Secretary Bob Work on Friday ordered a comprehensive review of laboratory procedures associated with inactivating anthrax.

Dugway, in a desolate stretch of the Utah desert, has been testing chemical weapons since it opened in 1942.

Earlier Friday, the Centers for Disease Control and Prevention said suspect samples from Dugway had been sent to 18 labs in nine U.S. states and a military base in South Korea. Later, the Pentagon said the Army may have mistakenly sent live anthrax to a laboratory in Australia in 2008.

CDC spokeswoman Kristen Nordlund said the agency is testing to see which anthrax samples were live. The results are coming in slowly, she said, and the first full set of findings isn't expected until next week.

A Wisconsin commercial laboratory, meanwhile, confirmed Friday it was among the labs that received live anthrax spores last week. BBI Detection of Madison, which employs fewer than 20 people, remains partially closed. No employees have gotten sick or are in danger, and there is no danger to the public, said Jackie Lustig, a spokeswoman for Massachusetts-based Alere Inc., which owns BBI.

CDC spokesman Jason McDonald said four people at labs in Delaware, Texas and Wisconsin were recommended to get antibiotics as a precaution, although they are not sick. About two dozen people were being treated for possible exposure at Osan Air Base in South Korea.

Accidental exposure to live anthrax at US military base in Korea

Source: http://english.hani.co.kr/arti/english_edition/e_international/693438.html

Twenty-two Osan Air Base staffers were exposed to anthrax after a US military institute mistakenly sent them a live sample of the bacteria.

The incident has raised questions about the

According to a press release and other accounts from the USFK Command on May 28, an anthrax sample used in an incubation test by 22 staffers at the Joint United States Forces Korea (USFK) Portal and Integrated Threat Recognition Program at Osan Air Base on May 27 was found to be live, prompting the deployment of emergency response personnel and the destruction of the sample.

The US military said that examination of the staffers in the training exercise showed no signs of infection, and the public was not exposed to any threat.

The USFK Command notified the South Korean government on May 27 about the live anthrax sample's discovery. But no information was



potential for civilian harm from accidents involving USFK biological and chemical weapons.

provided on whether it disclosed or discussed the purpose of the test and the circumstances of the



anthrax sample's shipment with South Korean authorities. Other questions that remain unanswered include how much anthrax was involved and how often anthrax is brought into the country.

Sources said the purpose of the USFK's test is to store an anthrax vaccine and practice decontamination for a possible biological weapons attack using the bacteria, which some estimate North Korea may possess as much as 5,000 tons of. Anthrax is reportedly deadly enough that a low-altitude mass exposure to 100 kg in a large city could kill one to three million people.

The civic group People's Solidarity for Participatory Democracy responded to the revelation in a statement on May 28.

"This is a matter with direct bearing on the public's lives, and the South Korean government needs to state publicly whether it was aware of anthrax being brought into the country, whether similar biological and chemical weapons of mass destruction have been introduced in the past, and whether there was sufficient government quarantine and control action during the importation process," it said.

Inside America's secretive biolabs

Source: <http://www.usatoday.com/longform/news/2015/05/28/biolabs-pathogens-location-incidents/26587505/>

Vials of bioterror bacteria have gone missing.



Lab mice infected with deadly viruses have escaped, and wild rodents have been found making nests with research waste. Cattle infected in a university's vaccine experiments were repeatedly sent to slaughter and their meat sold for human consumption. Gear meant to protect lab workers from lethal viruses such as Ebola and bird flu has failed, repeatedly.

A USA TODAY Network investigation reveals that hundreds of lab mistakes, safety violations and near-miss incidents have occurred in biological laboratories coast to coast in recent

years, putting scientists, their colleagues and sometimes even the public at risk.

Oversight of biological research labs is fragmented, often secretive and largely self-policing, the investigation found. And even when research facilities commit the most egregious safety or security breaches — as more than 100 labs have — federal regulators keep their names secret.

Of particular concern are mishaps occurring at institutions working with the world's most dangerous pathogens in biosafety level 3 and 4 labs — the two highest levels of containment that have proliferated since the 9/11 terror attacks in 2001. Yet there is no publicly available list of these labs, and the scope of their research and safety records are largely unknown to most state health departments charged with responding to disease outbreaks. Even the federal government doesn't know where they all are, the Government Accountability Office has warned for years.

A team of reporters who work for the USA TODAY Network of Gannett newspapers and TV stations identified more than 200 of these high-containment lab facilities in all 50 states and the District of Columbia operated by government agencies, universities and private companies. They're scattered across the country from the heart of New York City to a valley in Montana; from an area near Seattle's Space Needle to just a few blocks from



Kansas City's Country Club Plaza restaurant and shopping district.

High-profile lab accidents last year with anthrax, Ebola and bird flu at the Centers for Disease Control and Prevention and the discovery of forgotten vials of deadly smallpox virus at the National Institutes of Health raised widespread concerns about lab safety and security nationwide and whether current oversight is adequate to protect workers and the public. Wednesday the Department of Defense disclosed one of its labs in Utah mistakenly sent samples of live anthrax -- instead of killed specimens -- to labs across the USA plus a military base in South Korea where 22 people are now being treated with antibiotics because of their potential exposure to the bioterror pathogen. As many as 18 labs in nine states received the samples, the CDC said Thursday.

"What the CDC incidents showed us ... is that the very best labs are not perfectly safe," says Marc Lipsitch, a Harvard University professor of epidemiology. "If it can happen there, it certainly can happen anywhere."

Some people find little reassurance that nobody was sickened in the CDC accidents or in the historically low numbers of serious infections among lab workers generally, or that infections spreading into communities surrounding labs have been rarer still.

"Many of us think that's really a matter of good fortune," said Beth Willis, who chairs a citizen lab advisory panel in Frederick, Md., home to one of the nation's largest high-containment research campuses at the Army's Fort Detrick. The country's best labs have robust safety programs, said Kenneth Berns, co-chair of a panel of outside lab safety advisers currently examining biosafety at CDC and other federal labs. Yet the systemic safety problems identified at the CDC's prestigious labs have raised questions about what's happening elsewhere. "It's a matter of some concern," said Berns, a distinguished professor emeritus of molecular genetics and microbiology at the University of Florida.

The consequences could be devastating if accidents were to occur with lab-created strains of deadly influenza viruses that are purposely engineered to be easier to spread than what's found in nature, said David Relman, a microbiology professor at Stanford

University who is a federal adviser on lab safety and a past president of the Infectious Diseases Society of America.

"You're talking about something that has the ability to take off, and we could not be confident of being able to contain it," he said.

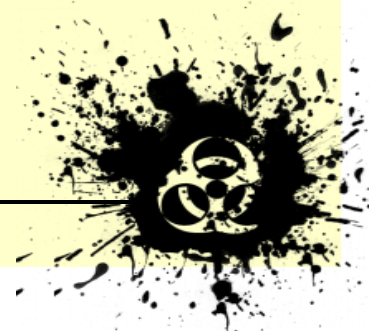
Relman said that not enough is known about the state of safety at labs that perform infectious disease research but emphasized that the kinds of labs drawing concern are the same ones the public needs to discover important new treatments and vaccines. "We have to find some happy blend of minimized risk and enhanced benefit," he said.

At the high-containment labs identified by USA TODAY, experiments are underway involving drug-resistant tuberculosis, exotic strains of flu, the SARS and MERS viruses, plague, anthrax, botulism, ricin and the Ebola and Marburg hemorrhagic fever viruses, according to interviews and more than 20,000 pages of internal lab safety records and incident reports obtained from labs across the country.

Studies are also being done on a wide range of bioterrorism pathogens that are less known to the public, such as the agents that cause exotic diseases like tularemia, Q fever and melioidosis. Still others are focused on pathogens that pose serious economic risks to agriculture, such as foot-and-mouth disease, brucellosis and "mad cow" disease.

At a few labs, experiments have been done with strains of flu and other viruses purposely made to be more dangerous in studies that seek to understand how they might mutate naturally. White House science advisers called for a temporary halt of that kind of "gain of function" research last fall while expert scientific panels spend the next year studying its risks and benefits.

The research at BSL-3 and BSL-4 labs — which use special equipment, negative air pressure and numerous safety and security procedures — seeks to better understand how organisms cause disease and ways to protect against them. It's the kind of work that the public doesn't give much thought to until people with Ebola arrive on planes in the United States from an outbreak in Africa, or the current avian flu outbreak forces farmers to kill millions of chickens raising the specter of higher egg prices.



It's impossible to obtain a full accounting of lab accidents or lab-acquired infections because there is no universal, mandatory requirement for reporting them and no system to analyze trends to assess emerging biosafety risks and disseminate lessons learned on a regular basis.

The Federal Select Agent Program, which inspects and regulates the subset of research labs that experiment with about four dozen types of pathogens deemed to pose bioterror threats, requires labs to report potential exposure or release incidents, as well as thefts or losses of specimens.

From 2006 through 2013, labs notified federal regulators of about 1,500 incidents with select agent pathogens and, in more than 800 cases, workers received medical treatment or evaluation, limited public data in program annual reports show. Fifteen people contracted laboratory-acquired infections and there were three unintended infections of animals, according to the reports, which do not identify labs and mostly provide aggregated counts of incidents by type. Reported incidents involve events ranging from spills to failures of personal protective equipment or mechanical systems to needle sticks and animal bites.

The program, jointly run by the Centers for Disease Control and Prevention and the U.S. Department of Agriculture, refuses to release copies of detailed incident reports, citing a 2002 bioterrorism law.

Incident records the USA TODAY Network obtained directly from individual labs provide a window on the kinds of mistakes that happen. An animal caretaker in Georgia was potentially exposed to a bird flu virus that kills 60% of the people it infects when a defective respirator hose supplying purified air detached from its coupling in September. A researcher in Wisconsin was quarantined for seven days in 2013 after a needle stick with a version of the same H5N1 influenza virus. A lab worker in Colorado failed to ensure specimens of the deadly bacterium *Burkholderia pseudomallei* had been killed before shipping them in May 2014 to a co-worker in a lower-level lab who handled them without critical protective gear. None of the workers was infected.

The public and the lab community tend to learn only about the rare instances of serious or fatal lab infections, which sometimes are published

as case reports in scientific journals or make national news.

In 2009, Malcolm Casadaban, a University of Chicago scientist with an underlying medical condition, died from an infection with a weakened strain of plague bacteria. In 2012, 25-year-old researcher Richard Din died after being infected during vaccine research involving *Neisseria meningitidis* bacteria at a lab inside San Francisco's VA medical center.



Both of their deaths involved research in biosafety level 2 labs, where pathogens are considered to be less dangerous than those worked with in high-containment labs.

Din, who became a researcher to cure diseases like the cancer that killed his mother, developed a fever and started feeling dizzy while out to dinner with friends. He had no idea how serious his symptoms were, his friends and family told USA TODAY. By morning, Din was covered in a splotchy rash and could barely talk, recalled Lawrence Tsai, who raced to Din's apartment to help. Tsai carried his friend down two flights of stairs and drove him to the hospital. "His body was very hard, very straight," Tsai said. "Only his eyes were open. He could not say anything." A few hours later, Din was dead. And Tsai said he and his friends were told they, too, were at risk and needed to take antibiotics because of their close contact with him. The bacteria that killed Din can spread from person to person by direct contact with respiratory secretions. About two dozen emergency room workers also were treated with antibiotics as a precaution, according to a presentation about the case at a scientific conference. Nobody else was sickened.

Federal workplace safety investigators, who investigated because the case involved a death, said Din died because the VA failed to adequately supervise and protect workers in the research lab. Among the "serious" issues they cited: Din and other workers in the lab were manipulating specimens of the dangerous bacteria out on tabletops — not inside protective biosafety cabinets that would have reduced potential exposures



to droplets or splashes. The lab also failed to train workers about warning signs of infection, violation records show.

Spreading into the community

Although lab-created outbreaks that spread to people or animals in the surrounding community are rare, they have happened.

"That's what you would worry about," said Gigi Kwik Gronvall, of the UPMC Center for Health Security, an independent think tank that studies biosecurity and epidemics. "But even then the consequences up to now have been limited to the very close contacts of the person who was infected."

A small, deadly outbreak of severe acute respiratory syndrome in China in 2004 was traced to lab workers at the National Institute of Virology in Beijing. In 2007, an outbreak of foot and mouth disease among cattle in England that required herds to be slaughtered was blamed on leaking drainage pipes at a nearby research complex.

In Louisiana, tests are underway to make sure a deadly bioterror bacterium hasn't colonized the soil and water around the Tulane National Primate Research Center near New Orleans. Late last year, the bacteria got out of one of the center's BSL-3 labs, likely hitching a ride on workers' clothing, sickening two monkeys that lived in outdoor cages and later infecting others. Tulane will spend the next five years testing its outdoor monkey colony as well as wildlife and feral cats around the 500-acre facility to ensure the bacteria haven't contaminated the environment. The CDC and Tulane say they think the bacteria spread only inside the center's buildings, and so far tests outdoors have not detected the bacterium, *Burkholderia pseudomallei*, which can cause severe and difficult-to-treat illness in people and animals infected by coming into contact with contaminated soil or water.

On a global scale, a lab accident is considered by many scientists to be the likely explanation for how an H1N1 flu strain re-emerged in 1977 that was so genetically similar to one that had disappeared before 1957 it looked as if it had been "preserved" over the decades. The re-emergence "was probably an accidental release from a laboratory source," according to a 2009 article in the *New England Journal of Medicine*.

However, most pathogens studied in labs, unlike the flu, don't spread easily from person to person. Often, to become infected a person needs to have direct contact with a pathogen, which is why lab workers are most at risk, experts said. For example, people can become infected with anthrax by inhaling the bacterium's spores, but once sickened they are not contagious, according to the CDC.

"I don't think the public needs to be too concerned," said Marian Downing, president of the American Biological Safety Association. "There are multiple levels of checks and balances in place."

Beyond accidental lab-associated outbreaks, federal auditors consider the deliberate theft and misuse of a deadly pathogen to be one of the most significant risks of biolab research. That's what the FBI says happened in the 2001 anthrax letter attacks that killed five and sickened 17. Bruce Ivins, a biologist and anthrax researcher at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) at Fort Detrick, Md., was the perpetrator, the FBI concluded.

The GAO, the investigative arm of Congress, has issued repeated warnings since 2007 that the proliferation of BSL-3 and BSL-4 laboratories has increased the aggregate risk of accidental or intentional releases of viruses, bacteria or toxins.

No single agency tracks the overall number or location of these labs, the GAO has said. Little is known about high-containment labs working with dangerous pathogens such as tuberculosis, the MERS virus and others that aren't on the select agent list and tracked by the Federal Select Agent Program.

National standards for constructing and operating these kinds of labs are lacking, which means labs vary by local building requirements. While voluntary guidance exists for safe lab design and operations, the GAO has found it is not universally followed.

The documents obtained by USA TODAY show power failures at BSL-3 labs at Texas A&M University repeatedly resulted in the labs losing their negative air pressure during 2013, a key safety feature that is among several used to keep pathogens contained inside the lab. The CDC's labs in Atlanta also have had airflow problems over the



years, the newspaper previously reported.

"The public is concerned about these laboratories because exposing workers and the public to dangerous pathogens, whether deliberate or accidental, can have disastrous consequences," the GAO's Nancy Kingsbury told Congress at a hearing on the CDC lab incidents last summer.

Lab regulators at the Federal Select Agent Program — whose departments often fund the research they oversee — would not grant interviews despite repeated requests since last year. The program oversees about 262 organizations that operate BSL-3 and eight organizations that operate BSL-4 labs.

The two federal agencies that jointly run the program — the CDC and USDA — operate their own labs, which have been involved in recent high-profile incidents.

"We believe the current system of inspecting/overseeing laboratories is adequate, but we are always open to continued improvements," the CDC said in an emailed statement. USDA officials also declined to be interviewed.

Lab safety officials at the National Institutes of Health, a major research funding agency that operates its own labs and helps set national biosafety guidelines, also declined interview requests.

"There is no 'zero-risk' proposition in the conduct of research," the agency said in a statement. "NIH works extremely hard to minimize all research-related risks."

Lab failures kept hidden

More than 100 labs experimenting with potential bioterror agents have been cited by regulators at the CDC and USDA for serious safety and security failings since 2003, USA TODAY has learned.

Yet so much of select agent oversight is cloaked in secrecy, making it difficult to assess regulators' effectiveness in ensuring safety. In several instances, troubled labs and even federal regulators appeared to misrepresent the significance of the government's enforcement efforts.

Since 2003, the CDC has referred 79 labs for potential enforcement actions by the U.S.

Department of Health and Human Services' Office of Inspector General. It has levied fines against 19 of them totaling more than \$2.4 million, the CDC said in response to questions.

Some are repeat offenders. Five labs have had "multiple referrals" for enforcement actions, the CDC said. Two labs have been kicked out of the program, and five labs have been suspended from doing any select agent research, the agency said.

Which labs repeatedly failed to address safety problems? The CDC won't name names — not even for the two labs kicked out of the select agent program. The CDC and its regulatory partners at the USDA say the 2002 bioterrorism law requires keeping this information secret.

Yet earlier this year, the CDC publicly announced its suspension of the Tulane National Primate Research Center — after the center's accidental release of a bioterror bacterium became publicly known and was the subject of news reports. The CDC said it balances the public's right to transparency with the risk posed by information being made available to those who might use it to threaten public health or security.

Currently seven labs are under the extra scrutiny of a federal select agent lab performance improvement program, the CDC said. The program is offered as a voluntary alternative to suspension or other regulatory action, the agency said, for labs with a "repeated failure to correct past observation, biosafety and security concerns" or failures to comply with extra security requirements for work with "Tier 1" select agents. Tier 1 agents are those deemed to pose the greatest risk of deliberate misuse with the most significant potential for mass casualties or devastating economic effects.

While under scrutiny of the program, an individual researcher or project must halt the research that has been found in violation, but other select agent research at the institution generally is allowed to continue, the CDC said. Thirty-three labs have been put on performance improvement programs since 2008, CDC said. Their names are secret too.



Dozens more labs have faced regulatory actions from the USDA, which takes the lead overseeing select agent labs primarily working with animal or agricultural pathogens. The USDA says it has conducted 48 investigations that have resulted in \$116,750 in fines.

locations of keys and codes, that would give access to pathogens. The CDC and USDA said there is nothing that prohibits labs from releasing information or answering questions about any regulatory problems they've had. Yet few were willing to readily discuss violations or



A ventilation system designed to filter the building's air supply through a series of HEPA filters is seen during a tour of the Influenza Research Institute at the University of Wisconsin-Madison on Feb. 13, 2013. (Photo: Bryce Richter, University of Wisconsin-Madison)

The USDA said all of its enforcement records about these fines are required to be kept secret because of the 2002 bioterrorism law. The USDA did release a spreadsheet it says documents its actions, but the agency redacted almost all the information on it: lab names, violation types and even dates. Only a few references to warning letters and fines were spared the agency's black marker.

The Federal Select Agent Program says no law or regulation bars the labs themselves from discussing their select agent research. And universities and other research institutions routinely publish their research on select agent pathogens in scientific journals.

Registered labs just aren't supposed to share details of specific security measures, such as

failed inspections.

Labs at the University of Hawaii-Manoa are among those in the federal performance improvement program, at least as of January, records obtained by USA TODAY show. Although the secrecy provisions of the 2002 bioterrorism law apply only to certain federal agencies, officials at the state-run university cited that law among its reasons for denying requests for records about safety violations and the performance improvement program.

The university inadvertently confirmed that its Honolulu labs had been put in the performance improvement program in records it filed in January with Hawaii's Office of Information Practices, which is deciding USA TODAY's public records appeal. The university wrote that being put on a PIP is something it is "proud" of. "We do not believe entering into the program is an embarrassment, we think it should be showcased, but that would be improper because as participants in the Federal Select Agent Program, we are obligated



to keep this information private," the university wrote to the appeals agency, adding that it "has been an exemplary participant in the Federal Select Agent Program."

University of Hawaii officials declined to be interviewed.

Last year, two labs agreed to pay fines handed down by the HHS Office of Inspector General for select agent violations, records show.

A lab that federal officials would describe only as an "Arizona research university" agreed in 2014 to pay a \$165,000 fine for failing to keep accurate inventory records for select agents and not having biosafety procedures adequate for the risks associated with the pathogens they worked with. The lab, the USA TODAY Network's reporting found, was Northern Arizona University in Flagstaff. Lab director Paul Keim said the issues date back to 2010 when the university had difficulty keeping up with changing federal regulations. Since then the university's labs have passed several inspections, he said.

An unnamed Florida laboratory agreed to pay \$50,000 to resolve violations that included failing to ensure accurate inventories of select agents and failing to notify the CDC and appropriate law enforcement agencies after discovering a missing select agent.

The inspector general's office, citing regulations stemming from the 2002 bioterrorism law, redacted the names of these labs, as well as all other labs receiving fines, in documents it provided to USA TODAY under the Freedom of Information Act. Other labs that have been fined over the years for select agent violations are located in Alabama, California, Missouri, South Dakota, Texas, Virginia and Wisconsin, records show.

Congress gets limited, wrong information A \$425,000 fine that disappeared

As a way of providing some oversight, Congress requires a report each year on the number of thefts, losses and releases of bioterror pathogens at labs regulated by the Federal Select Agent Program.

Yet regulators provide scant details of their activities and the problems identified at labs. Usually just three pages long plus a cover page, the reports contain only aggregated counts of lab incidents by type, plus vague information on a few serious incidents.

The select agent program told Congress it had "imposed a \$425,000 civil money penalty" on an unnamed lab where a serious biosafety lapse in 2008 had resulted in a cow in a nearby disease-free herd becoming infected with *Brucella* bacteria, which cause brucellosis.

Brucellosis is a contagious and economically significant agricultural disease — which causes cattle and other livestock to abort their fetuses, produce less milk, suffer weight loss, infertility and lameness. It has been the subject of eradication efforts for decades.

The \$425,000 fine would have been one of the largest in the overall select agent program's history — if it had actually been imposed.

But it wasn't imposed, USA TODAY's investigation found, and the USDA never corrected the record with Congress.

USA TODAY was able to identify the *Brucella* research program at Louisiana State University's AgCenter in Baton Rouge as the likely recipient of the \$425,000 fine by examining USDA animal health reports that tallied what states reported brucellosis cases in 2008. Louisiana, which had a case that year, had been declared brucellosis-free in 2000.

LSU officials spent months denying USA TODAY access to its records about the incident, citing among other things select agent regulations unrelated to the requested information. In statements and interviews, LSU downplayed its violations and provided information that was later contradicted by federal records.

"The incident was not found to be caused by a violation of federal regulations; no fines were imposed upon LSU, and the regulatory agencies had uncertainty as to whether the strain of bacteria in the affected cow was the same strain that was being used in the LSU research," LSU officials said in a November 2014 email to USA TODAY.

Yet, in December 2014, when USA TODAY received copies of the incident investigation reports from the USDA and Louisiana's state agriculture department, the documents showed no uncertainty.

