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*Dedicated to Global
First Responders*

DIARY

January 2022

PART A



*Hope
is the only
thing stronger
than fear*

C²BRNE DIARY– 2022[©]

January 2022

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EDITOR'S CORNER





Editorial

Brig Gen (ret.) Ioannis Galatas, MD, MSc, MC (Army)

Editor-in-Chief
C²BRNE Diary



Dear Colleagues,

I was about to write “Happy New Year” and then I thought: “Happy?” Happy, for what?

- For an ongoing pandemic (Year 3)?
- For the people that are going to die worldwide?
- For the infodemic spread disseminating terror instead of answers to very simple questions like:
 - ✓ Why should one wear a mask when in the open and even without crowds?
 - ✓ What is the viral load that can infect someone given that the WHO estimates that it takes fifteen minutes of close contact with a confirmed case to become infected? In addition, rapid tests in how many aid cycles are used?
 - ✓ In how many doses do vaccines finally build immunity in the body?
 - ✓ What is the percentage of vaccination coverage to build the famous wall of community (herd) immunity?
 - ✓ Why should billions of people be vaccinated for a disease with a mortality rate of 0.23% according to the WHO?
 - ✓ Why should children 1-12 years old be vaccinated when they are not sick and when they are, they are not seriously ill?
 - ✓ Why has science until now claimed that physical immunity is always superior to chemical immunity while now it claims the opposite?
 - ✓ Why should someone who has proven antibodies be vaccinated? Could not we test the whole population and those who have no antibodies to get them vaccinated?
 - ✓ How can a drug that has been repeatedly sentenced to huge fines by the US government be considered credible and under what procedures did this company achieve impunity for its vaccines?
 - ✓ Why in the US is the special platform for recording side effects after vaccination (VAERS) showing a 1000% increase of cases and thousands of deaths.
 - ✓ Why leading scientists and world-renowned virologists such as Luc Montagnier and Soucarit Bagdi have been cut off from the world media and insulted by every rugged “expert”? Is it because they are very negative about vaccination hysteria?
 - ✓ Why both WHO and EMA are not at least evaluating Sputnik V and Sputnik Light vaccines? Only because they are Russian products? Or just because they do not like the name?

Specifically for Greece:

- ✓ According to the official data based on the diagnostic tests that have been carried out for the last two years, around 2 million Greeks have been diagnosed positive. So why should they be vaccinated?
- ✓ Based on what the “experts” say that behind every case there are ten hidden, then we go to the 20 million number that exceeds the population of the country and nevertheless shows that immunity has already been achieved.
- ✓ How is it possible to record the dead from a disease those who did not die from it but died 4 months after a different cause?
- ✓ Why does Italy’s Supreme Health Council, according to IL Tempo, consider that only 3% of Covid deaths are actually due to the disease?
- ✓ Why are no autopsies performed on patients who have died from Covid to see what damage the virus has caused to their organs?
- ✓ Why have the scientists who have undertaken the vaccination campaign and proposed the measures been legally shielded against malpractice and responsibilities?
- ✓ How is it possible that health professionals (doctors - nurses) who have seen how dangerous the virus can be, being in the front line, would prefer to lose their job than get a specific vaccine? Greece set aside 7,000 hospital healthcare professionals that could have been a valuable asset in the management of severe covid cases.



- ✓ Why all these "experts" who have been sitting on our necks for two years now, are not in their places in the hospitals and instead are constantly on the TV channels?
- ✓ Why, while all the studies on the Omicron mutation show that it is almost as mild as the common cold, do governments continue to terrorize citizens with measures, 100 euros fines, and propaganda on the channels?
- ✓ Exactly how much taxpayers' money has been given to the channels and mass (mainly electronic) media to play the same issue from morning to night for two years?
- ✓ What are the vaccination statistics for all the illegal immigrants from Asia and Africa flooding Greece, moving around without taking all necessary precaution measures?
- For the hypothetical "Great Reset" that many speak about but nobody understands the real content of this term and the expected consequences?
- For the continuous geopolitical bullying in the southeast Mediterranean area between Turkey and almost all its neighbors? Bullying that will surely lead to a "hot episode" very soon?
- For the continuous illegal immigrants' tsunami from Asia and Africa through the "gates" of the European (so-called) Union? A tsunami that is slowly changing the cultural composition of affected nations?
- For a possible conflict in the Middle East between Israel and Iran (and its proxies)? A conflict that might end up even nuclear with immense consequences for this part of the world and beyond.
- For a possible global cyber-attack against critical infrastructures or a combination with one of the asymmetric threats?
- For the continuous frictions between EU, NATO, and Russia? Add China/Taiwan in the equation as well. For what exactly reasoning? Dominance and power? Business? Mine is bigger than yours? Pure stupidity?
- For the US chess games with Turkey (cancelation of the EastMed Pipeline; Kazakstan's destabilization/uprise)?
- For the starvation and the lack of drinking water to millions of people the moment that great powers are spending billions for space weapons and supersonic cruise missiles?

The only reason for continuing to say "Happy New Year" is for renewing our trust in the great human brain that continues to amaze us when used for peaceful purposes such as defeating paralysis and blindness, titanium hearts, curing Alzheimer's disease, cancer, or AIDS, going to Mars, etc. You might say that I am a pessimist. I am not really despite my long involvement in the dark side of human activities. But this does not restrain me from using my logic to define reality. Nevertheless, let us all hope that the New Year will be without surprises and that will provide us time to leak our wounds and keep on walking!

Sincere wishes to all CBRN First Responders and their families! We all count on you!

The Editor-in-Chief



Abu Dhabi Police supercar



W Motors, Lykan Hypersport | 0-100km <3sec (one out of seven produced!)



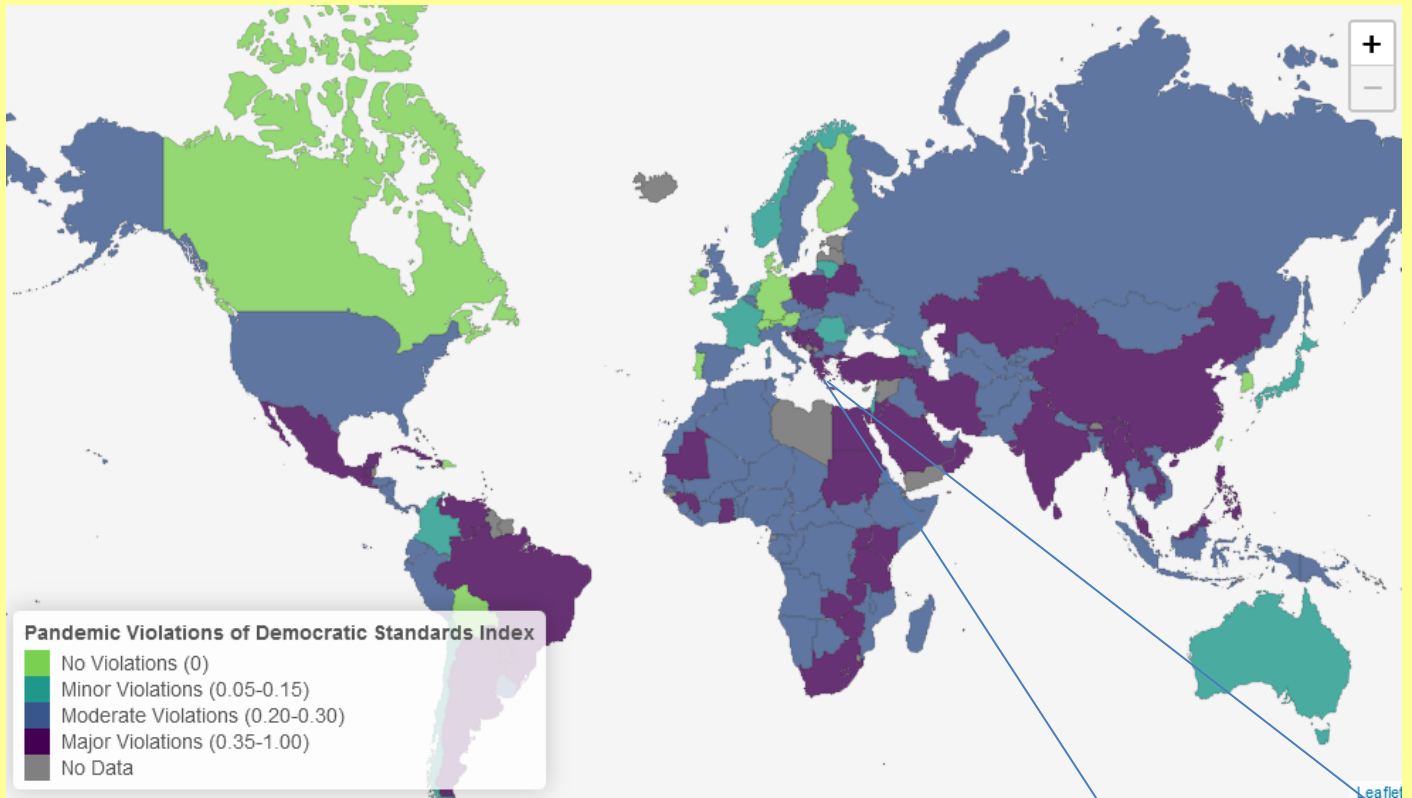
SPA Chaos (Greece) – Why not? (Top speed: 500+ km/hr)



Democracy was born here ...

Pandemic Backsliding: Democracy During COVID-19 (March 2020 to June 2021)

Source: <https://www.v-dem.net/shiny/PanDem/>



The Pandemic Backsliding Project tracks state responses to Covid-19 and their potential effect on the overall quality of democracy within the country. The current version of the data reflects the situation between March 2020 and June 2021.



The Pandemic Violations of Democratic Standards Index (PanDem) captures the extent to which state responses to Covid-19 violate democratic standards for emergency responses. The Pandemic Backsliding Index (PanBack) reflects the extent to which such responses pose a risk to the overall quality of democracy within the country. Combined, these two indices provide a snapshot of how emergency responses to Covid-19 may be affecting the quality of democracy within the country. They are not intended to estimate the level of democracy, which is

instead captured using the [V-Dem](#) Liberal Democracy Index (LDI) in 2019. Use the options in the interactive map to compare the country-level scores for the Pandemic Violations of Democratic Standards Index (PanDem), the Pandemic Backsliding Index (PanBack), and the Liberal Democracy Index (LDI) in 144 countries.

●► Read also: Eastern European countries adopting [authoritarian measures](#) in face of Covid.





Καλή Χρονιά! Happy New Year! سنة جديدة سعيدة!



Crowds celebrating New Year's Eve in front of the Greek Parliament building at Syntagma Square in Athens – the only upsetting thing is that they are not Greeks! They are mostly Pakistanis and other legal and illegal immigrants – no precautions, no masks, no vaccinations. Greeks are at their homes due to a lockdown status due to the Covid-19 pandemic.



EDITOR'S COMMENT: Citizens always have the leadership they deserve! So sad for a great nation!



Without comments!



Dec 30 – Police in southern China (Jingxi city) paraded four suspects through the streets for allegedly smuggling people across sealed borders (to Vietnam) in breach of pandemic control measures -- a controversial act of public shaming that triggered backlash on Chinese social media. Is Cultural Revolution back?

S.P.E.C.T.R.E.

(Translated from Greek)

Source: https://www.pronews.gr/opinion-makers/1047052_mipos-telika-i-spectre-den-yparhei-mono-sta-vivlia-alla-einai-pragmatiki-kai

SPECTRE: Special Executive for Counter-intelligence, Terrorism, Revenge, and Extortion was a fantasy global crime organization in the James Bond series aimed at profit and power while renouncing any nationality.

That is to say, a major supporter of Internationalism and Globalization, while its main goal has always been to involve the great powers in a totalitarian war so that through the "ashes" of societies the organization emerges as the dominant force.

By the way, Joe Biden's Democrats' insistence on creating a war crisis with Russia in Ukraine and with China in Taiwan, is either the result of irreparable stupidity or some ... SPECTRE wants it.

Otherwise, it is not explained that some people want to play nuclear games that will bring disaster and destruction to everyone.

And one wonders, is this organization ultimately fantastic, or does it actually exist in real life and just have another name (if it has a name at all)?

There has been evidence from the past that there is an "invisible", vague global Directorate but now with the pandemic, this seems clearer.

Let's see if the basic qualities are observed and if they are applied in some way, in today's life.



The main feature of the pandemic is that in all countries we have in each state a specific group of "experts" on medical issues, who say the same specific things in terms of dealing with the pandemic and vaccinations.

Therefore, we have a common world narrative, now known to all, which in recent months has been trying to impose mass vaccinations on everyone regardless of whether free will is violated or not.

Because it is logical, for a medical procedure, to be decided by the one who receives it.

A common feature is that several medical scientists, such as the virologist Robert W. Malone, also known as one of the pioneering researchers who led the discovery of mRNA technology that claimed that vaccines could do the coronavirus even more dangerous, or the French Nobel Laureate in 2008 Nobel Laureate Luc Montagnier.

The French Nobel laureate is ringing the alarm bells for humanity and calls on governments to stop the madness now, as he says of mass vaccination.

Of particular importance is the fact that what Montagnier says comes at a time when governments are literally pressuring citizens by chasing them with a syringe in their hand while the majority of states are now following the path of legal coercion.

But their own so-called "deconstruct" daily with the constant repetition of the claims of "experts".

So, one can say that we have anti-information, anti-information. Everyone can choose for themselves which side has each quality, as befits free people.

With one difference, though. In the television media, where they still control the formation of public opinion, the opinion of only one side is heard, the other, on the contrary, is heard on the internet and in fact in selected "places".

We do not care who is right. We are interested in the fact that renowned scientists (including Greeks) arbitrarily do not have the same weight as "experts".

That is, Montagnier's Nobel suddenly does not count towards the "experts".

Is the status of Terrorism valid? Probably, yes, since anyone who listens to news bulletins in the last two years has fallen into a severe depression, feels lifeless, and accepts psychological bullying to choose "democratically" the "right" way, i.e., the mass and mandatory vaccination otherwise it will be "outcast".

And how else can one characterize the daily "case studies" if not a terror campaign, since the citizens are not responsible for the spread of the virus?

Citizens all these months in all countries have implemented what their governments have ordered.

So, if governments had allowed vaccinated people to congregate in mass transportation media, bars and nightclubs where it is a given that there would be a density ... of two people per square meter, it is not those who are responsible for the spread of cases but those who created the specific protocols. governments and in Greece specifically the PM Mitsotakis government.

So, why are citizens being bullied every day for something for which they are not responsible?

Blackmail as property/capacity, does it stand? When millions of people around the world are forced to get vaccinated under the threat of losing their jobs, or being marginalized, or being fined, what is it called?

Will they act on what they believe, or what they feel or do due to suffocating pressure at every level, from the economic to the psychological and the social?

Because it is a given that if there was no state - "twister", the decisions of many people would be very different. We are not interested in their choice, but they must make it free, without blackmail.

And let us go to the capacity of Revenge.

Those who still choose the right to free choice have suffered in recent months an unprecedented marginalization plus financial bleeding, while in the future they risk even being deprived of their personal freedom.

In some countries, the ... "concentration camps" for the unvaccinated have begun. Unprecedented things that the mind does not fit. French President Emmanuel Macron said: *"I really want to piss off the unvaccinated. And so, we will continue to do so until the end. This is the strategy!"*

If this is not Revenge for those who choose a different path then what is? It is personal, now ...

Therefore, are the properties of SPECTRE, as imagined by Ian Fleming finally confirmed? Is the planet entangled in its "web"?

The problem with everything that happens is the simultaneity of events and global coordination. People never coordinate on their own, they are always coordinated by someone. So it goes, they are matters of logic and here we have a gap of logic.

Recall a key article from the UN Charter on Human Rights.

"ARTICLE 19

Everyone has the right to freedom of opinion and expression; that is to say, the right not to have adverse effects on his opinions, and the right to seek, receive and impart information and ideas, by any means of expression, and through all people".

Just a reminder ...



MAGNOLIA PICTURES' MOLU PERIPHERI FILM' INTUITIVE PICTURES PRESENTS "STRAY" DIRECTED BY ELIZABETH LO PRODUCED BY ELIZABETH LO & SHANE BORIS EXECUTIVE PRODUCERS INA FICHMAN CO-PRODUCERS BY CEYLAN CAHOGLO & ZEYNEP KOPROLU DIRECTOR OF PHOTOGRAPHY ELIZABETH LO
EDITED BY ELIZABETH LO ORIGINAL MUSIC ALI HELMREIN SOUND DESIGN ERNST KAPPEL
NOLU Periferi Intuitive Pictures baQc ARRI docwoof magnolia
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"THE ULTIMATE LOVE LETTER TO DOGS, AND A MULTIFACETED MORAL INQUIRY INTO HUMANITY."

VARIETY

"STIRRING."
HOLLYWOOD REPORTER

"STRANGELY BEAUTIFUL."
SCREEN DAILY

"PROFOUND."
INDIEWIRE

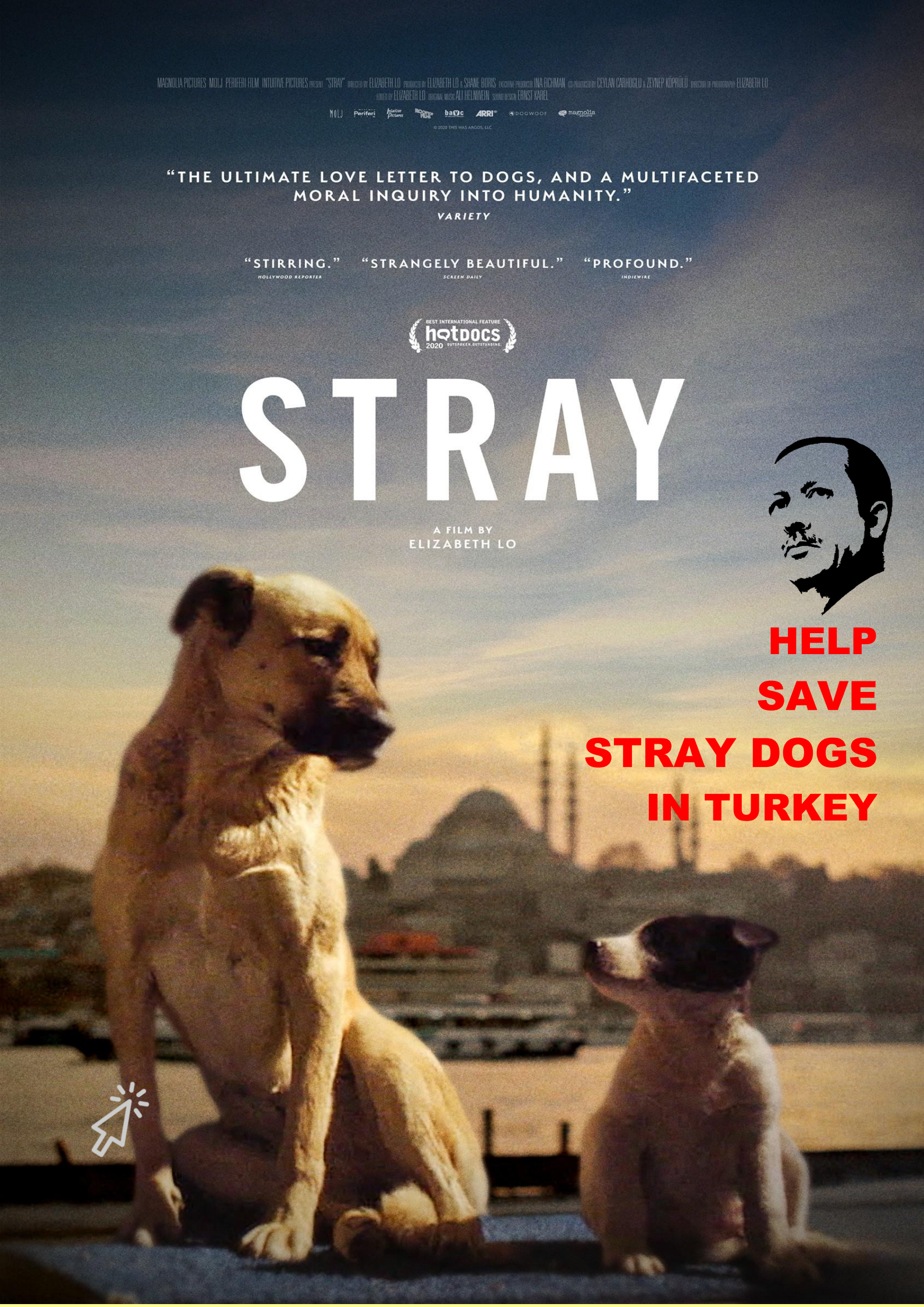


STRAY

A FILM BY
ELIZABETH LO



**HELP
SAVE
STRAY DOGS
IN TURKEY**



Turkish Television Series Makes Heroes of Terrorists, Slavers, and Rapists

By Raymond Ibrahim

Source: <https://www.meforum.org/62928/turkish-tv-glorifies-terrorists-slavers-and-rapists>

Jan 05 – Unlike their Western counterparts, many Muslims are fond of their heroes of the past — particularly the jihadist types who for centuries thrived on terrorizing the West.

This was recently underscored by *Barbaros: Sword of the Mediterranean*, a television series written and produced in Turkey that aired late last year, and is dedicated to highlighting the clash between Islam and Christendom — in a way, of course, that demonizes the latter and extols the former.

The highly fictionalized series revolves around four Muslim brothers and their naval exploits and battles against the Christian maritime states of the Mediterranean.

While the series portrays the brothers as great heroes who sacrificed much to "defend" the Ottoman Empire against Christian Europe, history — real, actual, recorded history — has a different tale to tell.

In brief, the four brothers began life as common Barbary pirates ("corsairs"). The eldest of these brothers, Oruch, was notoriously sadistic, and once "ripped out the throat of a Christian with his teeth and ate the tongue," to quote historian Roger Crowley in *Empires of the Sea*. He also "tied the head of a Hospitaller knight to a rope and twirled it like a globe until the eyeballs popped. In Spain and southern Italy people crossed themselves at his name."

Due to the brothers' many successful exploits against and slave raids on Europe, they eventually caught the eye of Ottoman sultan Suleiman "the Great." Around 1520, the sultan took one of these Barbary brother pirates, Khair al-Din Barbarossa (d. 1546), whom the series is named after, into his service and helped him prosecute an especially ferocious jihad on Europe. Claiming that "Allah had made him to frighten Christians," Barbarossa wrought havoc along the Christian Mediterranean, rarely withdrawing without thousands of captives. In one instance, on the island of Minorca, in the midst of the devastation, he left a message pinned to the tail of a horse in which he vowed that he would not rest "until I have killed the last one of you and enslaved your women, your daughters, and your children."

Over the following two decades, hundreds of thousands of Europeans were enslaved, so that, by 1541, "Algiers teemed with Christian captives, and it became a common saying that a Christian slave was scarcely a fair barter for an onion."

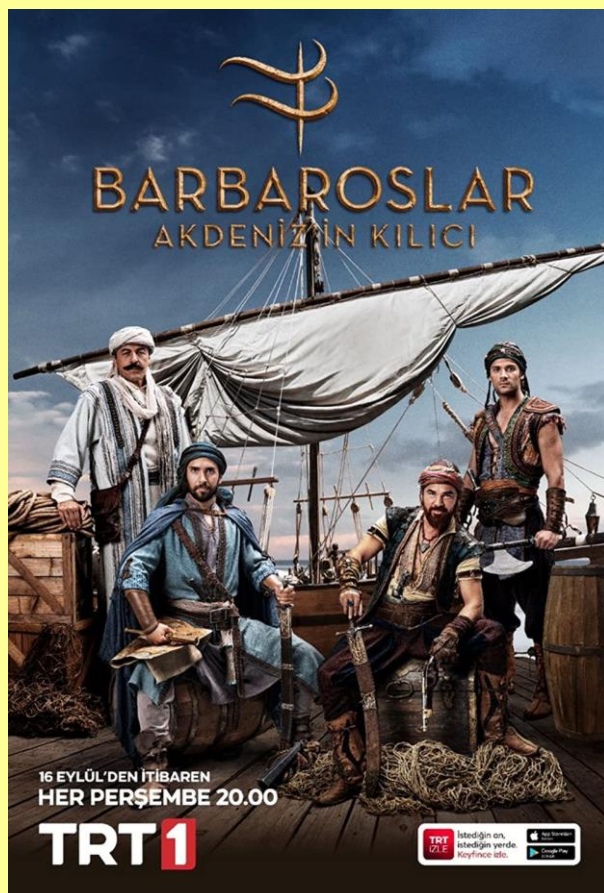
This, apparently, is what Turkey is proud of — Muslims who "defend" Islam by invading Western lands to terrorize, slaughter, and enslave its people on the "grievance" that the unrepentant Christians are infidels who refuse the summons of Islam.

Nor is this sentiment limited to an obscure movie producer and a few Turks; it's shared all the way at the top of the Turkish hierarchy. President Recep Tayyip Erdoğan habitually praises those Turkish heroes and sultans of the past who most terrorized, slaughtered, and enslaved Europeans, such as [Muhammad II](#), the conqueror of Constantinople — and a notorious pedophile to boot, as both Turkish and European chronicles attest.

The message could not be clearer: invading and conquering neighboring peoples — not due to any real grievances, but because they are non-Muslim — with all the attending atrocities, rapes, destruction, and mass slavery, is a laudable thing, apparently to be emulated once convenient.

Nor is such thinking limited to Turkey. As one report [states](#), "[t]he television series was a Turkish and Algerian collaboration and is also being aired in Pakistan, spreading the Islam versus Christian rhetoric to other parts of the Muslim world."

[Raymond Ibrahim](#) is the Judith Friedman Rosen Fellow at the Middle East Forum.



BMW just unveiled its first color-changing car

Source: <https://www.businessinsider.com/bmw-just-unveiled-first-color-changing-car-video-2022-1>

Video: https://www.youtube.com/watch?v=9GGZsaO84GQ&feature=emb_imp_woyt



EDITOR'S COMMENT: Although it is very impressive it might be a future security threat. Imagine police patrol to look for a white escape car the moment the same car can change to black or blue or red on the move!



Iranian Women's Rights

Iran 'likely' smuggling weapons to Yemen: UN report

Source: <https://www.aljazeera.com/news/2022/1/9/iran-likely-smuggling-weapons-to-yemen-confidential-report>

Jan 09 – The United Nations found thousands of weapons recently seized in the Arabian Sea likely came from a single port in Iran, evidence Tehran is exporting arms to [Yemen](#) and elsewhere, The Wall Street Journal newspaper has reported.

Yemen has been racked by war since 2014, pitting Iran-backed Houthi rebels against the internationally recognised government and a Saudi Arabian-led military force.

Citing a confidential report by a UN Security Council panel of experts on Yemen, the Journal on Saturday [wrote](#) that boats and land transport were used to smuggle weapons made in Russia, China and Iran into Yemen.



The arms included rocket launchers, machine guns and sniper rifles, which had been seized by the US Navy in recent months.



“The mix of the weapons indicates a common pattern of supply, likely from government stocks, involving dhows [boats] in the Arabian Sea, which transport weapons to Yemen and Somalia,” the report said. The UN imposed an arms embargo on the Houthis in 2015.

The United States as well as ally Saudi Arabia – which leads the military coalition backing the Yemeni government – have long accused Iran of supplying the Houthis with weapons, a charge Tehran denies. Iranian authorities did not immediately respond to the report. A Houthi official in Yemen denied it, calling allegations of Iranian weapon smuggling “an illusion”.

“Seaports and airports are shut so how can these alleged weapons can reach us?” Nasr al-Din Amir, the deputy chief of the Houthis’ ministry of information, was quoted as saying by the Journal.

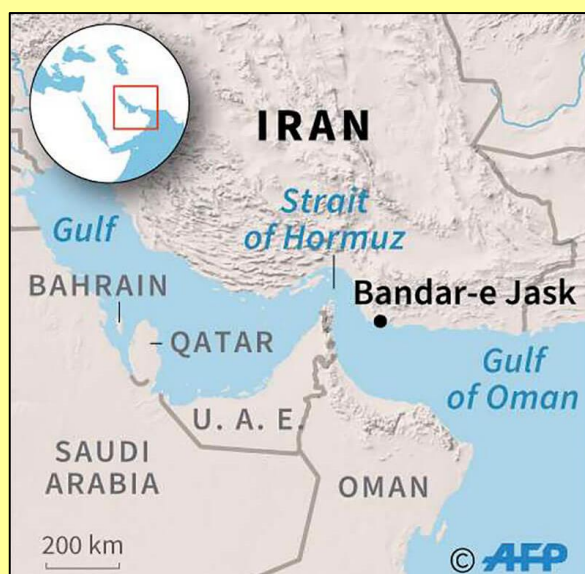
Jask port

Boats used to transport the weapons left from the southeastern Iranian port of Jask, the UN report found, based on interviews with the boat crew and data from the onboard navigational instruments.

In recent months, fighting in Yemen has seen Saudi-led coalition forces carry out air raids on the rebel-held capital Sanaa.

Riyadh has said its 2015 intervention in Yemen was aimed at preventing an Iranian ally taking power on its doorstep.

The UN estimates Yemen’s war directly or indirectly [killed](#) 377,000 people. More than 80 percent of the population of about 30 million require humanitarian assistance.



EDITOR’S COMMENT: Iranian weapons given to Houthis in Yemen? What a big surprise! UN is working hard to persuade humanity that its existence is worthing! A country suffering from a long civil war; producing nothing other than its geostrategic location can fly armed UAVs and lounge missiles against Saudi Arabia! The definition of a miracle!



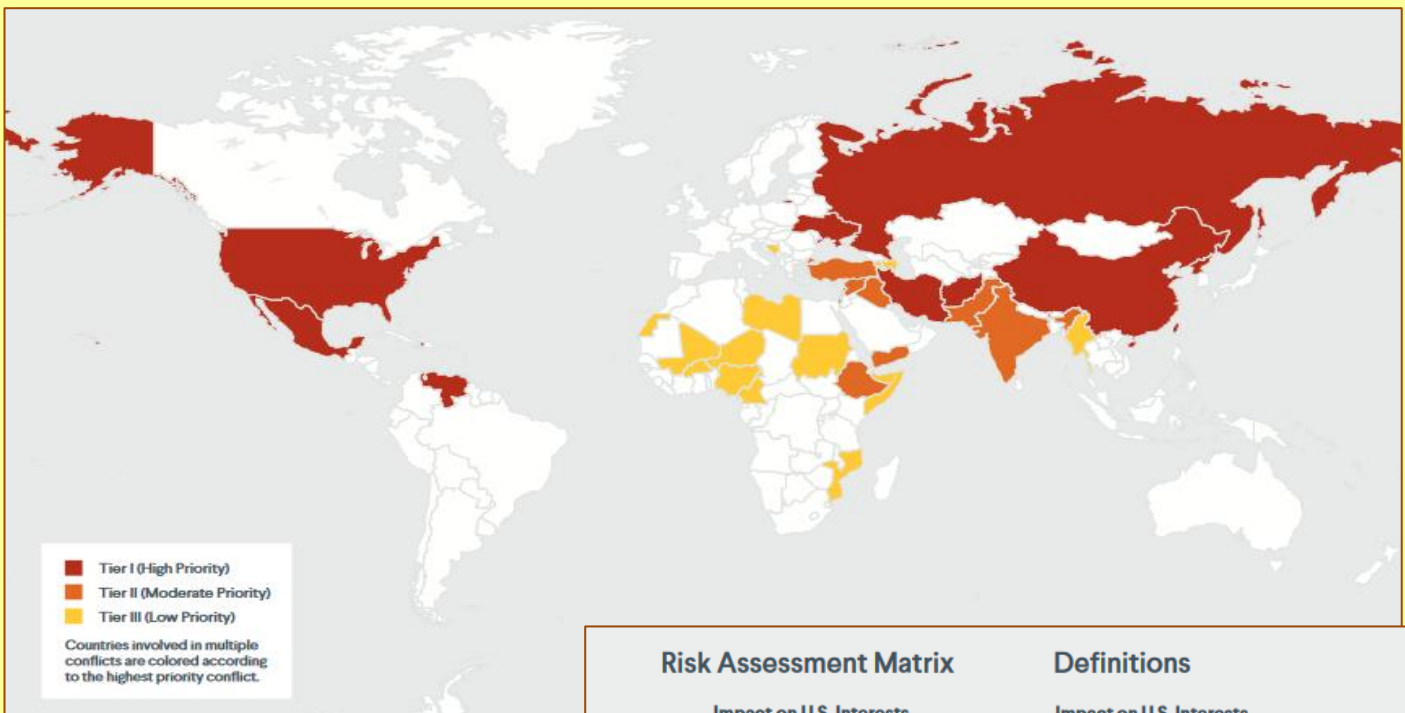
Conflicts to Watch in 2022

By Paul B. Stares

Source: <https://www.cfr.org/report/conflicts-watch-2022>

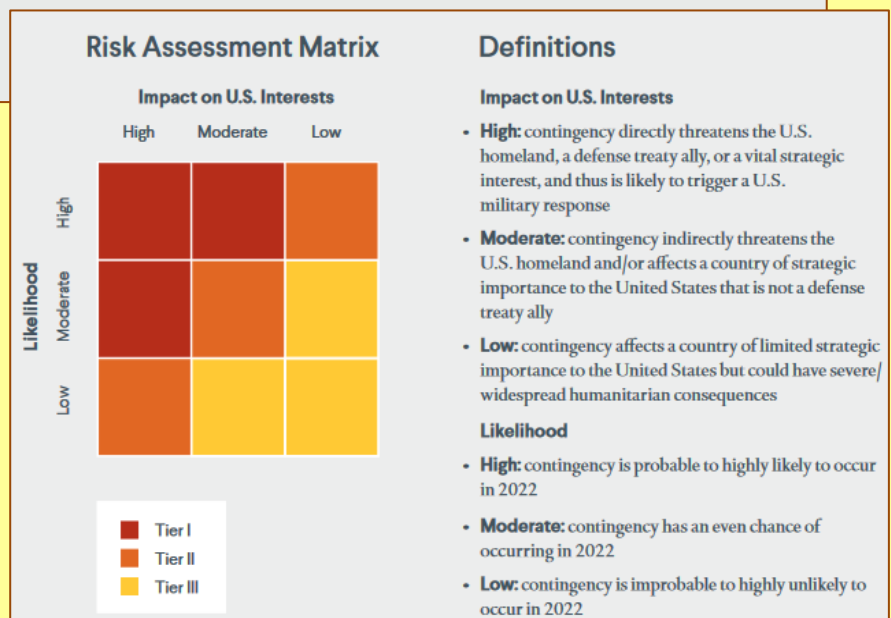
Jan 10 – The Joe Biden administration is confronting several acute humanitarian crises this year amid growing tensions with China, Iran, and Russia, according to the Council on Foreign Relations' (CFR) fourteenth annual Preventive Priorities Survey. The survey finds an alarming trend: severe food shortages, diminished foreign aid, political instability, and deteriorating economic conditions are accelerating humanitarian and refugee crises around the world.

Conducted by CFR's [Center for Preventive Action](#) (CPA) in November, the survey asks foreign policy experts to evaluate thirty ongoing or potential violent conflicts based on their likelihood of occurring or escalating this year, as well as their possible impact on U.S. interests.



The human cost of these conflicts has U.S. foreign policy experts worried that the United States will have to respond to a vexing mix of humanitarian crises in places as diverse as Afghanistan, Haiti, Lebanon, and Venezuela in the coming year. At the same time, the United States will need to manage the risk of heightened tensions with Russia over Ukraine, intensifying pressure from China toward Taiwan that could lead to a cross-strait crisis, and a potential confrontation between Iran and Israel concerning Iran's nuclear program.

For the first time since the survey was launched in 2008, a mass-casualty terrorist attack on the United States by a foreign terrorist organization is no longer judged to be a priority. However, the dangers posed by North Korea's nuclear program—which was the top threat in 2021—and the possibility of a highly disruptive cyberattack on U.S. critical infrastructure remain concerns for 2022.



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“From humanitarian crises to potential great power confrontations, the Biden administration will likely be confronted with an acutely demanding set of foreign policy challenges in 2022. Getting the balance right between managing the ‘urgent’ without neglecting the ‘important’ will require not only clear thinking but also tough choices,” said [Paul B. Stares](#), CPA director and General John W. Vessey senior fellow for conflict prevention.

In total, ten contingencies are considered top-tier risks:

Likelihood: High; Impact: Moderate

- A worsening humanitarian crisis in **Afghanistan** caused by acute food shortages, continuing political instability, and diminished foreign assistance, leading to a mass exodus of refugees
- Growing political upheaval and deteriorating public security in **Haiti**, leading to a worsening humanitarian crisis and a mass exodus of refugees
- Growing political instability and social unrest in **Lebanon**, leading to the collapse of state institutions and increasing sectarian violence
- Continuing deterioration of social and economic conditions in **Venezuela**, leading to further political strife and increasing migration outflows

Likelihood: Moderate; Impact: High

- Intensifying coercive pressure by **China** toward **Taiwan**, leading to a major cross-strait crisis involving the United States and/or other countries in the region
- A military confrontation between **Iran** and **Israel** over Iran’s nuclear program and continued support for militant groups in neighboring countries
- Surging armed competition among criminal organizations in **Mexico**, resulting in increased civilian casualties, growing political corruption, and a surge in refugees and asylum-seekers
- The resumption of **North Korea’s** long-range ballistic missile testing and/or nuclear weapons development, triggering a renewed crisis on the Korean Peninsula
- Increased fighting in eastern **Ukraine** or a major military clash in contested areas, reigniting heightened tensions with **Russia**
- A highly disruptive cyberattack on **U.S. critical infrastructure** by a state or state-supported group

[General John W. Vessey](#) Senior Fellow for Conflict Prevention and Director of the Center for Preventive Action.

Gravity Industries Jet Suit takes part in NATO mountain rescue exercise

Source [+video]: <https://newatlas.com/aircraft/gravity-industries-jet-suit-nato-mountain-rescue-exercise/>

Richard Browning with blood plasma in tow on his way to an "injured soldier" – Gravity Industries via YouTube

Jan 10 – In addition to military applications, Gravity Industries believes jet suits hold potential for search and rescue missions in harsh terrain. Having already carried out flights of its Jet Suit in separate [rescue](#) and [military demonstrations](#), the UK company has combined the two as part of a NATO Mountain Warfare Rescue Exercise.

Powered by five gas turbine engines generating 1,050 bhp and 318 lb (144 kg) of thrust, the Jet Suit has a **range of about 3 miles (5 km) and a flight time measured in minutes – up to four, but typically one to three depending on conditions.**

Those are severe limitations, but the advantages of the suit are its speed of over 50 mph (80 km/h) and its ability to lift a pilot vertically to altitudes



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of up to 12,000 ft (3,658 m) and land on a small footprint – capabilities that should be useful when it comes to quickly getting aid to an injured person in mountainous terrain.

And that's just what the flight conducted late last year in Slovenia as part of the NATO Mountain Warfare Rescue Exercise was designed to demonstrate. Gravity Industries Founder and Chief Test Pilot Richard Browning donned the Jet Suit and delivered blood plasma to an "injured" soldier who had been rescued from a gorge in the Slovenian mountains as part of the exercise.



The Jet Suit has been flown at a speed of up to 85.06 mph (136.89 km/h) – Gravity Industries via YouTube

Although Browning piloted the suit along a track to minimize risk for the exercise, the suit is obviously equipped for crossing over any terrain, which is something that may be of benefit to those responding to emergencies in difficult-to-access locations. Of course, that would mean training up paramedics to fly one of these things or, conversely, giving a pilot medical training.



Which leads us to the question – in the case of the NATO exercise, wouldn't it have been simpler and safer to just have a drone deliver the plasma? The answer must surely be, yes. So, is the Jet Suit a technology in search of a practical application? The fact is people have always yearned to take to the skies, and since a jet suit is the most visceral and independent example of powered human flight, maybe it doesn't need a practical application. On that note, the company is teasing the prospect of an upcoming Jet Suit race series. In the meantime, check out Browning and his Jet Suit doing their thing in the NATO exercise in the video below.

U.S. court revives lawsuit against Pfizer, others on Iraq terrorism funding claims

Source: <https://www.reuters.com/world/us-court-revives-lawsuit-against-pfizer-others-iraq-terrorism-funding-claims-2022-01-04/>

Jan 04 – A U.S. appeals court on Tuesday revived a lawsuit against AstraZeneca Plc ([AZN.L](#)), Pfizer Inc ([PFE.N](#)) and other companies over allegations their contracts with Iraq's health ministry helped fund terrorism that killed Americans during the war in Iraq.

The plaintiffs contend that the militia group Jaysh al-Mahdi, sponsored by Hezbollah, controlled Iraq's health ministry and that the 21 defendant U.S. and European medical equipment and pharmaceutical companies made corrupt payments to obtain medical-supply contracts.

Representatives from the five corporate groups - AstraZeneca, GE Healthcare USA Holding, Johnson & Johnson ([JNJ.N](#)) Pfizer and Hoffmann-La Roche Inc said in a joint statement "further proceedings will show the companies are not responsible in any way."

The lawsuit revived by the U.S. Court of Appeals for the District of Columbia Circuit was brought by family members of victims of attacks in Iraq by the Mahdi group. A federal trial judge dismissed the lawsuit in 2020.

Lawyer Kannon Shanmugam, who argued the appeal on behalf of the companies, did not immediately comment.

The lawyer for the family members, Joshua Branson, also did not immediately comment.

Lawyers for the companies told the appeals court that they provided the Iraqi government "life-saving breast cancer treatments, hemophilia injections, ultrasounds, electrocardiogram machines, and other medical goods" after the U.S.-led invasion of Iraq toppled strongman president Saddam Hussein in 2003.

Shanmugam said in court in September that a ruling against the companies "would have a severe chilling effect on the willingness of companies and non-governmental organizations to conduct essential activities, often at the government's request, in troubled regions."

Pfizer, J&J Among Pharma Companies Accused of Funding Terrorism in Iraq

By Michael Nevradakis, Ph.D.

Source: <https://childrenshealthdefense.org/defender/pfizer-johnson-pharma-funding-terrorism-iraq/>

Jan 10 – A 2017 lawsuit alleging five pharmaceutical companies helped finance terror attacks against U.S. service members and other Americans in Iraq during the "War on Terror" was unanimously [reinstated and remanded](#) by a three-judge panel of the D.C. Court of Appeals.

The lawsuit against the five companies in question — Pfizer, AstraZeneca, Johnson & Johnson, Roche and GE Healthcare — [was dismissed](#) in July 2020 by a federal district court in Washington, D.C. before being reinstated last week.

The lawsuit [claims](#) the five companies regularly paid bribes, [including](#) free drugs and medical devices, to officials in Iraq's Ministry of Health between 2005 and 2011, in their [efforts](#) to secure drug contracts.

In turn, the suit alleges, these companies' contracts with the Iraqi health ministry helped "fund terrorism" perpetrated by a Shiite militia that killed Americans during that period.

The militia in question, Jaysh al-Mahdi, or the "Mahdi Army," maintained control of the health ministry at that time.

The [amended lawsuit](#) was filed on behalf of 395 Americans who were killed or injured in Iraq during the six-year period.

The plaintiffs seek damages under the federal [Anti-Terrorism Act](#) (ATA), which [states](#) plaintiffs must demonstrate the terror attacks were conducted by an organization formally designated as a terrorist group by the U.S. government.

While the Mahdi Army has not been formally classified as a terrorist group, the lawsuit alleges the army's attacks carried out in Iraq were "planned and organized" by Hezbollah, which the U.S. in 1997 labeled a terror group.

The initial lawsuit also prompted an [investigation](#) of the pharmaceutical companies by the U.S. Department of Justice (DOJ), in 2018.



An alleged web of corruption and kickbacks

The allegations made in the lawsuit are [based](#) on information provided by 12 confidential witnesses, public and private reports, contracts, email communications and documents published by WikiLeaks.

Included in the lawsuit are 27 pages of itemized deaths and injuries sustained by U.S. service members in attacks by the Mahdi Army



between 2005 and 2009, and claims of pain and suffering submitted by their family members and relatives.

One of the main planks of the lawsuit pertains to bribes and kickbacks the five companies named in the suit are alleged to have provided to the terrorists who controlled the Iraqi health ministry between 2005 and 2011.

The lawsuit alleges the five companies obtained contracts with the ministry through the illicit payments, which were then used to “aid and abet” terror attacks against Americans.

The [central argument](#) put forth in the original lawsuit is that the companies must have been aware that Iraq’s health ministry operated as a de facto terrorist organization, and this knowledge should have resulted in an insistence, on the part of the five companies, that any contracts with the ministry be structured to reflect this knowledge and to guard against potential corruption and misuse of funds. This point is crucial, as it is illegal under U.S. law to knowingly fund terror groups.

In the aftermath of the U.S. invasion of Iraq in 2003, the procurement budget for the Iraqi health ministry skyrocketed, from \$16 million in 2003 to approximately \$1 billion in 2004, due to U.S. financial assistance.

It was in 2004, [according](#) to the lawsuit, that the Mahdi Army took control of the Iraqi health ministry, at a time when various political factions in the country took over government ministries as the U.S. devolved power back to the Iraqis.

Having taken over the ministry, the Mahdi Army allegedly used it as a vehicle for financing terrorist acts, using local agents to deliver cash kickbacks to terrorists on the ground and selling medical supplies “off the books” on the black market, to further fund terror operations.

Indeed, many of the officials employed in the ministry at the time are [said](#) in the lawsuit to have been senior members of the Mahdi Army. This group maintained strongholds in parts of the Iraqi capital, Baghdad and in the south of the country, vying for control of cities such as Basra and Amara.

The Mahdi Army, in turn, was loyal to Moktada al-Sadr, a political figure [described](#) by The New York Times as a “firebrand” cleric who operated death squads targeting Iraqi Sunnis and Americans.

The group [emerged](#) in 2003, following the overthrow of Saddam Hussein, operating as a security guarantor in neighborhoods dominated by al-Sadr. In 2004, the Mahdi Army fought U.S. forces in Najaf and Sadr City.

According to the lawsuit, the pharmaceutical companies financially supported the Mahdi Army in two ways. One way was through bribes that were paid in the form of “discounts” — which were offered by the companies not through reduced prices, but through the provision of “free” medical goods, often equalling up to [20%](#) of the total value of the contract.

These bribes, the suit [alleges](#), amounted to millions of dollars annually. It is [noted](#) that this form of bribery is commonplace in the Middle East because, unlike direct cash transfers, companies can claim these “free” goods were “charitable” contributions, in the event such transactions are discovered.

Another [alleged](#) means of financial support on the part of the five companies was through the hiring of local intermediaries to register their companies, receive government approval for the use of their products domestically, and negotiate contracts.

The lawsuit describes the payments made to these intermediaries as “thinly disguised bribes.”

Between 2004 and 2013, the companies in question also [allegedly](#) operated a “slush fund,” under the guise of paying for after-sales support and other services related to the products they sold.

These services were “illusory” and the funds instead went into the pockets of corrupt health ministry officials and local agents, the plaintiffs allege.

Goods [said](#) to have been sold to the Iraqi health ministry during this period include GE electrocardiogram machines; [Johnson & Johnson](#) catheters and anti-epilepsy drugs; Depo-



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Provera, a birth control shot produced by [Pfizer](#); Seroquel, an anti-psychotic medication produced by [AstraZeneca](#); and Herceptin, a breast cancer drug produced by Roche.