USDA records show that investigators documented serious violations. In levying the \$425,000 fine, regulators cited LSU for failing to have adequate biosafety measures, resulting in the release



of the bacteria that caused the cow's infection. The USDA also cited LSU for violating regulations by sending Brucella-infected cattle that had been part of select agent vaccine experiments to an unregistered slaughter facility where their meat was sold for human consumption.

LSU's Phil Elzer, who at the time ran the Brucella studies and now is a university administrator, said in an interview the practice of sending research cattle to slaughter was declared in the lab's operating procedures that were reviewed and signed off on at each inspection by Federal Select Agent Program regulators. "To all of a sudden say we were doing it wrong was very surprising," Elzer said. LSU appealed, and the USDA eventually dropped the fine, he said.

In January 2010, records show, the USDA sent a letter to LSU saying the case was being closed but reiterating the issues with the infected cow and the use of the unauthorized slaughter plant.

USDA officials acknowledge that they never imposed the \$425,000 fine and made a mistake touting it in their report to Congress.

"It should have stated that we were proposing a fine, instead of stating we issued a fine," said Freeda Isaac, USDA's director of Agriculture Select Agent Services, in an emailed statement. Isaac added that the USDA suspended a portion of LSU's select agent registration because of the Brucella incident and "that portion of the registration is still suspended," Isaac said last fall.

Limitations of self-policing

For those labs not in the select agent program — and even those that are — self-policing is the front line of biosafety. Biosafety committees at research institutions, often staffed by scientists' colleagues, assess the risks of proposed research and grant or deny approval for studies. Labs also have other safety staff who may do internal inspections and lab audits, plus additional committees overseeing the use of animals in research.

Yet some researchers appear ignorant of their institutions' biosafety rules. Others brazenly ignore repeated requests by biosafety staff to stop experiments and address issues.

Documents obtained by the USA TODAY Network include at least 50 incidents since

2012 in which researchers were conducting experiments with genetically manipulated organisms without proper approval from internal safety committees. In some cases, records show researchers flaunting their institutional rules.

- At the **University of Tennessee Health Science Center** in, biosafety staff concluded in a 2013 report that the root causes of a researcher failing to get her experiments approved included "general indifference of the investigator to institutional rules governing the need for biosafety compliance" as well as a "lack of oversight of research activities." The scientist, the investigation revealed, knowingly launched unapproved experiments — exposing mice to a genetically manipulated strain of *Burkholderia thailandensis* — in a quest to get a vaccine study manuscript published that reviewers said needed additional data. The research was halted after veterinarians found several cages containing dead and dying mice, yet none of the cages was labeled with the infectious agent and they were in an area not approved for experiments with a BSL-2 pathogen. The incident was "an extremely unusual event," said Sheila Champlin, an assistant vice chancellor at the center, noting corrective actions were taken before the scientist was allowed to resume research.

- At the **University of Iowa**, a biosafety officer in February 2014 discovered that a scientist had been conducting experiments with a genetically manipulated strain of the MERS virus since September 2013 without biosafety committee approval. The biosafety officer ordered the investigator to stop all experiments, and the scientist was put on probation and received increased safety monitoring. The work was being done in a BSL-3 lab at the time it was discovered, but started in a BSL-2 lab, the safety officer's investigation found. The university concluded that the scientist did not "effectively communicate" to his staff the importance of getting safety committee approval before starting the experiments with the virus, which can cause a deadly, contagious respiratory disease in people.

- At the **University of California-Irvine**, a researcher ignored repeated notices from biosafety staff during 2012 and 2013 that a



research project's approval had expired, that it needed further revisions and that all work must cease — yet the scientist continued the experiments with a lentivirus, anyway, in the BSL-2 lab. As a result of the incident, the university now sends researchers four notices starting 90 days before approvals expire, said James Hicks, the university's associate vice chancellor of research. As the deadline nears, Hicks is copied on the notices so he can intervene if necessary. "We take a very strong view and a very correct view of the importance of following the regulations and the guidelines," he said in an interview.

- At the **University of Nebraska**, a biosafety officer in 2013 found that a researcher had continued growing plants as part of an experiment using a transgenic tobacco rattle virus vector — despite being told repeatedly over two months that additional approval was needed from the biosafety committee before research could begin. As a result of the incident, the university said it revised its biosafety guidelines to describe consequences of unapproved research and sent a letter to faculty. "This was an isolated instance that was fully and successfully resolved," the university said.

- At the **University of Hawaii-Manoa**, biosafety staff discovered a scientist was doing a type of cancer research in 2012 despite being denied biosafety committee approval and being repeatedly told not to do the experiments. Separately, at a March 2013 biosafety committee meeting at the university, members discussed the need for penalties when researchers fail to comply with biosafety rules, stating "there must be some consequence and corrective action other than an email" to the scientist, the minutes say.

Labs that receive funding from the National Institutes of Health and some other federal agencies are required to report incidents to the NIH involving certain types of genetically engineered organisms and recombinant DNA technology. From 2010 through 2014, the NIH received 644 reports of lab incidents during this kind of research.

Most of the reports the NIH receives are for what it says are non-serious incidents, such as small spills, splashes, cuts and equipment failures. Failure to obtain required biosafety committee approvals to do this type of research

are among the more common types of non-compliance.

Although it is not a regulatory agency, the NIH said in a statement that agency staff have made site visits to 100 institutions in recent years in an effort to help improve biosafety committee resources and adherence to the NIH Guidelines for operating their labs.

"Most instances of non-compliance result from a lack of full understanding of the requirements of the NIH Guidelines, rather than willful disregard, and our emphasis has been on corrective actions through education, which institutions seem uniformly responsive to," the NIH said.

In September 2014, the NIH contacted the University of Louisville after a whistle-blower alleged the university had knowingly failed to report lab incidents as required, according to records obtained under the federal Freedom of Information Act. In response, the university told the NIH that it discovered three incidents that were not reported to the NIH but should have been, the records show.

The records indicate that University of Louisville biosafety officials were aware of some of the unreported incidents as much as six months before the NIH opened its inquiry. William Pierce Jr., the university's executive vice president for research and innovation, in a statement to USA TODAY, said "there was apparent confusion regarding the authority and responsibility for reporting violations to the NIH." Pierce said the university has hired an outside firm to oversee its biosafety committee and created training courses for scientists. "We feel confident the current system is working," he said.

The NIH closed its inquiry after the university answered the agency's questions, filed reports on the previously unreported incidents and agreed to take actions to ensure better reporting in the future.

"In investigating the incident, we did not find any evidence of willful non-compliance," the NIH said in response to USA TODAY's questions.

For some residents living near labs, the lack of transparency is frustrating — and worrisome. It's not enough to tell the public the labs have robust safety procedures. "What people are really interested in is how well



it's working," said Beth Willis, the citizen lab safety representative near Fort Detrick. "The more people in the community feel that there's

secrecy, the more they're distrustful, whether their distrust is warranted or not."

What is going on with MERS?



Seoul struggles to contain MERS

Source: <http://www.koreaherald.com/view.php?ud=20150531000439>

May 31 – Seoul authorities on Sunday scrambled to block the spread of Middle East Respiratory Syndrome by establishing a new task force consisting of government authorities as well as civil medical experts and facilities.

As of Monday morning, 18 cases had been confirmed in Korea, surpassing Qatar as the country with the fourth-most MERS cases in the world. The hospital where more than 10 people are believed to have been infected by the first confirmed patient prior to his official diagnosis was temporarily shut down.

Health Minister Moon Hyung-pyo offered an apology Sunday for the government's poor handling of the potential MERS patients, and announced that the new task force would put forth its best efforts to combat the spread of the disease. With the establishment of the team, potential MERS patients who are considered the most vulnerable – those who are aged 50 or older and those with chronic conditions, such as diabetes or heart disease – will be quarantined with extra medical attention and care.

"We are considering this coming week as a crucial turning point in which the situation can either get worse or better," the minister said during a press meeting in Seoul.

"We believe all of the 14 cases, except the very first case, are secondary infection cases. The government is doing its best to prevent tertiary infection. And in order to do this, we need cooperation from all health care workers and citizens."

The first confirmed patient, quarantined as of May 20, had visited four medical clinics and hospitals over the course of 10 days prior to his diagnosis, from May 11-20.

The incubation period of MERS is two to 14 days, and all of the confirmed patients contacted the first patient, who is believed to be the sole spreader of MERS in Korea, from

May 15-17. As the first patient stayed at another clinic – the last of the four – prior to his diagnosis from May 17-20, more people may be diagnosed this week as the incubation period of those who may have been infected at the medical facility lasts until Thursday.

Among the 14 patients who are believed to be infected by him, 12 worked or stayed at the same facility as the 68-year-old, who was being treated there as an inpatient from May 15-17. The facility is the second of the four clinics he visited or stayed at before being quarantined.

The remaining two patients are health care workers who treated the first patient prior to his diagnosis, at two different medical clinics, on May 15 and 17, respectively. The average age of all 15 patients is 53.1 years old.

As the number of confirmed patients rose from 1 to 15 within only 11 days, there has been a growing public demand for the government to identify the now-temporarily closed hospital where 12 people were infected. Rumors claiming certain hospitals to be avoided have been going viral since last week, especially via social media and KakaoTalk.

The government said hospitals that are related to any infectious diseases cannot be identified according to its protocol, as such facilities and those who stay there can easily be targets of social stigmatization. The Health Ministry and the police also announced that those who spread such rumors online can face punishment.

The Health Ministry has been under fire for its inept handling of the spread of MERS, especially after the diagnosis of the fourth patient whose earlier request to be quarantined had been rejected by the authorities.

The government also failed to prevent the 10 patient, who is the son of the third patient and the



younger brother of the fourth, from going overseas on May 26. Although he was not diagnosed with MERS prior to leaving the country for China, he had already been showing symptoms including a fever.

He was eventually diagnosed with MERS in China on Friday. Seoul's failure to prevent him from leaving the country left 165 passengers and crew members on board with him at potential risk of infection. Once arriving in Hong Kong by plane, the man traveled to China by taking two buses. According to Chinese news outlets, it is not known how many passengers were on the buses.

To prevent tertiary infection cases, Health Minister Moon asked the public to report to the authorities if they are experiencing MERS symptoms — a high fever and coughing — after visiting the Middle East, as well as to wash their hands properly and to wear masks in public places. He also urged all health care workers to be alert of the situation and file a

report immediately if they come across a patient who may have MERS.

On top of the two newly confirmed cases, an enlisted soldier, as well as 30 of his colleagues, were isolated on Sunday as he reported that he spent time with his mother, who was later diagnosed with MERS, during his recent break on May 12. Although quarantined, the soldier and his colleagues were not showing any symptoms.

MERS is known to be caused by coronaviruses, a large family of viruses that cause a range of illnesses in humans from the common cold to severe acute respiratory syndrome.

There is no known cure or vaccine for MERS, which has a fatality rate of 40.7 percent.

More than 95 percent of the confirmed cases worldwide were in the Middle East, particularly Saudi Arabia and the United Arab Emirates. The two countries have the highest number of MERS patients — 996 and 74, respectively — followed by Jordan and Korea.

HK quarantines 18 close contacts of MERS patient

Source: http://www.chinadaily.com.cn/china/2015-05/31/content_20868919.htm

May 31 – Eighteen people having close contact with a South Korean man infected with the Middle East Respiratory Syndrome (MERS) have been sent to a quarantine camp, including two South Korean women who had earlier refused to be quarantined, Hong Kong Special Administrative Region government has said.

With the city on high alert over Middle East Respiratory Syndrome (MERS) on Saturday, the two Korean women among 18 plane passengers who sat close to the MERS patient have been tracked down in the Causeway Bay shopping district and quarantined, according to the HKSAR government news website on Saturday.

Secretary for Food and Health of HKSAR government Ko Wing-man said, with the assistance from the diplomatic personnel of South Korea in Hong Kong, the two women finally accepted to be quarantined.

"This is very important because once they are in the quarantine camp, our medical personnel from the Center for Health Protection will be able to chip in and conduct medical assessment," Ko said.

Hong Kong's health authorities have made plans for the 18 plane passengers to be quarantined for two weeks at the Lady MacLehose Holiday Village in Sai Kung.

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China isolates 82 for possible MERS infections

Source: <http://www.tribuneindia.com/news/world/china-isolates-82-for-possible-mers-infections/87681.html>

May 31 – China has isolated 82 people who came in close contact with the country's first MERS patient, amid concerns over the spread of the deadly virus in China.

A 44-year-old man who flew from Korea to Hong Kong was tested positive for the deadly

Middle East respiratory syndrome (MERS) in Guangdong on Friday.

He is receiving medical treatment in Huizhou City but his condition has worsened, the provincial



health and family planning commission said today.

Meanwhile, the number of people who had been in close contact with the patient rose to 77 in Guangdong, the commission said.

Among them, 64 have been quarantined while 13 others, including 11 passengers on a bus boarded by the man, have remained out of contact, state-run Xinhua news agency reported.

None of the quarantined has showed any abnormality.

The commission said more medical specialists were sent to Huizhou today to help with the treatment.

Also, 18 people having close contact with a South Korean man infected with the MERS have been sent to a quarantine camp, including two South Korean women who had earlier refused to be quarantined, Hong Kong Special

Administrative Region government has said.

With the city on high alert over MERS on Saturday, the two Korean women among 18 plane passengers who sat close to the MERS patient have been tracked down in the Causeway Bay shopping district and quarantined, the report said.

He had close contact with MERS patients at home and expressed discomfort as early as May 21.

The patient is the son of the third confirmed MERS case in the ROK and the brother of the ROK's fourth confirmed case.

MERS is a respiratory illness caused by a new type of corona virus.

The first case was identified in Saudi Arabia in 2012. There is no vaccine or treatment for the disease, which has a fatality rate of 40.7 per cent.



Epidemiological update: Middle East respiratory syndrome coronavirus (MERS-CoV)

30 May 2015

Recent developments

Source: <http://ecdc.europa.eu/en/press/news/>

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South Korea

On 20 May 2015, the South Korean Centers for Disease Control and Prevention reported a case of Middle East respiratory syndrome coronavirus (MERS-CoV) in a 68-year-old man, with recent travel history to Middle East. According to WHO, the man had the following travel history:

- 18-29 April, Bahrain;
- 29-30 April, United Arab Emirates;
- 30 April to 1 May, Bahrain;
- 1-2 May, the Kingdom of Saudi Arabia;
- 2 May, Bahrain; and
- 2-3 May, Qatar.

The case arrived at Korea's Incheon International airport via Qatar on 4 May, while being asymptomatic. On 11 May, he developed cough and fever and sought medical care at an outpatient clinic between 12 and 15 May. He was hospitalised on 15 May, discharged on 17 May and readmitted same evening in another hospital after presenting to the emergency department. On 20 May he tested positive for MERS-CoV and was transferred to the nationally designated treatment facility for isolation. The patient has no history of exposure to known risk factors in the 14 days prior to detection. Investigation of the source of infection is ongoing. [1]

As of 30 May, the index case has resulted in eleven secondary cases:

- One patients sharing his room and four patients admitted in the same ward;
- Three healthcare workers having cared for the index case;
- Three among close family members: the wife of the index case, and the son and daughter of a patient admitted in the same ward.

Onset dates range from 11 May for the index case, until 28 May for the two most recent nosocomial cases, according to the Korean Centers for Disease Prevention and Control.



The son of the patient admitted in the same ward travelled to Hong Kong, Guangdong province, China, on 26 May 2015. He was admitted and isolated in a hospital in Hong Kong on 27 May 2015. This patient was confirmed positive for MERS-CoV infection on 29 May. [2]

United Arab Emirates

The United Arab Emirates have reported in May 2015 two asymptomatic cases found through enhanced surveillance. According to WHO, both cases had a history of contact with MERS-CoV infected camels imported from Oman. The United Arab Emirates have reported 76 cases of MERS-CoV since 13 July 2013. Twenty-nine of the 76 cases were healthcare workers.

Qatar

Since the last rapid risk assessment on 7 March 2015, Qatar has reported three additional cases. All cases were male. One of the cases had frequent contact with camels.

Saudi Arabia

Since the last rapid risk assessment on 7 March 2015, Saudi Arabia has reported 72 additional cases and 40 deaths. Of the 72 cases, 78% (n=56) were male. The average age for 72 cases was 53 years, ranging from 20 to 93 years. Twenty-one of the 72 cases were classified as having contact to a confirmed case either in the community or hospital. Five of the 72 cases were healthcare workers. Eight of the 72 cases reported animal contact and seven reported to have drunk camel milk.

Worldwide situation

Since April 2012 and as of 30 May 2015, 1 172 cases (including 479 deaths) of MERS-CoV have been reported by health authorities worldwide (Figure 1).

Figure 1. Distribution of confirmed cases of MERS-CoV by month and probable place of infection, March 2012– 30 May 2015 (n=1 172)

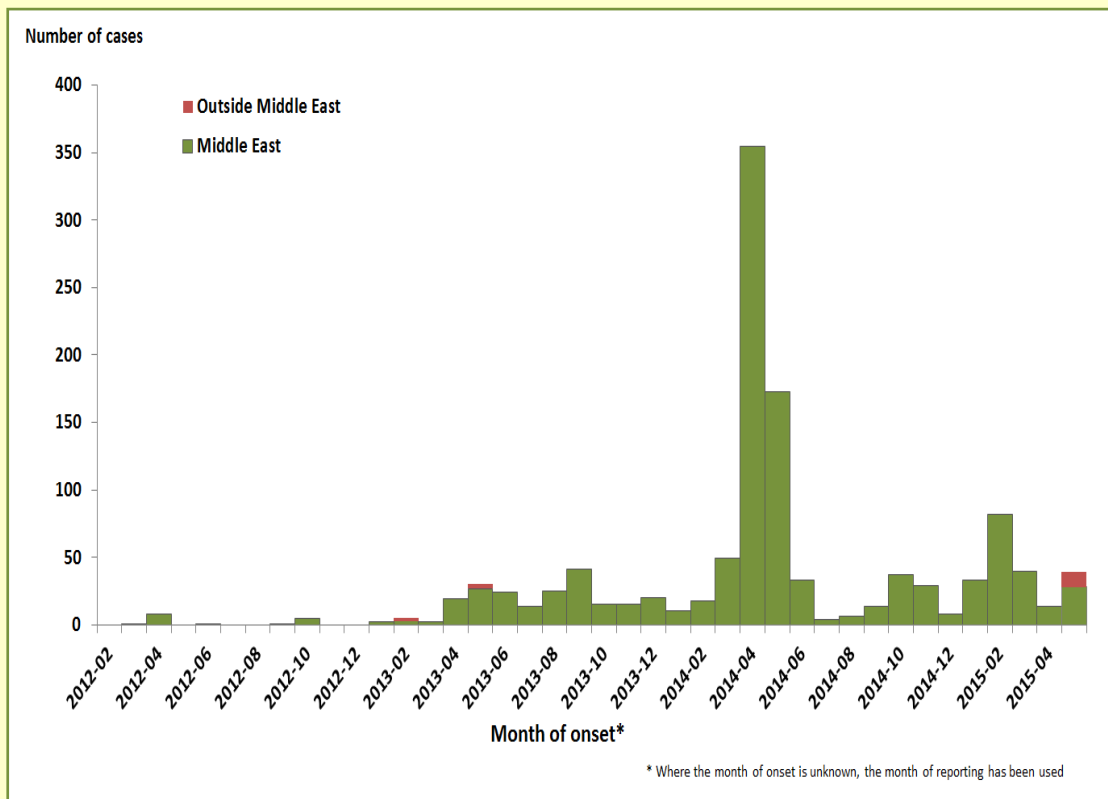
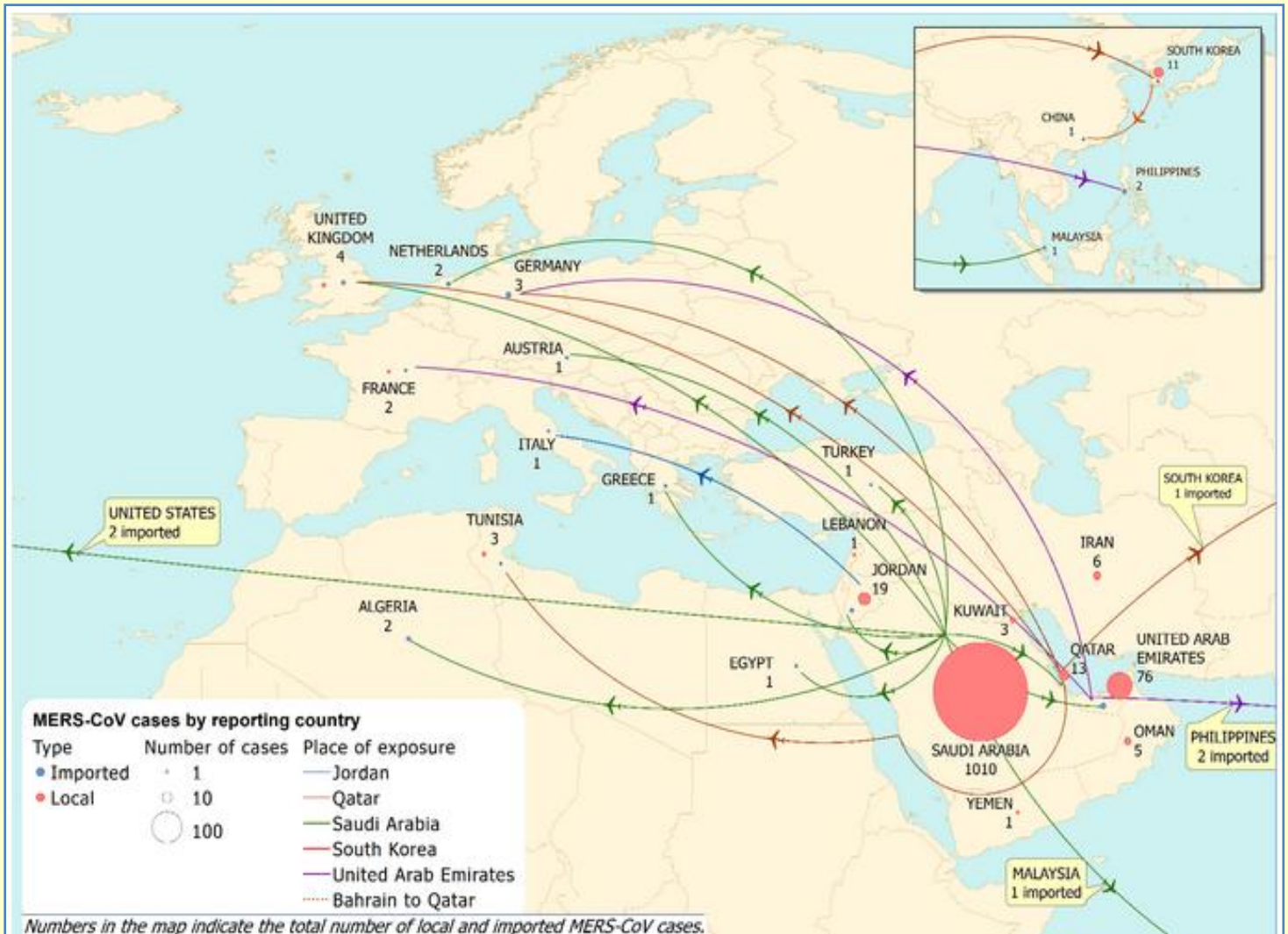


Figure 2. Geographical distribution of confirmed MERS-CoV cases and place of probable infection, as of 29 May 2015 (n=1 172)



Conclusion

The importation of a case of MERS-CoV to a third country is not unexpected and has happened in the past. On several occasions, notably in France and in the UK, it has resulted in secondary transmission among patients and healthcare workers in contact with the imported cases, as well as among close relatives of cases. However, clusters of this size have not been observed so far outside of the Arabian Peninsula. WHO indicates that there is currently no indication that the virus behaves differently than in other instances in the past and that there is no indication of sustained transmission from person to person. It is the first time that an imported case results in a secondary transmission affecting another country.