As a result of the “commissions” and “free” goods provided to members of the Mahdi Army, the militia became [known](#) among U.S. officials as the “Pill Army,” as its fighters often received prescription medications as medicines. These drugs could then be resold. An August 2007 [draft report](#) prepared by the U.S. Embassy in Baghdad accused the Iraqi health ministry of “operating a pharmaceutical diversion scheme” and operating “openly under the control of the Mahdi Army.”

Pharma money funded violent acts against Americans

The lawsuit [alleges](#) bribes facilitated the Mahdi Army’s acquisition of weapons, as well as training and logistical support.

Indeed, the lawsuit claims the Iraqi health ministry and the Mahdi Army were, at the time, essentially interchangeable, and by late 2004, the ministry was too dangerous for Americans to enter and “functioned more as a terrorist apparatus than a health organization,” with headquarters, as well as hospitals, [plastered](#) with posters of al-Sadr captioned with slogans declaring “death to America.”

Hospitals and ambulances are said to have been utilized as part of the terrorist acts perpetrated by the Mahdi Army, while the ministry is said to have employed approximately 15,000 armed men who were [known](#) as the “Facilities Protection Service,” using ministry supplies, such as vehicles and uniforms, for terrorism and other criminal activities, including kidnapping.

Numerous such incidents are detailed in the lawsuit.

In [April 2006](#), for instance, U.S. forces arrested seven bodyguards of then-health minister Ali al-Shemari after a Sunni health official entered the ministry on the pretext of being interviewed for a ministerial post, never to be seen again.

Mass kidnappings repeatedly carried out in Baghdad in 2006 – 2007 were also blamed on the “Facilities Protection Service,” with victims frequently delivered to the health ministry’s basement for torture and, sometimes, murder.

The deputy health minister at the time, Hakim al-Zamili, was also arrested by U.S. troops at the time, charged in the disappearance of another deputy minister, Ammar al-Saffar, whose body was never located.

A [report](#) by global intelligence company Stratfor accused al-Zamili of “selling health services and equipment in return for millions of dollars that he later funneled to Shiite militias.” In other incidents, mortars were [fired](#) at U.S. forces, and at Sunni neighborhoods, directly from the roof of the health ministry. The violence originating from the health ministry was such that a 2006 State Department [cable](#) available on WikiLeaks described it as “The Ministry of Weapons Transportation.” In reinstating the lawsuit, the D.C. Circuit judges [noted](#): “The complaint describes how Jaysh al-Mahdi controlled the ministry and used it as a terrorist headquarters.

“Accepting those allegations, defendants’ dealings with the ministry were equivalent to dealing with the terrorist organization directly. The ministry was therefore not an independent intermediary that broke the chain of causation, but a front for Jaysh al-Mahdi.”

Pharma companies will have to respond to reinstated suit

The lawsuit was filed following an [investigation](#) by the Washington, D.C. law firms of Sparciano & Andreson and Kellogg, Hasen, Todd, Figel & Frederick. In the lawsuit, the firms allege the five named companies were aware their business practices were inappropriate and potentially illegal, based on settlements they reached previously for prior accusations where identical tactics and even some of the same intermediaries were used as part of a United Nations-sponsored oil-for-food program prior to the 2003 Iraq invasion. After the reinstatement of the lawsuit, the companies in question issued a joint statement [denying](#) any wrongdoing.

In 2018, the DOJ launched a separate investigation against the companies, which [came to light](#) when AstraZeneca mentioned the lawsuit in a 2018 securities filing. Pfizer, Roche, and Johnson & Johnson also [acknowledged](#) the investigation in SEC filings that year. It is unclear what the current status of the DOJ investigation is, or why the lawsuit was reinstated, a year-and-a-half after its initial dismissal. Settlements in cases of alleged overseas corruption are not new for at least some of the companies named in the lawsuit. For instance, in 2011, Johnson & Johnson [agreed to a](#) \$70 million settlement stemming from civil and criminal charges that its subsidiaries had [paid](#) bribes to officials in countries such as Greece, Poland and Romania, and as part of the Iraqi oil-for-food program. And in 2010, GE [paid](#) a settlement exceeding \$23 million to settle charges levied by the U.S. Securities and Exchange Commission alleging the company paid kickbacks in the oil-for-food program.

[Michael Nevradakis, Ph.D.](#), is an independent journalist and researcher based in Athens, Greece. For 10 years, he produced and hosted the "Dialogos" radio program and podcast, and has had work published in The Guardian, the Huffington Post, the Daily Kos, Truthout, Mint Press News and other outlets. He completed his Ph.D. in media studies at the University of Texas in 2018 and holds a Master's degree in public policy from Stony Brook University. He has taught at various academic institutions in Greece and the U.S.



Are these Iranian speed boats enough to win the US/UK fleet in the Arab Gulf?

Source: <https://www.quora.com/Iran-knows-it-cannot-beat-Britain-and-the-U-S-so-why-does-it-stir-up-trouble-in-the-Strait-of-Hormuz-and-the-Persian-Gulf-And-what-kind-of-speed-boats-are-they-using>

Iran's fast attack craft

The Islamic Revolution Guards Corps' fast attack craft (FAC) design is a reverse-engineered version of a British Bladerunner 51* – the Zolfaqhar can reach 100km/h and is capable of launching missiles and torpedoes

2005, Bladerunner
Sets "Round Britain"
speed record, at
one point reaching
72 knots (133km/h)

Engines: Twin 1,000hp (746kW) Caterpillar C-18s

Zolfaqhar class
Fourth variant of
Peykaap family
of FAC

Length: **16.3m**

Complement: **3-4 persons**

Air entrapment monohull
Design compresses
air inside tunnels,
increasing lift
and stability



Engines: Two 1,800hp (805kW claimed power)

**1. Two DShK 12.7mm
machine guns**
Rate of fire: **600** rounds/min
Effective range: **2,000m**

2. Two Nasr-1 anti-ship missiles
Warhead: **150kg**. Range: **30km-plus**

3. Two Hoot torpedoes
Supercavitation torpedo
Speed: **360km/h**



**designed and built
by Ice Marine*

Sources: IISS, Naval Technology, Nader Uskowi on Iran

© GRAPHIC NEWS



Nurse 'victimised' for wearing a cross at work was unfairly dismissed, tribunal rules

Source: <https://www.theguardian.com/society/2022/jan/05/nurse-victimised-for-wearing-cross-at-work-was-unfairly-dismissed-tribunal-rules>

Jan 05 – A nurse who claimed she was victimised for wearing a necklace with a Christian cross at work has won a case for unfair dismissal.

Mary Onuoha, a theatre practitioner at **Croydon university hospital**, Surrey, was discriminated against and harassed, an employment tribunal ruled on Wednesday.

Onuoha, a **Catholic**, wore a necklace with a small cross pendant both in and out of work as a symbol of her religious devotion.

However, Croydon Health Services **NHS** Trust's uniform policy prohibited the wearing of necklaces in clinical areas on the basis that they could be a health and safety risk.

Onuoha was asked to remove her necklace in 2014, 13 years after she began working at the hospital. She refused for religious reasons, and refused again when the issue was raised again in 2015 and 2016.

Further efforts by the trust to get Onuoha to remove the necklace, or wear it inside her uniform, failed. She was suspended from clinical duties and demoted to working as a receptionist which she said left her feeling humiliated. She resigned in 2020 and claimed constructive and unfair dismissal. She argued that the trust had breached her right to religion under article 9 of the European convention on human rights, and that her treatment was religious discrimination, harassment and victimisation under the 2010 Equality Act.

According to the **tribunal's ruling**, the wearing of jewellery, including necklaces, was "rife" among the trust's workforce and was "widely tolerated" by management.

The trust allowed employees to wear other items of religious apparel such as headscarves, turbans and kalava bracelets. "There was no proper explanation as to why those items were permitted but a cross-necklace was not," the ruling said.

The trust had "directly discriminated against and harassed" Onuoha, and her "dismissal had been both discriminatory and unfair".

However, the suggestion that the trust had deliberately targeted the cross necklace as a symbol of the Christian faith or that the trust had acted out of "any kind of prejudice towards the Christian faith" was rejected by a majority of the tribunal.

Onuoha said: "My cross has been with me for 40 years. It is part of me, and my faith, and it has never caused anyone any harm.

"At this hospital there are members of staff who go to a mosque four times a day and no one says anything to them. Hindus wear red bracelets on their wrists and female Muslims wear hijabs in theatre.

"Yet my small cross around my neck was deemed so dangerous that I was no longer allowed to do my job. I am a strong woman but I have been treated like a criminal." Andrea Williams, chief executive of the Christian Legal Centre which supported Onuoha's case, said: "From the beginning, this case has been about the high-handed attack from the NHS bureaucracy on the right of a devoted and industrious nurse to wear a cross – the worldwide, recognised and cherished symbol of the Christian faith.

"Any employer will now have to think very carefully before restricting wearing of crosses in the workplace."



Barbaros: Sward of the Mediterranean – A debate

Source: <https://www.meforum.org/62938/turkeys-glorification-of-ottoman-pirates>



New Sheriff over the Aegean Sea



Adopting a Holistic Approach to Security Operations in a Post-COVID World

Source: <https://www.dataminr.com/blog/adopting-a-holistic-approach-to-security-operations-in-a-post-covid-world>

COVID-19 was this century's largest global risk event to date, with far-reaching, long-lasting effects on society and the way we do business. Before COVID-19, pandemic-related risks were barely on security leaders' radars. In fact, in early 2020, when [Risk.net surveyed global operational risk practitioners](#) on their most pressing concerns, the pandemic was a scant mention.

Within two months, the threat landscape dramatically shifted. Unlike localized, and fairly short risk incidents, business risks related to COVID-19 have stretched on for more than a year and have created a larger surface area of risk that continues to grow.

As security officers look ahead to a post-pandemic future, many find themselves with expanded budgets and an executive mandate to build the systems necessary to respond to the next global risk incident.

But how?

"A crucial lesson for leaders (particularly at the local level) is that resilience is most important when it comes to risks that are difficult to predict... The most important lesson is to avoid examining these risks in isolation," [writes](#) W. Lee Howell, World Economic Forum Managing Director.

For security leaders, that means looking at risk more holistically and eliminating operational silos. Corporate risks are converging, and forward-looking companies need to move toward an operational model where real-time information, risk alerting tools, and risk intelligence is more widely shared across security functions.

In practice, that means a company's physical security and cybersecurity operations centers share intelligence on a daily basis, using a common set of tools and processes to help them identify emerging risks in real time. That data, and the risk mitigation work performed inside security operations centers (SOCs), should inform the long-term planning that takes place inside the security and risk management function.

Consider how a converged risk model, where security operations—typically that of cyber and physical—live under one SOC, might have helped companies better prepare for business impacts from COVID-19.



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In late December 2019, Dataminr first alerted its customers working inside hundreds of SOCs across the world that a [new virus](#) was quietly spreading in Wuhan, China.

Physical security teams used this real-time information to recall employees and executives working overseas, and build status reports as the virus spread across Asia and found early footholds in Iran and Italy.

Cybersecurity teams used real-time information to discover early, COVID-related spear phishing campaigns that targeted people anxious about the disease. Risk managers used the same real-time information to get an early view into health mandates being enacted in other countries, several weeks ahead of similar restrictions locally.

Under a converged security model, all three teams would have access to the same real-time information, and share insights to get better visibility into their organization's current surface area of risk.

The converged security model would also tie a risk mitigation action taken by the corporate security team—for example, cutting short the CEO's business trip to Italy during a disease outbreak—to larger risks, like temporarily closing all physical offices.

During the earliest weeks of the pandemic, real-time alerts from Dataminr included information about office closures at major companies, shutdowns of nonessential businesses, and panicked buying at retail stores in Europe—signals that preceded similar risks in the U.S. by weeks, in some cases.

How is your company democratizing access to real-time information?

[Learn more](#) about how real-time information can help security teams make better-informed decisions for business continuity.

Lebanon's Spiral Sets Europe's Next Migrant Crisis in Motion

Source: <https://worldview.stratfor.com/article/lebanon-s-spiral-sets-europe-s-next-migrant-crisis-motion>



A protestor holds a sign as fuel tankers block a road in Lebanon's capital of Beirut during a general strike by public transport and workers unions on Jan. 13, 2022. (ANWAR AMRO/AFP via Getty Images)

Jan 18 – As Lebanon's economic or political crises continue to spiral, more people living in the country -- including Palestinian and Syrian refugees -- will seek to flee to Europe, potentially creating a new migrant crisis. On Jan. 13, another "day of rage" led by Lebanon's transport unions highlighted the challenges facing people in the country and the factors compelling an increasing number of them to risk a sea journey to Europe. In protest of skyrocketing fuel prices, the nationwide strikes temporarily crippled transport routes, shut schools and universities, and were accompanied by threats of future violence from some demonstrators. But the strikes were largely ignored by the Lebanese government, which has done little to mitigate the acute fuel crisis, let alone the country's greater economic collapse. Indeed, by the afternoon of Jan. 13, the rallies had dwindled -- a sign that even protesters themselves saw limited value in them. ...



A Dam in Syria Was on a ‘No-Strike’ List. The U.S. Bombed It Anyway

Source: <https://www.seattletimes.com/nation-world/a-dam-in-syria-was-on-a-no-strike-list-the-u-s-bombed-it-anyway/>

Jan 20 – Near the height of the war against the Islamic State group in Syria, a sudden riot of explosions rocked the country’s largest dam, a towering, 18-story structure on the Euphrates River that held back a 25-mile-long reservoir above a valley where hundreds of thousands of people lived.



The **Tabqa Dam** was a strategic linchpin controlled by the Islamic State group. The explosions March 26, 2017, knocked dam workers to the ground. A fire spread and crucial equipment failed. The flow of the Euphrates River suddenly had no way through, the reservoir began to rise and authorities used loudspeakers to warn people downstream to flee.

The Islamic State group, the Syrian government and Russia blamed the United States, but the dam was on the U.S. military’s “no-strike list” of protected civilian sites, and the commander of the U.S. offensive at the time, then-Lt. Gen. Stephen J. Townsend, said allegations of U.S. involvement were based on “crazy reporting.”

In fact, members of a top secret U.S. special operations unit called Task Force 9 had struck the dam using

some of the largest conventional bombs in the U.S. arsenal, including at least one BLU-109 bunker-buster bomb, according to two former senior officials. And they had done it despite a military report warning not to bomb the dam, because the damage could cause a flood that might kill tens of thousands of civilians.

The decision to strike the dam would normally have been made high up the chain of command. But the former officials said the task force used a procedural shortcut reserved for emergencies, allowing it to launch the attack without clearance.

The two former officials, who spoke on the condition that they not be named because they were not authorized to discuss the strikes, said some officers overseeing the air war viewed the task force’s actions as reckless.

Even with careful planning, hitting a dam with such large bombs would likely have been seen by top leaders as unacceptably dangerous, said Scott F. Murray, a retired Air Force colonel.

“Using a 2,000-pound bomb against a restricted target like a dam is extremely difficult and should have never been done on the fly,” he said. “Worst case, those munitions could have absolutely caused the dam to fail.”

After the strikes, dam workers stumbled on an ominous piece of good fortune: Five floors deep in the dam’s control tower, a U.S. BLU-109 bunker buster lay on its side, scorched but intact — a dud. If it had exploded, experts say, the whole dam might have failed. In response to questions from The New York Times, U.S. Central Command, which oversaw the air war in Syria, acknowledged dropping three 2,000-pound bombs but denied targeting the dam or sidestepping procedures. A spokesperson said that the bombs hit only the towers attached to the dam, not the dam itself, and while top leaders had not been notified beforehand, limited strikes on the towers had been preapproved by the command.

“Analysis had confirmed that strikes on the towers attached to the dam were not considered likely to cause structural damage to the Tabqa Dam itself,” said Capt. Bill Urban, the chief spokesperson for the command. Noting that the dam did not collapse, he added, “That analysis has proved accurate.”



But the two former officials, who were directly involved in the air war at the time, and Syrian witnesses interviewed by the Times, said the situation was far more dire than the U.S. military publicly said.

Critical equipment lay in ruins and the dam stopped functioning entirely. The reservoir quickly rose 50 feet and nearly spilled over the dam, which engineers said would have been catastrophic. The situation grew so desperate that enemies in the yearslong conflict — the Islamic State group, the Syrian government, Syrian defense forces and the United States — called an emergency cease-fire so civilian engineers could race to avert a disaster.

Engineers who worked at the dam, who did not want to be identified because they feared reprisal, said it was only through quick work that the dam and the people living downstream of it were saved.

“The destruction would have been unimaginable,” a former director at the dam said.

The United States went into the war against the Islamic State group in 2014 with targeting rules intended to protect civilians and spare critical infrastructure.

But the Islamic State group sought to exploit those rules, using civilian no-strike sites as weapons depots, command centers and fighting positions. That included the Tabqa Dam.

The task force’s solution to this problem too often was to set aside the rules intended to protect civilians, current and former military personnel said.

Soon, the task force was justifying the majority of its airstrikes using emergency self-defense procedures intended to save troops in life-threatening situations, even when no troops were in danger. That allowed it to quickly hit targets — including no-strike sites — that would have otherwise been off-limits.

Perhaps no single incident shows the brazen use of self-defense rules and the potentially devastating costs more than the strike on the Tabqa Dam.

It is unclear what spurred the task force attack March 26.

Dam workers said they saw no heavy fighting or casualties that day before the bombs hit.

What is clear is that Task Force 9 operators called in a self-defense strike, which meant they did not have to seek permission from the chain of command.

A military report obtained through a Freedom of Information Act lawsuit shows the operators contacted a B-52 bomber and requested an immediate airstrike on three targets. But the report makes no mention of enemy forces firing or heavy casualties. Instead, it says the operators requested the strikes for “terrain denial.”

A senior Defense Department official disputed that the task force overstepped its authority by striking without informing top leaders. The official said the strikes were conducted “within approved guidance” set by Townsend, the commander of the campaign against the Islamic State group.

First, the B-52 dropped bombs set to explode in the air above the targets to avoid damaging the structures, the senior military official said. But when those failed to dislodge the enemy fighters, the task force called for the bomber to drop three 2,000-pound bombs, including at least one bunker buster, this time set to explode when they hit the concrete.

Two workers were at the dam that day. One of them, an electrical engineer, recalled Islamic State fighters positioned in the northern tower as usual that day, but no fighting underway when they went into the dam to work on the cooling system.

Hours later, a series of booms knocked them to the floor. The room filled with smoke. The engineer found his way out through a normally locked door that had been blown open. He froze when he saw the wings of a U.S. B-52.

The dominoes of a potential disaster were now in motion. Damage to the control room caused water pumps to seize. Flooding then short-circuited electrical equipment. With no power to run crucial machinery, water couldn’t pass through the dam. There was a crane that could raise the emergency floodgate, but it, too, had been damaged by fighting.

The engineer hid inside until he saw the B-52 fly away and then found a motorcycle. He sped to the house where the dam manager lived and explained what had happened.

Engineers in Islamic State territory called their former colleagues in the Syrian government, who then contacted allies in the Russian military for help.

A few hours after the strike, a special desk phone reserved for directed communications between the United States and Russia started ringing in an operations center in Qatar. When a coalition officer picked up, a Russian officer warned that U.S. airstrikes had caused serious damage to the dam and there was no time to waste, according to a coalition official.

Less than 24 hours after the strikes, U.S.-backed forces, Russian and Syrian officials and the Islamic State group coordinated a pause in hostilities. A team of 16 workers — some from the Islamic State group, some from the Syrian government, some from U.S. allies — drove to the site, according to the engineer, who was with the group.



They succeeded in repairing the crane, which eventually allowed the floodgates to open, saving the dam.

The U.S.-backed Syrian Democratic Forces dismissed reports of serious damage as propaganda. A spokesperson said the coalition had struck the dam with only “light weapons, so as not to cause damage.”

A short time later, Townsend denied the dam was a target and said, “When strikes occur on military targets, at or near the dam, we use noncratering munitions to avoid unnecessary damage to the facility.”

No disciplinary action was taken against the task force, the senior officials said. The secret unit continued to strike targets using the same types of self-defense justifications it had used on the dam.

Christian MP says prosecution for tweeting Bible verse on homosexuality is a ‘privilege’

Source: <https://www.christianpost.com/news/christian-mp-says-prosecution-over-biblical-beliefs-a-privilege.html>



Jan 17 – A Christian politician in Finland who faces the possibility of six years in prison for sharing her deeply held biblical beliefs on sexuality and marriage says it’s “quite a privilege” to be interrogated for her religious beliefs.

Parliament Member Päivi Räsänen, who was interrogated by police for over 13 hours and questioned on how she interprets the Apostle Paul’s letters in the Bible, will appear in court next Monday over criminal charges for voicing her belief on marriage and sexuality.

She authored a 2004 booklet on sexual ethics describing **marriage as between one man and one woman**. She also expressed her views on a 2019 radio show and [tweeted](#) church leadership on the matter.

“I thought it was quite a privilege to have these kinds of discussions with the police,” Räsänen said in an [interview](#) with Alliance Defending Freedom International, a legal nonprofit that specializes in religious freedom cases and is supporting the 62-year-old former interior minister.

“I had many times during these hours the possibility to tell to the police the message of the Gospel, what the Bible teaches about the value of human beings, that all people are created in the image of God and that is why they all are valuable.”

It was like “giving Bible studies to the police,” she remarked.

Räsänen, who worked as a doctor before going into politics and is married to a pastor, said it was absurd and shocking to be interrogated and claims it feels like “Soviet times.”

“I could never have imagined when I worked as the minister of the interior and was in charge of the police that I would be interrogated and asked that kind of questions in a police station,” the lawmaker who led the Christian Democrats party from 2004 to 2015 said. She said police also asked her if she was ready to “renounce” her writings.

“But I answered that I will stand on what I believe and I will speak about these things and write about these things also in the future because they are a matter of conviction, not only an opinion,” she said.

Räsänen has been charged with three counts of ethnic agitation over statements expressing her beliefs about human sexuality and marriage. Evangelical Lutheran Mission Bishop [Juhana Pohjola](#) has been charged with one count of ethnic agitation for publishing Räsänen’s booklet.

Prosecutors in Finland [determined](#) that Räsänen’s previous statements disparage and discriminate against LGBT individuals and foment intolerance and defamation.

The mother of five maintains that her expressions are “legal and should not be censored.”

“I cannot accept that voicing my religious beliefs could mean imprisonment,” said Räsänen in a [statement](#) previously issued by ADF International. “I do not consider myself guilty of threatening, slandering or insulting anyone. My statements were all based on the Bible’s teachings on marriage and sexuality.”

In November, Pohjola [warned](#) that his prosecution illustrated that “the Gospel of Christ is at stake” because of postmodernism and “cancel culture.”

He said hate speech laws had been unfairly used against him.

“When postmodernism first swept over Western countries, its basic core was denial of absolute truth. The only truth was that you must allow everyone to have his or her own subjective truth,” Pohjola said. “This hyper-individualism continues, but it has now a different tone. If you are against LGBTQ+ ideology, so-called diversity, equality and inclusiveness,



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you are not only considered to be old-fashioned ... but rejected as morally evil. This is what the prosecutor general understands her duty to be, to protect fragile citizens and victims from the intolerant and hateful Christians.”

Six members of U.S. Congress have [condemned](#) the prosecution as “infringements on religious freedom.”

Led by Rep. Chip Roy, R-Texas, the lawmakers urged the U.S. Commission on International Religious Freedom to consider these prosecutions when recommending which countries the U.S. State Department should place on a special watch list of countries that engage in religious freedom violations.

Last May, professors from Ivy League institutions like Harvard University, Yale University and Princeton University were among legal scholars to [urge USCIRF](#) to pressure the State Department to sanction Finland’s prosecutor general for prosecuting Pohjola and Räsänen.

“No reasonable balance of the goods of public order, civil equality, and religious liberty can ever support this suppression of the right to believe and express one’s beliefs. The prosecutions are straightforward acts of oppression,” they wrote.

EDITOR’S COMMENT: What if one day the global majority of the non-LGBTQ people say “Stop the nonsense; stop it NOW!”