ECDC's conclusion continues to be that the MERS-CoV outbreak poses a low risk to the EU. Because of the continued risk case importation to Europe after exposure in the Middle East, international surveillance for MERS-CoV cases remains essential.

Although sustained human-to-human transmission is unlikely, secondary transmission in unprotected close contacts, including healthcare settings, remains possible, as currently seen in South Korea.

An overview of MERS-CoV infection is presented in an ECDC fact sheet [3], which also provides a detailed overview of measures to be taken by health professionals for case management and treatment.



This Is Why The Army Sent Anthrax To South Korea, Australia, and 11 States

By Patrick Tucker

Source: <http://www.defenseone.com/technology/2015/05/why-army-sent-anthrax-south-korea/114094/?oref=d-dontmiss>

The Army accidentally sent live anthrax samples to labs in nine states plus South Korea. *Update: After we posted this on Friday, DoD officials issued a new statement saying that they had discovered that the anthrax had actually gone to 24 labs in 11 U.S. states plus facilities in South Korea and Australia. Deputy Defense Secretary Bob Work ordered a “comprehensive review of DoD laboratory procedures, processes, and protocols,” Pentagon spokesman Col. Steve Warren said in a statement. Work has also ordered all DoD labs to cease work with these samples until*



further notice. A full report is due within 30 days.

further notice. A full report is due within 30 days.

May 29 – Is it possible that CDC procedures, rather than human error, caused the mistakes? Does this reveal gaps in the way packages are screened for harmful agents in shipment? And why was DoD mailing itself anthrax, anyway? Background: on Wednesday, the Pentagon announced that between March 2014 and March 2015, it sent live anthrax from Dugway Proving Ground in Utah to research sites in up to nine states and the Threat Recognition Program at Osan Air Base, South Korea. (“There is no known risk to the general public, and no personnel have shown any signs of possible exposure. The sample was destroyed in accordance with appropriate protocols,” a DoD statement said.)

The next day, Army Chief of Staff Gen. Raymond Odierno told reporters, “The best I can tell, there was not human error.” Instead, he tentatively blamed faulty procedures for rendering anthrax safe to ship, which is done by exposing the anthrax to high amounts of gamma radiation. The investigation is being done by the Centers for Disease Control, or CDC, which issued the handling protocol.

Which is it? CDC procedures or human error? “It could easily be a combination of both,” said Justin Taylor, a fellow with the University of Pittsburgh Medical Center’s Emerging Leaders in Biosecurity Initiative.

Stephen Goldstein, a doctoral candidate in microbiology, virology, and parasitology at the University of Pennsylvania medical school, also said it’s “definitely possible” the procedures are to blame. “They probably use ... irradiation to render the anthrax safe, since this should inactivate it without destroying the organism,” Goldstein said. “It’s possible that the protocol simply doesn’t call for a long enough exposure to [radiation] to guarantee killing 100 percent of a large number of particles. It’s also possible the individual used a shorter ... exposure than called for in the protocol. I hope the investigation answers this question. I’m sure the protocol is being re-tested now.”

Still, Goldstein said the irradiation protocol has presumably been used and tested before. “A critical question will be if this was done adequately,” he said. “If it has been and re-testing the protocol further validates it, that would definitely point to human error...Right now it’s impossible to say, and frankly, it doesn’t sound like Gen. Odierno really knows yet either.”

U.S. mail is supposed to be checked for biological hazards like anthrax spores. A year after the 2001 anthrax mailings that killed five people, Northrop Grumman and Smiths Detection modified some



20 biological warfare detection systems to create a single system for the Post Office to use. Does the Utah incident suggest that those screeners are ineffective and, thus, that the U.S. mail system is no more safe than it was in 2001? Not necessarily.

"Comparing the recent shipments by the U.S. Army to the anthrax attack is comparing apples to oranges," said Taylor. "The anthrax mailed during the attacks was only contained in an envelope and was prepared so that the spores were easily spread. The recent shipments would have been packaged to contain the spores to prevent unintentional release. Even if the packages were to go through the U.S. mail, the anthrax would most likely not be detected since the anthrax was packaged in a sealed container rather than an envelope."

Taylor also noted that researchers normally ship biological samples through FedEx, not the U.S. postal service. Still, he said, "Unfortunately, the attitude towards biological threats has been reactive rather than proactive, so I don't think that the United States is much safer now that it was in 2001, whether the threat is from mailed anthrax or a novel influenza."

Why was the Army sending anthrax to South Korea? To help test new detection gear. In April, DoD officials began a series of key tests of their Joint U.S. Forces Korea Portal and

Integrated Threat Recognition program. Abbreviated JUPITR, the program combines large and small devices to help soldiers detect biological agents sooner and at a greater distance. It goes beyond traditional amino acid-based chemical assays to use acoustic, seismic and even laser sensors. But they don't all work at the same time.

Last August, Defense One saw one of JUPITR's detection machines at the Army's Chemical Materials Activity in Edgewood, Md. When a laser device spotted a chemical agent by its UV signature, it signaled the rest of the system to collect air samples for further testing. "Recently, at one of [Dugway Proving Ground's] massive outdoor test grids, JUPITR's sensors were set in an array identical to the South Korea configuration. Benign microbes with characteristics similar to biological agents were released in varying scenarios, simulating biological attacks. Each scenario was electronically recorded, for playback at the South Korea operations demonstration," a DoD press release said.

Bottom line: in an effort to better detect dangerous chemical agents, DoD accidentally put researchers at risk. The fact that the mailings took place over an entire year also suggests departmental errors, on top of a disturbing inability to detect anthrax.

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

Tularemia patient in Lafayette dies of other medical complications

Source: <http://www.thedenverchannel.com/news/health/tularemia-patient-in-lafayette-dies-of-other-medical-complications>

May 28 – Following several years with increased reports of tularemia over the past few years, a patient who recently contracted the disease while gardening has died of other medical complications.

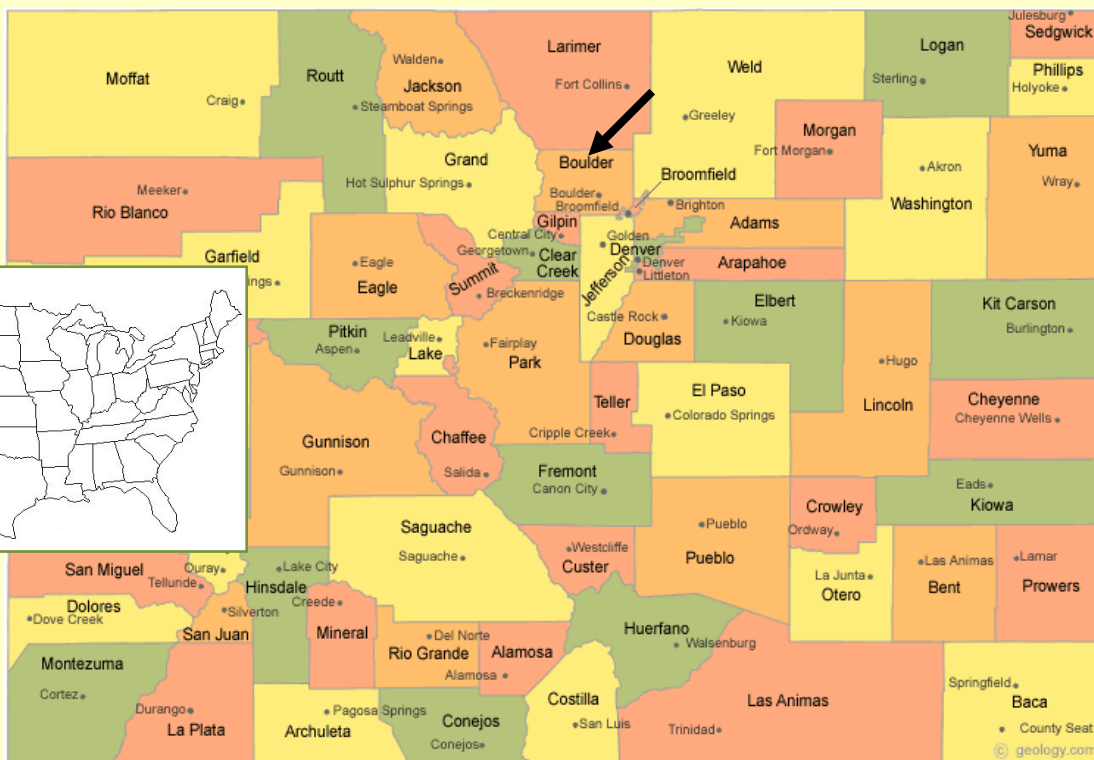
Boulder County Public Health spokeswoman Chana Goussetis said the Lafayette resident

tested positive for tularemia after developing symptom of high fever, headache and general malaise. It is believed the patient contracted the illness while mowing and gardening.



While this person was the first to test positive for tularemia in Boulder County this year, the

- Avoid all contact with wild animals or rodents, including voles, squirrels and



county health department says three other cases were reported elsewhere in Colorado. All were associated with people who had recently been gardening or landscaping.

Seven animals have also tested positive for the disease this year.

"People become infected with tularemia through skin contact with infected animal tissue or through the bite of infected insects, most commonly ticks and deer flies," Goussetis said. "The bacteria can also be inhaled when infected animal tissue is broken up into small particles and spread in the air, such as when an infected carcass is mowed over."

Last year, 16 people tested positive for the disease in Colorado, Goussetis said. Five of those were residents of Boulder County.

"Symptoms of tularemia include an abrupt onset of fever, chills, headache, muscle aches, joint pain, dry cough, difficulty breathing, bloody sputum, and respiratory failure," Goussetis said. "Symptoms also include skin ulcers, swollen and painful lymph glands, inflamed eyes, sore throat, mouth sores, diarrhea, or pneumonia. Tularemia is treatable when detected early."

Boulder County Public Health officials recommend these precautions:

rabbits; do not feed or handle them. If an animal carcass must be moved, place it in a garbage bag using a long-handled shovel, and place the bag in an outdoor garbage can.

- Do not wear sandals or walk barefoot in an area where animals have been seen sick or dead. The tularemia bacteria can persist in the environment, such as soil and water, for several months after it is detected.
- Stay out of areas inhabited by wild animals or rodents. If you must enter areas frequented by wild rodents, always wear insect repellent that is effective against ticks, biting flies, and mosquitoes and contains DEET or oil of lemon eucalyptus.
- Do not mow over animals carcasses, and use a dust mask when mowing or doing landscape work.
- Prevent pets from hunting or eating wild rodents or rabbits. Infected pets, such as cats, may in turn transmit the disease to people. Contact a veterinarian if a pet becomes ill with a high fever and/or swollen lymph nodes.



'Achilles' heel for Ebola virus infection' protein identified

Source: <http://www.medicalnewstoday.com/articles/294425.php?tw>

May 27 – A new mouse study published in *mBio* has revealed that the Ebola virus is unable to infect cells without first attaching to a host protein called Niemann-Pick C1.



Mice who did not have the NPC1 protein were found by the researchers to be completely resistant to Ebola infection.

Niemann-Pick C1 (NPC1) is found in the membranes of tiny enzyme-filled compartments known as lysosomes that digest and recycle cellular components and are located within cells.

"Our study reveals NPC1 to be an Achilles' heel for Ebola virus infection," says co-study leader Kartik Chandran, an associate professor of microbiology and immunology at Albert Einstein College of Medicine of Yeshiva University, NY.

"Mice lacking both copies of the NPC1 gene, and therefore devoid of the NPC1 protein, were completely resistant to infection."

Ebola virus infection is highly lethal, proving fatal for up to 90% of those it affects. According to the Centers for Disease Control and Prevention (CDC), the 2014 Ebola epidemic - the largest in history - has led to a total of 11,140 deaths as of May 22nd, 2015.

When the Ebola virus attaches to the outer membrane of a host cell, part of the host cell's cell membrane wraps around the virus to form a membrane-bound compartment called an endosome. This endosome carries the virus into the cell where it eventually becomes a lysosome.

For the virus to avoid being destroyed within the lysosome it exploits components of the cell, allowing it to access the cell's cytoplasm where

the virus is then able to replicate. Many of the components exploited by the virus are unknown, but the new study suggests that NPC1 could be one.

The NPC1 protein is located within cell membranes where its role is to assist transportation of cholesterol within the cell. Individuals who do not have enough NPC1 develop a fatal disorder known as Niemann-Pick disease that causes cells to become full with too much cholesterol and die.

Drugs that interfere with NPC1 'could provide some benefit from lethal infection'

Previously, Dr. Chandran and his colleagues discovered that NPC1 was involved in the Ebola virus gaining access to cell cytoplasm, following analysis of tissue culture in mice.

Following this work, the researchers aimed to confirm whether NPC1 was essential for the Ebola virus infection to occur. To do this, they studied Ebola infection in mice with two intact copies of the NPC1 gene ("wild type" mice) and mice without both copies of the gene ("knockout" mice).

"While the wild-type mice succumbed to the infection, the knockout mice were entirely free of virus replication and completely protected against the disease," reports co-study leader Dr. Steven Walkley.

Another group of mice referred to as "carrier" mice had just one working copy of the NPC1 gene and, therefore, half the regular number of NPC1 receptors. These mice were significantly resistant to Ebola infection, although they were not completely immune.

"This would suggest that drugs that interfere with Ebola's interaction with NPC1 - even if some Ebola viruses are able to enter cells - could probably still provide some benefit from lethal infection," says co-study leader Dr. John M. Dye, Branch Chief of Viral Immunology at the US Army Medical Research Institute of Infectious Diseases.

In humans, a treatment that blocked NPC1 would also disrupt the cholesterol transport pathway. Despite this, the authors believe that patients receiving such a treatment would be able to tolerate it, particularly



as it would only be required for a short period of time.

"Ideally, future research in humans, based on these findings, will lead to the development of antiviral drugs that can effectively target NPC1

and prevent infection not just by Ebola, but also by other highly virulent filoviruses, which also require NPC1 as a receptor," Dr. Chandran concludes.

Anthrax not even the most lethal toxin USFK brought into South Korea Source

Source: http://english.hani.co.kr/arti/english_edition/e_international/694269.html

Hankyoreh investigation finds evidence of programs whereby botulinum toxin has been brought in without informing S. Korean government

Along with bringing live anthrax into South Korea as part of countermeasures against biological warfare, the US military is also suspected of bringing the botulinum toxin -

National Defense Industrial Association and US military publications, the US army has been running experiments since June 2013 to defend against a biological weapons attack by North Korea at laboratories on three US bases in South Korea, including Yongsan in Seoul and Osan in Gyeonggi Province.

The experiments are part of the JUPITR Program, which stands for Joint USFK Portal and Integrated Threat Recognition. The experiment with anthrax samples at the Osan Air Force Base, which resulted in the incident on May 27, was also part of this program.

Peter Emanuel, BioScience Division Chief for the US Army Edgewood Chemical Biological Center (ECBC), explained that the JUPITR Program was a military project that began in June 2013 to enable US forces in South Korea to defend against biological weapons attacks by North Korea. Emanuel made the remarks during a presentation at the Chemical Biological Defense Acquisition Initiatives Forum, which was hosted by the National Defense Industrial Association on Mar. 19, 2013.

Emanuel is in charge of the JUPITR Program, which is run by the US military's Joint Program Executive Office for Chemical and Biological Defense.

According to Emanuel, the laboratories that are handling the experiments on botulinum and anthrax are the 65th medical regiment at Yongsan, Seoul, the 51st medical squadron at Osan, Gyeonggi Province, and an environmental experimental laboratory that is part of the United States Army Public Health Command. He did not specify the



considered the deadliest toxin on the planet - into the country for experiments without informing the South Korean government.

There is also growing doubt about the US military's claim on May 27 that this was the first time it had conducted experiments on anthrax in South Korea.

According to documents found by the Hankyoreh on June 3 on the website of the US



exact location of this laboratory, which is somewhere in South Chungcheong Province. "Two systems went over to Osan Air Base and they were turned on at the beginning of September [2014] at an airfield and they were run up until about last week," Emanuel said in an interview in Dec. 2014 with a US military news website called CBRNe Portal, confirming that the JUPITR Program is actually underway. CBRNe is a military acronym for chemical, biological, radiological, nuclear, and

explosives. Consequently, suspicions are being voiced that large amounts of virus and toxin samples were brought into South Korea for these experiments and that the experiments were conducted without providing any advance notification to the South Korean government. Of the two agents, botulinum is much more toxic than anthrax. US Forces Korea told the Hankyoreh that it did not have enough information to answer questions about this.

Five people diagnosed with anthrax in Black Sea village

Source: <http://www.hurriyetdailynews.com/five-people-diagnosed-with-anthrax-in-black-sea-village.aspx?pageID=238&nID=83471&NewsCatID=373>

Five people have been diagnosed with anthrax in Black Sea province of Giresun (photo) this week, with authorities undertaking medical examinations in the neighborhood.



Four people were diagnosed with anthrax in the village of Ortaköy in the Yağlıdere district on June 3. Two of them were sent to Ankara for further tests and medication. On June 4, one more person from the same village was diagnosed with anthrax and hospitalized immediately, Giresun public

health department head Sağlık Dr. Fazıl Özden said.

"Our health teams did medical checks on everyone in the village, particularly those who had contact with animals. We did not detect anyone infected with this disease," said Özden.

The Giresun Food, Agriculture and Breeding Directorate said in written statement June 3 that the four infected persons worked as cattle slaughters and

went to a health center on May 26 due to lesions on their skin.

The statement said that the disease might have come to the village via straw brought from outside the Giresun province, adding that all animals in the village had undergone medical screenings and showed no sign of the disease.



The Ebola Review (at G7 summit)

By Laurie Garrett

Source: <http://foreignpolicy.com/2015/06/06/ebola-review-world-health-organization-g-7-merkel/>

June 06 – The G-7 nations will commence their annual summit on June 7 in Germany, and the host, Chancellor Angela Merkel, has put the Ebola epidemic and its implications for global biosecurity at the top of the agenda. Yes, the Islamic State, climate change, economic issues, FIFA, and tens of thousands of immigrants and refugees washing up on the shores of Europe and Asia will be addressed as well, but the concern over the World Health Organization's (WHO's) performance and the more than 11,000 Ebola deaths is taking center stage at this year's summit.

Among the litany of mistakes that critics have charged the WHO with during its handling of the Ebola outbreak in 2014 are two top misjudgments. First, the agency's leaders in both Geneva and the WHO's Regional Office for Africa, in Brazzaville, Republic of Congo, concluded in late March 2014 that the Ebola outbreak in Guinea was winding down and that most of the infected individuals had been identified and were being monitored, so it was safe to withdraw international experts from the region. They were wrong. At that point the virus had already spread across Guinea's borders into Sierra Leone and Liberia and was claiming lives in Guinea's capital, Conakry, spawning the first urbanized Ebola outbreak in history.

The second error was Director-General Margaret Chan's decision to delay the formal declaration of a "public health emergency of international concern" until Aug. 8, 2014, by which time the virus was claiming lives in the cities of Conakry, Freetown, and Monrovia and had spread to Nigeria. Moreover, two volunteer health workers had, by that time, already become infected and were being hospitalized in the United States, while ailing Spanish missionaries were undergoing treatment in Madrid.

An independent panel of experts whom the WHO convened this March to assess the agency's performance was led by former Oxfam CEO Barbara Stocking. The panel released its preliminary report this May on the eve of the annual gathering of the World Health Assembly. Its assessment was scathing: Stocking told reporters that among the panel

members there was a "strong, if not complete, consensus that WHO does not have a robust emergency operations capacity or culture."

She went on to say that the WHO did not seek appropriate and timely support from the United Nations or other humanitarian actors, delaying mobilization of a full-on global response to the outbreak. "At an earlier stage, these resources could have been made available and known systems put in place. These might have averted the crisis that led to the need to establish the United Nations Mission for Ebola Emergency Response," Stocking insisted.

The G-7 member-state delegations that attended the 68th annual gathering of the member nations of the World Health Assembly (WHA68) in Geneva in late May — especially Germany, the United Kingdom, and the United States — tugged and pushed at the 194-nation assembly, prodding for resolutions that might make the WHO a stronger, better-financed, and tougher disease-fighting agency, rather than the failure the West African Ebola epidemic revealed the U.N. agency to be.

I have attended several of the gatherings of the World Health Assembly over the years and have always found the gatherings frustrating for their lack of meaningful action, tedious amid endless speeches of repetitive content, and exhausting, with the most decisive meetings occurring in backrooms late at night. At the WHA68, the phrase I most commonly heard in the hallways, Palais des Nations cafes, and even openly, from the floor of assembly proceedings, was "fit for purpose," a reference to the WHO. The "purpose" is containing and preventing pandemics, and "fit" alludes to the WHO's genuine capabilities. Some used the phrase with an optimistic tone, expressing hope that the changes ordered at the Geneva gathering, at the June G-7 summit in Germany, by the WHO's Ebola Interim Assessment Panel, and by a special committee created by U.N. Secretary-General Ban Ki-moon (the High-Level Panel on Global Response to Health Crises) will render the WHO an institution capable of fulfilling its most sacred duty — protecting



humanity from infectious diseases. But others grumbled the phrase along with “defining moment” and “existential turning point” to say that the WHO is unredeemable and will never be “fit for purpose.”

Within the optimistic crowd, which includes the German, South African, and U.S. delegations, along with the Bill & Melinda Gates Foundation, there is the conviction that because the WHO is essential, its survival and improvement are “givens” that will be met through fine-tuning the global health engine, improving its legal instruments, and fueling smart operations with sufficient financing. It is this contingent that drafted the Ebola-related resolutions passed at the WHA68, pushed for stronger International Health Regulations language, created the concept of a \$100 million emergency contingency fund, and is pushing a worldwide health-systems strengthening agenda.

At the opposite pole are countries that demonstrate little interest in the WHO’s reform, preferring an entirely new focus and even shrugging at the possibility that the U.N. agency will wither on the vine. The U.K. delegation (often along with Australia and Canada) professes little faith in reform, admonishes the WHO for its failures, and declines all calls for increased funding, instead demanding accountability for finances already spent. (Privately, however, the United Kingdom has committed \$10 million to the contingency fund, and India has contributed \$1 million, leaving the fund \$89 million shy of its target.) Libya and Thailand voiced far more concern about the World Trade Organization’s patent protection regimes, drug and vaccine pricing, and access to generic formulations than the nuts and bolts of epidemic responses. They repeatedly demanded insertion of language in every WHA68 infectious diseases resolution that would compel the WHO to battle the innovative pharmaceutical industry and support compulsory licensing for vaccines, antimicrobials, potential Ebola drugs, and every other potential medical intervention. Libya’s hastily drafted vaccine resolution calls on the WHO to supplement all immunization efforts with transparent demands for pricing information, cost controls, and construction of regional vaccine production facilities operating under compulsory licensing provisions (which void patents) when necessary. The resolutions

for vaccines and the calls for new antimicrobials to fight drug-resistant bacteria saw their votes delayed by splits so severe that Chan concluded one such session by castigating “those countries that want to work together to go outside and try to find a solution,” or to table resolutions, leaving the battles to the WHO’s Executive Board.

As Stocking put it, this is a defining moment for the WHO — in many ways an existential one. As Ebola spread across West Africa in 2014, every major Western and African news organization decried the lack of appropriate, swift action, and dozens of top medical and scientific journals published detailed accounts of failures and missteps, primarily made by the WHO. With its credibility on the line and major donors threatening to withdraw support for the agency, the WHO’s Executive Board convened in January 2015 and issued a blistering denunciation of the organization’s Ebola performance. In quick succession a number of special panels and U.N. reviews of the WHO commenced, culminating in Merkel’s that philanthropist Bill Gates set up a group of experts tasked with drafting a WHO reform agenda for the G-7 leaders.

As at least three panels of experts convene to critique the WHO’s woeful performance in the West African Ebola epidemic and, hopefully, to review the allegedly egregious activities of the U.N. Mission for Ebola Emergency Response (UNMEER), the World Bank, and several NGOs, as well as review the fact that a host of would-be donors has yet to produce promised outbreak-support funds, it would be wise to first ask what the 194-member states of the World Health Assembly actually want and what they are actually willing to pay for.

Back in January, the members of the WHO’s Executive Board met to assess the agency’s Ebola performance, finding a long list of failures and calling for massive reform of every tier of global health. It called for serious improvements in individual countries’ own medical systems and changes in the entire chain of response from local clinics up to the WHO’s headquarters in Geneva. The Executive Board concluded that any package of meaningful reforms would be costly, and it called upon the world’s countries to conjure the necessary financial



support to strengthen their own disease-fighting systems and put additional muscle behind the WHO.

Four months later at the WHA68, the EMRO (Middle East) nations and the 47 AFRO (African) states made it clear that they were willing to pay larger assessments annually to the WHO and called upon other countries to join them in pledging more money. For decades the agency's core budget has been frozen below \$1 billion as member states have proved unwilling to provide more financing, yet have consistently demanded that the WHO perform an ever-broader range of functions. The result of this imbalance is that, over time, the WHO has developed a dwindling inflation-adjusted core budget, one for which an expanded percentage of support is provided on a voluntary basis. But typically these donations are targeted to specific programs of interest to their respective donors and are not funds to be used at the WHO's discretion. Since 2010, these extra-budgetary contributions have exceeded assessment-based support handsomely. For its core work the agency has had less money every year, while support for activities favored by the richest donors has steadily increased. When the World Health Assembly convenes, its members are arguing about that dwindling core budget and often voicing resentment over the influence that a handful of rich donors (the U.S. government and Gates, especially) have. It's a blatant contradiction: The nations of the world want to control the WHO, but won't pony up funding for its activities.

According to the financial report and audited financial statements for the year ending in December 2014 (WHO report A68/57), released at WHA68, the assessment-based core budget totaled \$956 million, versus voluntary contributions to the WHO of \$3.46 billion. And the two major voluntary contributors have been the U.S. government and the Bill & Melinda Gates Foundation — the world's richest country and, essentially, its wealthiest private individual.

Although both U.S. President Barack Obama's administration and Gates continue to back Chan's leadership and the WHO, their criticisms and concerns have grown louder, even jumping to on-the-record comments. Reportedly Gates was especially vocal and

critical in early May during the meeting of the G-7 independent expert group (IEG) on emergency preparedness. Convened by Merkel prior to WHA68, the IEG is charged with drafting a plan of action for the G-7 countries and a road map for global responses to future epidemics and pandemics. Its members represent a range of scientific, medical, pharmaceutical, public health, and humanitarian expertise.

When the World Health Assembly (WHA) convened in Geneva on May 18, few of the delegates had knowledge of the substance of the IEG's officially secret recommendations to the G-7. Nor were they aware of the intentions of the High-Level Panel on Global Response to Health Crises, appointed on April 2 by Secretary-General Ban — a group reportedly inclined to conclude that the WHO is incapable of leading serious epidemic responses. When the world's health delegates took their seats inside the Palais des Nations, it was to devote several days to debating the merits of a stack of resolutions proposed by the WHO's leadership.

This year the WHO's leadership had hoped to finally break the WHA's financial tradition of refusing to entertain assessment increases. At the opening of WHA68, the proposed program budget for the 2016-2017 biennium (WHO report A68/55) called for an overall two-year budget of \$4.38 billion, an 8 percent increase (\$236 million) over the 2016 to 2017 period. Most of the enhanced budget (or \$47 million) would have been derived from a modest 5 percent increase in assessments, and the remainder would have represented a 3 percent allowable funding ceiling applicable to the core budget, to be raised by the director-general. Additionally, the \$100 million contingency fund would have allowed Chan (and future WHO leaders) discretionary spending in crises.

But WHA68 prohibited an assessment increase. The net approved two-year budget (for 2016 and 2017) of \$4.38 billion is 8 percent aspiration: The countries simply gave the director-general permission to somehow find \$236 million more than is in her current budget, raising the official budgetary ceiling. But the cash is a dream: It is not in the pipeline. And the genuine core budgets for 2016 and 2017 are the same as those



for 2014 and 2015, despite a voted increase in mandates for the WHO's performance and epidemic response capabilities.

Before WHA68 convened on May 18, the WHO's leadership, commonly referred to as the Secretariat, prepared a series of draft resolutions aimed at giving the Geneva-based entity more power and expertise in epidemics through a combination of beefing up its epidemic response office and putting more legal teeth into the International Health Regulations. A WHO auditing report reckoned that the operational cost of implementing Secretariat-proposed changes in the International Health Regulations and Ebola-related reforms would be \$4.3 million, an unfunded gap in the agency's budget.

In her opening remarks to WHA68, Chan acknowledged: "The Ebola outbreak shook this organization to its core.... This was a defining moment for the work of WHO and an historic political moment for world leaders to give WHO new relevance and empower it to lead in global health. I urge you to make this happen. I will do my part."

Merkel opened WHA68, promising that the upcoming June G-7 summit would stress health security, support for a reformed WHO, global health, and climate change. For days following Merkel's opening remarks, the German delegation consistently took the lead in supporting WHO reform proposals and financing, even when compelled to note that it was differing with European Union positions. At one point a delegation member declared that the assembly "would have difficulties [explaining] why we should deny WHO to accept potential funding for priorities set in the assembly." He also said, as a Devex article reported, that if the assembly refused the budget, it should explain what the WHO "should not be doing in the near future."

From my perch in the press gallery, the frustration of many delegates, particularly the Germans, was obvious. Following the WHA's decision to deny the WHO its assessment increase, the German delegation said the group of nations "has indeed eroded the work of the Secretariat. At present, WHO does not have the capacity to deal with epidemic responses. To make WHO fit for purpose for emergency response requires increased funding and political support."

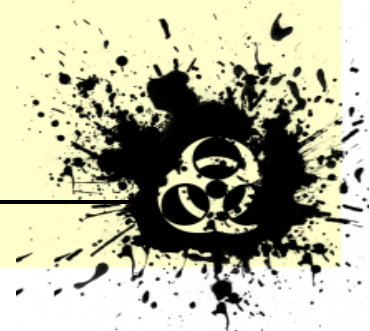
In the round, domed Palais des Nations, the delegations sat in concentric rings of alphabetically organized seats, with the "A" countries closest to the chairman's dais and the "Z" countries farthest out. Although delegations always strive to use polite language, the tone and carefully selected language typically indicate how heated the backroom private negotiations have been. At WHA68, several countries were clearly exasperated by the contradiction between needs for no increase in the price of WHA membership and demands for an ever-higher-performing WHO.

Sweden said the WHO should "re-emerge from the crisis stronger, better, and fit for purpose," so the Scandinavian country would back the budget increase if the WHO could show "in a clear way" how the budgeted funding would be spent. France was similarly inclined to back a budget increase, provided the WHO offered a clear strategy for reform: "We must be coherent with the need of the organization, with the challenges the organization is facing, and with what we asked for of WHO. We must give WHO the means to do it."

Lebanon gave the WHO stronger, nearly unequivocal support, with its delegate insisting, "We believe the responsible position is increased support for WHO. Both the Middle East and Africa are willing to increase assessments and create a core fund for emergency response. Fighting outbreaks is the primary purpose of WHO."

But Latvia, leading the holdouts for stricter reform and speaking on behalf of the European Union, said that rather than committing new funds to the health agency, "we want more analysis of WHO management. There needs to be cultural and management change in emergency responses. The lack of a serious command structure is the largest gap" in Ebola response, not funds. Spain concurred, with its delegate saying, "We do not want to see a budget increase. Rather, we would like to amend the budget to state that there must be support [in it] for emergency response. Hold total assessment at \$956 million."

Russia simply insisted that the WHO should manage its resources more effectively. Iraq suggested that epidemic funding and the contingency fund should



be considered elements of development, applied in direct support of countries' health systems. And the grim delegates of Thailand and Venezuela argued that the global economic woes made any contemplation of assessment increases inconceivable. "A gloomy economic situation in most countries does not allow such increase. A 5 percent increase in assessed contributions is next to impossible," insisted Thailand. WHO's budget should show zero growth, Venezuela said, "until the global economy has reached greater stability."

However, as the assembly continued for a further week, none of this financial hesitancy prevented WHA68 from piling more duties onto WHO's plate, including creating systems for tracking patents and prices of drugs and vaccines, expanding support at the country level for health systems and universal health coverage, tracking antimicrobial resistance, conquering polio, and much more.

The Israeli health minister summarized the untenable financial situation clearly, asking, "Do we want a WHO that is small and efficient or one that is big enough to do everything? We have to be frank with ourselves. Either, as Germany said, we need a bigger budget, or prepare yourselves for the next epidemic. We have to add a chapter to the International Health Regulations in order to give the WHO power to react next time. Stand behind the director-general.... She led us from one crisis to crisis to another. Give her more [financial] support."

After long days of debate and backroom chatter, I reached a point of deep cynicism at WHA68, unable to see any way out of its institutional inanity. The key message is that there is no key message. No consistency exists in visions of an improved, fit-for-purpose WHO. Examples I heard voiced from the floor of the WHA68 include:

- **Claus Sorensen, ECHO (the European Commission's Humanitarian Aid and Civil Protection department):** "I'm fishing for an effective organization inside [the WHO] that has capacity of giving us forward warning, capable of supporting health clusters in all different catastrophes. The responsibility for health crises must stay inside WHO, but that requires changes.

There must be sufficient command-and-control capacity, surge capacity."

- **Tim Evans, World Bank:** "The Liberian medical school had 20 faculty — now 10, post-Ebola. Harvard has more than 10,000 medical faculty. We have to recognize that this is a development crisis.... WHO must be WHO, first and foremost, and we must have a strong WHO."
- **Save the Children's Simon Wright and the Iraqi delegation in agreement:** "We need WHO to play the role of a coordinator."
- **Barbara Stocking, United Kingdom:** "We have two systems working, but not speaking to each other. One is public health; the other is a whole-of-U.N. emergency structure. The U.N. needs to learn more about public health, and WHO needs to learn more about humanitarian responses."
- **Mexico:** "The key error was the non-activation of the United Nations Health Cluster [in the Ebola crisis] — that was a key error. We need different systems of alert, with tiers. The largest gap at WHO is the absence of a command structure."
- **Lebanon:** "We need to overcome the bureaucracy of the WHO. WHO's response [to Ebola] was imprudent and lengthy, lacking political and financial support."
- **Denmark:** "There must be deep, substantial, and structural change in all layers [at the WHO]."
- **Jamaica:** "WHO needs to rebuild the trust of the member states."
- **Saudi Arabia:** "We need a robust and sustained response capacity at WHO."
- **Norway:** "This is a defining moment for WHO. The states will look elsewhere if WHO fails to reform."
- **Iran:** "We need a strong global health system with the capacity to detect infectious diseases. An emergency health workforce must work with domestic military forces."
- **United States:** "UNMEER has not been the best model. We need an all-hazards mandate, unified command and control in WHO."
- **Cuba:** "We need a greater synergy between WHO and the rest of the U.N., with WHO leading the health sector."



- **Switzerland:** “A change of WHO culture is necessary for emergency responses. You can’t manage a crisis the same way you set norms and standards. We need a stronger WHO that is not duplicative of other U.N. agencies.”
- **Germany:** “We need a detailed analysis of mistakes made — it’s the only way WHO can regain its credibility. We need a better-understood role for WHO.”
- **Sudan (which has twice faced Ebola outbreaks):** “We think fighting epidemics should mean supporting countries like Sudan. Preparedness is the key.”
- **Brazil:** “WHO should be at the center of global health emergencies. But it must strengthen its leadership and continue in its role-setting norms and standards.”

The World Bank has expressed interest in taking over several emergency-response features and not only commanding financing. The bank’s often repeated interest is widely viewed as usurping the WHO’s authority, and I found little interest at WHA68 in, as one African delegate put it to me, “letting a bunch of economists run the next epidemic.”

The G-7 Summit in Germany convening June 7 to June 8 will focus on the epidemic threat agenda, framed both as biosecurity and health system strengthening. Detailed G-7 draft documents are not yet available, so the precise outlines of Germany’s plan aren’t visible. But German Chancellor Angela Merkel left clues in the speech she delivered at the World Health Assembly (WHA68) in Geneva in May. She said: “We need some kind of global disaster response plan. And the World Health Organization must play a key part in this. But first of all we have to ask ourselves what we expect from the World Health Organization, what we think it should achieve and what its member states have to provide.”

Merkel’s appearance at the opening ceremony of the WHA68 was unprecedented — never previously had a political leader, rather than the WHO’s director-general, presented the gathering’s opening remarks. Dressed in her characteristic button-down pant suit the German chancellor voiced support for WHO’s continued existence, noting:

“In my opinion, the WHO is the only international organization that enjoys universal political legitimacy on global health matters.

The aim now must therefore be to make its structures more efficient. It is, I am sure, an advantage for the World Health Organization to have 150 country offices and six regional offices in addition to its headquarters — a decentralized structure with strong local links is important. But let’s be honest. Decentralized structures can also impede decision-making and hinder good functioning.”

Merkel continued, describing her vision of a tightly structured three-tiered organization, from countries, to region, to headquarters, each level respecting the hierarchy.

The overall WHO structure, Merkel insisted, should be robust, reactive, accountable, transparent, and capable of working well with the rest of the United Nations system.

The overall WHO structure, Merkel insisted, should be robust, reactive, accountable, transparent, and capable of working well with the rest of the United Nations system.

“Notwithstanding its central health policy legitimacy, the WHO cannot be the only organization involved in drawing up a global disaster response plan. We need to ensure that the WHO can work well together with the U.N. system as a whole and with the World Bank,” Merkel concluded.

Among the issues the G-7 is likely to address, according to member experts, are beefing up the nearly moribund Global Outbreak Alert and Response Network (GOARN) within WHO, and clarifying what are now two very separate response streams inside the agency: infectious diseases control and humanitarian crises with health consequences. Leading into the summit the sentiments of G-7 members support the notion that the logical plug-in point for their disease surveillance and epidemiology teams is GOARN. But the network has lost 130 staff in recent rounds of layoffs (ordered by the 2013 World Health Assembly), and was characterized to me by G-7 health experts as “anemic,” “undernourished,” and “emasculated.”

Knowledgeable sources directly engaged in Berlin Summit preparations tell me that the G-7 will call for creation of an emergency workforce that is virtual, rather than a standing army. (Though Merkel refers to them as “the white helmets” other G-7 members recoil at the military-like



metaphor.) And though concepts were still gelling at this writing, it appears the G-7 will expect a substantially strengthened GOARN to train and certify health workers — a “virtual response team — that may be called up when needed. Whether they are called White Helmets or something with a less military ring, they will be located in their regular jobs and habitats until called up for service. Some of these doctors, nurses, and other emergency workforce individuals may be located within nongovernmental organizations and humanitarian groups, others may be mobilized by their respective governments. One G-7 member representative described the evolving concept as a partnership with a range of health actors. The experience of the 165 Cuban physicians that worked under the WHO aegis in Sierra Leone, Liberia, and Guinea was cited as the beginning, conceptually, of the health workforce model. The Disaster Assistance Response Team (DART) mechanism used successfully by the U.S. coordinating its diverse array of civilian and military Ebola responders, including the 101st Airborne of the U.S. Army and several NGOs, was also offered as a model.

The G-7 is likely to demand improvements in the language of the International Health Regulations (IHR), which was passed by the World Health Assembly in 2005. As originally passed, the IHR compelled all of the nations of the world to have in place systems of disease surveillance and rapid response for both animal and human disease outbreaks by 2012. But by the deadline fewer than 35 nations, all rich countries, had complied. With substantial financial and expertise assistance from the Obama administration more countries have managed to meet the IHR requirements. But Miatta Gbanya of Liberia’s ministry of health told the WHA68 that, “Only 64 states have met the core requirements, 81 want an extension and about 48, we have no idea.” The Scandinavian states want enforcement in place, even sanctions against nations that fail to meet the core terms of the IHR. But nations large and small plead poverty, inexperience, and lack of technical capacity, begging forgiveness for their failures. And the WHA68 complied with those pleading poverty, voting to extend what was originally a 2012 deadline for compliance to June 2019.

According to G-7 insiders, the Berlin summit will commit resources toward bringing nations into IHR compliance. And the rich nations will put “millions of dollars” into GOARN, creating a muscular, robust disease surveillance and response institution that nests inside the WHO, but outside of its current hierarchy, answering only to the director-general. The GOARN will have a series of trigger points to operate from, both in response to outbreaks and major humanitarian disasters with health repercussions. The triggers, which the G-7 reportedly wants written into an updated IHR, will give GOARN flexibility to take a range of actions, rather than WHO’s current all-or-nothing limitations that WHO Director-General Margaret Chan has blamed for her failure to declare a Public Health Emergency of International Concern for Ebola until Aug. 8, 2014, despite widespread viral carnage that by then had been spreading for months.

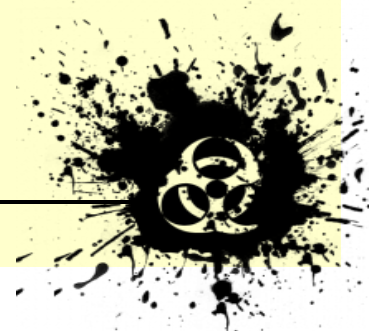
In January, the WHO executive board issued a blistering report that labeled all tiers of Ebola response in 2014, from local country efforts all of the way up to Geneva “complete failure[s],” and called for radical change. Noting that Ebola had never previously crossed national borders during outbreaks, the executive board called upon countries to strengthen eight key facets of their disease surveillance and response capabilities.

And the executive board spared nothing in its criticisms of operations at WHO-AFRO, the regional office for Africa based in Brazzaville, or Geneva headquarters. The board also called for a complete shake-up in all aspects of the African regional operations, and gave Chan a tough list of nine directives for improvement.

The G-7 is not expected to explicitly endorse each of the January executive board recommendations, but seems poised — according to multiple inside sources — to embrace the overall intentions and criticisms. It will not, however, be satisfied with merely a fine-tuned WHO.

It will not, however, be satisfied with merely a fine-tuned WHO. It will demand that a semi-independent GOARN operates with its own budget authority, and exercises direct power over outbreak and humanitarian health responses.

Of course the GOARN was “emasculated,” its budget



slashed, and staff laid off just prior to the Ebola outbreak by the 194 member states of the World Health Assembly. The countries voted to shift the WHO's resources away from infectious, toward noncommunicable disease issues, leaving the agency bereft of expertise to handle Ebola. It's tempting to agree with the G-7 assumption that a beefed-up GOARN would be the key to proper handling of future outbreaks. But Chan and the WHO had powerful tools at their disposal last year, despite the weakened GOARN — tools they chose not to use until the outbreak had reached catastrophic proportions. Chief among them was the IHR, which Chan delayed implementing until Aug. 8, 2014, after hundreds of deaths had occurred in four countries. Beefing up GOARN won't be enough to protect the world from epidemics if the leadership of WHO fails to exercise its options in a timely, smart manner.

After months of delay in WHO action, U.N. Secretary-General Ban Ki-Moon lost confidence in the agency and created a novel superstructure for Ebola control that answered directly to him. There was a tendency in media coverage and perhaps the United Nations to view the United Nations Mission for Ebola Emergency Response (UNMEER) structure as something of a savior. Despite U.N. oversight of funds used in the Ebola fight, a tremendous amount of money remains unaccounted for. In addition to the estimated \$19 million was spend and \$3.3 went missing that , the enormous UNMEER mobilization appears to have been spectacularly expensive, accounting for far more expenditure than WHO's interventions. The primary criticism of UNMEER is that it was carried out as a humanitarian famine mobilization, transporting vast quantities of food, rather than medical supplies, and pushing logistics operations of little value to a medical crisis. In short, it acted in the Ebola outbreak as it would in an earthquake, refugee disaster, or famine.

Individual countries also merit criticism, experts say. Gbanya, the Liberian delegation member, pointedly noted at the WHA68 that there were "failures" of country responses early in the epidemic. "The epidemic started in Guinea in December — which did not report it to WHO until March 21. That was a defective response [by Guinea]."

Sierra Leone has depended on mass quarantines, placing entire towns and even regions of the country under lockdown for protracted periods. The strategy has been criticized by neighbor states as ineffective and in violation of human rights. Nevertheless, the mass quarantine approach has garnered both political and financial backing from the U.K.'s foreign assistance agency.

Responders in Guinea during the March and April outbreak in that country incorrectly assumed a single line of transmission, stemming directly from the December Meliandou index case, represented the totality of the outbreak. After contact tracing that chain of transmission, the government of Guinea, the U.S. Centers for Disease Control and Prevention (CDC), and WHO declared the epidemic was under control and withdrew most foreign responders and scientists from the country. But they were wrong, both about having successively identified the full chain of the primary transmission, and in missing a second line of transmission entirely.