T - NEWS

Trends in Terrorism: What's on the Horizon in 2022?

By Colin P. Clarke

Source: <https://www.fpri.org/article/2021/12/trends-in-terrorism-whats-on-the-horizon-in-2022/>



Dec 08 – With the world still reeling from the global COVID-19 pandemic, nearly two years in the making, few know what to expect terrorism trends to look like heading into 2022. However, certain trends from [previous years](#) seem likely to continue and may grow more severe. The terrorist threat is arguably more diverse than at any point in recent memory, with the threat posed by far-right extremists and jihadists joined by a [growing roster](#) of political and socio-cultural motivations, including 'technophobia' or neo-Luddite terrorism, [violent anarchists](#), and extreme misogynists, especially those following the so-called 'Incel' ideology. ['Salad bar' ideologies](#), those that combine a sampling of different ideologies, sometimes diametrically opposed to one another, are also on the rise and are best exemplified by neo-Nazis [growing fetishization](#) of jihadist ideology. And while the most lethal terrorist threats are likely to remain jihadism and far-right extremism, it is important to think about how recent developments could shape patterns of terrorism over the coming year.

The recently discovered Omicron variant of the coronavirus is already forcing vaccine mandates and new waves of lockdowns in countries worldwide, [fueling violent protests](#) from anti-vaxxers and anti-government extremists, respectively. In Italy, anti-vaxxers have [linked up with](#) far-right extremists, a combustible mix likely playing out in many other countries, not just in Europe but also in the United States, Canada, and Australia. Even good news related to the pandemic is likely to be a double-edged sword. If significant progress can be made against the virus in 2022, lifting restrictions could provide extremists with a range of new potential targets, especially soft targets where crowds may begin to congregate, including sporting events, concert venues, and farmers' markets.

Several geopolitical hotspots will inform forecasts about terrorism trends in 2022. Iran nuclear deal is on the [verge of collapse](#), and if Tehran continues to move ahead with enriching uranium, moving to create bomb-grade nuclear fuel in a matter of weeks. That development alone could lead to a broader conflagration, with Israel unlikely to sit by idly as Iran moves closer to developing the ingredients for a nuclear weapon. Israeli strikes against Iran have the potential for an Iranian response through its global network of terrorist proxies, like Lebanese Hezbollah, a group that has attacked Israeli targets on multiple continents over the years.

Tensions between Ukraine and Russia continue to escalate, with Moscow deploying as many as 175,000 troops to the border. Renewed conflict between Ukraine and Russia could drive an influx of far-right extremists to the region. In the past, foreign fighters motivated by white supremacy and neo-Nazi ideology have [flocked to Ukraine](#), fighting on both sides of the conflict. Extremists can gain valuable battlefield experience before returning to their countries of origin or third-party countries, destabilizing states by recruiting new members, developing terrorist networks, and gaining critical tacit knowledge of guerrilla warfare tactics.

Parts of the Middle East and Africa could experience a fresh round of terrorist attacks from insurgent groups that use terrorism as a primary tactic. In Ethiopia, the Tigrayan People's Liberation Front (TPLF) has conducted acts of terrorism, while in Turkey and Syria, the Kurdistan Workers' Party (PKK) and the People's Protection Forces (YPG) remain active, motivated by leftist ideology and ethno-nationalist motivations. Hundreds of [foreign fighters](#) have traveled to the Middle East to fight alongside the Kurds. However, these individuals receive far less media attention and scrutiny than their jihadist-inspired counterparts.

Although it consumes less bandwidth amongst the international community than it did during the peak of the Islamic State several years ago, the [global jihadist movement](#) will continue to present a significant threat. However, jihadist organizations will further decentralize over the next year, the byproduct of a successful counterterrorism campaign by the U.S. and its allies against the Islamic State in Iraq and Syria. Islamic State fighters and their families still housed in detention camps and prisons throughout Syria are a lingering security challenge. In early November, Kurdish forces foiled an Islamic State [prison break attempt](#) in Deir Ezzor. This method has helped the Islamic State reinforce its ranks at various points and become a more central pillar of its operational focus in the coming year. Moreover, Islamic State and jihadist propaganda more broadly resonates with Westerners, making the threat of inspired attacks in the West by homegrown violent extremists an enduring challenge for police and intelligence agencies.

The Islamic State has shifted resources and attention to its affiliates and branches elsewhere to remain relevant. In the coming year, Islamic State Central Africa Province (ISCAP) and [Islamic State Khorasan \(ISK\)](#) will be among the most lethal Islamic State affiliates, continuing a trend from 2021. Throughout [sub-Saharan Africa](#), jihadist groups with links to the Islamic State have steadily gained momentum. ISCAP's branch in the Democratic Republic of Congo (DRC) has claimed responsibility for attacks in Uganda. At the same time, the Islamic State franchise in Mozambique (also known as ISCAP) conducted cross-border attacks into Tanzania. African security forces have been unable to prevent spillover violence, and there is little indication to suggest that international assistance in combating these groups is forthcoming.



In the Sahel, French forces have struggled to help African militaries contain the growth of both al-Qaeda and Islamic State affiliates. Terrorist attacks have plagued Mali, Burkina Faso, Nigeria, Niger, and other countries in the region. In the Horn of Africa, al-Shabaab is gaining strength and has evolved into a regional threat, with the possibility of more global ambitions, including setting its sights on attacking the West. Terrorist capabilities and intent are not static, so the international community should not simply assume that African jihadist groups will remain focused on parochial issues.

The U.S. withdrawal from Afghanistan facilitated a Taliban takeover of the country, leading to an upsurge in attacks from ISK. The Taliban's [heavy-handed](#) approach to counterinsurgency has exacerbated the security crisis and may lead Afghanistan to civil war. If that happens, foreign fighters will flock from the surrounding region to join terrorist groups like ISK and al-Qaeda, reinforcing the latter's ranks as its cadres rebuild under the protective umbrella of the Taliban de facto government and its [Haqqani network leadership](#). One central question is whether the Taliban will convince al-Qaeda to abandon its transnational ambitions and eschew plotting attacks against the West, a prospect many are pessimistic about. Even still, Afghanistan under the Taliban could devolve into a hornet's nest for terrorists and insurgents of all stripes, leading to a rise in terror attacks throughout South Asia, including the possibility of spectacular attacks that drag Pakistan and India closer to the precipice. Kashmir remains a geopolitical tinderbox, and the Taliban's victory in Afghanistan has emboldened a range of jihadist groups.

Depending on what happens in Afghanistan, it seems likely that external states will take a more hands-on approach, cultivating proxies and working with various non-state actors to secure their interests. To protect Afghanistan's Shia Hazara minority from the sectarian campaign waged by ISK, Iran could choose to deploy the [Liwa Fatemiyoun brigade](#), a network of Afghan Shia Hazara fighters trained and equipped by Tehran for combat in Syria. State sponsorship of terrorism more broadly could be a trend to watch in the coming year, especially with mercenaries and foreign fighters. Specifically, in Libya and [Nagorno-Karabakh](#), sponsors could encourage other states to begin emulating the ["Turkish model,"](#) training and deploying foreign fighter brigades to tip the balance of power in civil wars and insurgencies.

In terms of tactics, we should expect terrorists to continue seeking out emerging technologies to enhance the lethality of their attacks. Explosive-laden drones nearly assassinated Iraqi Prime Minister Mustafa Kadhim in early November. The attack was reminiscent of a [similar attempt](#) in April 2018 to kill Venezuelan leader Nicolas Maduro, also with drones. 2022 could be the year the world witnesses the first assassination of a head of state by terrorists using drones, emboldened by the previous attacks and enabled by the continued lowering of entry barriers in mastering commercial off-the-shelf technologies purposed toward nefarious ends.

Following more than two decades of fighting the global war on terrorism, the United States and its allies are shifting attention and resources to great power competition, drawing down forces from dangerous hotspots, and leaving local and host nation forces responsible for countering terrorists and non-state armed groups.

Washington is looking to move on from the Global War on Terrorism and put an end to the "9/11 era," as the pendulum swings from a focus on non-state actors back to nation states. But, the enemy always gets a vote, and the psychological impact of terrorism will keep it as a front-burner issue for the foreseeable future, no matter which ideologies ebb and flow next year.

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The Parliament attack was 20 years ago. Are we more prepared today?

By

Source: <https://indianexpress.com/article/opinion/columns/indian-parliament-terrorists-attack-7669528/>

Dec 13 – It was a typical Delhi winter morning on December 13, 2001. I was in my office in the Air Chief's secretariat; Air Chief Marshal A Y Tipnis was away to the south. The fifth-floor office overlooks Rajpath and one has a grand view of the North and South Blocks and the temple of Indian democracy, our Parliament. As it was the "marriage season" in north India, we didn't worry when fire-crackers went off, the sound coming from the direction of Parliament. The nonchalant attitude soon turned to worry as the rat-atat started sounding like gunfire on a range. I rushed into the office of the Vice Chief, Air Marshal Krishnaswamy. "Sir, there is firing near Parliament," I blurted out, even as Delhi Police jeeps raced with their sirens blaring. Very soon, it was "action stations".

The Air Chief was contacted on his mobile. His aircraft was re-routed and while he was in the air, a message was conveyed on a confidential radio frequency that on landing he had to proceed directly to a CCS meeting called by the Prime Minister. And so it was, but the resultant timeline of actions is not a rosy commentary on India's national security consciousness and preparedness to tackle terrorism; it's time to take stock.



Five well-armed terrorists were prowling in the nation's capital, and our intelligence had no clue of what was to transpire against

Parliament. That the attack happened two years after the 1999 [Kargil war](#), where too intelligence was caught flat-footed, made matters worse. Has our intelligence improved thereafter? Seven years later, Mumbai 26/11 was confirmation that it hadn't; that the LeT could train, finance and plan a trans-oceanic "voyage" of 10 terrorists who created mayhem in Mumbai was a sad testimony on the intelligence groupings re-cast post the Kargil Review Committee report. While a number of intelligence successes have been reported since then, what stands out has been the inability to discern the 2019 Pulwama strike, where 40 CRPF jawans died, Chinese incursions in Ladakh last year and the drone strike on Air Force Station Jammu this June. And have we forgotten the Uri deaths and the Pathankot airbase intrusion (both 2016)? We have many miles to go, and with a plethora of intelligence agencies — IB, RA&W,

NTRO, DIA, NIA, State Liaison Units et al — it is time that demanding accountability becomes the norm, and a review of the intelligence set-up undertaken.



Indian Central Reserve Police Force (CRPF) personnel pay homage during a remembrance ceremony for the 2001 attack on Parliament at Parliament House in New Delhi | AFP

Intelligence cannot be 100 percent successful (though this cannot be an excuse for repeated failures), but the capability to address the follow-up of an incident has been found wanting too. On November 26, 2008, Mumbai, and indeed the whole country, was held to ransom — and ridicule — for four full days. The follow-up to every "Uri" or "Pulwama" cannot be a trans-border kinetic strike, the effects of which have limited shelf-life. The adversary would be



prepared for such a retaliation, since expectations have been raised sky-high due to the current political environment. So, what's the way forward?

First, a bi-partisan toning down of political rhetoric is vital. There is much merit in the adage that “a wise man once said nothing”. Let fund allocation, revamping of training and actions (internal and external) speak for themselves. Let's learn from Israel, which conveys its firm and steadfast anti-terrorism stand by having a robust intelligence gathering mechanism and social media messaging to keep the “other” guy unhitched — and a kinetic strike when required.

Second, half-hearted actions like Operation Parakram, launched after the Parliament attack, that mobilised our one-million strong armed forces for 10 months, must be avoided. There was no clear political end-state that the military action could support. Without going to war, India lost 1,874 army personnel, besides billions due to wear and tear of equipment and consumption of logistic stores. Did military activation deter inimical activity? The truthful answer is that a small duration asymmetric ascendancy was achieved against Pakistan (thanks partially to the pressure of the international community too), but soon status quo ante was restored as Islamabad returned to its “usual” unconventional modes of unsettling India. These have, and would, continue unless there is a clear political strategy backed by credible and sustainable hard power capability.

Lastly, the Parliament attack also points to a strife within our polity that the adversary utilises to our disadvantage. Even as the government takes steps to ensure physical security, it should also look at the social environment that encourages such activities. Mao described guerrilla warfare as “..fish swimming in the sea”, with fish being the guerrilla and sea being the people. So, just as to kill the fish (guerrilla), the sea needs to be drained, so too, to counter terrorism, the adversary's policy of benefitting from social discord needs to be defanged by having an environment that negates their nefarious designs. This brings us back to the first suggestion of a quiet and determined bi-partisan approach to confront the menace of terrorism. This would be the greatest tribute, instead of the ritualistic wreath-laying to the 10 Indians who died in the Parliament attack, this day, 20 years back.

Manmohan Bahadur a retired air vice-marshal, is former Addl Director General, Centre for Air Power Studies.

A Taxonomy for the Classification of Post-Organizational Violent Extremist and Terrorist Content

Source: <https://www.hstoday.us/subject-matter-areas/terrorism-study/a-taxonomy-for-the-classification-of-post-organizational-violent-extremist-and-terrorist-content/>

Dec 13 – This report outlines a prototype taxonomy for classifying terrorist and violent extremist content. It is designed to inform content moderation decisions made by social media platforms, including adjustments to the hash sharing database of the Global Internet Forum to Counter Terrorism (GIFCT) which provides unique digital “fingerprints” of known terrorist content which has been removed from social media platforms.

In particular, this taxonomy is developed in recognition of ‘post-organisational’ violent extremism and terrorism – that is to say violent extremist and terrorism where the influence or direction of activity by particular groups or organisations is ambiguous or loose. Accordingly, it is designed to be group-agnostic and is instead shaped around analysis of content which is influential to violent extremism and terrorism beyond that produced by proscribed terrorist organisations.

The creation of this taxonomy was informed by analysis of content shared in post-organisational violent extremist and terrorist spaces online, and online material which has been referenced in the conviction of terror offenders in the United Kingdom and in inquiries into terrorist attacks. This included analysis of the ‘**Terrorgram**’ network of violent white supremacist channels on Telegram; the conviction of Jack Reed, the youngest individual to be convicted of terror offences in the UK; the Royal Commission of Inquiry into the 2019 Christchurch attack; a cache of online content maintained by supporters of ISIS; and analysis of material referenced in the convictions of Islamist terrorists in the UK.

Based on assessments of these emblematic case studies relating to contemporary post-organisational terrorism our group-agnostic taxonomy divides violent extremist and terrorist content into three overarching categories: ‘inspirational’ content designed to reinforce a



violent extremist mind-set; 'ideological' content designed to further a violent extremist world-view; and 'instructional' content designed to inform operational aspects of violent extremist activity.

This paper provides an overview of the taxonomy and the process behind its creation, a discussion of the parameters of content included in the content and 'edge cases', case studies demonstrating its application, and considerations around the its practical implementation.

●► [Read the report at the Institute for Strategic Dialogue](#)

ISIS-K and the Fight Between the Ears

By Ajit Maan

Source: <https://www.hstoday.us/subject-matter-areas/terrorism-study/column-isis-k-and-the-fight-between-the-ears/>



ISIS said these jihadists attacked the Hamid Karzai International Airport in Kabul, Afghanistan, hours after Defense Secretary James Mattis arrived in the country on Sept. 27, 2018. (ISIS photo)

Dec 13 – As a "Province" of the core "Islamic State," the Khorasan group aims to take control of parts of Central and South Asia under the Khorasan Province black banner of the self-declared caliphate. It is important to note that this is not a reference to the present-day Iranian Khorasan; rather, the Khorasan reference for the jihadi group is a reference to the notion – a myth, an ideal – of a golden age of Islam of the past that will rise again. A map published by IS-K propaganda efforts shows the mythological Khorasan area stretching from Kazakhstan to Sri Lanka to the Maldives to China.

Established with a new label in 2015, after the late ISIS leader Abu Bakr al-Baghdadi chose Pakistani national Hafiz Saeed Khan as the group's first emir, according to a 2018 report by the [Center for Strategic and International Studies](#), IS-K's ranks swelled to an all-time high of between 3,000 and 4,000 in 2016 but by October 2018, following the U.S.-led campaign to



dismantle the ISIS caliphate, IS-K's fighting force was minimized to between 1,500 and 2,000, according to CSIS. It still retains a core force of about 1,500 to 2,200 fighters in Kunar and Nangarhar provinces east of Kabul after suffering losses of territory, leadership, and financing.

ISIS-K's first leader, Khan, was killed by a U.S. drone strike in July 2015 in Nangarhar Province's southern Achin district, which borders Pakistan. He was replaced by Abdul Hasib, who was [taken out by U.S. and Afghan special forces](#) in April 2017. He was replaced by Abdul Hasib in April 2017. Hasib's successor, Abu Sayed, was [killed in a strike](#) on the group's headquarters in Kunar province. Since June 2020, ISIS-K has been led by Shahab al-Muhajir, also known as "Sanaullah," who took over after Afghan special forces captured his predecessor, Aslam Farooqi.

This November (Nov 22, 2021) the State Department noted:

- **Sanaullah Ghafari**, also known as Shahab al-Muhajir, is ISIS-K's current overall emir. He was appointed by the ISIS core to lead ISIS-K in June 2020. Ghafari is responsible for approving all ISIS-K operations throughout Afghanistan and arranging funding to conduct operations.
- **Sultan Aziz Azam**, also known as Sultan Aziz, has held the position of ISIS-K spokesperson since ISIS-K first came to Afghanistan.
- **Maulawi Rajab**, also known as Maulawi Rajab Salahudin, is a senior leader of ISIS-K in Kabul Province, Afghanistan. Rajab plans ISIS-K's attacks and operations and commands ISIS-K groups conducting attacks in Kabul.

Additionally, the U.S. Department of the Treasury identified **Ismatullah Khalozai** as providing financial support to IS-K. Khalozai is an international financial facilitator for IS-K senior leadership.

So, what kind of threat does this group pose to U.S. national security? And what are potential avenues of engagement consistent with the [Interim National Security Strategy](#)?

There are several:

One possibility is that the U.S. government work with the Taliban for joint targeting of IS-K. This would involve intelligence sharing. In addition to the risks of intelligence sharing, such cooperation would carry the risk of causing Taliban fragmentation and the formation of splinter cells. The appearance of joint U.S.-Taliban operations against IS-K could also be confusing for our already confused international allies.

Another option is for the U.S. government to do nothing and let local dynamics play out. No one is as threatened by IS-K as the Taliban and the latter are likely to continue a military campaign against ISIS-K without American support.

This do-nothing approach comes with its own risks:

1. A) IS-K could make gains against the Taliban, which would improve the group's ability to project threats beyond the immediate region.
2. B) If the fighting escalates, either group could turn to transnational violence to establish their status as "the" leading jihadi movement. The Soufan Center released a [report](#) last month detailing fears that IS-K may develop the capacity to conduct external operations in as little as 6 months and emphasized that the group has already been linked to a transnational plot targeting NATO and U.S. bases in Germany.
3. C) The Taliban could form an alliance with other militant groups thereby increasing the threat capacity of each.

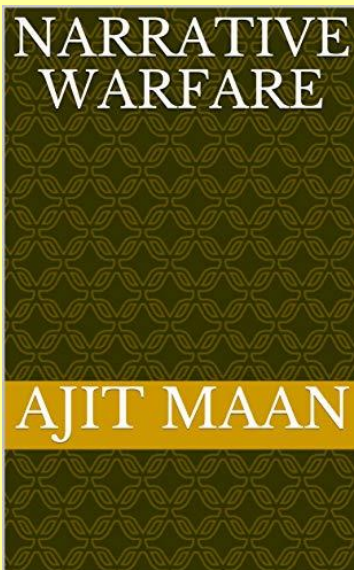
A third option, the "Over-the-Horizon" (air attacks) approach to counterterrorism, may be more palatable to the American public than boots on the ground warfare but the ease of killing remotely should not be confused with precision. We have repeatedly seen evidence of second- and third-order effects of our misguided drone attacks. We have also learned that groups like this are not only prepared to lose their leaders but they are organized with the expectation of leadership loss. Decapitation of the organizational structure could be effective if the organization was centralized and organized linearly. This is not the case with jihadi groups, and attacking them as though they were is consistent with an old playbook that our adversaries are using against us.

Whatever approach we take we ought to depend upon the nature of the threat and how that threat is contextualized in our National Security Strategy. Western scholars have argued that the group may have the capacity to hit the west in as little as 6 to 12 months, depending on who one talks to. But the kinetic threat is much more of a threat for the region than for the west.

The threat to the U.S. will depend upon the success or failure of the motivational narrative, more than kinetic capacity. Put another way, the kinetic capacity of the group, like many other groups of this type, will depend upon the power of its motivational narrative to draw recruits and embolden fighters. If it cannot draw recruits or at least garner civil support, the group is doomed. Like all Narrative Warfare, this fight is taking place between the ears.

There is, therefore, a fourth option: Undermine the adversary's real seat of power. That seat of power is ultimately not kinetic. They have fewer than 2,000 men. We can limit their ability to draw recruits and gain support by undermining the foundational narrative. This is





Narrative Warfare. We need only to observe the successes of our weaker adversaries (both near-peer and non-state) as evidence of its potential. The Khorasan narrative is their true base of power. The mythical nature of the narrative does not diminish its power, but the important thing is *they think it does*. And that is their strategic narrative mistake. That is the hole in their foundational narrative. And it should be exploited. Myths don't need to be factually based to be powerfully motivational but IS-K, and groups like it, undermine the power of their own narrative by insisting on the connection. In this case it is the connection to hadiths on Khorasan.

Like Daesh, IS-K avoids the pitfalls of having their myth disproved by regularly altering pieces of the narrative as to perpetuate the power. Remember Dabiq? Dabiq wasn't important to Daesh strategically but, rather, symbolically. It featured heavily in apocalyptic prophecies of an end-of-time confrontation. When the reality on the ground did not support the prophecy, they altered the temporal orientation. Some true believers still believe, but the persuasive power of the symbolic reference was greatly diminished and notice that there is little reference to Dabiq in Daesh rhetoric now. The way to undermine such mythology is for legitimate scholars of Islamic jurisprudence to offer a more compelling narrative. The Khorasan myth has long been disputed by an endless stream of jurisprudence scholars. One such scholar and historian, [Aslam Syed](#), maintains, "These are weak traditions and cannot be verified. Over the years, the Muslim rulers

have manufactured them to justify their invasions to foreign lands." Mythological references being used to further modern-day political agendas are an old trick and one certainly not confined to "Muslim rulers" – consider, for example, the antisemitic agenda of "The Protocols of the Elders of Zion" or the role "The Turner Diaries" plays in white-supremacist mythology. The attempt to tie the myth to historical fact in order to legitimate and bolster the myth can be partially undermined by questioning the authenticity of that connection as long as the questioning comes in the form of a more compelling narrative by an authoritative narrator and is then perpetuated by many dynamic narrators. The more compelling narrative should not "counter" the problematic one; rather, it should encompass and swallow up the problematic narrative thereby giving it new (diminished) meaning in a larger context. To be clear, the power of narrative does not begin with messaging or communication. Narrative is more basic than that. Narratives provide a cognitive framework, a meaning map in the head, that will determine what meaning will be assigned to events and experiences. Strategic narratives provide an intentional frame for incoming information. Human experience of events, and the meaning we assign to them, are determined by the narratives we live by. And the way incoming information is processed can be altered by altering the meaning map: the narrative. Our adversaries understand this concept, have embraced it, and have incorporated strategic narratives across their operations. AQAP, ISIS, the Taliban, al-Qaeda, and IS-K effectively disseminate their brand and reinforce their ideologies through broad information operations to control the strategic narrative. It is imperative that our National Security Strategy should encompass the narratives of our adversaries. I am *not* suggesting that the National Security Strategy should be a counter-narrative. Our strategy should *not* be a rebuttal. Just the opposite. A strategic narrative will not be successful if it is limited to the narrative terrain established by extremists and should certainly *not* be focused on responding to their messaging. We must tell our own narrative in a way that re-frames the opposition's narrative (without direct reference) and co-opts their meaning map.