Ebola had by then reached Conakry, establishing the first urbanized epidemic of the disease in history. It is extremely difficult to understand how and why the U.S. CDC and the WHO reached the conclusion that the prospect of urban Ebola in a large city with an international airport posed no larger risk. Moreover, Guinea health authorities were aware that a second line of transmission existed, and the index case had crossed into Sierra Leone. Guinea failed to inform Sierra Leone, allowing the epidemic to cross into the neighboring nation. Recently released e-mail communications between WHO-AFRO, WHO headquarters, and its teams in the field reveal a dramatic failure to implement the IHR. Though no language in the IHR stipulates that economic considerations should carry equal weight with health and medical ones, Geneva clearly chose to respect the Guinean government's economic worries.

Finally, the performance of WHO-AFRO was nothing short of abysmal. On Feb. 1, Matshidiso Moeti took over the WHO's Africa Regional Office. Born in South Africa, the physician grew up in Botswana and cut her teeth on public health working with AIDS patients and the national HIV



response. In a wide-ranging private conversation, Moeti assured me that she plans major shake-ups that will affect all of the 2,500 country-based employees and 200 staff in the headquarters of WHO-AFRO.

“Our challenge: There is big skepticism about WHO-AFRO, and many demands, expectations — all with the same resources. We have to make changes, and earn back the trust,” Moeti said. “We have to prove ourselves. We can’t float on nice speeches.” The staff throughout WHO-AFRO displays enormous ignorance, she said, includes genuine thieves, and “a large element just bumbling along, being inefficient.”

Perhaps the most complicated problem Moeti faces involves the African Union’s announced scheme to create its own centers for disease control, based in Addis Ababa. The African member states have no faith in WHO-AFRO, and plan to shift most infectious disease surveillance and response to the planned center. “We need to think it through,” Moeti concluded.

Thinking things through carefully is obviously the key to transforming the WHO into an institution that is fit for the purpose of epidemic

control — or, perhaps, to concluding that the Geneva agency cannot carry out the task, forcing creation of a novel institution. Given how full the G-7 plate is, and the leaders’ brief two-day summit, it’s hard to believe considerations can be sufficiently weighed to provide an optimistic beginning to true WHO reform. But I’ve been wrong before. In 2000 the then G-8 met in Okinawa, and Prime Minister Yoshiro Mori pushed for creation of an international response to infectious disease threats, particularly HIV/AIDS, tuberculosis and malaria. I thought the summit’s was overly vague, and nothing but hot air would come of it. But I couldn’t have been more off base, as the outcome was creation of the multibillion-dollar Global Fund to Fight AIDS, Tuberculosis and Malaria in 2002. As of December 2014, the programs supported by the fund “have 7.3 million people on antiretroviral therapy for AIDS, have tested and treated 12.3 million people for TB, and have distributed 450 million insecticide-treated nets to protect families against.”

Please, G-7: Prove my skeptical soul wrong, and make biosecurity a reality for all people, living in rich and poor nations, alike.

Laurie Garrett is senior fellow for global health at the Council on Foreign Relations and a Pulitzer Prize winning science writer.

Inside the \$105 million lab that wants to wipe out MERS and Ebola

Source: <http://www.pbs.org/newshour/updates/million-dollar-lab-mers-ebola-superspreaders/>



Ripe with high-tech, high-security labs, the Integrated Research Facility at Fort Detrick, Maryland is one of few places in the world hunting for vaccines for Middle East Respiratory Syndrome (MERS) and Ebola. Photo by Kyla Calvert/PBS Newshour

At a high-security lab in Fort Detrick, Maryland, where researchers study the world’s deadliest diseases, Dr. Peter Jahrling of the National Institute of Allergy

and Infectious Diseases was reflecting on the Middle East Respiratory Syndrome virus, known as MERS.

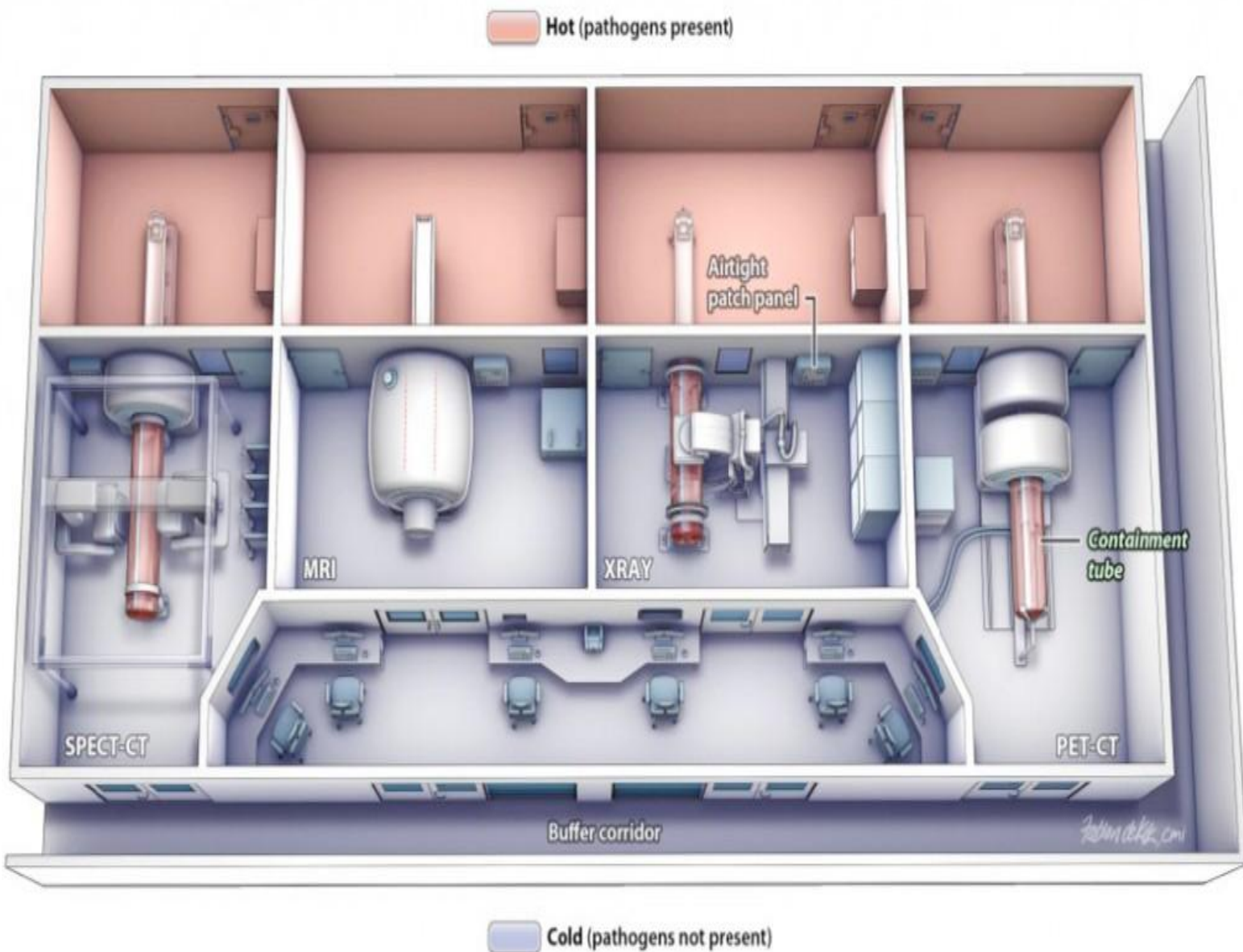
It was early May, and hot spring sun beat down the windows of the \$105 million Integrated Research Facility. A quick glance out the windows, and you could easily mistake the wide lawns and orange buildings of the NIAID’s campus for a college quad — provided you ignored the guards patrolling the grounds with heavy pistols.



Much of the recent research at the facility has been feverishly focused on the Ebola virus. High-tech imaging machines scanned the bodies of Ebola-infected monkeys and mice while scientists in spacesuits peered at their tissue specimens in a dish. They were part of the crew that helped prep Zmapp for use against Ebola, and they aided the NIAID's Vaccine Research Center in the hunt for an Ebola immunization.

Meanwhile, drugs for MERS, along with its cousin SARS, were lagging behind.

"I think MERS is kind of eclipsed by the more flashy viruses like Ebola," said Jahrling, chief scientist of the Integrated Research Facility and the emerging viral pathogens section, as we toured the hallways of the 11,125 square feet lab that brought to mind a navy ship. Through portholes in the wall, we peered into a set of airtight "hot" rooms, where scientists handled deadly pathogens in head-to-toe protective gear. These spaces run adjacent to "cold" rooms where our crew could stand in normal clothes. Long, air-sealed tubes resembling blow pops criss-cross between pathogen-laden and pathogen-free rooms. To examine an animal with a disease like Ebola, scientists place it on a sliding table on one end of the tube, which then rolls into the cold-room side, where MRI, X-ray and CT scanners can go to work



Schematic of the imaging suites at the NIAID's Integrated Research Facility . Courtesy of Peter Jahrling/NIAID





A scientist works inside an airtight biosafety level-4 lab at the Integrated Research Facility in Fort Detrick, Maryland. Photo by Kyla Calvert/PBS Newshour.



Imaging table slides between pathogen-laden and pathogen-free rooms at the the Integrated Research Facility in Fort Detrick, Maryland. Photo by Kyla Calvert/PBS Newshour.

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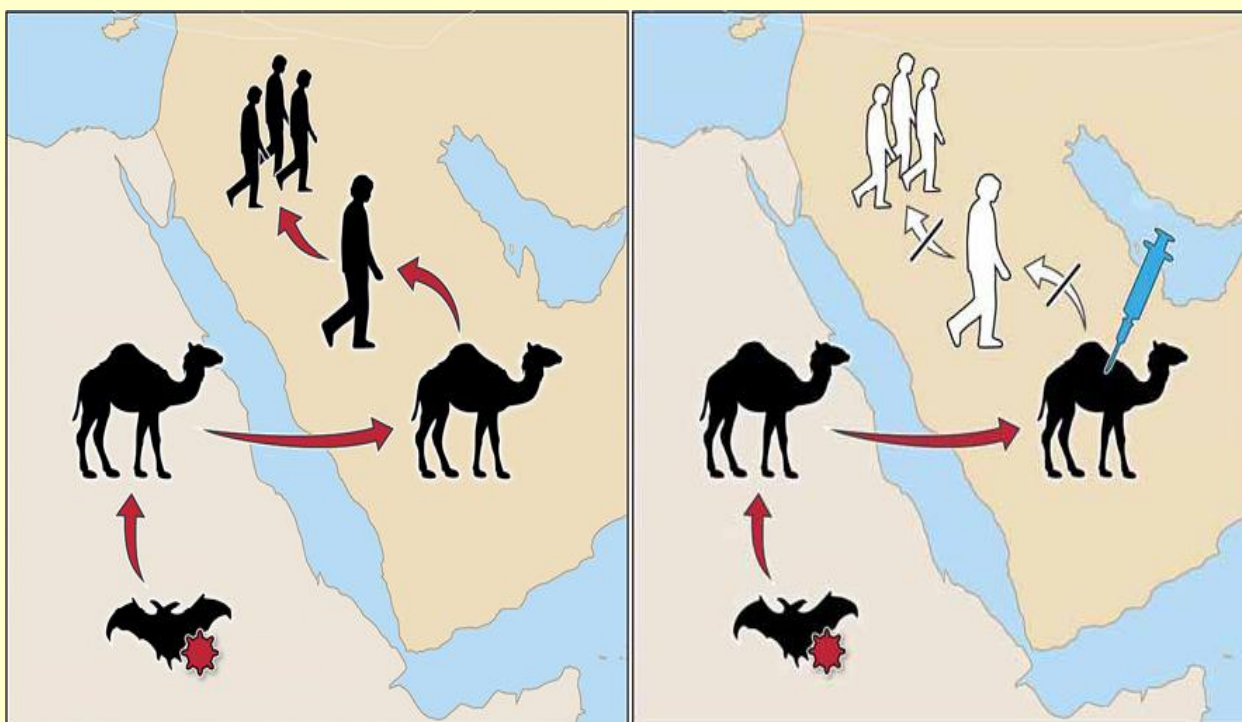
On that day, Jahrling told me that “MERS research has suffered from very limited funding and not much interest.” He couldn’t have known that less than a month after that conversation, South Korea would be gripped by an outbreak of the disease.

So far, the MERS virus has infected 36 people and caused three deaths. More than 3,000 people have been recommended for quarantine, and officials have shuttered over 1,000 schools, as healthcare workers try to control the largest outbreak of the virus seen outside of the Middle East, where the disease was discovered three years ago.



These recent cases shed a harsh light on a virus that’s been largely overlooked, disease researchers say. They also raise troubling questions about how this virus could have spread so far, so fast. Much like Ebola and other neglected diseases, our collective vulnerabilities with MERS take many forms — ranging from general lack of knowledge on the condition to an absence of vaccines and treatments for the disease. These gaps exist despite the virus’s high mortality rate — about 40 percent of those infected die — and its close ties to the SARS virus that caused a global epidemic a decade ago before dropping off the radar.

Like SARS, MERS is a coronavirus. It was first identified in Saudi Arabia in 2012 and spreads via coughing. And with symptoms like fever and shortness of breath, the disease is easily confused with influenza or the common cold.



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Based on DNA sequencing, researchers speculate that MERS coronavirus started in infected bats in Egypt or the horn of Africa (left panel). They suspect that the winged mammals transmitted the microbe to one-humped camels, where the virus circulated possibly for decades, before hopping into humans. Since camels are an accessible intermediate host, some groups have proposed vaccines for the hooved animals to prevent future spread to humans. Source: Papaneri, AB et al. [Expert Rev. Vaccines. 2015.](#)

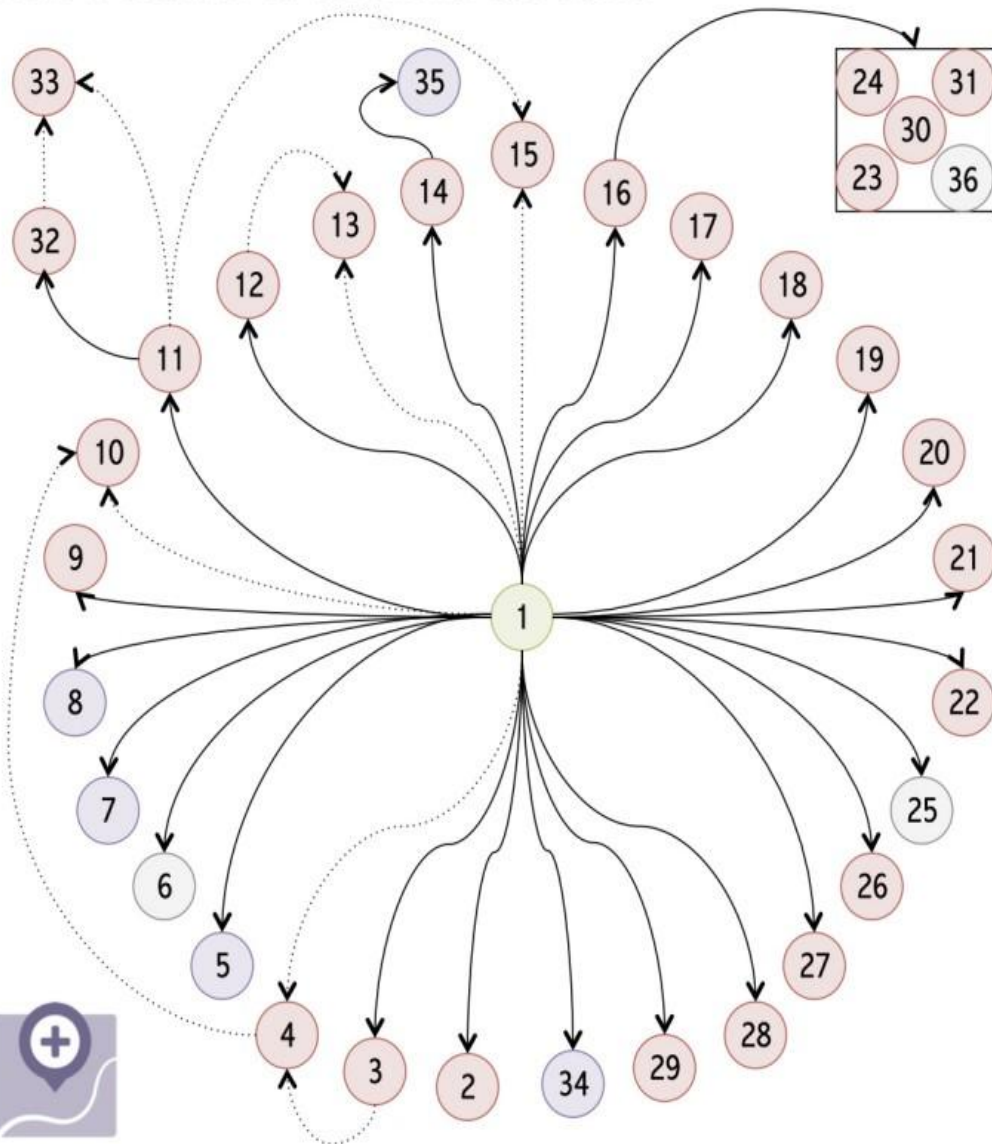
Was patient 0 a superspreader?

In Seoul, healthcare workers didn’t suspect MERS in the initial patient — a 68-year-old businessman — until it was too late. That patient — let’s call him MERS Mike* — visited two hospitals and two clinics in South Korea over the course of a week, before being diagnosed on May 30. His walkabout explains why so many people have been quarantined.

Since MERS wasn’t suspected, it’s possible that the appropriate medical precautions weren’t used, said Peter Embarek, who manages the World Health Organization’s MERS task force. One misstep could have involved a procedure known as mechanical ventilation, wherein a tube is passed down the throat to aid breathing — a common treatment for severe respiratory disease.



MERS in South Korea: Nosocomial Case Cluster



Known Transmission Route →

Multiple Possible Routes →

Case Details*

1. 68 M, 20-05-15	19. 60 M, 31-05-15
2. 64 F, 20-05-15	20. 40 M, 31-05-15
3. 76 M, 20-05-15	21. 59 F, 31-05-15
4. 46 F, 25-05-15	22. 39 F, 31-05-15
5. 50 M, 26-05-15	23. 73 M, 01-06-15
6. 71 M, 28-05-15	24. 78 M, 01-06-15
7. 28 F, 28-05-15	25. 57 F, <i>Postmortem</i>
8. 46 F, 29-05-15	26. 43 M, 02-06-15
9. 56 M, 29-05-15	27. 55 M, 02-06-15
10. 44 M, 29-05-15**	28. 58 M, 02-06-15
11. 79 F, 29-05-15	29. 77 F, 02-06-15
12. 49 F, 29-05-15	30. 60 M, 02-06-15
13. 49 M, 29-05-15	31. 69 M, 03-06-15
14. 35 M, 29-05-15	32. 54 M, 03-06-15
15. 35 M, 30-05-15	33. 47 M, 03-06-15
16. 40 M, 31-05-15	34. 25 F, 03-06-15
17. 45 M, 31-05-15	35. 38 M, 02-06-15
18. 77 F, 31-05-15	36. 82 M, <i>Postmortem</i>

*Including date of diagnosis
**Exported to China

KEY: INDEX, HCW, DECEASED

Data Source: WHO
Last Updated on 05-06-15

by @maiamajumder for HealthMap

Chart of the MERS patients linked to the initial case (center circle marked “1”). This index case has infected 27 people as of June 5. Courtesy of Maia Majumder.



Medical personnel send a simulated patient to a negative pressure isolation room (shown on the monitor) during a drill, as part of preparations in the event of an outbreak of the Middle East Respiratory Syndrome (MERS), at the Taipei City Hospital Chunghsin Branch in Taipei, Taiwan, June 4, 2015. REUTERS/Pichi Chuang

“That process can generate aerosols from the virus particles in the lungs and lead to a larger spread, said

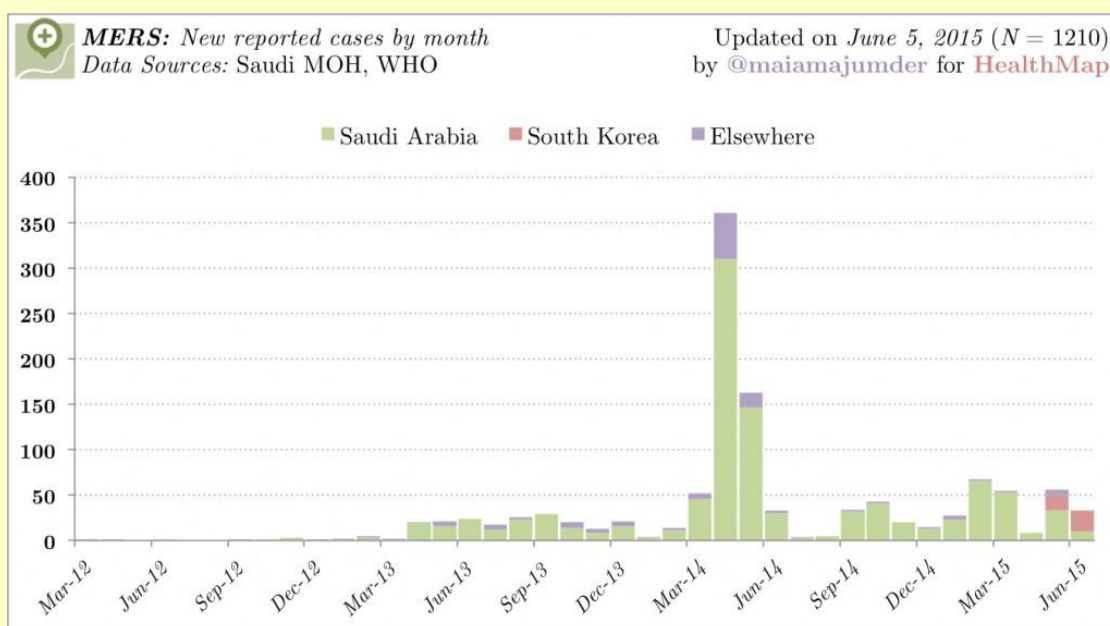


microbiologist Ralph Baric of the University of North Carolina, Chapel Hill. “During the SARS epidemic, these mechanical procedures were sometimes associated with superspreaders.”

But let’s back up. A superspreader is an infected patient who is capable of infecting dozens of people at once, rather than the normal transmission rate of two to three people. Some early reports claim that MERS Mike is likely a superspreader, given the extent of the outbreak — 30 of the 36 total cases have been linked to him and where he was finally hospitalized May 15 to May 17: St. Mary’s in Pyeongtaek about 35 miles south of the capital Seoul. The infection has mainly spread among other patients and healthcare workers at this clinic — a pattern that parallels what’s happened in the Middle East. Almost all MERS outbreaks have been confined to hospitals with little human-to-human transmission reported in outside communities.

Embarek, however, cautions against using the term superspreader and says it’s too early to tell: “It’s a very loaded term, and we’re still at the stage of gathering answers to basic questions.”

For instance, Korean officials are currently attempting to identify the virus’s DNA sequence. That would allow scientists to compare this patient to previous cases to determine whether “Mike” caught a regular strain during his travels or a more potent mutant.



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Global MERS cases to date (by month). Graph by Maia Majumder.

But even after scientists obtain the genetic info, reaching the superspreader verdict might remain tricky. “There’s nothing known about the biology of the virus with relationship to the mechanism of the superspreader events among MERS or even SARS for that matter,” Baric said. In other words, no one knows if the mutations in these viruses can cause superspreading.

Baric said in the case of SARS, it was “100 percent clear” that mutations expanded the epidemic. Some changes involved the virus’s spike protein, which acts as the key that penetrates our cells and ultimately allows the disease to spread through the body.

What’s not clear is whether those viral changes contributed to the phenomenon, Baric said, given that some hospital superspreaders were treated with mechanical ventilation, which could exacerbate transmission.

“In reality the very term ‘super-spreader’ is pretty nonspecific,” said epidemiologist Maia Majumder of MIT and the disease tracker site, HealthMap.

For one thing, individual differences in people’s immune systems can lead some patients to carry and cough more virus than others, known as shedding.

“These rare super-spreader events are often due to context more than anything else. Different rates of viral shedding contribute to different rates of secondary infection [in subsequent patients],”



Still, Mike's case raises eyebrows, said Majumder.

"From a mathematical point of view, this case *is* a superspreader, and the fact that he has infected 26-plus people is important," she said. "But with ideal infection control, even these super-shedders won't become super-SPREADERS."

Putting a cork in MERS and SARS

Harvard University immunologist Wayne Morasco has developed one of the leading drug candidates for MERS. The drug would use our naturally occurring human antibodies to attack the virus.

"We have built a 27 billion-member library of human antibodies, so we panned that source of antibodies to identify one that blocked the MERS spike protein that is on the surface of the virus and is used to begin virus entry, Morasco said. They found seven candidate antibodies, one of which blocked the virus even when it tried to mutate and escape treatment. The antibodies have been licensed to the biotech Abviro, which plans to conduct a clinical trial in the near future.

Stanley Perlman, an immunologist and coronavirus expert at the University of Iowa, said this treatment falls into the same category as Zmapp, which was used widely during the Ebola outbreak. Perlman says that Public Health England has a similar antibody on the verge of clinical trials, and a group at the National Institutes of Health possesses a good candidate too.

But in the end passive antibodies are just a temporary fix, he said: "If you thought that someone was exposed [to MERS], then you would want to use a passive antibody, but it would only be good for two to three weeks. But if you have a long-term problem, then that's clearly not the way to go."

Scientists are working on immunizations that would induce longer lasting protection — akin to the flu or measles vaccines — but "none of those are near being tested for clinical trials," Perlman said. (However, Inovio Pharmaceuticals is close with one DNA vaccine candidate.)

One stumbling block is the limited number of good animal models for MERS. Jahrling says that MERS produces very "minimal disease" in Rhesus monkeys. Perlman's lab reported the creation of the first mouse model for MERS in early 2014, but mice can't fully simulate the human condition.

Merasco feels if there is ever an outbreak of MERS, or if SARS returns, Congress will want to know what scientists have done to develop a therapeutic and protect us. But the funding needs to match the future concern. MERS has infected less than 1,200 people worldwide, and SARS hasn't caused a recorded infection since 2004.

"I don't think that you can ever ignore this, and we do need to develop therapeutics, but whether these projects get the kind of money that they need to ensure that the vaccine is fast tracked is the issue," he said.

Until then, Peter Embarek of the WHO believes communication with the public and better education of healthcare workers is the best recourse. South Korea's response — once they became aware of the disease that is — has provided a good model.

"They've been extremely open and forthcoming about new cases and communicating to the public about what the country is doing," Embarek said. "Addressing all of the fears, given that most people haven't heard of MERS before, is really important for the common good."

The Terrorism-Disease Nexus: India's Neighborhood Concerns

By Melissa S Hersh and Michael Hopmeier

CBW Magazine (January-June 2015)

Source:http://www.idsa.in/cbwmagazine/TheTerrorismDiseaseNexus_Hersh.Hopmeier.html

The lawyer¹ representing the Pakistani clinician² involved in a US national security plan to confirm Osama Bin Laden's identity in 2010, was killed in Peshawar last week. The formerly Taliban-linked, then Islamic State (IS) affiliated, and once again Taliban-allied (March 2015) Jamaat-ul-Ahrar group³, has claimed responsibility for the murder as has Jundullah⁴,

a Taliban affiliate associated with Tehrik-i-Taliban Pakistan (TTP) and IS. Now more than ever, we are reminded of the terrorism-disease nexus⁵.

While withholding vaccines may not be tantamount to active biological warfare (BW), it could be labelled as passive BW. More



importantly, it is terrorism, by any definition. By deliberately disrupting the disease prevention systems like vaccines (oral or injected), and going so far as incentivizing obstructionist behaviors, including, committing violence against healthcare workers, as well as sacrificing children to the disease (in this case, Poliomyelitis or polio for short) and anointing them as martyrs should they succumb to illness or death are intentionally evoking disease or death. This insidious, passive form of BW does not require the need for manipulating pathogens to even mimic the effects of an endemic disease, polio, or to successfully weaponise and disperse polio, rather, by deliberately denying prevention measures, the disease is permitted to run its course unfettered. To date, there are no viable counter-measures to stop polio infection if it has begun. Further, the long lasting impact on the existing government, as represented by its inability to protect its citizens, is immeasurable. The effects of preventing access of healthcare workers and supplies to unimmunized children due to assault, and thus denying children a potentially life-saving intervention are no different than actively exposing children to polio as a weapon. The effects can be devastating, even more so when terrorist groups engaging in anti-vaccine practices such as Al Qaeda and Taliban affiliates, Al Shabaab, and Boko Haram are exploiting existing vulnerable national and regional public health infrastructure. In 2014 there were 89 polio-related killings reported⁶ ; 80 of those health care workers that were targeted and killed were in Pakistan, with others being from Nigeria.

Polio has been all but eradicated from the planet. However, its remaining endemic strongholds, Pakistan, Afghanistan, and Nigeria, are also rife with terrorism. In 2014 cases were also documented⁷ in: Somalia; Equatorial Guinea; Iraq; Cameroon; Syrian Arab Republic; Ethiopia; South Sudan; and Madagascar. The likelihood for cross-border infection, particularly in contiguous nations that border anti-vaccine controlled areas and consequently, into regions with growing allegiances and affiliations with known anti-vaccine terrorist organizations poses a risk to eradication strides made over the last nearly 40 years. If polio is not effectively managed the Centers for Disease Control and

Prevention⁸ (CDC) in the United States suggest that, "... [a] resurgence of polio could paralyze more than 200,000 children worldwide every year within a decade."

As we recently have seen with Ebola, any high-consequence infectious disease outbreaks anywhere in the world pose a global threat. The strength of a country's public health infrastructure is not always the metric by which successful interventions are measured. Attacks against the public health infrastructure are attacks against a nation and its people. Failure of the public health infrastructure, for whatever reasons, is one existential threat that no nation can afford to ignore.

In so far as the crisis at hand is about power and who is wielding it, there is a need to identify who is best suited to be "in charge" of the evolving anti-vaccine crisis. In Pakistan, where the majority of the cases are, the government must identify the agency and individuals who most clearly possess the highly complex skill sets, training, resources and backgrounds needed to provide overall management of a crisis, not merely the health aspects of the crisis.⁹

India's concerns that this be accomplished sooner rather than later are in part fuelled by the declaration made in India in 2014, that the South-East Asia Regional Office of the World Health Organization (WHO-SEARO) was able to declare the region polio-free¹⁰ since January 2011. And for India, Pakistan is only a bus ride away¹¹ and a similar risk also exists for Africa. And, while India has offered its 'full cooperation'¹² , to date there has been no reportable progress. However, as the rise in polio cases are parallel to the adoption of anti-vaccine fatwas by Islamist terrorist organizations, incorporating cross-border assistance from the Indian government to the Pakistani government will likely be decided only once Pakistan has made internal management decisions on how to coordinate its response.

Efforts to issue arrest warrants by local administrators have proven somewhat effective, numbers of vaccine refusals by parents have dropped where punitive measures were put in place.¹³ However, for a lasting effect, the Pakistani government will need to not only make



legislative changes but also enforce them. And, herein lies the heart of the matter. Until there is recognition by the security apparatus in Pakistan, law enforcement or military, that polio is a threat to its national security, and that ensuring vaccination occurs even in terrorist-run strongholds. It is not enough to get security officials to agree that public health or in this case, polio, is a threat, but to agree to treat it as such. By treating polio as a security threat, there should be active participation in threat reduction efforts. Consequently, rather than agreeing to send more health care workers into harm's way, security forces can administer vaccines.

Clearly, attacks against public health are a real threat, not just locally or even regionally, but

against the entire world. To put the threat of public health to national security in context, consider the fact that more soldiers throughout history have died from infectious disease caught while in combat than all forms of military and enemy action combined. Designating the polio crisis in Pakistan as the result of passive BW or terrorism rather than merely a public health problem due to the endemic nature of polio in Pakistan may alter the agencies and individuals tapped to coordinate and implement the response. Regardless of who or what is the 'perpetrator', the impacts on global public health are the same. Until we wake up and truly realize the key and pivotal role that public health and disease prevention, we are indeed placing countries, regions and the world at risk.

Footnotes

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11. "[UNICEF warns India against Polio risk as cases rise in Pakistan](#)" DNA, October 27, 2014, accessed on June 2, 2015
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Secret Science: A Century of Poison Warfare and Human Experiments by Ulf Schmidt

CBW Magazine (January-June 2015)

Oxford University Press, Oxford, E-Book, 672 Pages, Price: £25.00

Source: http://www.idsa.in/cbwmagazine/SecretScience_sjaved.html



Professor Ulf Schmidt's recent book, *Secret Science*, is a historical narrative of biological and chemical weapons and their use and misuse during 19th and 20th centuries around the world. The author has woven this book around the political and cultural milieu of experimental scientists in some of the most secretive research facilities like Proton Down in Britain and Edgewood Arsenal in the United States and documented the lives and sufferings of many servicemen exposed to toxic chemicals and gases there. The book raises a series of pertinent ethical questions about ownership and agency in medical ethics and national security in post-war European and British societies. It comprises of archival material including letters,

photographs, documents and interviews of ex-servicemen, officials and scientists about various highly secretive warfare programmes. The book starts with an interesting story of a young woman from North Europe who agreed to subject herself to a human experiment to study the image resolution of various artificially induced brain activities during an MRI scan. As part of the trial, she was supposed to inhale carbon monoxide through a gas mask and a free MRI image of her brain was offered as an incentive for her service. Here, Prof Schmidt argues that the kind of power relationship the two actors – subject and the scientist – entered into is one in which the subject lacks cognition. The rationale for agreeing to take part in such tests may even have been a wish for self-discovery, self-reflection, a longing for individual recognition and reward for many.

Today, a plethora of ethical guidelines backed up by national laws and regulations seek to protect human participation. This book traces the long and secret history of use of chemical and biological weapons by former allied powers

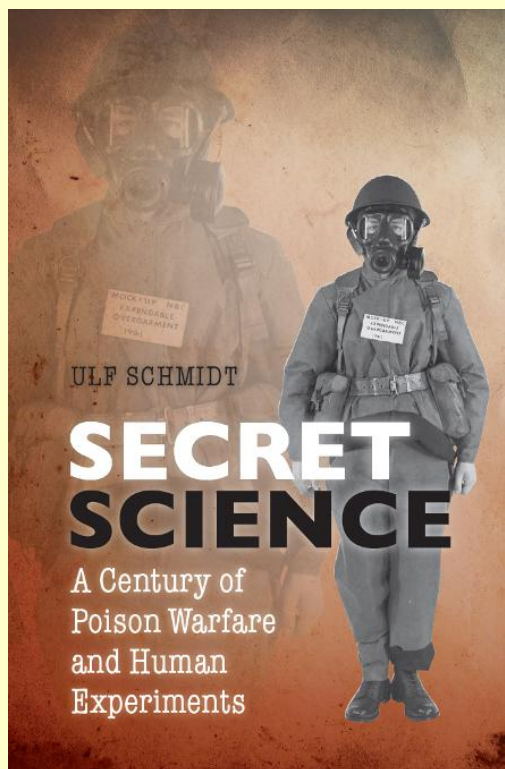
like the US, Britain and other European countries. It charts the ethical trajectory and history of chemical and biological weapons' use from its initial stages in response to Germany's first use of chemical weapons

during the First World War to the present day international conventions to ban such weapons, including the 2013 Nobel Peace Prize to the Organisation for the Prohibition of Chemical Weapons (OPCW) for enforcing the Chemical Weapons Convention (CWC).

Secret Science largely covers the debate on medical ethics and questions the very concept of medical trials on humans and animals across nations and research cultures. The author argues that such trials have often caused deep physical and psychological damage to

the subjects and the state has failed even to follow up with them. It also discusses whether the warfare trials were safe, ethical and justified, as many lives were lost during such experiments. The idea of 'consent' is raised high by the author, where he argues whether human body is just a subject and holds no credible status, to be informed about the damages the experiments is going to provide. The book deals with the complex dynamics of secret warfare research, national security and resource allocation by scientists, high-rank military officials and other government officials in order to invest more resources and money in such experimental research.

According to the author, a whole army of about 21,000 soldiers participated in secret experiments between 1939 and 1989. Lower rank soldiers, often used as 'guinea pigs', were offered incentives like free train passes, a day off, some extra pocket money. In many cases, argues the author, the veterans were misinformed, there was no



concept of informed consent, and would rarely know about the lethal nerve agents and mistake it for common cold drug trials, leading to severe reactions including disability or even death.

This book comprises ten chapters and recalls many memories of chemical warfare including Ypres, Belgium in 1915, the first major chemical warfare attack in modern history where 5,000 Allied soldiers died, and many others including Natzweiler concentration camp in Germany. It also opens doors to Porton Down, a secretive military research facility established in Britain during the First World War. This facility had many experimental labs for testing chemical weapons. The famous 1953 case of Ronald Maddison, a wireless mechanic, is highlighted in the book, in context of warfare research on human subjects. In fact, throughout most of the twentieth century, the British government neither denied nor officially confirmed the existence of Porton Down.

Professor Schmidt's work offers the readers a detailed analysis of evolving field of military medical ethics, not only from a philosophical or ethical perspective, but also by providing a historical narrative of the evolution of the field

of research over the last century. It discusses the ethics of military medicine, which were shaped not so much by established or emerging medical ethics standards but by the rule of law. It also highlights the widespread question of integrity and secrecy. The author argues, secrecy in military facilities, including Porton, was socially and temporally constructed and rarely, if ever, absolute. It also argues how the high rank officials, military men and scientists misused their power and status in order to guard themselves and the work done at facilities by prioritizing issues of national security over humanitarian obligations.

Importantly, it gives prominence to the role of memory; it has documented and brought to life largely forgotten 'medical memories' of servicemen involved in military experiments. Therefore, this book can be used a reference in order to understand what an acceptable justification for the 'infringement of personal inviolability' for experimental subjects could be. It raises a series of important and exceedingly difficult questions in relation to the historiography and methodology of medical ethics.

Watch out for anthrax in livestock this summer

Source: <http://www.koco.com/news/Watch-out-for-anthrax-in-livestock-this-summer/33465096>



The Oklahoma Department of Agriculture, Food and Forestry is telling Oklahomans to be alert for anthrax in their livestock this summer.

The disease usually occurs in sheep and cattle but can also be seen in dogs, horses, pigs or other animals -- including humans. Officials said outbreaks of the disease can occur after flooding that follows a drought, and Oklahoma has a higher-than-normal chance to see anthrax. The disease is most likely to occur in alkaline soil.

Officials said livestock will suddenly drop dead if infected by anthrax, and there could be no signs of the illness. After death, the carcass of the animal will quickly bloat and dark blood will ooze from the body. Carcasses of animals that die from anthrax should not be opened, as that could cause the bacteria to spread to



soil in the area, officials said.

Anthrax causes a very high fever and listlessness in animals, causing death in a short period of time.

The disease in livestock is not easily transmitted to humans. Humans could be infected by coming into contact with bodily fluids or the carcass of an infected animal after its death.

Officials said the anthrax found in animals is not as easily transmitted to humans as the anthrax spores used as bioterrorism agents after the World Trade Center bombings. Oklahoma has not seen a case of anthrax since 1996.

Biological terrorism: Delhi, Mumbai most vulnerable

Source: <http://www.oneindia.com/feature/biological-terrorism-delhi-mumbai-most-vulnerable-1771917.html>



Nuclear and biological terrorism are primary concerns today with latest intelligence inputs suggesting that the cities of Mumbai and Delhi are most vulnerable to biological warfare. Terrorist groups would look to use biological agents to contaminate water and create mass graves in these cities.

With terrorist groups threatening to use both nuclear and biological weapons, the security agencies especially in India and Pakistan have a lot to worry about. Terrorist groups have often boasted about having nuclear powers and the ISIS had even recently claimed that they would source such weapons from corrupt officials and rogue scientists in Pakistan.

Terrorist groups have used biological weapons in tested doses of late. They are still testing the waters and it may be a while before they decide to completely go biological in their warfare. Security experts say that the biggest user of the biological and the nuclear weapons will be the Taliban and the ISIS. These are not run of the mill terrorist groups and both are trying to establish a government in Afghanistan, Iraq and Syria.

Nuclear and biological weapons smuggling

The danger of nuclear smuggling is immense today. Security officials working in both India and Pakistan have identified the routes through which nuclear weapons could be smuggled. Punjab, Assam, Kashmir and Balochistan and the danger routes identified by the Intelligence Bureau officials. There is a lot of demand for nuclear and biological weapons in these areas as they are conflict torn zones.

As the battle intensifies, the demand for stronger weapons will only increase and terrorist groups may go that extra mile to source such material. While it is extremely difficult to source such weapons and the costs are extremely high, groups such as the ISIS and the Taliban can afford it. They are making the right contacts in Pakistan and will target rogue scientists to lay their hands on these weapons.

Delhi, Mumbai targets of biological warfare

For the moment, the terrorist groups are still carry out test runs with the help of biological weapons. The use of nuclear weapons even in a test run has not been reported as of now. In

fact the ISIS only a month back made the announcement that it would go nuclear. The reason that terrorist groups will be slow to use these weapons as it is their trump card. Experts say that they will conduct many more trial runs before they actually deploy it to fight the enemy. A couple of instances reported both in Pakistan and Iraq show that biological weapons have been used. Biological agents were used to contaminate the water as a result of which several persons had taken ill. It appears that the terrorist groups tested these agents in very small quantity and hence none lost their lives. Intelligence agencies say that the target cities for terrorist groups to use biological weapons in India will be Delhi and Mumbai. In Pakistan there is a chance of the same being used in Khyber Paktunkhwa, Singh, Islamabad and Karachi. Recently intelligence bureau inputs suggested that the Lashkar-e-Tayiba too had been working on a unit to deal with biological weapons. They have been making attempts to launch a biological warfare on India.

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The challenge ahead

The challenge ahead for the security agencies in India is immense. The threat of a biological warfare cannot be ignored or taken lightly at all. Intelligence Bureau officials are aware of the capabilities of groups such as the Lashkar and Taliban which used very sophisticated weapons. The threat of nuclear and biological weapons being smuggled had started in the

year 1998 itself. The threat of biological warfare has to be nipped in the bud itself. If terrorists manage to contaminate water with biological agents the damage will be immense. IB officials say that the routes in Assam and Kashmir have to be monitored at all times. The threat of these weapons coming in through these routes is immense. We cannot afford a slip up even once on this front, the officer says.



Hospital Respiratory Protection Program Toolkit

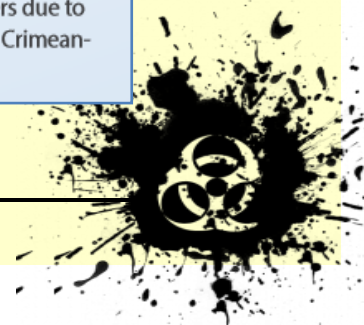
Source: <http://www.cdc.gov/niosh/docs/2015-117/pdfs/2015-117.pdf>

This toolkit was developed to assist hospitals in developing and implementing effective respiratory protection programs, with an emphasis on preventing the transmission of aerosol transmissible diseases (ATDs) to healthcare personnel. Healthcare personnel are paid and unpaid persons who provide patient care in a healthcare setting or support the delivery of healthcare by providing clerical, dietary, housekeeping, engineering, security, or maintenance services. Healthcare personnel may potentially be exposed to ATD pathogens. Aerosols are particles or droplets suspended in air. ATDs are diseases transmitted when infectious agents, which are suspended or present in

particles or droplets, contact the mucous membranes or are inhaled.

FIGURE 4: CDC AND HICPAC—DISEASES/PATHOGENS REQUIRING DROPLET PRECAUTIONS^{1,2}

- Diphtheria, pharyngeal
- Epiglottitis, due to *Haemophilus influenzae* type b
- *Haemophilus influenzae* serotype b (Hib) (see disease-specific recommendations)
- Influenza viruses, seasonal²
- Meningitis
 - *Haemophilus influenzae*, type b known or suspected
 - *Neisseria meningitidis* (meningococcal) known or suspected
- Meningococcal disease sepsis, pneumonia (see also meningitis)
- Mumps (infectious parotitis)/ Mumps virus
- *Mycoplasma pneumoniae*
- Parvovirus B19 infection (erythema infectiosum)
- Pertussis (whooping cough)
- Pharyngitis in infants and young children
- Pneumonia
 - Adenovirus
 - *Haemophilus influenzae*, serotype b, infants and children
 - Meningococcal
 - *Mycoplasma*, primary atypical
 - *Streptococcus*, Group A
- Pneumonic plague/*Yersinia pestis*
- Rhinovirus
- Rubella virus infection (German measles)/Rubella virus
- Streptococcal disease (group A streptococcus)
 - Skin, wound or burn, Major
 - Pharyngitis in infants and young children
 - Pneumonia
 - Scarlet fever in infants and young children
 - Serious invasive disease
- Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses²



Standby team for disease outbreaks

By Emily Hough (Editor: Crisis Response Journal)

Source: <https://www.crisis-response.com/news/news.php?article=954>

The British Prime Minister, David Cameron, used the G7 summit in Germany to outline how the UK will step up its efforts to combat the outbreak and spread of deadly viruses with a new plan that will include more research and development and an improvement in how international health agencies respond on the ground.

The Prime Minister said that the world must be

have the operational capacity or culture to deliver a full emergency public health response.”