[Ajit Maan, Ph.D.](#) writes the Narrative & National Security column for Homeland Security Today featuring her original work and work by guest experts in narrative strategy focused on identifying active narratives, who is behind them, and what strategies they are deploying to manipulate and muddy facts to the detriment of America. She is founder and CEO of the award-winning think-and-do-tank, Narrative Strategies LLC, Adjunct Professor at Joint Special Operations University, Professor of Politics and Global Security, Faculty at the Center for the Future of War, and member of the Brain Trust of the Weaponized Narrative Initiative at Arizona State University. She is also author of seven books including *Internarrative Identity: Placing the Self*, *Counter-Terrorism: Narrative Strategies*, *Narrative Warfare*, and *Plato's Fear*.

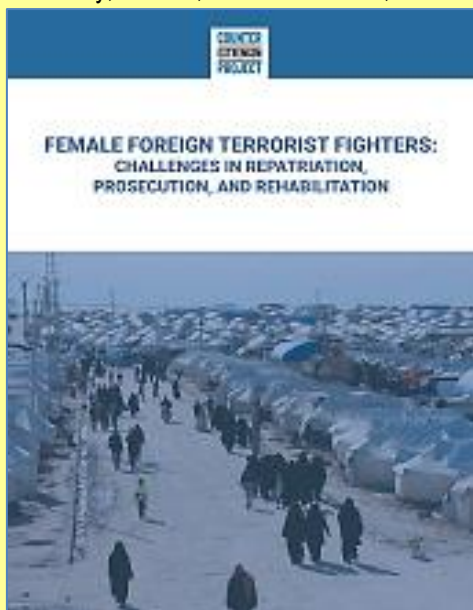
Female Foreign Terrorist Fighters: Challenges in Repatriation, Prosecution, and Rehabilitation

Source: <https://www.counterextremism.com/content/female-foreign-terrorist-fighters-challenges-repatriation-prosecution-and-rehabilitation>

Dec 2021 – Following the 2019 fall of ISIS's so-called "caliphate" in Iraq and Syria, the repatriation of female foreign terrorist fighters (FTFs) has led to a series of challenges. The



way in which Australia, the United Kingdom, the United States, and some European countries—particularly Belgium, France, Germany, Ireland, the Netherlands, and Sweden—handle the repatriation and prosecution of female foreign terrorist fighters has evolved over the years. Originally, women who traveled to Syria were generally considered “jihadi brides” and were charged and prosecuted leniently in comparison to their male counterparts. However, subsequently, evidence has shown that a number of women who have traveled to Syria have had a more active role in the extremist enterprise and have been charged accordingly.



The challenge of bringing female FTFs to justice is also impeded by the reluctance of many countries to repatriate foreign fighters due to the presumed risks posed by terrorist convicts. The general concern across governments has been that returnees will potentially reengage in terrorism following their release from prison. However, data suggests that terrorist convicts are less likely than other criminals to reoffend following release. Nonetheless, it should be stated that those released terrorist convicts who do reengage with terrorism have the potential to make terrorist attacks far more deadly given the experience and skills acquired within terrorist groups. Given the lethal potential of reengagement, governments need to establish solid rehabilitation and reintegration programs to adequately respond to returnees.

Repatriation is an important aspect of countering extremism and can only be a possibility when governments have the necessary security services to monitor and regulate individuals who they believe pose a risk to national and global security. To ensure the successful reintegration of these returnees after repatriation to their home

countries, governments will also need to provide the necessary rehabilitation support to mitigate or eradicate any potential future risk as part of the criminal justice process. Rehabilitation and reentry programs in prisons and post-release are necessary elements to counterterrorism strategy as those services can significantly reduce the chance of terrorist recidivism.

If governments delay the repatriation of foreign fighters, their rehabilitation and reentry programs may struggle to reverse the extremist beliefs and disillusionment that prompted many of these foreign fighters to travel to conflict zones in the first place. Another challenge governments will have to contend with would be reconciling the risks of repatriating foreign fighters, and the concrete steps needed in assuring safe rehabilitation and reintegration of these individuals. Each individual presents varying risks depending on the severity of their radicalization and would require tailored approaches from security officials to mitigate potential threats to domestic and international security. While case-by-case reintegration strategies require more time and extensive resources, the careful execution of rehabilitation programs is part and parcel of offsetting extremist reengagement in the long run. The successful reentry of these individuals will serve as a long-term solution to deradicalization and further discredit extremist movements as well as provide a more stable environment for overall global security.

●► To read the report, please click [here](#)

Hezbollah and Lebanon's Slow Death

By Amatzia Baram

Source: <https://www.meforum.org/62872/hezbollah-and-lebanon-slow-death>

Dec 06 – In September 2021, 80 trucks carrying one million gallons of Iranian oil entered Lebanon amid a severe [fuel crisis](#). There were no border checks and no customs duty was levied. The shipments were orchestrated by the pro-Iranian Hezbollah movement. Lebanon's Prime Minister Najib Mikati, although a Hezbollah political ally, told CNN: "The violation of Lebanon's sovereignty makes me sad."

If the international community still had doubts, these recent events have clearly shown the extent of Hezbollah's control over Lebanon. The Iranian oil shipments represent an impressive public relations success. In practical terms they are hollow: Lebanon needs more than 6.5 million gallons of oil per day. Iran sent much less than one day's worth of consumption. Still, from Hezbollah's viewpoint, the move was a victory. It highlighted Iranian generosity and flouted the United States embargo. And, since they sold the fuel at the inflated market price, the project also proved highly profitable.





Recent Iranian oil shipments to Lebanon were a public relations success for Hezbollah

Lebanon's fuel problem remained unchanged. On October 10, the two main national electricity production units were shut down. By October 18, the average Lebanese could get only two hours of electricity a day. Only very expensive private electrical services remained available. The country went dark. Even though a new agreement, supported by the U.S., has Egypt sending natural gas to Lebanon via Jordan and [Syria](#), Hezbollah has promised to continue this endeavor.

Sectarian system

At the heart of Lebanon's dysfunction is the sectarian political system. Political authority has traditionally belonged to the sects' bosses. Public servants are usually appointed according to religious affiliation. The warlords of the 1975-1990 civil war still hold the most powerful political positions and appear deeply entrenched. Oversight hardly exists and corruption has flourished. While Hezbollah did not create this system, since 1989 it has been its main pillar, and therefore its main beneficiary and strongest protector. The dominant coalition in the Lebanese parliament is the Hezbollah-led March 8 Alliance that includes the Shia movement Amal and President Michel Aoun's Christian party, among others. Their rival is the March 14 Alliance, led by Saad Hariri, which includes most Sunni and Druze groups and part of the Christian camp.

Hezbollah has managed to take root in Lebanese politics because of internal divisions within the Christian and Sunni camps, and also thanks to the group's ability to reward partners and intimidate rivals. Iran provides the organization with substantial financial and military support. The movement's power base is the Shia Lebanese, which are assessed at a sizeable 30 percent of the population.

Taif and Doha

Two Arab and American-backed deals sealed Hezbollah's political supremacy in Lebanon. The 1989 Taif Agreement required the disarmament of all militias save for Hezbollah, which was allowed to fight Israel in the south. Because Hezbollah is committed to the annihilation of Israel, this status has given the organization an open-ended license to kill, involving Lebanon in wars that most of the population does not support.

The other deal was the 2008 Doha Agreement. On May 7, fighting erupted after the government moved to shut down Hezbollah's independent telecommunications network, which bypassed the state system. The government also decided to remove the head of security at Beirut Airport, who was providing Hezbollah with information on arrivals. (Back then, the organization was part of the opposition and had no executive power to prevent these policies from being implemented.) Violence escalated the next morning in Beirut, after a televised speech by Hezbollah leader Hassan Nasrallah. He called the measures "a declaration of war" – and war there was, except that he was the one declaring it. The national army and police were paralyzed. The fighting between the pro-government militias of Saad Hariri's Future Movement and the Hezbollah-led opposition spread quickly to other parts of Lebanon. Hezbollah was winning, but the Arab League and the West were reluctant to send troops to support the elected government.

On May 21, 2008, the Arab League brokered an agreement in Doha. It created a monster under the guise of a national unity government, with veto power for the opposition. The agreement also enforced a redistricting law of the electoral zones that favored Hezbollah. The question of the group's "resistance" weapons was postponed. Hani Hammoud, a senior advisor to Saad Hariri, referred to the events as a "one-sided civil war" resulting in "Iran taking over the country."

After the 2009 elections and until the 2018 elections, there was an equilibrium between the two coalitions. But the Taif and Doha agreements made Hezbollah the chief beneficiary of the new Lebanese system. Over time, they also created a separate economic system that, to some extent, shielded important segments of the Shia population from the woes of the state's disintegration.

Socioeconomic abyss

In May 2018, Lebanese voters cast their ballots for the first time in nine years to elect 128 members of parliament. Though its mandate ended in 2013, the parliament had used a long political crisis to skirt the constitution and extend its term three times, in 2013, 2014 and



2017. This time, thanks to the pro-Hezbollah gerrymandering, the March 8 Alliance emerged victorious with 60 percent of seats. In the new national unity cabinet, even though Hezbollah had only two ministers, their coalition still had a majority, with 18 out of 30 ministers. The March 14 Alliance won only 37 percent of the seats. When Mr. Hariri agreed to become prime minister, Hezbollah – now in control of the government – was delighted that its main enemy decided to play along. Because it benefits from the status quo, Hezbollah holds on to the present power-sharing system that has pushed Lebanon into a socioeconomic abyss. The movement's commitment to the existing arrangement was made clear during the 2019 "17 October Revolution," when Beirut streets filled with anti-government and anti-corruption demonstrators, many of them young Shia. Even though Prime Minister Saad Hariri is their political opponent, Mr. Nasrallah and other Hezbollah officials fiercely attacked the protesters and defended the government. Nevertheless, to their chagrin, after 12 days of demonstrations, Prime Minister Hariri announced his resignation. A new prime minister was voted in, but the tragic port explosion in Beirut on August 4, 2020, forced him to resign. In October, Mr. Hariri agreed to try and put together a government of experts that would carry out extensive reforms, thus allowing the country to unlock the promised international aid. Hezbollah killed the attempt and in July 2021, Mr. Hariri stepped down again. On September 10, 2021, Najib Mikati, a Hezbollah ally, became prime minister. In the Mikati national unity cabinet, the Hezbollah-led March 8 Alliance now has 16 out of 24 ministers. The deeper the crisis, the stronger Hezbollah's stranglehold on Lebanon becomes.

Scenarios

Hezbollah is a paradoxical presence in Lebanon's political life. It has only 12 of the 128 parliamentary seats (with another 10 for the Shia party Amal). Yet, it controls most of the borders and smuggling routes, has a parallel communication network, runs a private army, dictates Lebanon's foreign policy, and controls separate banking, supermarket, and fuel distribution systems. The tighter its hold over Lebanon's politics, security, and economy, the more unpopular the movement becomes. Since 1982, when the movement was created by Ayatollah Khomeini's Iran, its clout has continuously been on the ascent. In 2000, its popularity reached its zenith, after it drove the Israeli army out of the country. By then Hezbollah's fighters were widely seen as national liberators. Since it dragged Lebanon into the costly 2006 war and even more so since their coalition's electoral victory of 2018, its popularity has been declining – at the same time that its power has increased by leaps and bounds. On one hand, Hezbollah is making every media effort to convince the Lebanese population that, rather than a self-serving, parasitic actor, the group is an all-Lebanese patriotic force, dedicated to supporting the Lebanese poor. On the other hand, to maintain the support of its power base, the Shia population, the party is making great efforts to demonstrate that it is shielding them, and them alone, from the state's economic disaster. Hezbollah's claim that they support the Shia minority does not hold up to scrutiny. It fully supports the families of the standing army of the militia, but for reservists, this assistance is far more modest, and for ordinary Shia, it is very limited. This is hurting their popularity even among their supporters. Also, having sent thousands of fighters to keep Syria's [Bashar al-Assad](#) in power and taking up to \$1 billion per year in support from Iran, Hezbollah can hardly hide that it is made up of Shia foreign agents, not Lebanese patriots. No less importantly, by forcefully suppressing any anti-corruption protests and by resisting legal state inquiries, Hezbollah leaders are repeatedly demonstrating their fear of being exposed as a violent sectarian movement. This is particularly obvious given how they are obstructing the inquiries into Rafiq Hariri's assassination and the Beirut port explosion. On March 27, 2022, Lebanon will elect a new parliament. Like Lebanon, Iraq, too, is a [semi-democracy](#). Yet, the October 2021 elections there created, for the first time, a potential for change. The balance of power in Lebanon too can change, but only if Hezbollah's rivals score clear victories in Christian zones, and in Shia areas where Hezbollah and Amal are relatively weak, such as Zahle and Baalbek. If the new parliament does not form a better government than the present one Lebanon's political decline will continue. Hezbollah's tremendous military edge makes a new civil war unlikely, but chaos is very probable. If the new government fails to introduce most of the reforms that the international community demands but receives aid anyway, then the funding will disappear into the pockets of the Lebanese political elite. The state of the economy, as bad as it is now, will worsen.

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2020 Country Reports on Terrorism

Source: <https://www.state.gov/reports/country-reports-on-terrorism-2020/>

On Thursday December 16th the United States Department of State released the [2020 Country Reports on Terrorism](#), which includes the Annex of Statistical Information. Development Services Group, INC through the Global Terrorism Trends and Analysis Center (GTTAC) is proud to support the Department of State in preparing these reports and

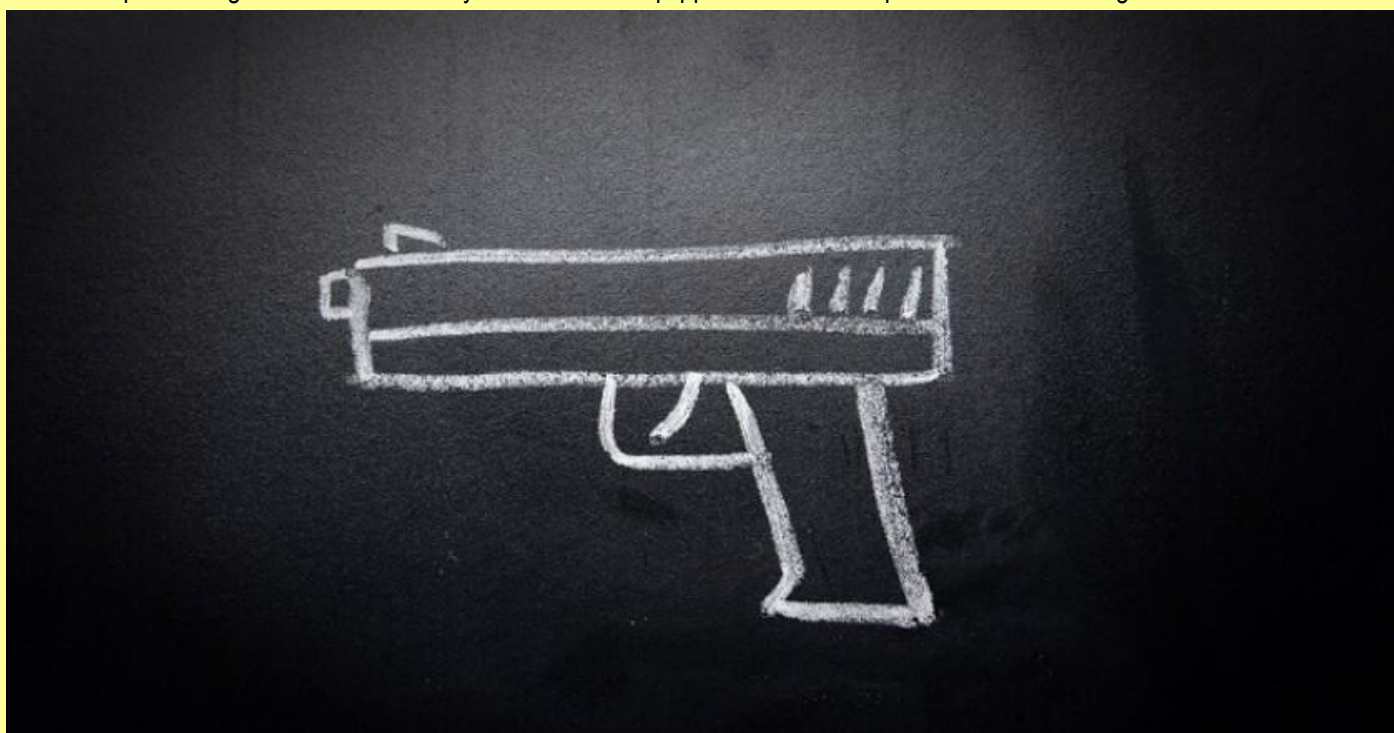


managing and maintaining the accompanying database of global terrorism incidents. Amongst other things, our data shows that both the number of attacks and the number of fatalities increased by more than 10 percent each in 2020. These figures reflect, in part, the spread of ISIS and al-Qa'ida affiliates, particularly in Africa, that continues to grow in impact and is a complex challenge to mitigate. More detailed findings are available through the Annex available [here](#).

Schools Aren't Equipped to Teach and Prevent Mass Shootings

By **Jim McKay** (Editor)

Source: <https://www.govtech.com/em/safety/schools-arent-equipped-to-teach-and-prevent-mass-shootings>



Dec 17 – It's been about two weeks since 15-year-old Ethan Crumbley opened fire at Oxford High School in Michigan and killed four classmates, and undoubtedly school teachers and administrators across the country have dealt with hundreds of threats since.

Crumbley had earlier in that fateful day exhibited behavior that could — maybe should — have been alarming enough for administrators to act, such as drawing a picture that depicted a shooter.

But when you consider that school administrators across the country are exposed to a range of student behavior that may or may not foretell violence, the whole landscape of what they could or should have done becomes a bit blurry. And knowing who will act on threats by bringing a gun to school and using it is not something schools are equipped to handle.

When Oxford High School staff met with Crumbley and his parents, they could have searched his backpack. The parents could have as well, and in fact refused to remove their son from school that day. There are reports that a [school resource officer](#) (SRO) assigned to the school helped arrest Crumbley. SROs are often placed in schools to engage students and help prevent violence, but it hasn't been reported if the SRO was in the meeting with Crumbley, his parents and school staff.

Mo Canady, a former SRO and currently executive director of the [National Association of School Resource Officers](#), said there are [threats across the land](#) every day when it comes to students and guns, especially recently. "Each one of these is unique in how it developed and happened and on any given day a hundred of these circumstances, where a kid has drawn something bizarre, occurs," Canady said.

"What is the line and what is the limit to where you can get a search warrant?" Canady asked. "And what do you do when parents say, 'I'm not taking my kid home?'"

An SRO would have been within his or her rights to search the kid's backpack, and the same goes for school staff.



“As an SRO, if I’ve got a school directing parents to take a child home and maybe suspect him, I’m at that point if the child is left there that I’m getting on the phone with the family court,” Canady said. “I’m getting some feedback from them in terms of can we take this child into protective custody?”

Of course, hindsight is 20/20, especially when administrators deal with threats all the time.

“The reality is, this stuff happens all the time in schools,” said Marc Schindler, executive director of the Justice Policy Institute, “where kids say stupid things and teachers become aware of it, parents are called. Most of the time nothing happens.”

But, of course, this time was different. Now authorities and school administrators are left to sift through the facts of the case to try and figure out what could have been done differently and by whom.

“First of all, isn’t it interesting that you get the parents up to the school, you lay out the problem that’s going on and you’re asking the parents to take their child home and they refuse,” said Canady. “In 12 years as an SRO I never saw that happen. What parent doesn’t care enough to say, ‘Well, my child is in distress, I’m going to take him home or to the doctor or something?’”

A lot of the focus has been on the backpack. If only someone, an SRO if there had been one there, the parents or school staff would have checked the backpack they may have found the gun and prevented the act.

“I do think that focusing on the behavior of the school officials is probably misplaced,” Schindler said. “And I do appreciate that there are efforts to hold the parents accountable in this situation. It does appear that there was real inappropriate behavior by the parents.” But both Schindler and Canady concluded that there is one common link to these mass killings: access to a gun.

“These situations, every one of these school shootings, the only thing they really have in common is a person with a gun shooting people,” Canady said.

“The bigger issue is we have so many guns that are easily accessible and lethal that end up in the hands of kids,” Schindler said.

“So, whether the school should have searched the backpack or not, why are we even in that situation where that is such a big question?”

Schindler added that whether parents should be held accountable and at what level of responsibility and whether the criminal justice system is equipped to respond to these shootings avoids the bigger issue: “That we are in a culture now where school administrators have to deal with situations and be mindful of whether guns are coming into our schools.”

Alleged Jihadist Arrested in Greece

Source: <https://www.urdupoint.com/en/world/alleged-jihadist-arrested-in-greece-1434402.html>

Dec 23 – Greek counter-terrorism authorities have arrested a 40-year-old Iraqi [man](#) on suspicion of belonging to the Islamic State group (IS), [police](#) said Thursday.

The [man](#) arrived in [Greece from Syria](#), a [police](#) official told AFP, adding that he will appear before a prosecutor on Friday.

Initially arrested on [December 7](#) on charges of facilitating the entry and exit of foreigners into and out of [Greece](#), he was released conditionally, according to a statement by the Greek [police](#).

He was re-arrested after an investigation by intelligence and counter-terrorism authorities uncovered video footage suggesting that he is a member of IS, the [police](#) official said.

Greece's national intelligence service and the [police](#) counter-terrorism department have stepped up controls across the country following [terrorist](#) attacks in [Europe](#) in recent years.

Al Qaeda franchise Ansar Al Islam continues gaining strength

By Salah Uddin Shoaib Choudhury

Source: <https://www.weeklyblitz.net/counterterrorism/al-qaeda-franchise-ansar-al-islam-continues-gaining-strength/>

Dec 26 – Al Qaeda franchise in Bangladesh, Ansar Al Islam (AAI) is taking preparations for targeting atheists, apostates, Hindutva followers and foreign missions in the country. According to Bangladesh Police, although this dangerous militancy outfit has no immediate plan to carry out attacks, it is secretly continuing recruitment and training activities. The recruitment of jihadists and members of sleeper cells are being done through various social media platforms, especially Facebook and Twitter. Meanwhile, another said, Ansar Al Islam jihadists are being secretly sent to Kashmir and Palestine under the direct supervision of Pakistani spy agency Inter Service Intelligence (ISI) and Palestinian mega-terror outfit Hamas, where they are being given training on operating weapons as well as bomb making.



According to a recent intelligence report, Ansar Al Islam, which is known as the Bangladesh chapter of Al Qaeda in Indian Subcontinent (AQIS), is finalizing a list of its targets, with the plan of starting attacks from the beginning of 2022. It is also learnt that this notorious jihadist outfit has no plan to attack members of the law enforcement agencies as it believes such attacks would ultimately backfire leading to a full-throttle crackdown on the outfit, weakening its strength.

Ansar Al Islam has already started establishing secret dens within the Indo-Bangla border areas, as well as West Bengal, Tripura, Assam, and Nagaland with the agenda of launching attacks both inside Bangladesh and India. The jihadist outfit is also looking for targeting several important figures in the Bharatiya Janata Party (BJP), Rashtriya Swayamsevak Sangh (RSS) as well as several cultural activists, writers and journalists. It said, Al Qaeda in Indian Subcontinent wants Ansar Al Islam to target several journalists in Republic TV, Opindia and the Organiser, alongside few other pro-Hindutva publications in India.

Intelligence report said, Al Qaeda in Indian Subcontinent aims to establish its dominance and take control of the Indian sub-continent through Ghazwa-e-Hind (conquest of India), while it also wants to expand jihadist activities within Sri Lanka, Maldives and Nepal. In India, Sri Lanka, Maldives and Nepal, tourist attraction spots may come under jihadist notoriety. Besides, the outfit sees Kashmir as a possible shelter and the Rohingya community in Bangladesh as a source for recruitment of new members. Al Qaeda in Indian Subcontinent is already having connections with Arakan Rohingya Salvation Army (ARSA), a jihadist outfit formed by Rohingya Muslims from Myanmar.

Another intelligence source said, a group of newly recruited Ansar Al Islam jihadists tried to reach Afghanistan and Gaza through land route via Chittagong Hill Tracts to India and then Pakistan. Although intelligence sources refrained from stating if those jihadists had succeeded in reaching Afghanistan and Gaza an official of the Counter Terrorism and Transnational Crime (CTTC) unit of Bangladesh Police said they have information that three youths possibly reached Afghanistan.

A CTTC source told local media that the chief of Ansar Al Islam is now staying abroad, while its military wing is being operated by Sayed Mohammad Ziaul Haque alias Maj (sacked) Zia and he is hiding somewhere in Bangladesh. It may be mentioned here that the US Department of State's Diplomatic Security Service has announced US\$5 million reward for information on the terrorist attacks in Dhaka, Bangladesh that left US citizen Avijit Roy dead and his wife, Rafida Bonya Ahmed seriously injured.

According to a [press released](#), the Secretary of State Antony Blinken has authorized a reward of up to US\$5 million for information leading to the arrest or conviction in any country of anyone involved in the murder of Avijit and the attack on Bonya.

It may be mentioned here that Avijit Roy and his wife, Rafida Bonya Ahmed both Bangladesh-born US citizens, were visiting Dhaka to attend *Ekushey Boi Mela* – a book fair when they were attacked by assailants with machetes. Avijit was killed and Bonya survived with critical injuries.

This investigation remains open, and the US State Department is seeking information that will assist law enforcement agencies in bringing to justice the perpetrators of this heinous terrorist attack.

A total of six individuals were charged, tried, and convicted in Bangladesh. Two of the convicted conspirators, Syed Ziaul Haque (aka Major Zia) and Akram Hussain were tried in absentia and remain at large.

Two related groups have claimed responsibility. Ansarullah Bangla Team, an al-Qa'ida-inspired terrorist group based in Bangladesh, claimed responsibility for the attack. Shortly thereafter, Asim Umar, the now-deceased leader of al-Qa'ida in the Indian Subcontinent (AQIS), posted a widely circulated video claiming that AQIS followers were responsible for the attack on Avijit Roy and Rafida Bonya Ahmed.



In 2016, the Department of State designated AQIS as a Foreign Terrorist Organization under Section 219 of the Immigration and Nationality Act, and a Specially Designated Global Terrorist under Executive Order 13224, which provides authority to sanction terrorists and those who support terrorists or terrorist acts. The Rewards for Justice Program, administered by the Diplomatic Security Service, is an effective law enforcement tool. Since its inception in 1984, the program has paid over US\$200 million to more than 100 people who provided actionable information that helped prevent terrorist attacks, bring terrorists to justice, and resolve threats to US national security. A section of Bangladeshi media, without understanding the contents of the US State Department's announcement of reward stated that the amount is offered for information on absconding Syed Ziaul Haque (aka Major Zia) and Akram Hussain. This was totally wrong. The US State Department is looking for "information leading to the arrest or conviction in any country of anyone involved in the murder of Avijit and the attack on Bonya" – meaning, they are willing to locate the exact culprits. Another serious side of this statement is also a matter of grave concern for Bangladesh, as the US State Department has categorically stated that Al Qaeda (al-Qa'ida) inspired terrorist group Ansarullah Bangla Team, which is based in Bangladesh claimed responsibility for the attack. It also said, Asim Umar, the now-deceased leader of al-Qa'ida in the Indian Subcontinent (AQIS), posted a widely circulated video claiming that AQIS followers were responsible for the attacks. According to the Bangladesh Police database, Xulhaz Mannan, an LGBT rights activist and official of USAID in Bangladesh, and his friend Khandoker Mahbub Rabby Tonoy were the latest victims of the militant outfit's targeted killing. They were killed in 2016 in Dhaka's Kalabagan area.

Salah Uddin Shoab Choudhury is an internationally acclaimed multi-award-winning anti-militancy journalist, research-scholar, counter-terrorism specialist, and editor of Blitz.

Disrupted Jihadist Plots in France and Germany Reflect New and Old Terrorism Trendlines

By Jacob Zenn

Terrorism Monitor Volume: 19 Issue: 24

Source: <https://jamestown.org/program/briefs-358/>

Although Islamic State (IS)–inspired attacks have decreased in Europe over the past few years, lone actors continue to search for ways to carry out attacks. Two attempted, but foiled, attacks reveal the enduring threat of jihadism in Europe. One attack involved two 23-year-old men outside of Paris, who pledged loyalty to IS and sought to conduct a mass-stabbing of “disbelievers” during Christmas in Paris. Both would-be attackers had also stockpiled IS propaganda videos in their residences, although one of the suspects claimed he never intended to conduct the attack. According to French police, this was the fourth such jihadist plot broken up in 2021. Three other jihadist plots in 2021, however, were not disrupted in France, including two stabbings of female police officers in April and May.

Jacob Zenn is an adjunct assistant professor on African Armed Movements and Violent Non-State Actors in World Politics at the Georgetown University Security Studies Program (SSP) and editor of *Terrorism Monitor* and senior fellow on African and Eurasian Affairs for The Jamestown Foundation in Washington DC. He authored the book, *Unmasking Boko Haram: Exploring Global Jihad in Nigeria*, which was published in April 2020 by Lynne Rienner in association with the Handa Centre for the Study of Terrorism and Political Violence, University of St Andrews. Zenn has also written on international security for academic journals such as *Studies in Conflict and Terrorism*, *Terrorism and Political Violence*, *Small Wars and Insurgencies*, *African Conflict and Peacebuilding Review*, *The Journal of Modern African Studies*, *Journal for De-Radicalization*, *African Security*, and the *International Journal of Not-for-Profit Law*.

Terrorism rose in India in 2020; 37% in J&K: Report

Source: <https://www.newsbytesapp.com/news/india/terrorism-increased-in-india-in-2020-us-report/story>

Dec 28 – India experienced more [terror attacks](#) in the first year of the COVID-19 pandemic, 2020, compared to 2019, the US state department said in a report. Reportedly, India witnessed 679 terror attacks last year, up from 655 the previous year. Jammu and Kashmir recorded 257 or 37% of these attacks. India also recorded 567 citizen fatalities or 2% of all terror-related deaths worldwide.



Why does this story matter?

India's borders, particularly the northern front, remain vulnerable to terror attacks. [Jammu and Kashmir](#) (J&K) reports the most terror activities. However, the central government claimed earlier this year that terror attacks had decreased in J&K after the repeal of Article 370 in 2019. J&K witnessed only 244 terror attacks in 2020 in comparison to 594 in 2019, according to the Union Home Ministry.

Who all were behind the attacks in India?

The CPI-Maoist was responsible for 44% of all terror operations in India, the report said. The [Lashkar-e-Taiba](#) (LeT) and Hizbul Mujahideen were involved in 6% of all attacks. A total of 29% of terror attacks in India were not linked to any particular group. "Indian security agencies are effective in disrupting terror threats, although gaps remain in interagency intelligence," the report added.

Which states witnessed the most attacks?

J&K experienced the most terror attacks with 257 incidents (37.8%). It was followed by Chhattisgarh at the second spot with 145 terror attacks (21.4%) and Jharkhand at the third spot with 69 incidents (10.2%).

What is the scenario worldwide?

There were 10,172 terror attacks in 98 countries in 2020, up by 1,300 compared to 2019. [Afghanistan](#) reported the most terror acts (1,722), followed by Syria (1,322) and the Democratic Republic of the Congo (999). The Taliban (including the Haqqani Network) was responsible for the most terror acts (1,325) and casualties (7,417) in 2020. They were followed by ISIS-Core, al-Shabaab, CPI-Maoists, and ISIS-DR Congo.

The report offers an honest assessment: US Secretary of State

US Secretary of State Antony Blinken said the report provides an honest assessment of the issues America faces. "These figures reflect, in part, the spread of ISIS branches and networks and al Qaeda affiliates, particularly in Africa," Blinken said.

India's security scenario has some worrying new dimensions

By D.C. Pathak

Source: <https://www.daijiworld.com/news/newsDisplay?newsID=910642>

Jan 02 – Intelligence being the anchor of security, two fundamentals of national security provide the reasons for a periodical examination of whether the Intelligence infrastructure and its methodology were in need of an upgrade and expansion. First is the reality that the threat perspectives were never static since geo-politics could alter and new adversarial fronts shape up. The second is the principle that says 'Security is a matter of degree' implying that it should never be presumed to be perfect and should be constantly improved.

Our Intelligence agencies have performed very well with their existing resources and outreach but they might need a further backing, technological advance and new levels of coordination to measure up to the emerging challenges. Some of the new features of the contemporary security environs can be easily identified.

There is a shift from open warfare to 'covert' offensives in the post- Cold War world and nearer home use of terrorism by Pakistan as an instrument of 'asymmetric war' against India in Kashmir and elsewhere has necessitated induction of the armed forces in security



operations on our own soil. This has pushed civil- military cooperation to an entirely new level, called for close functional rapport between DIA and civilian Intelligence set-up and made it vital for the Army to train for adherence to Intelligence-based operations for minimising collateral damage. AFSPA may still be needed in the situation that was developing, but would require strict compliance in accordance with the spirit of law so as to avoid any charge of heavy handedness against the Army. Its operations fall under the umbrella of 'aid to civil authority'. The Army has generally performed its duties in difficult areas, quite well.

Another prime threat to national security is the exposure to Cyber attacks of the adversary carried out by way of hacking of vital systems -- this is a new dimension of 'proxy war'. Cyber defence has an intrinsic challenge because the breach was detected only after the attack had occurred and mitigation therefore had to be prompt and effective. Civil military cooperation on research and Intelligence production in the sphere of cyber security has to be built on solid foundations. The 'jointness' of Defence forces being established by the CDS should help in evolving shared protocols for Intelligence agencies, NTRO and DIA under the auspices of NSCS. It is necessary to focus on prevention of cyber attacks -- however difficult it might be.

Also, it is now well known that social media has become the new instrument of combat and wherever it is used in a planned way to influence public opinion through a 'covert' operation, Intelligence will be required to get into its roots and identify the adversary behind the scene operating from within the country or outside. There are laws against the misuse of social media but Intelligence is now needed about the elements and forces who could be directing an 'information warfare' using this medium for false propaganda, fake news and 'radicalisation'.

A new phenomenon -- going beyond the problem of NGOs with a hidden agenda -- is the advent of sponsored civil society forums and tinted writings designed to turn public opinion against a democratically elected dispensation. They sometimes acted in concert with the anti-India lobbies at home and abroad that played up vague issues like 'majoritarianism', 'authoritarianism' and 'minority' rights to destabilise a constitutional set up. Intellectualism could even become the new tool of politics by proxy. This facet of civil society activity adversely impacting on the national security belonged to the deeper layers of 'unconventional war' in which even an open challenge to national integrity and sovereignty and ridiculing of the idea of paying respect to national flag and national anthem, were sought to be legitimised in the name of freedom of expression and democratic right. This is what NSA Ajit Doval warned against while addressing the IPS Probationers at Hyderabad recently. All of this however, does not detract from the fact that a large number of NGOs in this country are engaged in purposeful social and philanthropic endeavours to the benefit of India as a nation.

Last but not the least, a potent strategic threat to national security of India now is attributable to the **Sino- Pak military alliance** -- an axis of a Marxist state and a fundamentalist regime -- that rests on a huge 'give and take' made by the two adversaries of India at the cost of the latter.

These two hostile neighbours have a certain capability of playing mischief on India's domestic front and are expectedly acting together even more closely following the scrapping of Article 370 relating to Jammu and Kashmir, by Indian Parliament. The anti- India lobbies have also become active in this period encouraged to an extent by the leaders of the valley-based parties who always interpolated Pakistan in the equation between the citizens of Jammu & Kashmir and the Centre -- they never said a word about the terrorist violence instigated by that country from across the PoK using faith-based motivation to recruit terrorists. The policy of 'terror and talks don't go together' has been appreciated by the world outside. In the fitness of things Centre should initiate measures to deter those who promoted pro-Pak separatism in Kashmir.

Apart from an examination of the needs of individual Intelligence agencies for organisational expansion and added resources, the matters of coordination -- in both operational and long term endeavours -- within the entirety of national security set up covering civil, military and technological segments, may have to be given special attention. Moreover, the internal security front has made the police an important first responder in many situations and the collaboration between the Central security agencies and the State Police has therefore acquired a new-found importance.

As threats to security like terrorism translate closer to the ground, the role of state and even District Intelligence has come into sharp focus. The recent DGPs conference demonstrated how the Centre- State cooperation in the sphere of Intelligence for national security could be kept above party politics. The Prime Minister's call for establishing a National Technology Mission for Policing under the chairmanship of Union Home Minister, paves the way for advancing in this direction. Comprehensive arrangements for Centre- State coordination can be evolved for serving the national objectives considering the fact that Police responsibility now goes beyond maintenance of law and order to include active participation in the safeguarding of Internal



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Security. Also, an important point for national security is to ensure that our Intelligence agencies attract the best of available talent from within and outside of the government.



Neerja-In Memoriam

Source: <https://www.panam.org/global-era/591-neerja-bhanot-2>

In September 1986 Neerja Bhanot (1963-1986) was senior flight purser on the Empress of the Seas, a Pan Am 747 hijacked at Jinnah International Airport in Karachi by four armed men from the Abu Nidal organization en route to Frankfurt and New York. During a 17-hour ordeal, she helped the three-member cockpit crew escape in order to ground the plane so it could not be flown. Bhanot hid the US passports of passengers so the hijackers could not determine passenger nationalities. She also managed to open the emergency door assisting many passengers to escape



from the plane. As the hijackers opened fire on passengers and crew, Neerja Bhanot lost her life shielding three children from bullets.

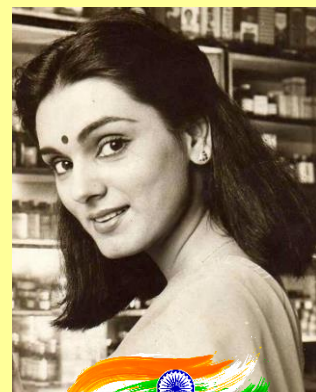
In 1987, she became the youngest and first woman recipient of the [Ashoka Chakra](#) award, India's highest civilian decoration for bravery.

In 2004, the Indian Postal Service issued a [stamp](#) in her honor.

In 2006 she was awarded the 2006 Special Courage Award by the US Department of Justice. (Read more at [Times of India.](#))

In 2016 a film entitled "Neerja" was released, portraying her heroic life.

Today the Neerja Bhanot Pan Am Trust continues to do great work in memory of this amazing woman. You can learn about the Neerja Awards and the trust at <https://www.facebook.com/The-Neerja-Bhanot-Page-109643142413675/>



Pakistan plans to terrorize India by supporting radical Islamic groups in Bangladesh

By Salah Uddin Shoaib Choudhury

Source: <https://www.weeklyblitz.net/counterterrorism/pakistan-plans-to-terrorize-india-by-supporting-radical-islamic-groups-in-bangladesh/>

Jan 03 – Pakistan is trying to implement a dangerous agenda of spreading terrorism inside India by extending support to a number of radical Islamic and terrorist groups inside Bangladesh with the active participation of Jamaat-e-Islami. According to media reports, radical Islamic and jihadist groups such as Hefazat-e-Islam (HeI), Ansar Al Islam (AAI), Hizbut Tahrir, Jamaatul Mujahedin Bangladesh (JMB) etcetera are taking preparations with funds provided by Pakistan through its notorious spy agency Inter Service Intelligence (ISI) eyeing on implementing Islamabad's terrorist plots inside India. According to information, there has already been a nexus formed between radical Islamic and jihadist groups based in Bangladesh and India-based Hizbul Mujahedin (HM) and several separatist and terrorist groups within northeastern districts, West Bengal, Punjab, Kerala and other provinces in India. It may be mentioned here that, radical Islamic and jihadist groups are using Tablighi Jamaat (TJ) as the most convenient vessel for spreading religious extremism and terror inside India, while Pakistani ISI and a number of Arab nations have been spending millions of dollars towards religious conversion in India with the help of Tablighi Jamaat.

While Assam government in India has shut down around 700 madrassas during the past several years, Tablighi Jamaat headquarters in New Delhi has already emerged into a major jihadist recruitment hub with hundreds of members of this dangerous organization taking oath of waging jihad against Hindus and Bharat (India). The ban on madrassas in Assam has led to a massive uproar in the pseudo Islamist coterie claimed as "secularists".



Assam's chief minister is anything but apologetic about having closed these madrassas. While many claim that this is an attack on the country's secular fabric, the justification on why a secular government must fund religious studies of a particular faith system remains obscure.

It may be mentioned here that, Saudi Arabia, which is recognized as the leader of the Muslim nations has banned activities of Tablighi Jamaat. Despite such bold actions by a Muslim nation, policymakers in several non-Muslim nations including Bharat (India) are feeling shy or showing reluctance in banning Tablighi Jamaat. Bangladesh, a country that allows Tablighi Jamaat in holding annual *iztema* (congregation) which is attended by millions of Tablighi followers from around the world too is reluctant in banning this antechamber of jihadism and radical Islamic terror, despite the fact of Jamaat-e-Islami, Hefazat-e-Islam, Ansar Al Islam, Al Qaeda, Islamic State and Pakistani spy agency Inter Service Intelligence (ISI) using this organization as the most convenient vessel of spreading terrorism. According to credible sources, speakers during the Tablighi Jamaat congregations are regularly giving instigation to the members for waging jihad against ruling Awami League government in Bangladesh, secularist forces as well as "agents of India".

While some people try to defend madrassas and Tablighi Jamaat stating these are innocent entities, there are innumerable incidents that demonstrate that madrasas often propagate the jihad ideology; their indoctrinated pupils frequently graduate to become recruits of various jihadist outfits. Despite abundant evidence of jihad preaching and recruitment within the four walls of numerous madrasas, India for a considerable period wrongly treated these Koranic schools as harmless educational units.

In my opinion, especially after the fall of Afghanistan into the grips of Taliban jihadists and Pakistan-patronized terrorists, madrassas in on wards become key recruitment and breeding grounds of radical Islam, religious hatred and jihad.

It may be mentioned here that, in India, the most "literate" state of Kerala has sent the maximum number of recruits to the Islamic State, and it is not unjustified to link these numbers to the madrassas active in the state.

A 2018 India Today [investigative report](#) found that "several madrasas in Kerala are teaching the theo-fascist variety of Islam" [and Wahhabism](#). Funded by Afro-Arab nations, especially the Gulf countries, madrassas have been indoctrinating impressionable minds to establish a worldwide caliphate by continuing global jihad.

In 2019, Indian broadcast network [NDTV](#) published a detailed report on the jihad recruitment going on in West Bengal madrassas, highlighting how Jamaat-ul-Mujahideen Bangladesh (JMB) used some madrassas in the Burdwan and Murshidabad districts for recruitment of young men to jihadist terror activities.

In 2020, the National Investigation Agency (NIA) in India revealed that an Al-Qaeda cadre had planned to run a jihadist training camp under the façade of operating a madrasa in West Bengal, and had already raised funds for the purpose.

But even before this revelation, an extensive [Firstpost](#) piece brought to the fore the fact that although Indian madrasas have not been as involved in jihad terrorism as their counterparts in the neighboring Islamic nations, their jihad recruitment was indeed very real. By teaching that women are inferior beings and non-Muslims are *kafirs* (infidels) they initiate their students into fanatical thinking.

In a 2017 article, [Indiafacts](#) quoted retired IPS officer Ram Ohri: "According to a conservative estimate during the last two decades Saudi Arabia alone has rolled out nearly 90 billion dollars for the propagation of Wahhabi Islam through the establishment of thousands of mosques and madrasas. *On a rough count, more than 25 per cent of the 90 billion petro-dollars are believed to have been pumped into India, Nepal and Bangladesh [and Sri Lanka] for establishing more madrasas.* Additionally, huge sums were transferred from other Muslim nations, including Pakistan, to establish lakhs of madrasas in India and other countries of South Asia to step up the campaign of global jihad".

Back in 2020, the Jammu and Kashmir authorities booked three teachers of a [Siraj-ul-Uloom](#) at Jammu and Kashmir's Shopian district; according to police sources, 13 students of the madrasa had joined various terror outfits, and one of its alumni, Sajad Bhat, turned out to be the jihad suicide bomber who carried out the 2019 Pulwama attack, killing 40 India CRPF personnel.

After a high-intensity explosion took down an entire building of a madrasa in Banka, Bihar in 2020, [Hari Bhushan Thakur](#), a local politician, stated:

"Madrassas are meant to provide the education of terrorism in Bihar. Hence, we have demanded a ban on such institutions in Bihar." While Thakur received a major backlash for his statement, one is left wondering how this mass of explosives made its way into an educational institution.

Despite the evident history of jihad recruitment in various madrassas, the enormous concessions made by preceding Indian governments towards these Islamic schools are astounding.

The government has been spending exclusively on the Muslim community through the funds allocated to Minority Affairs Ministry. These government funds were also supporting madrasas that were potential jihad recruitment units, and that promoted anti-Hindu sentiments.



Recently, the Uttar Pradesh Minister of State, Raghuraj Singh, called the madrassas “[hideouts of terrorists, where they are trained](#)”, and claimed that if given a chance, he would shut down all the madrassas in the country. Of course, he angered the secularists by his statement, but one can't deny the need to mainstream education and eliminate the ghettoization of a community through religion-based schools promoting religious fanaticism. After all what business do institutions touting the jihad ideology have in secular countries — whether they be India or any democracy in the West?

Meanwhile, according to media reports, Pakistan has intensified its anti-India agenda by providing direct support and funding to a number of radical Islamic and jihadist groups in Bangladesh, where Jamaat-e-Islami (Jel) has been playing the role of coordinators. The reports said, with the return of the Taliban in Afghanistan, Islamabad is again dreaming about a ‘transnational Islamic state’ in the eastern front of India. No amount of bitter lessons can make Islamabad learn any lesson as it simply does not want to learn. All their policies and theories have failed, but the authorities in Islamabad have not changed. Islamabad and its notorious spy agency ISI want a transnational Islamic sub-region comprising Bangladesh, Muslim stronghold states of West Bengal, Assam, and also Rohingya infested Arakan hills of Myanmar.

Salah Uddin Shoaib Choudhury is an internationally acclaimed multi-award-winning anti-militancy journalist, research-scholar, counter-terrorism specialist, and editor of Blitz.

Taliban orders beheading of mannequins and statues in Afghanistan

Source: <https://www.msn.com/en-in/news/world/taliban-orders-beheading-of-mannequins-and-statues-in-afghanistan/ar-AASmbJ1>



Jan 03 – Taliban government in Afghanistan will behead the 'mannequins' — the dummy figures used to display clothing — in Herat province, Afghan media reported.

A note to shopkeepers said: “All the statues and mannequins in your stores must be headless.”

This is in the continuous stretch of crackdown that the extremists-led administration in Afghanistan is pursuing ever since the fall of democratically elected government in Kabul on August 15, 2021.

The Taliban has said that the use of “mannequins” is a breach of the Shariah law.

Previously, the so-called Ministry for the Propagation of Virtue and the Prevention of Vice had ordered all the shops in Herat to dispose off the mannequins. However, after the

NO
COMMENT



business owners complained of heavy losses in an already fragile war-torn business atmosphere, the Taliban will now behead the mannequins.

The Ministry for the Propagation of Virtue and the Prevention of Vice is responsible for ensuring the Taliban's strict interpretation of Islam.

The Taliban have ruled that these mannequins were 'idols'.

Sheikh Aziz-u-Rahman, head of the ministry, had made the announcement.

According to the business owners, the beheading of the mannequins still means financial loss for them.