Dr Marie-Paule Kieny, WHO Assistant Director General for Health Systems and Innovation, told reporters that: “Ebola is not the only



epidemic-prone disease for which there are no medicines, vaccines or diagnostics. Nor is this the first time the world has been caught unprepared in the face of an epidemic.”

Speaking ahead of the G7, the Prime Minister, David Cameron, said: “The recent Ebola outbreak was a shocking reminder of the threat we all face from a disease outbreak.” He called for the world to be far better prepared, with: “Better research, more drug

far better prepared for future health pandemics that could be more aggressive and harder to contain than the recent Ebola outbreak.

While the number of new cases has fallen drastically, experts have warned that lessons must be learnt from what happened. A more virulent disease in future – transmitted by coughing, like the flu or measles for example – would have a much more devastating impact if a better approach is not put in place.

Indeed, [CRJ 10:4](#), just published, carries a news item reporting on the World Health Organization’s Ebola research and development meeting that looked at lessons learned from the recent outbreak. The meeting, held in Geneva this May, took place as an independent panel of experts tasked with assessing the UN global health agency’s response to the Ebola outbreak in West Africa concluded that: “At present, the WHO does not

development and a faster and more comprehensive approach to how we fight these

<p>Rapid reaction force established to send up to 10 epidemiologists around the globe</p>	<p>£20 million fund for research and development to combat infectious diseases</p>
	<p>Greater transparency in clinical trials</p>

things when they hit. The UK will lead the way but we need a truly global response if we are to face down this threat.”

The UK’s big players in drug development and research – including leading pharmaceutical companies, research centres, universities and disease experts – will come together to focus on the most



serious global health threats. The UK Vaccines Research and Development Network will bring together the best expertise across the country, with £20 million invested from the outset to focus on the most threatening diseases including Ebola, Lassa, Marburg and Crimean-Congo Fever, with additional investment from the private and research sector.

Given the seriousness of the threat, the UK will be the first country in the world to require clinical trials and disease control operations to be fully transparent. From now on any UK-funded research, data or operation will be made openly available and the UK will look to develop an international agreement – via the G7 – that would see the publication of results of all clinical trials of vaccines for relevant diseases.

Ebola showed that when data on disease outbreaks is not shared quickly, the disease

can get out of control. The UK's Chief Medical Officer will now work with the World Health Organisation to develop a new, more advanced system to share data on a disease with health agencies and doctors and nurses on the frontline.

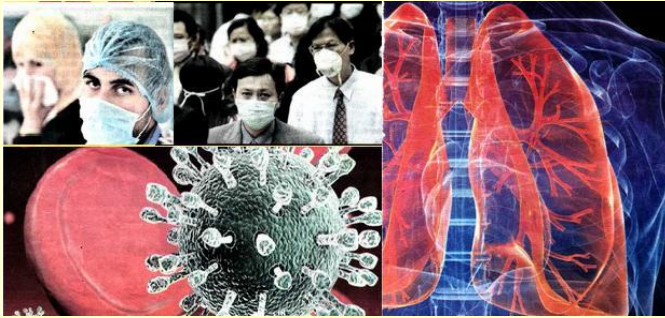
The UK will establish a new group of six to ten expert staff – mainly epidemiologists, infection control specialists and infection control doctors – who will be on permanent standby, ready to deploy to help countries respond to disease outbreaks. When deployed, the team will act as 'disease detectives', to understand what the disease is; how it is spreading; how fast it is spreading; and what response is required. A 'reservist force', including hundreds of doctors, nurses and public health experts, will be ready for call-up if the outbreak is not contained at an early stage.

Interim Infection Prevention and Control Recommendations for Hospitalized Patients with Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

UPDATED June 2015

Source: <http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html>

This guidance supersedes the July 2014 CDC guidance, *Interim Infection Prevention and Control Recommendations for Hospitalized Patients with Middle East Respiratory Syndrome Coronavirus (MERS-CoV)*, which highlighted the key infection control recommendations including standard, contact,



and airborne precautions. This updated guidance **continues to recommend standard, contact, and airborne precautions**. In addition, it emphasizes additional elements of infection prevention and control programs that should be in place to prevent the transmission of any infectious agents including respiratory pathogens such as MERS-CoV in

healthcare settings. These interim recommendations were informed by evidence-based infection prevention and control guidelines CDC has published previously, including [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#), which includes recommendations for the related SARS-CoV, review of current evidence on MERS-CoV infection, and the following considerations:

- Current lack of a safe and effective vaccine and chemoprophylaxis
- A possible high rate of morbidity and mortality among infected patients
- Incompletely defined modes of transmission of MERS-CoV

CDC will continue to evaluate new information as it becomes available and will update or expand this guidance as needed.

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Pentagon sent live anthrax to Japan in 2005

Source: <http://uk.reuters.com/article/2015/06/12/uk-usa-japan-anthrax-idUKKBN0OS21J20150612>



June 12 – The Pentagon on Friday added Japan to a list of countries that received live anthrax samples from the U.S. military, while a news report said the lab that sent out the bacteria faced sanctions in 2007 for failing to kill specimens but was never fined.

The sample that went to Japan was sent to the U.S. military base of Camp Zama about 25 miles (40 km) southwest of Tokyo in 2005 and was destroyed in 2009, Defense Department spokesman Colonel Steve Warren said.

Warren said the anthrax, which was sent to Japan for the purpose of testing detection equipment, came from a master lot that was thought to have been inactive but turned out to be active when tested.

"It's important to note that there currently is no anthrax, activated or inactivated, in Japan at this time," Warren told a regular Pentagon news briefing.

Five countries outside the United States are now known to have received live anthrax samples: Australia, Canada, South Korea and Britain, as well as Japan. Sixty-nine labs in 19 states and Washington, D.C., also received live samples.

Investigators have been trying to determine whether the inadvertent shipments of the live anthrax, which can be used as a biological weapon, stemmed from quality control problems at a U.S. base in Utah, the Dugway Proving Ground, Pentagon officials said.

In an online report on Friday, newspaper USA Today said that in 2007 lab inspectors from the Centers for Disease Control and Prevention cited Dugway for using an experimental chemical method of killing anthrax specimens that was ineffective and resulted in an unauthorized transfer of the bacteria to another facility.

It quoted the CDC as saying that inspectors found that Dugway staff apparently ignored the results of their own kill-confirmation tests that showed growth of bacteria even after the chemical inactivation was done – and shipped the sample anyway.

The CDC referred Dugway to the U.S. Department of Health, but the department's Office of Inspector General did not issue any fines even though it agreed that an unauthorized transfer of anthrax had occurred, USA Today said.

It said the CDC had noted that the 2007 case involved a chemical method of inactivating anthrax, not the gamma irradiation method that is the focus of the current probe.

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Following the revelation that anthrax was shipped abroad, North Korea has accused the United States of targeting it with anthrax. In a letter made public on Friday, it asked the United Nations to investigate Washington's "biological warfare schemes."

Army lab cited before for failing to kill anthrax

Source: <http://www.wtsp.com/story/news/health/2015/06/12/army-lab-cited-eight-years-ago-for-failing-to-properly-kill-anthrax-samples/71134854/>

June 12 – The Army bioterror defense research facility that has mistakenly sent live anthrax to dozens of labs in the U.S. and abroad faced potential sanctions in 2007 for failing to properly kill specimens of the deadly bacteria – and ignoring test results that indicated their kill process wasn't effective, USA TODAY has learned.

The lab safety violations identified eight years ago at the Army's Dugway Proving Ground in Utah were so serious that federal regulators referred the facility for further investigation and possible enforcement action, federal lab regulators said in response to questions from USA TODAY. But



no fine was ever issued and records show the incident was never disclosed in the annual reports sent to Congress by the program that oversees labs working with potential bioterror pathogens.

Officials with the Department of Defense and Dugway Proving Ground were not immediately available for comment. USA TODAY has been asking both entities questions about Dugway's inspection history since Wednesday. Lab regulators at the Centers for Disease Control and Prevention said it is important to note that the 2007 violations involved a different, chemical method of inactivating anthrax and not the gamma irradiation method that is the focus of the current federal investigation.

A massive international investigation was launched last month after a private biotechnology company in Maryland discovered that what was supposed to be a dead sample of anthrax it received from Dugway as part of a project to develop a new diagnostic test – was actually alive and capable of growing. The sample had a "death

biological defense programs. It is located on 800,000 acres about 75 miles southwest of Salt Lake City.

The new information obtained Friday reveals that in 2007 lab inspectors from the CDC cited Dugway for **using an "experimental" chemical method of killing anthrax specimens that was ineffective** and resulted in an unauthorized transfer of anthrax bacteria to another facility. The inspectors found that Dugway staff apparently ignored the results of their own kill-confirmation tests that showed growth of bacteria even after the chemical inactivation was done – yet shipped the sample anyway, according to the agency's written response to questions from USA TODAY.

Because of the serious nature of the violations, the CDC referred Dugway to the U.S. Department of Health and Human Services Office of Inspector General for potential enforcement action. In December 2009, the OIG closed the case, and while it agreed that an unauthorized transfer of anthrax had occurred, the office did not issue any fines, the

CDC said. Officials at the inspector general's office were not immediately available for comment.

The CDC on Friday said: "It should be noted that this incident is not similar to the current investigation where Dugway was using an established irradiation protocol and no growth was observed following the gamma irradiation."

Yet there are similarities. The current anthrax situation involving Dugway shipping dozens of live anthrax samples that were

supposed to be dead and, as in 2007, involves failures of the current inactivation process, as well as failures to recognize that it wasn't fully killing the bacteria and its hard-to-kill spores. The military has not answered USA TODAY's repeated questions about Dugway's protocols for killing anthrax and its procedures for conducting verification tests to ensure the process was consistently effective.

certificate" from Dugway saying it had been killed with radiation, and the Department of Defense now says at least 69 labs in the USA and five foreign countries received live anthrax samples. If inhaled, anthrax spores can be lethal even with treatment, sparking a high fever and other flu-like symptoms. So far no illnesses have been reported in association with the Dugway specimens.

The Dugway Proving Ground is a major test facility for the U.S. Army's chemical and



A May 29 CDC email obtained by USA TODAY indicates that the radiation process wasn't 100% effective. "We have concern that the inactivation procedures, when followed properly, are inadequate to kill all spores," wrote Daniel Sosin, deputy director of CDC's Office of Public Health Preparedness and Response in the email to state officials.

The CDC on Friday said the Dugway lab was currently using "a scientifically validated procedure" to inactivate anthrax bacteria, and provided a copy of a document that references a 1991 scientific paper that was the basis for Dugway's irradiation method. The select agent regulations require labs to develop biosafety plans that are adequate to address the risks posed by the specific pathogens they are authorized to possess – but leave it up to labs to pick their own methods of achieving safety. "There is no specific regulatory requirement for inactivation verification in the select agent regulations," the CDC said, but added it has issued guidance that notes the need to verify pathogens are killed. Inspectors verified that Dugway was doing sterility testing before issuing death certificates on samples, the CDC said.

Labs like Dugway that do research with anthrax and other potential bioterror pathogens are regulated by the Federal Select Agent Program, which is jointly run by the CDC and

the U.S. Department of Agriculture. In the past year a series of high-profile incidents have occurred at labs overseen by the program, including mishaps at the CDC's own labs that have involved accidents with anthrax, Ebola and a deadly strain of bird flu. Last summer, an oversight subcommittee of the House Energy and Commerce Committee held a hearing on the CDC incidents. The recent anthrax mistakes involving Dugway Proving Ground have drawn questions from members of multiple Senate and House committees.

Much of the oversight of select agent labs is cloaked in secrecy, making it difficult to determine whether the current inspection and enforcement program is effective at ensuring safety, a USA TODAY Network investigation found last month. **More than 100 labs working with "select agent" pathogens have faced enforcement actions since 2003,** the newspaper revealed. **Five labs have had "multiple referrals" for sanctions, two labs have been kicked out of the program and five others have been suspended from doing any work with these kinds of pathogens.** But the CDC and USDA refuse to release the labs' names, citing a 2002 bioterrorism law they say requires the secrecy.



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Ebola could hit again and we would hardly do better

By Emma Farge

Source: <http://www.reuters.com/article/2015/06/14/us-health-ebola-msf-idUSKBN0OT0QA20150614>

The Ebola epidemic could flare up again in West Africa and health authorities are no better equipped to control it than they were a year ago, the head of medical charity Medecins Sans Frontieres said on Saturday.

"The reality today is if Ebola were to hit on scale it did in August and September, we would hardly do much better than we did the last time around," Joanne Liu said on the sidelines of a meeting on Ebola in Dakar.

Leaders of the Group of Seven industrial nations vowed this week to wipe out the epidemic that has killed more than 11,100 people across West Africa, but offered little concrete action.

While the virus is spreading more slowly than at the peak last year and Liberia has defeated the outbreak, cases have risen sharply in the past two weeks in Guinea and Sierra Leone.

"We've been disappointed by the World Health Assembly and again by the G7 in terms of their recommendations," Liu, the international president of MSF, told Reuters. She was referring also to a World Health Organization (WHO) meeting last month.

The WHO did not declare an international public health emergency until August last year, eight months after the first Ebola case, delaying resources to the sick.



Jerome Mouton, MSF country head for Guinea, described a state of "semi-denial" about the virus similar to a year ago, adding that another major flare-up of the disease was possible.

"We are in the same situation where we are overly optimistic, saying that it is almost finished and there's no problem but in fact it's a big problem as there is potential for this to again set off a big epidemic," he said.

Sierra Leone reported the highest daily Ebola case count in nearly three months earlier this week and the government has since introduced a curfew for the affected areas.

In Guinea, the outbreak has spread into districts previously free of the disease in recent weeks, including the border area with Guinea Bissau. "A month ago I thought we would see the end shortly but I am much less optimistic now," Mouton said.

Emma Farge is a correspondent in Switzerland covering the energy and commodities sector, multinationals and international organisations.

HHS selects nine regional Ebola and other special pathogen treatment centers

Source: <http://www.hhs.gov/news/press/2015pres/06/20150612b.html>

To further strengthen the nation's infectious disease response capability, the U.S. Department of Health and Human Services has selected nine health departments and associated partner hospitals to become special regional treatment centers for patients with Ebola or other severe, highly infectious diseases.

HHS' Office of the Assistant Secretary for Preparedness and Response (ASPR) has awarded approximately \$20 million through its Hospital Preparedness Program (HPP) to enhance the regional treatment centers' capabilities to care for patients with Ebola or other highly infectious diseases. ASPR will provide an additional \$9 million to these recipients in the subsequent four years to sustain their readiness.

"This approach recognizes that being ready to treat severe, highly infectious diseases, including Ebola, is vital to our nation's health security," said Dr. Nicole Lurie, HHS assistant secretary for preparedness and response. "This added regional capability increases our domestic preparedness posture to protect the public's health."

Each awardee will receive approximately \$3.25 million over the full five-year project period. This funding is part of \$339.5 million in emergency funding Congress appropriated to enhance state and local public health and health care system preparedness following cases of Ebola in the United States stemming from the 2014 Ebola epidemic in West Africa.

The facilities announced today will be continuously ready and available to care for a patient with Ebola or another severe, highly infectious disease, whether the patient is medically evacuated from overseas or is diagnosed within the United States.

The nine awardees and their partner hospitals are:

- Massachusetts Department of Public Health in partnership with Massachusetts General Hospital in Boston, Massachusetts
- New York City Department of Health and Mental Hygiene in partnership with New York City Health and Hospitals Corporation/HHC Bellevue Hospital Center in New York City
- Maryland Department of Health and Mental Hygiene in partnership with Johns Hopkins Hospital in Baltimore, Maryland
- Georgia Department of Public Health in partnership with Emory University Hospital and Children's Healthcare of Atlanta/Egleston Children's Hospital in Atlanta, Georgia
- Minnesota Department of Health in partnership with the University of Minnesota Medical Center in Minneapolis, Minnesota
- Texas Department of State Health Services in partnership with the University of Texas Medical Branch at Galveston in Galveston, Texas
- Nebraska Department of Health and Human Services in partnership with Nebraska

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Medicine - Nebraska Medical Center in Omaha, Nebraska

- Colorado Department of Public Health and Environment in partnership with Denver Health Medical Center in Denver, Colorado
- Washington State Department of Health in partnership with Providence Sacred Heart Medical Center and Children’s Hospital in Spokane, Washington

The regional facilities are part of a national network of 55 Ebola treatment centers, but will have enhanced capabilities to treat a patient with confirmed Ebola or other highly infectious disease. Even with the establishment of the nine regional facilities, the other 46 Ebola treatment centers and their associated health departments will remain ready and may be called upon to handle one or more simultaneous clusters of patients.

The facilities selected to serve as regional Ebola treatment centers will be required to:

- Accept patients within eight hours of being notified,
- Have the capacity to treat at least two Ebola patients at the same time,
- Have respiratory infectious disease isolation capacity or negative pressure rooms for at least 10 patients,
- Conduct quarterly trainings and exercises,
- Receive an annual readiness assessment from the soon-to-be-established National Ebola Training and Education Center, composed of experts from health care facilities that have safely and successfully cared for patients with Ebola in the U.S., and funded by ASPR and the Centers for Disease Control and Prevention, to ensure

clinical staff is adequately prepared and trained to safely treat patients with Ebola and other infectious diseases,

- Be able to treat pediatric patients with Ebola or other infectious diseases or partner with a neighboring facility to do so, and,
- Be able to safely handle Ebola-contaminated or other highly contaminated infectious waste.

Proposals from these facilities were reviewed by a panel of experts from professional associations, academia, and federal agencies and were selected based upon extensive criteria published in the funding opportunity announcement released in February.

To be eligible for consideration as an Ebola and other special pathogen treatment center, facilities also had to be assessed by a Rapid Ebola Preparedness team led by the CDC prior to Feb. 20, 2015.

The Department is working with state health officials and hospital executives in HHS Region IX, which includes Arizona, California, Hawaii, Nevada and the Pacific island territories and freely associated states, to identify a partner hospital awardee.

HHS is the principal federal department for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves. ASPR leads HHS in preparing the nation to respond to and recover from adverse health effects of emergencies, supporting communities’ ability to withstand adversity, strengthening health and response systems, and enhancing national health security.

No one wants to fund the development of new antibiotics

Source: <http://www.homelandsecuritynewswire.com/dr20150615-no-one-wants-to-fund-the-development-of-new-antibiotics>

Too many people die from infections related to injuries as little as a splinter in their finger.

Scientists think the Norwegian government’s strategy to address the problems posed by antibiotic-resistant bacteria is too narrow. Speeding up the development of new antibiotics will only happen when cancer can no longer be treated with modern medicine.

Magnus Steigedal thinks this is a major problem. Steigedal, director of the Norwegian Institute of Science and Technology’s (NTNU) Strategic Research Area on Health, is also head of the Norwegian section of a large EU project on the development of new antibiotics.

He is busy. More people die from antibiotic-resistant bacteria than from traffic accidents in Europe. **About two million people die of tuberculosis every year. If antibiotics can no longer kill bacteria, a simple urinary tract infection can be fatal.**



A ticking time bomb

Antibiotic-resistant bacteria are like a ticking time bomb. The world needs new antibiotics. Scientists, veterinarians, and doctors have been describing this crisis for some time. So why is it taking so long for pharmaceutical companies and governments to respond? Why is so little happening?

The honest truth is money. No one wants to foot the bill. The pharmaceutical companies have to make money, which they generally do not do on antibiotics.

“The biggest challenge is to make developing new antibiotics commercially viable. It may take twenty costly years to develop new medicine. Pharmaceutical companies aren’t generating much income when patients stop taking their medicine after a few days or weeks,” says Steigedal.

Lifelong medication use is favored

NTNU reports that pharmaceutical companies prioritize developing medicine for chronic diseases such as hypertension or diabetes. The reason is simple: the longer a patient is on medication, the more money the company earns on drug sales. Lifelong medication use is the best.

Pharmaceutical companies can foot the bill to find new antibiotics if their profits are sufficiently large that they can do it for economic reasons. That is not the case now after the financial crisis. They will also take on the cost if they have to, for example if a patient cannot receive costly cancer treatment due to infections, Steigedal says.

Diminished immunity from chemotherapy

Chemotherapy weakens immunity, which in turn increases the risk of serious infections in cancer patients. If patients cannot be treated with antibiotics, modern cancer treatment may in many cases not be possible to implement.

“Only when cancer can no longer be treated, will the development of new antibiotics speed up. It sounds cynical, but that’s the way it is,” says Steigedal, who works at CEMIR, the Centre for Molecular Inflammation Research, which is a Norwegian Center of Excellence at NTNU. Here, the interactions between bacteria and viruses and the immune system are under scrutiny. Together with researchers from the

Netherlands, France, Switzerland, and Canada, Steigedal is working on new antibiotic mixtures, and also a new method to find antibiotics.

Must be cheap for pharmaceuticals to take over

“Today, scientists are testing new antibiotics that have been collected in a large library, which is like looking for a needle in a haystack. There are hundreds of thousands of chemical compounds in the library, and they are tested against various bacteria. This is expensive and demanding. The new method needs to be relatively cheap for pharmaceutical companies to take over. If universities can bring them the knowledge, antibiotic development could become commercially viable,” says Steigedal. Professor Trude Helen Flo is CEMIR’s co-director. She says that the goal is first and foremost to weaken bacteria rather than kill them completely.

“Antibiotics do not need to kill the bacteria entirely. If we can strengthen a person’s immune system, weakening the bacteria may be enough for the immune system to clean up the rest. In the new project we’re going to try new combinations of antibiotics. It may be that an antibiotic that has lost its effect will work if we combine it with others. We are going to investigate what is vital for the bacteria to survive, and then go on the attack against it. Today we still lack an understanding of this fundamental interaction between bacteria and humans,” says Flo.

Finds the government’s strategy limited

Minister of Health and Care Services Bent Høie (Conservative Party) along with Minister of Agriculture and Food Minister Sylvi Listhaug (Progress Party) are preparing a strategy this spring to overcome antibiotic resistance. “We need to work to make Norway as strong as possible in this area,” Listhaug told the Norwegian business newspaper *Dagens Næringsliv* in January.

Steigedal believes that Høie and Listhaug’s statements suggest that their strategy will be too narrowly focused. “It appears that the government plans to monitor more, slaughter pigs infected with multidrug-resistant bacteria and cut back on



antibiotics use in Norway by encouraging doctors to cut back on prescribing the drugs. This approach will work in Norway, and it's very good. But the biggest problem is not in Norway. This is a global challenge and a global responsibility. We are already on top of the issue in Norway, but it doesn't help the world if we get even better. Most people travel around the world a lot, and carry bacteria across the border with them," said Steigedal. He is encouraging Høie and Listhaug to initiate a collaborative Scandinavian effort.

Should push through legislation

"Together we can take a global responsibility and push through legislation and sanctions that will also help in Norway. A good example is the United Kingdom, which introduced stricter rules and has reduced multiresistant staphylococcus bacterium cases in their hospitals to a third of what they had five years ago," Steigedal says.