"The heads of the mannequins should be covered, not removed. Each mannequin costs \$100, or \$80 or \$70, and beheading them will be a huge financial loss," Abdul Wadood Faiz Zada, clothing business owner told Italian newspaper *Repubblica*.

Afghanistan, after being resurrected into democratic relevance for two decades by support funds from western nations and aid money, is nearing collapse since the Taliban retook country's control in August last year.

The United Nations' food programme warns that up to half the population is now facing starvation before the end of winter, as economic catastrophe combines with drought to plunge huge numbers into poverty.

The link between climate change and terrorism

Source: <https://yaleclimateconnections.org/2021/11/the-link-between-climate-change-and-terrorism/>



Nov 19 – In many countries, droughts, floods, and other extreme weather can put people in desperate situations. And that can create the conditions in which terrorism can grow.

Jeremiah Asaka is assistant professor of security studies at Sam Houston State University in Texas. He recently [reviewed the scientific literature](#) on the link between climate change and terrorism.

He found that extreme weather often worsens social tensions, poverty, and hunger.

"And then makes those societies vulnerable to recruitment by terrorist groups," Asaka says.

For example, he points to parts of Nigeria, where the terrorist group Boko Haram operates.

"There's high rates of poverty, and societies there are very dependent on natural resources," he says.

Chronic droughts in the region have destroyed crops and left people struggling. Boko Haram has taken advantage of these conditions to gain power.

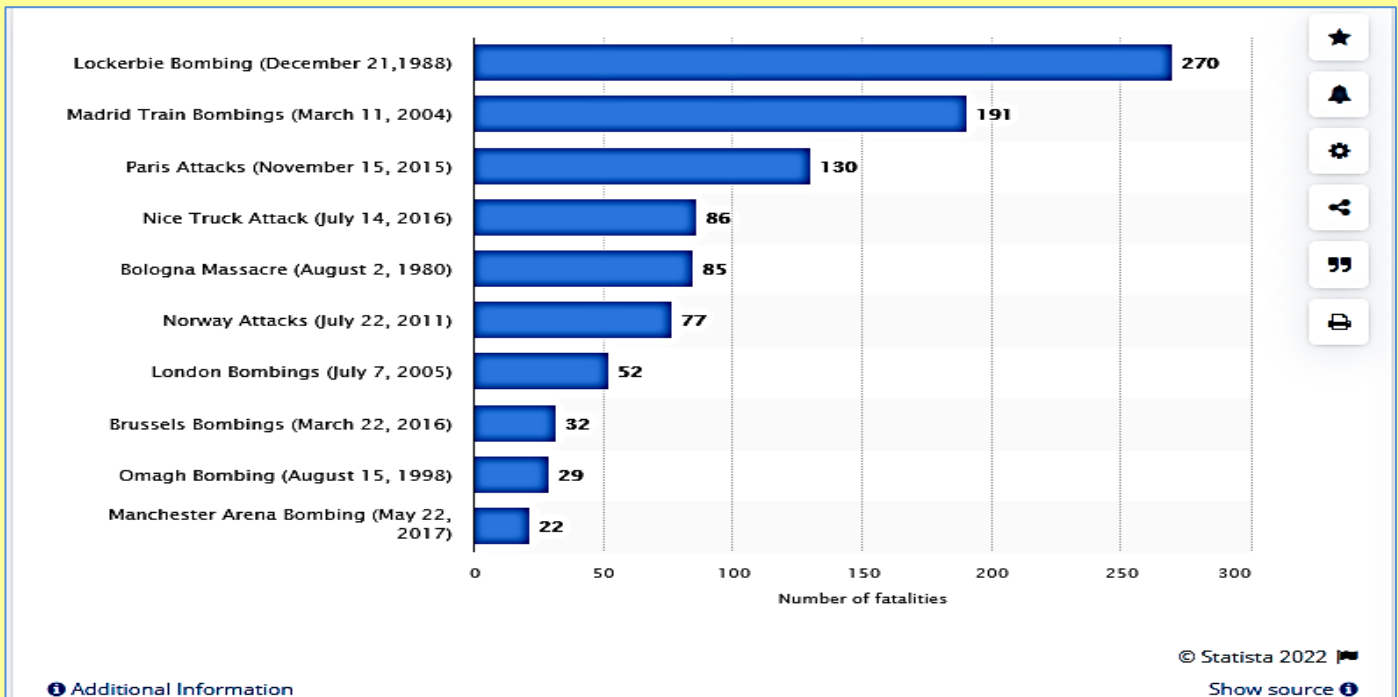
So Asaka says in addition to conventional counter-terrorism efforts, it's important to build community and climate resilience.



“I’m trying to make us bring in the concept of human security where we address issues of food security, issues of poverty,” Asaka says. He says this preventive approach can help reduce the spread of terrorism.

Worst terrorist attacks in Europe 1980-2021

Source: <https://www.statista.com/statistics/541483/worst-incidences-of-terrorism-eu/>



Dec 07 – The Lockerbie plane bombing involving Pan Am Flight 10 flying from London to New York caused 270 deaths, and is the worst terrorist attack in Europe since 1980. In 2004, the Madrid train bombings led to the deaths of 191 people, and is the second worst terrorist attack since 1980.

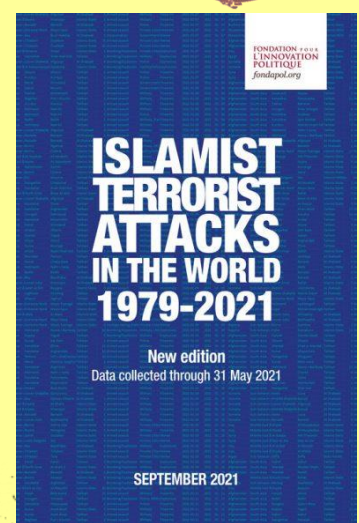
Islamist Terrorist Attacks in the World 1979-2021

Data collected through 31 May 2021

Source: <https://www.fondapol.org/en/study/islamist-terrorist-attacks-in-the-world-1979-2021/>

The period between the invasion of Afghanistan by the Red Army in 1979 and the capture of Kabul by the Taliban on 15 August 2021 corresponds to a rise in Islamist terrorism. As attacks have multiplied, they have struck all over the world, reaching into the heart of Western countries – New York, Madrid, London, Paris, Moscow... – exacerbating feelings of fear, mistrust and suspicion of Muslims, and even of anti-Muslim sentiment. In democracies, Islamist terrorism fosters both rejection of Islam and demands for authoritarianism.

Despite its importance, the reality of this violence has not been accurately measured. The Fondation pour l’innovation politique wanted to contribute to this assessment by quantifying Islamist terrorism, identifying the forms it has taken over the decades, listing the acts it may have inspired or initiated, estimating the number of its victims, and identifying the most deadly organisations and the countries most affected. This pioneering work was published in November 2019 in a report entitled [Islamist terrorist attacks in the world. 1979-2019](#), available online at [fondapol.org](https://www.fondapol.org), in [French](#), [English](#) and [Arabic](#). To do this, we collected a huge amount of information, to the point of building a voluminous database available in open data on our website data.fondapol.org.



Two years later, we offer readers an update of our database, which has become indispensable for the description and understanding of a new and singularly problematic political reality. The update of the study proposed here extends through May 2021. The revival of this important work echoes the commemoration of the 9/11 terrorist attacks in the United States. The twentieth anniversary of this tragedy coincides with President Biden's announcement of the U.S.' withdrawal from Afghanistan, the Taliban takeover of Kabul on 15 August 2021, and the withdrawal of the last U.S. troops from Afghanistan on 31 August 2021. We believe that the mass of information gathered sheds new light on the phenomenon of Islamist violence. It makes it possible to better describe it, to better understand it, to document its severity. Thus, by way of illustration, we can establish that between 1979 and May 2021, at least 48,035 Islamist terrorist attacks took place worldwide. They caused the deaths of at least 210,138 people. On average, an Islamist attack has resulted in the death of around 4.4 people. We identify and quantify the *modus operandi* and targets. Explosives are the most common type of weapon used (43.9%), while the military is the main target (31.7%), ahead of civilians (25.0%) and police forces (18.3%). The picture of this phenomenon is becoming clearer. Afghanistan was the country most affected by Islamist terrorism, ahead of Iraq and Somalia. Within the European Union, France was the country most affected, with at least 82 Islamist attacks and 332 deaths. We also show that the majority of Islamist attacks (89.5%) were in Muslim countries and that the victims were mainly Muslims, in the same proportions.

2021 saw plenty of violence — but no mass terrorist attacks in the U.S.

By Daniel L. Byman

Source: <https://www.brookings.edu/opinions/2021-saw-plenty-of-violence-but-no-mass-terrorist-attacks-in-the-u-s/>

Dec 29 – New data reveal there were zero successful mass terrorist attacks in the U.S so far this year. It's a remarkable statistic and one not reached at any time after 9/11. Daniel L. Byman explores the reasons behind this and why, despite the turmoil of our time, 2021 saw so few terrorist attacks. This piece was originally published by [The Washington Post](#).

Anger and violence seemed to be everywhere in 2021: Trump supporters told election board officials they will hang for treason; violence on airplanes reached all-time highs; Asian Americans found themselves under attack by people blaming them for covid; and anti-vaxxers even threatened school nurses, hardly a traditional focus of anger, because they enforced coronavirus vaccine rules. As this wide range of targets suggests, Americans are highly polarized, disagreeing on climate change, policing, international affairs and seemingly almost everything. In addition to harsh language and even violent threats from our political leaders, social media giants like Facebook encourage "angry, polarizing, divisive content" as a whistleblower put it, making our social divisions even worse. Yet despite this toxic stew of anger and threats, **actual terrorism — politically motivated violence against noncombatants that seeks a broad psychological effect** — was low in 2021. Data from the New America Foundation reveal there were zero — yes, zero — successful far-right, left-wing or Islamist militant mass terrorist attacks in the United States so far this year. It's a remarkable statistic and one not reached at any time after 9/11, 20 years in which jihadism and white supremacist violence, in particular, vied to claim the most American lives. The lone lethal attack that might even be considered terroristic involved a misogynistic man who killed eight workers at massage parlors and spas in Atlanta due to a self-proclaimed "sex addiction." A depressing number of mass shootings occurred in 2021, but despite being murderous they are not terrorism as they did not involve a political motive.

Islamist militant violence in the the United States; the most three sailors died. The Yemen

homeland has been on the decline for years: 2020 also saw no Islamist militant attacks in recent strike was the December 2019 shooting at Naval Air Station Pensacola, Fla., in which shooter, a Saudi air force officer in the United States for training, had ties to al-Qaeda's branch. The last mass casualty Islamist militant attack was in 2016, when an Islamic State-inspired shooter killed 49 people at the Pulse nightclub in Orlando.

The 2021 dip in right-wing attacks is more surprising. In 2018, Robert Bowers shot 11 worshipers at a Pittsburgh synagogue, the worst act of antisemitic violence in U.S. history. 2019 saw 22 people killed at an El Paso Walmart, with the shooter targeting local Hispanics in an effort to stop foreign "invaders." Those years also saw smaller attacks, as did 2020, when a member of the anti-government "Boogaloo" movement ambushed police officers.

Given the turmoil of our time, and this recent history of terrorism, why did 2021 see so few terrorist attacks even as threats of violence seemed everywhere?



C²BRNE DIARY – January 2022

For Islamist militants, the answer is the most straightforward. Massive attacks such as al-Qaeda's 9/11 or the 2015 Islamic State attacks in Paris depended heavily on skilled operatives carrying out orders from a dedicated, well-resourced group: The attacks took time, money and organization. Other Islamist militant attacks depended on inspiring locals, like the Pulse nightclub shooter, to take up arms on their own.

The United States and its allies, however, have slowly ground these organizations down. The al-Qaeda core has been a prime target, losing its working-level operatives, as well as its senior leaders, in drone strikes or through arrests from global intelligence cooperation. The core has not carried out a major attack on the West for over a decade, and some of its affiliates like the Yemen branch that facilitated the Pensacola attack are in disarray. At home, the FBI is far more aggressive (some would say too aggressive) in targeting potential Islamist militant terrorists than it was before 9/11, while the American Muslim community actively cooperates with law enforcement to stop the small number of dangerous individuals in their midst. Bottom-up, inspired attacks remain a concern, but the decline of both the Islamic State and al-Qaeda leaves them less able to capture the imaginations of excitable potential supporters.

None of these factors are unique to 2021. They represent a culmination of policies from different administrations and learning by counterterrorism officials. No single one of these measures stops terrorism by itself, and, despite two years of calm, at least some future attacks remain likely — but the combination is potent in keeping the U.S. homeland largely safe.

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

Daniel L. Byman is a senior fellow in the Center for Middle East Policy at Brookings, where his research focuses on counterterrorism and Middle East security. He previously served as the research director of the center. He is also a professor in the Georgetown University Walsh School of Foreign Service's Security Studies Program. Previously, Byman served as a staff member with the National Commission on Terrorist Attacks on the United States ("The 9/11 Commission") and the Joint 9/11 Inquiry Staff of the House and Senate Intelligence Committees. Before that, Byman was a policy analyst and the director for research in the Center for Middle East Public Policy at the RAND Corporation and worked for the U.S. government. His most recent book is "[Road Warriors: Foreign Fighters in the Armies of Jihad](#)" (Oxford University Press, 2019). He is the author of several other books on counterterrorism, state sponsorship of terrorism, and conflict and terrorism in the Middle East.

EDITOR'S COMMENT: It seems that I and the distinguished author (and many other experts) have a different understanding/perception of terrorism. For them the key word is "political"; for me, the word "political" is of no special meaning during incidents generating "terror" to innocent people not deserving the excessive violence and threat of life. Perhaps this is why after so many "terrorism" years we still do not have a universally accepted definition.

Al-Qaeda Network in Brazil Designated as Global Terrorists

Source: <https://www.hstoday.us/subject-matter-areas/counterterrorism/al-qaeda-network-in-brazil-designated-as-global-terrorists/>

Dec 22 – Al-Qa'ida and its regional affiliates continue to pose a threat to countries around the world. The United States is taking action today to stem the funding of this terrorist group by designating members of a Brazil-based network of al-Qa'ida-affiliated individuals and their companies as Specially Designated Global Terrorists.

The United States is designating Haytham Ahmad Shukri Ahmad Al-Maghrabi, who was one of the initial members of an al-Qa'ida support network in Brazil. Al-Maghrabi had frequent contact and business dealings, to include the purchase of foreign currency, with another al-Qa'ida-affiliated individual based in Brazil. Others being designated are Mohamed Sherif Mohamed Awadd, who had received bank transfers from other al-Qa'ida associates in Brazil and played a significant role in a Brazil-based al-Qa'ida-affiliated group; Ahmad Al-Khatib, who is based in Brazil; as well as Awadd and Al-Khatib's companies. These designations are being taken pursuant to Executive Order 13224, as amended.

The continued activities of this Brazil-based network demonstrate that al-Qa'ida remains a global terrorist threat. The United States is committed to working with our partners, including Brazil, to disrupt al-Qa'ida's financial support networks.



5 Terrorism Trends to Watch in 2022

By Bridget Johnson

Source: <https://www.hstoday.us/featured/5-terrorism-trends-to-watch-in-2022/>



U.S. Capitol Police

Jan 04 – If you want a consistent point of agreement among counterterrorism professionals to describe the lay of the land over the past year, start with the word “evolution”: a terror landscape that is as complex as it is dynamic, shifting with the political tides and ungoverned spaces, willing to set aside short-term satisfaction as needed for long-term gains, cultivating new extremists from current events, and hungrily feeding on the escalation of disinformation. Terror groups and extremist movements evolved into long-distance training before the pandemic hampered travel, found new methods of communication to evade social media bans or learned how to make extremism palatable enough to lure recruits while not triggering the censors, and embraced the remotely inspired lone actor as not a fallback plan but a frontline soldier. What worked best for extremists even just a few years ago has likely been adjusted based on new technologies, new trends in recruitment and incitement, and new realities on local and global stages.

A year ago, my annual piece detailing terror trends to watch in the months ahead [singled out](#) conspiracy theory extremism as the top concern – it was published on Jan. 5, 2021, a day before the Capitol attack. The Jan. 6 riot did not materialize out of thin air, underscoring how critical it is to study trends in extremism and assess how they might figure into future violent action by lone actors or groups in the year ahead and beyond.

Extremists Helping Extremists

Recent hate-crimes cases highlighted by the Justice Department reflected perpetrators allegedly engaging in the same sort of preparation and planning as one might expect from lone-actor terrorists. In Oregon, a man was [charged](#) in November with luring and beating a gay victim with a wooden club after viewing violent anti-gay materials online, researching



how to plan and execute a killing online, and purchasing the weapon on the internet. Last month, a New York man who had long been engaged in sending threats to the LGBTQ community [allegedly promised](#) a strategic attack on the 2021 New York City Pride March with “firepower” that would “make the 2016 Orlando Pulse Nightclub shooting look like a cakewalk.” The allegations aren’t just notable for their brutality, but for their shared characteristics with other extremist lone actors who have progressed from spouting ideology to fomenting and executing violence – from consumption of extremist propaganda and inspiration drawn from other terrorist attacks to weapons acquisition and target selection.

Extremists helping extremists isn’t about merging seemingly conflicting ideologies, though some have shown a willingness to embrace the enemy of their enemy and disregard some core differences to achieve a shared goal. It’s about cross-pollination: learning best practices from terrorists who have gone before including selection of targets and tactics, recruitment and propaganda strategies, utilization of disinformation, and communication between like-minded adherents. ISIS rolled with the social media era and transformed terror propaganda, online recruitment, and incitement into a whole new beast, trying to make terror look cool with stylized production values and an emphasis on diverse recruitment; this spawned independent media groups that churn out more ISIS content than tech companies or law enforcement can handle. Propaganda operations aren’t happening in silos. Far-right groups that became more active in online forums and physical operations such as leafleting on college campuses have borrowed from this general blueprint of production and dissemination using a full-court press of forums, social media, messaging apps, placing propaganda on file-sharing sites, and more. And both extremist movements deploy propaganda that often skirts so closely to seemingly innocuous topics that they can do stealthier recruitment ops.

Even if disparate groups don’t cooperate with each other – like the Boogaloo Bois who pleaded guilty to trying to [strike an arms deal](#) with what they thought was Hamas in order to fund a ‘Boojahideen’ training camp – they can complement each other. It matters not so much what different extremists believe as what their goals are and how they could be useful to each other in accomplishing those goals. Even if white supremacist groups shudder at the thought of even going near a mosque unless to commit a massacre like in Christchurch, there is an admiration for what ISIS has accomplished and a desire to emulate methods that will also stoke fear, lure recruits, grow their base, and incite attacks. And vice-versa: Damon Joseph, [sentenced](#) to 20 years in September for plotting to attack Toledo synagogues on behalf of ISIS, [told](#) an undercover agent that he admired the 2018 Pittsburgh synagogue mass shooting and “can see myself carrying out this type of operation.”

Shared themes one sees across Islamist, white supremacist, accelerationist, and eco-fascist propaganda often include using current events to stoke grievances and ultimately recruitment, vowing ideological dominion, pressing conspiracy theories in order to accelerate slides toward extremism, using action-film-style imagery of training or operations, highlighting past attacks conducted by any type of group to show extremists how much suffering they can also inflict, using anti-government and revenge themes, promoting weapons and tactics, threatening social media over deplatforming, and displaying antisemitism or misogyny along with hatred toward minority communities, the LGBTQ community, or religious groups. The danger is that these groups learn from each other and share best practices, even if not overtly, and conduct attacks that complement each other’s goals.

Midterm Election Violence

Not that long ago, the prospect of violence marking a midterm election season – in which voters often can’t be stirred to even head to the polls – would have been a farfetched prediction. But the aftermath of the last presidential election was violent enough to raise concerns about the prospect of extremist violence connected to this year’s House and Senate elections, and even contests on a state or local level all the way down to school boards. The Jan. 6 Capitol attack continues to be a focus of conspiracy theorists who claim it was a false-flag operation, and is also lifted up by those who acknowledge the actual perpetrators but brand it as a sort of martyrdom operation while calling the hundreds arrested for their activities that day political prisoners. Even al-Qaeda couldn’t resist trying to stoke more political violence, [telling](#) “the raiders of the Congress” in a video after the Capitol attack that they and similar groups “will find what they need in the *Inspire* magazine issued by the mujahideen in the Arabian Peninsula.” What’s in *Inspire*, which is easily found online? Recipes for bombs and other devices, tactical advice on target and weapons selection, practical considerations for lone-actor terrorists, etc.

It’s alarming not just that violence was employed in an effort to stop the certification of election results, but that many Americans just assume extremist violence will now be the way things are in future elections. A new CBS News-YouGov [poll](#) found that 62 percent of respondents expect violence from the losing side in future presidential elections, and 14 percent said that political candidates or officials could be justified in calling for violent action. In November, Reuters released an [article](#) in which reporters tracked down and spoke with people who had harassed and threatened election officials – a piece that was jarring not just for the content of the violent threats but for the frankness of many of the perpetrators who went on record with their names to discuss, justify or downplay what they did to terrify these election workers.



It's a stark reminder that election security is not just about cyber-securing the integrity of the vote but physical protection of government sites, polling places, political rallies or campaign stops, workplaces and private homes of election officials and workers, and more as the potential for violence lurks before, during, and after the vote.

Islamist Terror Adapts

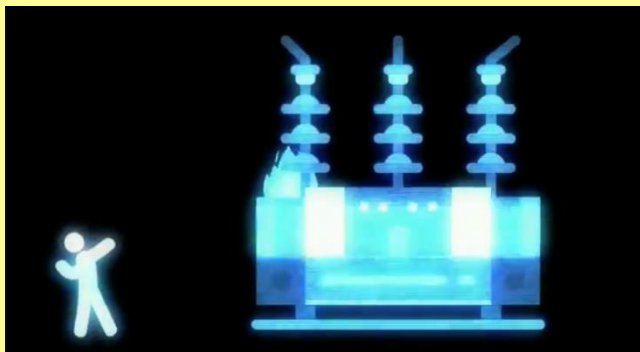
When we talk about a shifting terror landscape, Islamist terror groups are undoubtedly anxious or eager to see what the new year has in store. While noting damaging losses of leadership or territory, counterterrorism professionals in the federal government roundly describe ISIS, al-Qaeda, and their ideological brethren as not just in a state of evolution but as resilient, adaptive, and determined. Their domain is not limited to the former so-called caliphate straddling Iraq and Syria or enclaves in Yemen or southern Asia, but increasingly [stretches into corners of Africa](#) and even the recently designated [al-Qaeda network in Brazil](#).

In Afghanistan, where the Taliban is more concerned with [beheading clothing-store mannequins](#) than they will ever be about reining in their al-Qaeda allies, the terror landscape is volatile at best. ISIS declared that its Aug. 26 attack outside Hamid Karzai International Airport, which killed 169 Afghan civilians and 13 U.S. service members, “heralded the start of a new phase” of “eternal jihad,” with the bombing “dispelling the illusions of peace-bearers and drawing a map of light for a new stage” as they hoped the attack will draw more ISIS recruits in their claimed Khorasan province from the ranks of the Taliban and al-Qaeda.

Islamist terror groups’ revolutionary use of the internet – pathways carved out for other extremists to emulate – means that they still exercise significant narrative control when it comes to wooing new followers and inspiring attacks. ISIS propaganda this past year called for lone actors during wildfire season to [deploy fire as a weapon](#) by using accelerants concealed in apple juice containers to start blazes of remote parked cars, and to [take advantage](#) of what they assumed would be distracted law enforcement after civil unrest at the Capitol. An al-Qaeda magazine marking 20 years since the 9/11 attacks [encouraged](#) lone or paired attackers to try to emulate the operation that was carefully planned for years by the terror group, arguing that the tactic of using planes as weapons is “an open door even to lone wolves.” Perhaps one of the most impactful threats to be felt from al-Qaeda this year will be their

aforementioned concerted effort to dip into the domestic extremist threat – which could be seen as hollow sideline encouragement if not for the trove of English-language distance-learning materials produced over the years by the group that are readily available online.