West Africa has been hit hard by Ebola, and their already vulnerable health systems have collapsed. Now other diseases may also become more problematic, because people don't dare to visit the hospital for fear of being infected by Ebola. Liberia, one of the hardest-hit by Ebola, has recently had major measles outbreaks, reports NRK, the Norwegian Broadcasting Corporation.

"After Ebola there will probably be a resurgence of several diseases, such as tuberculosis," says Steigedal.

NTNU notes that because of the financial crisis, there has been no new European research money to find new antibiotics and understand the interaction between bacteria and humans. The European research program Horizon 2020 previously funded this research.

Flo finds the current situation scary. Steigedal hopes Norwegian politicians take global reality into account as they develop a new strategy.

Cops probing botulism outbreak detain four

Source: <http://www.eveningtimes.co.uk/news/cops-probing-botulism-outbreak-detain-four-210096n.128710962>

The Evening Times joined more than 30 officers swooped and battered down the door of suspected heroin dealers.

We can exclusively reveal details of the Operation Bilafond, which culminated in the dramatic raid in the Calton area yesterday.

More than 40 cases of botulism have been

And the toxin, which has been linked with the death of at least 10 addicts since the outbreak, is commonly found in soil.

Four men - aged between 40 and 49 - were detained in connection with alleged drugs offences.

As part of the operation, police seized a black Volkswagen Golf and searched a semi-detached property in Millroad Drive.

Detective Inspector Jim Biggam, who lead yesterday's operation, told the Evening Times:

"This operation is about disrupting the activities of criminals within our communities.

"It's all about public reassurance and taking drugs off



diagnosed across Glasgow and the West of Scotland in the past six months.

the streets.

"We want members of the local community to know Police



Scotland are dedicated to tackling the issues that matter to them."

More than 30 officers gathered at Baird Street Police Office, for yesterday's 10am briefing.

The Evening Times joined officers, supported by Police Scotland's dog branch and support unit, as they carried out a raid in Calton.

Around a dozen officers - most were dressed in plain clothes - surrounded the two-storey property, while police vehicles manoeuvred into positions around the street.

Helmeted officers dressed in padded riot gear used a battering ram to smash their way into the property.

Two men were immediately apprehended inside the property.

As police entered, the occupants could be heard shouting and two Staffordshire Bull Terriers and an Akita dog barked loudly.

Meanwhile, two other men - both aged 40 - were detained outside the house, near a black car, which was parked in the street.

After an initial search, the vehicle was seized by officers and taken away to undergo forensic tests.

DI Biggam confirmed the outbreak was the biggest ever in Britain.

But, months of work from police and their partner agencies, has seen the number of patients diagnosed with the illness continue to fall.

He said: "As well as sending out a message to potential offenders, the operation is also about

reassuring the public they don't have to put up with this kind of behaviour.

"Any information that is passed to us from members of the public, will be acted on."

Botulism can cause paralysis of the arms, legs and the muscles that control breathing.

NHS Greater Glasgow and Clyde have repeatedly issued warnings to addicts about the outbreak.

Patients were identified from across the Greater Glasgow and Clyde area, as well as Lanarkshire.

The Evening Times can today revealed there have been 44 cases of botulism in Glasgow hospitals since December.

NHS Greater Glasgow and Clyde, NHS Lanarkshire, Police Scotland and Health Protection Scotland launched an investigation after the outbreak was identified.

Addicts who inject into muscle or miss a vein are most at risk of contracting botulism from the contaminated heroin, according to health officials.

One source said: "Either they've missed the vein and injected it into the skin, or they're muscle popping it because they can't get a vein.

"Botulism mutates when it's starved of oxygen.

"If you put it directly into the veins where there's oxygen in the blood, it won't be able to mutate.

"Most people don't know they've got it until it's too late."

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Comparing heroin and black tar

Source: <http://www.drugaddictiontreatment.com/types-of-addiction/heroin-types-of-addiction/comparing-heroin-and-black-tar/>

Black tar heroin is a type of illegal narcotic derived from morphine. Commonly called black tar heroin, heroin content is not actually what distinguishes this particular drug from other kinds of opiates. **While black tar does contain an amount of heroin that can range from 29 to 80 percent, the drug is actually identified by the amount of comparatively crude derivatives of morphine that result from incomplete acetylation.** Without delving into the chemistry too exhaustively, black tar is an unrefined product that is made without the complex equipment and chemicals necessary to produce heroin with a high level of purity. **Black tar is manufactured primarily in Mexico, and is also commonly referred to as black, brown, manteca, night, or dark. It is also produced in smaller quantities in other parts of Latin America.**

Creating Black Tar

Black tar has spread throughout North America, and can also be found in parts of Europe. Since the drug does not require the advanced equipment necessary to make pure heroin in white powder form, it is relatively cheap to manufacture and therefore cheap to purchase. It is less expensive to buy than white powder heroin, and it is much less



expensive than commonly abused prescription opiates such as Vicodin or OxyContin.



Using Black Tar

Black tar is distinct in appearance from white powder heroin. It ranges in color from black to light brown, and it is sold either as a cola-like chunk, a coarse powder, or a sticky substance with the consistency of melted tar, hence the name.

Black tar can be injected in its tar-like form, snorted in its powder form, or smoked. The effects of black tar are similar to the effects of other kinds of opiates, and include feelings of euphoria, relaxation, loss of anxiety, and anesthesia. Side effects can include nausea, vomiting, diarrhea, constipation, and dry mouth.

The most common method of using black tar is injection, and this method poses risks apart from the dangers of the drug itself. For one, black tar users frequently suffer from venous sclerosis, a condition in which the veins shrink and harden. It may become impossible for users to inject intravenously if they develop venous sclerosis, forcing them to resort to subcutaneous injection. However, this method includes its own risks, such as cellulitis and necrotizing fasciitis.

When black tar users inject repeatedly, they put themselves at risk for contracting wound botulism due to the impurities and adulterants present in the drug. The sticky consistency of the drug may also put users at greater risk of HIV if they are washing needles and reusing them.

The cheapness of black tar has helped to make it comparatively popular among young users who are inexperienced with drug use. Complications from drug use are more common when users are inexperienced. In addition, the impurities present in black tar, as well as the inconsistent ratio of heroin present in the drug, make overdose or death from complications due to the adulterants much more likely.

Like all derivatives of morphine, black tar is extremely addictive. Dependency can occur after very few uses, and tolerance can also increase rapidly, causing users to experience irresistible cravings for increasingly large amounts of the drug.

Shared Dangers of Heroin and Black Tar

Emphasizing the dangers of black tar should not be seen as dismissing or understating the dangers of white powder heroin. While some of the dangers of heroin are increased with black tar, the majority of the risks are present in both drugs.

These risks include infectious diseases such as HIV, collapsed veins, heart infections and abscesses, kidney disease, liver disease, depression of the pulmonary system, and pneumonia. Furthermore, even supposedly "pure" white powder heroin can contain impurities that may lead to serious complications.

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Heroin is equally as addictive as black tar, and both drugs will cause serious and painful withdrawal symptoms if addicted users attempt to stop taking them. These symptoms can range from restlessness and cold flashes to muscle and bone pain, or diarrhea and vomiting. Occasionally, symptoms and complications of heroin or black tar withdrawal can lead to death.

Morphine derivatives such as heroin and black tar are so addictive that cravings can continue for years after users have detoxed. Heroin users or users of other opiates often remain at risk for relapse for a significant time after getting clean.

Middle East Respiratory Syndrome (MERS) in the Republic of Korea



World Health Organization

Situation assessment

15 June 2015

Source: http://www.who.int/csr/disease/coronavirus_infections/situation-assessment/update-15-06-2015/en/

On 13 June, WHO and the Republic of Korea’s Ministry of Public Health and Welfare presented the results of their joint assessment of the MERS outbreak. The assessment led to a series of recommendations. These include further strengthening of measures to control the current outbreak, such as continuing to strengthen contact tracing, and enhanced precautions in hospitals to prevent transmission, as well as increased communication with the public and better preparation for future outbreaks.

Challenges in early diagnosis

MERS CoV is difficult to diagnose, particularly in the early part of an outbreak when awareness is relatively low. **The initial, or “index” case, did not report his recent travel history to the Middle East when he first sought treatment.** MERS was not suspected, and the initial case exposed others for more than a week before he was isolated. Additionally early symptoms of MERS resemble other influenza-like illnesses making it difficult to recognize or suspect MERS.

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► Read the full assessment at source's URL.

EDITOR'S COMMENT: In red is the essence of the problem! Patient Zero did not report traveling to M East. And the attending physicians DID NOT ask the very simple question: "Did you travel abroad recently?" Exactly the same as it happens to an Ebola case in Texas! When will problems identified become lessons learned???

After Ebola, Is the US Ready for MERS?

By Kimberly Leonard

Source: <http://www.usnews.com/news/articles/2015/06/17/after-ebola-is-the-us-ready-for-mers>

The spread of Middle East respiratory syndrome in South Korea and Saudi Arabia is prompting fears that it will follow the path of the Ebola crisis, in which lack of adequate infection control measures and a delayed global response led the disease to spread unchecked across West Africa and eventually to be transmitted in the U.S.

The most recent outbreak of MERS has infected 161 in South Korea alone and killed

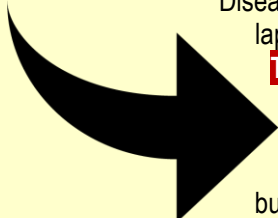
23, many of whom were older and had other illnesses. But Samsung Medical Center in Seoul has placed 400 people under quarantine, and an additional 5,586 people are under observation across the country.

Though the deadly respiratory disease has been spreading across 25 countries since 2012 – likely originating in camels in Saudi Arabia – it is the outbreak



in South Korea that has alarmed global health officials. MERS does not pass easily from person to person like other airborne illnesses such as measles, but – just as with Ebola – health care workers who treat infected patients are the most vulnerable to transmission if they do not follow infection protocols.

"A health care setting is an ideal situation for a lot of viruses because infection control may not be up to where it needs to be," says Dr. Amesh Adalja, a member of the public health committee at the Infectious Disease Society of America. "All it takes is lapses and a perfect storm can occur."



The origins of the MERS infection in South Korea show some parallels to the first Ebola case in the U.S.

The outbreak began with a South Korean businessman who traveled to the Middle East and returned with cold-like symptoms. The patient went to four different hospitals before doctors diagnosed him with the disease and isolated him. Similarly, health officials were slow to recognize the symptoms of Thomas Eric Duncan, the Liberian national who became the first person to die of Ebola in the U.S. Duncan had arrived at Texas Health Presbyterian Hospital in Dallas, only to be sent home with antibiotics. When he came back, he remained in the waiting room for hours before he was isolated. Nina Pham, one of the two nurses who got Ebola from Duncan and survived, is currently suing the hospital's parent company, Texas Health Resources, for not adequately preparing her to care for Duncan, among other allegations. Over the course of the ordeal, nearly 50 people were isolated for monitoring.

"We got lucky with Ebola," says Dr. Bill Miller, a physician for more than 30 years and author of "The Microcosm Within: Evolution and Extinction in the Hologenome."

"People think it was handled well, but it wasn't. It gives us an opportunity to think carefully about our infection-control policies."

Even the Centers for Disease Control and Prevention admitted to missteps in its reaction to Ebola, while medical providers, including

nurses, said the guidance they got from global public health agents and hospitals was lacking. Some evidence suggests that more effective guidance has been issued for MERS, which

has infected more than 1,300 people across the world and proved fatal in about 35 percent of cases.

In January, the CDC told doctors to look out for signs of infection in Americans who have traveled to or near the Arabian Peninsula. The

agency's most recent guidance contains information on infection prevention in health care settings, including wearing appropriate gear like gloves and facemasks, identifying a potential disease early and isolating patients. It recommends patients have easy access to tissues, face masks and hand sanitizer, and directs health care facilities to post signs alerting patients that they should tell a health care provider about their travel history.

"If hospitals are well-trained, with proper isolation and the correct clothing, then we stand our best chance," Miller says. For MERS, he thinks hospitals could do more. "I don't doubt at some hospitals there is low-level training," he says.

So far, the U.S. appears to have intercepted MERS, testing about 580 samples from 45 states. Only two tested positive in the U.S. last May, and both were health care workers who were visiting from Saudi Arabia. The cases were unrelated – with one occurring in Florida and the other in Indiana – and neither spread the virus to anyone else. The patients were hospitalized, isolated and discharged.

Infection protocols do work, says Susan Dolan, president-elect for the Association for Professionals in Infection Control and Epidemiology. After Ebola, a formal infrastructure was put in place, she says: identify, isolate and notify. Health care providers were made more aware of how critical it is to ask for travel history.

"We can halt spread fairly rapidly with that system," she says, adding that she thought health providers learned the importance of having and following protocol



from their experiences with Ebola, but that infection control still needs work on becoming more fluid and flexible.

"If you have the system in place, that should work well for numerous diseases," she says.

The medical landscape for MERS is like Ebola in many ways: It has no vaccine, cure or treatment. Care instead is supportive and can include connecting patients to a ventilator and moving them to an intensive-care unit.

The government was widely criticized during the Ebola outbreak for not having created a vaccine to combat the virus and appears to be inching along with MERS as well. During the past year, the National Institutes of Health's National Institute of Allergy and Infectious Diseases has been developing several vaccines that are being tested in mice, but it has been two years since Dr. Margaret Chan, director-general for the World Health Organization, said MERS posed a "threat to the entire world."

Though several vaccines for Ebola are now under clinical trials by both public and private researchers, this has occurred only after significant damage has been done. Ebola infected 16,643 people, resulting in 6,363 deaths, and while Liberia is declared Ebola-free, numbers in Sierra Leone and Guinea have risen again after coming close to zero.

This may change with growing government investment in cures and disease tracking. On Tuesday, the House cited the Ebola crisis when it announced its budget proposal, which boosts funding for the NIH by \$1.1 billion, and the CDC by \$140 million.

WHO said Sunday that South Korea could expect the virus to continue to spread in coming weeks, but it stopped just short on Wednesday of calling it a global emergency. The U.N. health agency called the epidemic in Korea a "wake-up call," warning countries to prepare.

"We need to have a conversation about the next epidemic, because there is a 100 percent chance there will be one," Miller says. "Here we are almost a full year after Ebola and we haven't learned a thing."

The MERS outbreak has most commonly been compared to severe acute respiratory syndrome, or SARS, which spread across southern China from 2002 to 2003, killing nearly 800 people worldwide. Both are part of a wide range of viruses, including ones that cause the common cold, that can be transmitted through the air when someone coughs or sneezes.

"The worst-case scenario is that MERS will do what SARS did," Adalja says.

It isn't known whether some people carry only mild forms of MERS, Dr. Keiji Fukuda, a WHO assistant director-general, has said. This means it is possible some may not be seeking medical care but still spreading it to others.

"We have been on deadline with this since 2012," Adalja says, "and there are still a lot of open questions about its spread and epidemiology that still need to be answered."

Epidemiologists also fear MERS could mutate, becoming stronger and more difficult to manage in patients. "We should be concerned about MERS not for what it is, but for what it could become," Miller says. American hospitals already are combating bacteria that have become resistant to drugs, causing 2 million illnesses and 23,000 deaths each year.

Even in the U.S., skepticism remains over whether hospital staff are prepared to handle rare, infectious diseases.

"There always is a risk that a case could get missed, that infection control is great in some places but not others," Adalja says. Still, he added, he feels confident that the U.S. should be able to handle MERS.

"Hospitals have been through a major infectious disease drill because of Ebola," he says.

Kimberly Leonard is a health care reporter for the News division at U.S. News. Previously she worked in Health Rankings as a multimedia producer and reporter.

Have you traveled abroad recently?
 A very important question in medical history that can save lives
 but front-line health professionals usually forget to ask...



What Could Go Wrong?

By Laura H. Kahn

Source: http://www.slate.com/articles/health_and_science/science/2015/06/national_bio_and_agro_defense_facility_government_puts_pathogen_research.html

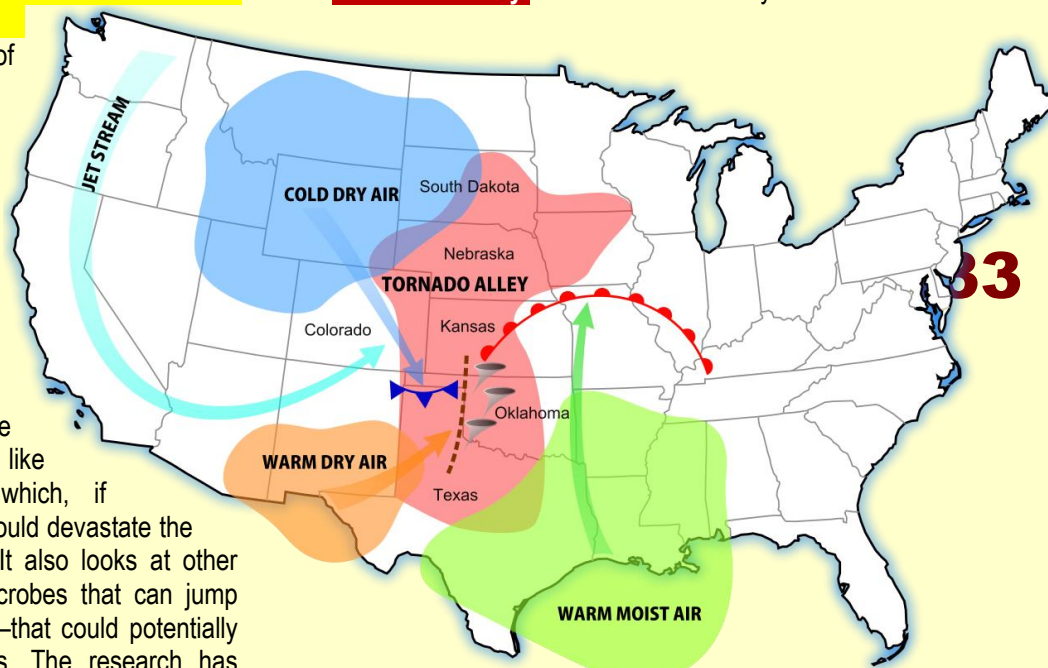
The United States eradicated foot-and-mouth disease from its borders in 1929. The virus, deadly to livestock, persists in more than 100 countries, though, and travels with ease. It is able to hitchhike on shoes, clothes, and tires. Airborne, it can travel almost 40 miles overland and almost 190 over open ocean. When the United Kingdom experienced a foot-and-mouth epidemic in 2001, more than 6 million animals had to be slaughtered to contain the virus' spread. The economic fallout was devastating, and some farmers committed suicide (though of course it is difficult to establish cause and effect with suicide).

The U.S. Department of Agriculture established an animal disease research center on Plum Island, New York, in 1954, for the express purpose of studying foot-and-mouth and other deadly animal diseases. Today, in addition to foot-and-mouth, the center studies viruses like African swine fever, which, if inadvertently released, could devastate the U.S. livestock industry. It also looks at other zoonotic pathogens—microbes that can jump from animals to people—that could potentially cause human outbreaks. The research has direct implications for U.S. defense against agro-terrorism, which is the malicious disruption of food supply systems or agriculture. It was with biological threats in mind that the Department of Homeland Security took over the lab in 2002.

There was a reason the federal government placed the 840-acre lab where it did: The isolated island sits off of the far eastern end of New York state's Long Island, where the prevailing winds blow toward the ocean. If the foot-and-mouth virus—or any other airborne danger—escaped from the lab, the air currents would likely carry it beyond

where it could cause harm. An out-of-the-way location makes sense because no lab is risk free. In 2007, for instance, the foot-and-mouth virus escaped from Great Britain's Pirbright Institute, one of the world's leading laboratories studying animal disease, and set off an outbreak at a nearby farm.

So it is absolutely mind-boggling that Homeland Security has decided to move the lab, to be known as the National Bio and Agro-Defense Facility, to the Kansas State University campus in Manhattan, Kansas, smack in the middle of cattle country and Tornado Alley. Builders recently broke



ground on the brand-new \$1.25 billion dollar facility, which is set to be fully operational in 2022. It will include a biosafety level 4 lab, meaning one designed to handle deadly and exotic pathogens for which no vaccines or treatments exist. Not surprisingly, there has been a lot of controversy surrounding the lab's move to Kansas. Ranchers and farmers in the area are understandably worried while local officials are eager for the jobs and investments the lab will bring. In 2010, the National Academy of Sciences conducted a risk assessment of Homeland



Security's first proposal for the Kansas lab and found a 70 percent probability that a foot-and-mouth virus release resulting in an outbreak would occur over the facility's 50-year life span. In 2012, the National Research Council evaluated Homeland Security's revised proposal and found considerable improvements in lab construction design that lowered the 50-year risk to below 1 percent, but this extremely low probability of accidental viral release was based on Homeland Security's unsupported, overly optimistic estimates of human error rates. The committee that authored the 2012 National Academy of Sciences report could not verify Homeland Security's risk estimates because the data and methods were poorly and unevenly presented. In addition, the academy found that Homeland Security had not adequately addressed plans for lab personnel training, sufficiently considered input from local stakeholders, or made the kind of long-term funding commitment needed to maintain high-quality operations. The 2012 evaluation concluded that Homeland Security's lab proposal was "technically inadequate in critical aspects." Even the best laboratories make mistakes: In July 2014, the Centers for Disease Control and Prevention revealed mishaps involving exposure of personnel to anthrax and the transfer of a flu strain. Just this month, U.S. defense officials revealed that an Army lab mistakenly sent live samples of anthrax to at least 52 labs in 18 states and three countries. Meanwhile, a new *USA Today* investigation into high-containment laboratories (those at biosafety levels 3 and 4)

found hundreds of incidents in recent years that could have put public health at risk. There is virtually no oversight of the labs that the newspaper looked into—which are operated by private companies, universities, and government agencies—and state health departments typically do not know where they are or what they do, even though the state health departments would be responsible for the response in the event of a lab breach. I first wrote about this problem more than a decade ago, and sadly, not much has changed.

It appears to be too late to stop construction of the Kansas laboratory, but there may yet be ways to lessen the danger. At the very least, there should be state and federal oversight of high-containment laboratory activities, which should include responsibility for tracking safety violations, errors, and infections acquired by lab staff doing their jobs. And the new lab had better be strong enough to withstand a direct hit by a major tornado.

In the meantime, all we can do is hope that no human error, lab breach, or individual bent on doing harm causes a deadly animal disease to leak into the surrounding countryside. If that happens, it could decimate the U.S. livestock industry, wreaking economic havoc and potentially also putting human health at risk. The avian influenza epidemic sweeping through the Midwest is bad enough, wiping out chicken flocks and disrupting the U.S. food supply. If something similar were to happen to cattle due to a foot-and-mouth leak from the Kansas lab, we would have no one to blame but ourselves.

Laura H. Kahn is a general internist and works on the research staff of Princeton University's Program on Science and Global Security.





Enjoy
your Summer
in Greece