[A National Socialist Order video depicting a power substation ablaze after an individual threw an incendiary device at the structure.](#)



Critical Infrastructure Threats

The 2021 ransomware attacks on Colonial Pipeline and JBS meat processing plants underscored the economic impacts of attacks on

critical infrastructure, and that the cyber battlefield is not just the domain of nation-state actors. But these crippling impacts also provide a guide or simply inspiration for extremists who often openly discuss how physical attacks on critical infrastructure could be a force multiplier – expanding the impact of an attack beyond one targeted location or one attacker, and inflicting everything from inconvenience to death on victims. Think of the impact that an outside attacker or insider threat could have on the safety of gas pipelines, the security of dangerous chemicals, the integrity of a dam, the contamination of food or water, or the ability of a healthcare facility to function.

A National Socialist Order (formerly known as the neo-Nazi Atomwaffen Division) video posted on Telegram in 2020 used simple animation to encourage followers to identify allies and enemies and finally act – and the first “act” depicted an individual chucking an incendiary device at a power substation that subsequently bursts into flames. The video, which also depicted a vehicle attack on a crowd and an assassination of a person behind a podium, encouraged followers to educate themselves with books such as *The Turner Diaries* before attacking. One social media account that was sharing accelerationist memes and references to the Boogaloo Bois posted an animated meme depicting a masked shooter in front of a power substation to the tune of “Electric Avenue.” Another meme posted on YouTube in April 2020 and circulated in other online forums asked people to “repost if you would dismantle the electrical transmission grid with your male followers” and included a short video showing an unknown individual blowtorching the leg of a transmission tower. And last year ISIS executed its longtime threats against the energy sector with attacks on generating units and high-voltage lines in Iraq, as well as attacks on transmission towers supplying power to part of Baghdad’s water system — using one critical infrastructure sector to cripple another.



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A superseding [indictment](#) filed in August against a group composed of former and active-duty military along with members of the now-defunct Iron March neo-Nazi online forum alleges that they discussed attacking the power grid both “for the purpose of creating general chaos and to provide cover and ease of escape in those areas in which they planned to undertake assassinations and other desired operations to further their goal of creating a white ethno-state.” The accused also “discussed using homemade thermite to burn through and destroy power transformers” and “researched, discussed and critically reviewed at length a previous attack on the power grid by an unknown group,” the indictment states. “That group used assault-style rifles in an attempt to explode a power substation.” That attack is not named but can be assumed to be the 2013 attack in which multiple gunmen opened fire on the Pacific Gas and Electric Company’s Metcalf Transmission Substation south of San Jose, Calif., causing more than \$15 million in damage to 17 transformers; the perpetrators have not been caught and the incident is commonly referenced in online extremist discussions about critical-infrastructure vulnerabilities.

The Disinformation-Terrorism Nexus

As we approach the first anniversary of the attack on the Capitol, with [704 federal cases as of today](#) against individuals involved in the siege, the term Jan. 6 “believers” is used on social media to derisively refer to people who believe the official facts about what happened that day instead of conspiracy theories alleging a false-flag operation intended to make protesters look bad. Despite 22 percent of the defendants in Jan. 6 cases already pleading guilty, and one man indicted on charges of assaulting four police officers [fleeing to Belarus](#) to avoid prosecution, disinformation not only keeps a narrative alive for the sake of those invested in the mythology but can incite fervent believers of the disinformation or conspiracy theory to further violent action. As FBI Director Christopher Wray [told](#) lawmakers at a September hearing, “Today, terrorism moves at the speed of social media. And you have the ability of lone actors disgruntled in one part of the country to spin up similar or like-minded individuals in other parts of the country and urge them into action or inspire them into action.” The CBS News-YouGov poll found that half of respondents who ascribe to QAnon beliefs approve of the attack on the Capitol. Like terrorism, disinformation operates to deliberately further a cause, belief, or group, and both domestic and international extremist movements have learned how important information warfare is to their efforts. Over the past year, we’ve seen disinformation stoke anger in a way that at the very least can lead to verbal sparring and can escalate into threats or extremist plots – one of the key dangers of disinformation is when it motivates people into thinking they need to take violent action to be saviors and eliminate the wrongly perceived threat. Healthcare workers were lauded for their selflessness and sacrifice at the beginning of the COVID-19 pandemic, but after several spin cycles of disinformation centering largely on the introduction of lifesaving vaccines or simple pandemic-control measures such as masking the harassment, threats, and assaults against healthcare employees have been alarming. About 300 public health department leaders have left their jobs since the beginning of the pandemic, the National Association of County and City Health Officials noted in an October [letter](#) to Attorney General Merrick Garland, as “in many cases, they have been verbally abused and physically threatened; their personal information has been shared, their families targeted, and their offices attacked.”

One speaker at anti-vaccination rally on Staten Island in October [threatened](#) that “town halls and schools will be f–king burned to the ground” over vaccine mandates, with the crowd cheering as he declared “there are plenty of people that are ready to go there” down the path of violence. Disinformation labors tirelessly to push people to that point. Last month, police in Germany [announced](#) that they had foiled a plot to assassinate government officials and seized “crossbows, parts of weapons, and weapons” during multiple raids: “The members of the chat group, which links opponents of vaccination, the state, and the current anti-pandemic policy, stated plans of murdering the premier of Saxony and other representatives of the Saxony government, both in the group and in non-virtual meetings,” police said in a statement.

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The threat of terrorism is evolving — are we evolving with it?

By Dennis Lormel and Scott Liles

Source: <https://thehill.com/blogs/congress-blog/homeland-security/588583-the-threat-of-terrorism-is-evolving-are-we-evolving>

Jan 06 – In the aftermath of the Sept. 11 attacks, there emerged a truism that was often repeated in law enforcement circles: “we cannot afford to become complacent.” It is a



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statement that is worth revisiting today as we mark the 12 months that have passed since the attack on the U.S. Capitol last January. The mob violence inflicted on Capitol police officers and the shocking desecration of one of the most storied buildings in American history felt like a gut punch to most Americans. On its one-year anniversary, we should collectively consider whether we're letting our guard down again.

The world has been on a war footing against terrorism for decades, and thankfully no attack on the scale of 9/11 has been successful on U.S. soil since 2001. That has no doubt led some to conclude that the terrorist threat has diminished in recent years. Such a fallacy comes from a fundamental misreading of the truth, however. Terrorism isn't fading away, it's evolving. Today, the danger comes as much from lone-wolf actors and domestic violent extremists as it does from foreign terrorist groups. As FBI Director Christopher Wray [told lawmakers](#) in March of last year, the threat of domestic terrorism is now "metastasizing."

To protect ourselves from these risks, we will need to revive and revise some of the tactics deployed after 9/11, and that includes following the money. Twenty years ago, the FBI did not have to reach out to the financial sector for assistance. Within hours of the World Trade Center's collapse, many of the country's largest banks contacted the bureau to inquire how they could help. That simple proactive step proved critical to subsequent collaboration between financial institutions and federal investigators, including agents in the FBI's then-newly formed counterterrorism financing arm, The Terrorist Financing Operations Section (TFOS). Under such public-private partnerships, banks received invaluable guidance on how to best mitigate their regulatory exposure to terrorism-related transactions while investigators benefited from having direct channels to the sector's financial intelligence streams.

But as other financial-crime priorities have arisen in recent years, such working groups have lost momentum. Within the FBI, TFOS has been folded into the bureau's larger Counterterrorism Section, stripping the team of solid-line reporting and executive ownership. These developments are troubling, particularly in light of the Taliban's recent takeover of Afghanistan and the increased potential that Al Qaeda or a similar organization may once again use the country as a base of operations. The safeguards are not needed for external threats alone. The rise of domestic extremist groups, both within the United States and abroad, demands that we consider what more can be done to track terrorism fundraising within our own borders.

The most comprehensive look at how that might be accomplished can be found in a [report](#) published in July by the Paris-based Financial Action Task Force, or FATF. The intergovernmental watchdog group noted in the report that ethnically or racially motivated extremist groups raise money in a variety of ways, including through crowdfunding campaigns, real-estate rentals, membership fees, and events, in addition to such illicit activity as drug trafficking, fraud, and the exploitation of nonprofit organizations. Once raised, the funds are typically moved into banks, money services businesses, and cryptocurrencies, or else retained as cash, FATF concluded. The groups then spend the money on weapons, equipment, propaganda efforts, recruitment campaigns, and training.

Each of these stages—fundraising, money movements, and expenditures—are touchpoints where public-private partnerships (PPPs) can be effective in targeting extremist groups. Each of the stages is associated with transactional red flags that can be identified by financial institutions and reported to law enforcement agencies. But there are challenges unique to domestic terrorism that must be considered. For one, domestic violent extremists (DVEs) are largely self-funded through legitimate sources, including donations and personal salaries and wages. What's more, not every individual associated with a DVE group falls under the rubric of "terrorist". In most instances, there is a radicalization process through which a person first becomes a sympathizer to a cause, then an activist, and then an extremist. But it is not until the fourth and final stage of radicalization, when an extremist becomes a violent extremist, that they are criminals under the law. To overcome such hurdles, financial institutions will need continuous guidance from, and clear communication with, law enforcement officials.

Past collaboration between the public and private sectors has been a critical factor in preventing another 9/11-style attack. In light of the Jan. 6 attack and the rising risks of terrorist activity in Afghanistan, it's time to consider the formation of new PPP working groups that can function as financial SWAT teams targeting terrorism. One potential model for how this might work can be seen in the working groups recently hosted by ACAMS, a global association of more than 89,000 anti-compliance professionals from around the world. Convened in November in Washington, D.C., the gatherings brought together high-level representatives from federal law enforcement, nongovernmental organizations, and some of the world's largest financial institutions. The upshot of these early meetings: participants identified multiple ways that intelligence can be shared faster and more effectively on such topics as drug trafficking, modern slavery, and the illegal wildlife trade. We can do the same for terrorist financing.

Shortly after the 20th anniversary of 9/11, [Director Wray informed Congress](#) that the FBI had seen its number of ongoing domestic terrorism cases skyrocket from roughly 1,000 at the beginning of 2020 to approximately 2,700 in the fall of 2021—a trend, he noted, that has coincided with increased risks of attacks by groups operating abroad.

The warning signs are clear. But are we doing enough?

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A Year After January 6, Is Accelerationism the New Terrorist Threat?

By Bruce Hoffman

Source: <https://www.homelandsecuritynewswire.com/dr20220106-a-year-after-january-6-is-accelerationism-the-new-terrorist-threat>

Jan 06 – Among the many memorable images captured by photographers on January 6, 2021, is the **photograph of a scaffold** with a noose erected on the mall in front of the U.S. Capitol Building. The scene evoked the infamous “[Day of the Rope](#)” recounted in [The Turner Diaries](#), the dystopian 1978 white supremacist novel—when corrupt, self-serving, liberal politicians are made to account for their misdeeds. The 2021 true-life version revealed the dangerous, continued resonance of the so-called accelerationist strategy that the novel advocates.

Accelerationism and Its Apostles

Accelerationism holds that the modern, Western democratic state is so mired in corruption and ineptitude that true patriots should instigate a violent insurrection to hasten its destruction to allow a new, white-dominated order to emerge. Indeed, some of the foremost exponents of accelerationism today were at the U.S. Capitol on January 6. They included: the Oath Keepers, whose [grab-bag ideology](#) states that “paranoid anti-federalism envision[s] a restoration of ‘self-government’ and ‘natural rights’;” QAnon adherents, who remain convinced that the [2020 presidential election was stolen](#) and that former President Donald Trump was thwarted from saving the world from a Satan-worshipping pedophilia ring run by Democrats, Jews, and other agents of the deep state; and, of course, Trump’s own die-hard “Stop the Steal” minions, who, [against all reason and legal proof](#), seek to restore the former president to office.



The Violent Road to Revolution

The objective of accelerationism is to foment divisiveness and polarization that will induce the collapse of the existing order and spark a second civil war. For example, this was the strategy embraced by Seth Aaron Pendley, a January 6 protester turned would-be terrorist. The twenty-eight-year-old Texan was arrested last spring and sentenced to ten years in prison for plotting to blow up an Amazon data center in Virginia with the erroneous belief that doing so would [kill off about 70 percent of the internet](#) and disrupt digital communications of the FBI, CIA, and other federal agencies. Pendley thought this act of destruction would [“provoke a reaction”](#) [PDF] from the ruling “oligarchy” that would thereby convince the American people to take up arms against the “dictatorship.” Pendley’s path from being a disgruntled conspiracy theorist to a would-be bomber is yet another red flag signaling today’s toxic and increasingly volatile political climate. A recent [Washington Post-University of Maryland poll](#) found that just over one-third of people surveyed believe that, in certain dire circumstances, violence against the U.S. government would be justified. It’s reportedly the largest portion to respond this way in various surveys that have asked this question over more than twenty years.

Assessing the Threat Ahead

The threat of far-right terrorism remains high heading into 2022 and could even grow in the lead-up to the 2024 presidential primaries and election. Disaffected individuals and armed extremist groups will likely continue to see terrorism as a means to [incite a revolution](#) and ensure that the deep state doesn’t “steal” another election.

That Americans today [cannot even agree on](#) what occurred a year ago when rioters stormed the U.S. Capitol underscores the existence of a parallel universe fostered and sustained by these competing narratives. It is one where [falsehood is accepted as fact](#) and the [threat of renewed violence](#) lurks menacingly in the background.

This clash of competing realities, exacerbated by partisanship and amplified on social media, will continue to undermine government efforts to counter the [domestic terrorism threat](#). The atmosphere today is ominously reminiscent of the period leading up to the 1995 Oklahoma City bombing—the deadliest domestic terrorist attack in U.S. history. Then, extreme right-wing rhetoric was [calling on so-called patriots](#) such as Timothy McVeigh to defend their fellow Americans against a predatory federal government. Today, there are many more McVeighs out there, men like Pendley.



Sadly, it might require another horrific tragedy like the Oklahoma City bombing before the U.S. government takes decisive action against this threat.

Bruce Hoffman is Shelby Cullom and Kathryn W. Davis Senior Fellow for Counterterrorism and Homeland Security at CFR.

Dakar Rally: France opens terrorism probe into Saudi Arabia blast

Source: <https://www.bbc.com/news/world-middle-east-59868726>



Jan 06 – French prosecutors have opened a terrorism investigation into a blast in Saudi Arabia that badly wounded a French driver in the Dakar Rally.

The explosion damaged a support vehicle for the Sodcars Racing team as it left a hotel in Jeddah last Thursday.

The driver, **Philippe Boutron**, suffered serious leg injuries. He was later repatriated to France and was placed in a medically-induced coma.

Saudi authorities have not commented on the French prosecutors' decision.

Saudi police said on Saturday that a preliminary investigation into the explosion had found there was "no criminal suspicion", but rally organiser ASO told reporters that [officers had not yet ruled out a "malicious act"](#).

The Dakar Rally, which started in 1978 as a race from Paris to the Senegalese capital, has been held in Saudi Arabia since 2020 for safety reasons.

On Thursday, two days before the start of the event's first stage, a support vehicle belonging to Sodcars was "brought to a sudden halt by a sudden explosion" outside the Donatello Hotel, near Jeddah's international airport, according to ASO.

A Sodcars team member told French sports newspaper L'Equipe that the blast ripped through the floor of the vehicle, which then caught fire. Mr Boutron was injured, but the other five French citizens travelling in the car with him were unharmed.

Mr Boutron, who works in marketing and is also president of French Ligue 2 football team Orléans, underwent surgery in Saudi Arabia before being flown to France for further treatment at the Percy military hospital in Clamart, near Paris.

[Sodcars said in a statement on Tuesday](#) that the 61-year-old driver's legs were "bashed up" and that doctors had placed him in a medically-induced coma "in order to alleviate his suffering".



Mr Boutron had now emerged from the coma, his son Benoît told Radio Monte Carlo, on Thursday morning.

"He is indeed seriously injured, on both legs, we will know more in 10 days, but we must remain cautious at this stage," he told the station.

French anti-terrorism prosecutors meanwhile announced they had opened a preliminary investigation into "multiple attempted killings in connection with a terrorist group", without providing further details.

[The French foreign ministry also updated its travel advice for Saudi Arabia](#), warning its citizens to exercise "maximum vigilance" in the wake of the blast.

"An investigation by Saudi authorities is under way to determine the cause of this explosion. The possibility of a criminal act has not been ruled out," it said.

In November 2020, [several people were wounded when a bomb exploded at a Remembrance Day ceremony](#) organised by the French consulate in Jeddah.

The Extraordinary Life of the Most Notorious Terrorist Before Bin Laden

Source: <https://www.vice.com/en/article/4awdbq/carlos-the-jackal-communist-terrorist>

Jan 06 - If you asked someone to name the world's most famous [terrorist](#), chances are they would say [Osama Bin Laden](#), the radical Islamist and mastermind of the 9/11 attacks. But 50 years ago, before anyone even associated fundamentalist Islam with terrorism, public enemy number one was a radical left-wing militant most famous for his involvement with [Palestinian](#) liberation movement: the mysterious Carlos the Jackal.

Born Ilyich Ramírez Sánchez in Venezuela in 1949, the Jackal was the eldest son of millionaire lawyer José Altagracia Ramírez-Navas. Despite having made most of his fortune from the oil boom, Ramírez-Navas was such a convinced Marxist he named his



three kids Vladimir, Ilyich and Lenin after the Russian revolutionary leader's first name, middle name and alias. Eventually, Sánchez took on the name Carlos as his *nom de guerre*.

Also despite his beliefs, Ramírez-Navas sent his son to a prep school in the capitalist world – London, to be exact. But after realising his kid had been enjoying life a little too much, Sánchez was shipped off to the Patrice Lumumba [People's Friendship University](#) in Moscow, a hotbed of communist ideology. There, he met many Palestinian students and became involved with their struggle against the Israeli occupation forces. But his academic career wouldn't last long – due to his disappointing academic performance and a conflict

with the faculty's leadership, the Jackal got kicked out in 1970, not long after he'd begun school.

That's when Sánchez moved to Beirut and became a full-time, self-described revolutionary. He joined the [Popular Front for the Liberation of Palestine](#) (PFLP), a Marxist-Leninist party partly based in Lebanon that still exists today and is the third-largest party in Palestine after [Hamas](#) and Fatah. Like other Palestinian parties, the PFLP has a paramilitary branch that has conducted terrorist attacks on Israeli citizens. The branch was particularly active in the 70s, partly thanks to attacks coordinated by Sánchez himself.

Early in his PFLP militancy, Sánchez was sent to one of the party's camps in Jordan, where he learnt to handle weapons and hijack planes. In 1973, the organisation sent him back to London, where he began building a network of collaborators and scouting potential kidnapping and bombing targets.

Sánchez's first mission was to assassinate businessman Joseph Edward Sieff, the chairman of retailer Marks & Spencer and president of the [Zionist](#) Association of Great Britain – an attempt that failed when his gun jammed. He was forced to flee the scene having only wounded his target, but the story made the front page of international newspapers.

Meanwhile, the PFLP was forging alliances with other left-wing radical groups across the world. One of them was the Japanese Red Army, a Marxist group aiming to dismantle the Japanese monarchy and further the cause of an international communist revolution.



On the 13th of September, 1974, the group besieged the French embassy in the Netherlands, taking several hostages and demanding that the French authorities release one of their collaborators in their custody. The attack is said to have been coordinated with Sánchez's help, who also allegedly bombed a cafe in Paris on the 15th of September while negotiations for the embassy were ongoing. The blast killed two people and injured over 30, including two kids who were maimed.

A few months later, in January of 1975, Sánchez planned to use rockets to shoot down two planes owned by an Israeli airline during takeoff from Paris Orly Airport. Both attempts – a week apart from each other – failed. The second ended with a shootout between PFLP affiliates and the police, but the Jackal somehow managed to slip away.

In June, his close collaborator Michel Moukharbal was arrested by French police for his role in the Orly attack. Moukharbal began cooperating with the police, leading them to Sánchez's apartment. He let the authorities and his friend in, offered them drinks and then killed everyone with a machine gun. Only one of the three detectives survived.

The incident landed him on the front pages of newspapers across the world. All of a sudden, capturing a man previously unknown to the authorities and to the public became priority number one for every police department in France. The manhunt lasted for a decade, contributing to the myth beginning to emerge in the press.

While one of Sánchez's hideouts was searched, a journalist stumbled upon a copy of the book *The Day of the Jackal* by British author Frederick Forsyth, a thriller describing a fictional plot to assassinate former French President Charles de Gaulle. The press dubbed Sánchez "Carlos the Jackal" soon after, and the nickname stuck.

But Sánchez's biggest stunt of the year was yet to happen. On the 21st of December, he and five other members of the PFLP forced their way into a meeting in Vienna. The building they broke into was the headquarters of the Organisation of the Petroleum Exporting Countries (OPEC), an intergovernmental organisation regulating oil prices for its members and, in practice, for the world.

The group [killed two security](#) guards and a Libyan economist and would go on to take 60 or so attendees hostage. They then obtained an aircraft, released some of their captives and flew the remaining 42 on multiple flights across thousands of kilometres, ending their journey in Algiers. Meanwhile, the group demanded that Austrian broadcasters read a statement denouncing the occupation of Palestine on radio and television every two hours. The broadcasters obliged to avoid the threatened execution of a hostage every 15 minutes.

Upon their arrival, former Algerian leader Houari Boumédiène coordinated the release of all the hostages and offered Sánchez asylum. Boumédiène had risen to power through a bloodless coup in 1965 in the aftermath of the Algerian war of independence. He quickly became known as one of the biggest left-wing revolutionary leaders of the world, [offering refuge](#) to other leaders of anti-colonialist liberation movements, including Nelson Mandela and members of the Black Panthers.

It later emerged that the OPEC ordeal had been funded by an unnamed Arab president, with some speculating that former Libyan president Muammar Gaddafi was responsible. Sánchez was also said to have received tens of millions of euros in ransom, which he claimed to have lost. Dissatisfied with his answers, the PFLP kicked him out of the organisation in 1976.

In 1978, Sánchez founded his own organisation to advance the cause of Palestinian liberation, the Armed Arab Struggle. In the meantime, the Jackal had made friends with powerful actors in different countries. Communist Germany's Ministry for State Security, also known as the Stasi, even offered him a headquarters in East Berlin and a support staff of 70 people.

For the next decade, Sánchez would roam Eastern Europe to do what he did best: execute [terror attacks](#) on behalf of Marxist political organisations. In 1981, for instance, he was hired by the Romanian secret police to bomb the Munich offices of Radio Free Europe, an anti-communist broadcaster critical of the Romanian regime. He spent most of his other years in Hungary, where he was kept under surveillance.

In fact, according to [recently discovered archives](#), Sánchez was seen both as an asset and a threat by Eastern Bloc regimes, given his unpredictable, ruthless nature. With multiple fake passports issued by different governments, it was difficult for authorities to track him and bar him from entering their country. They were even reluctant to outright expel him out of fear of retaliation.

Eventually, even Eastern European countries abandoned him under pressure from the West. Sánchez was forced to flee to Damascus, Syria in 1986 where he was welcomed by Syrian leaders on condition that he agree to retire from terrorism, which he agreed to. Due to his voluntary abdication, international security forces basically let him hang out in Jordan and Syria for a few years, until they caught wind that Saddam Hussein had allegedly been trying to recruit him to stage attacks against his Western enemies.

The international manhunt picked up again and Sánchez was finally arrested in Sudan in 1994. That same year, he married his lawyer, Isabelle Coutant-Peyre. The French woman was his third spouse, after Magdalena Kopp, an east German woman he'd married and had a kid with in the 70s and who divorced him in 1994, and Lana Abdel Jarrar, the daughter of one of his Jordanian hosts, whom he'd converted to Islam for so as to be able to have multiple wives.

Sánchez's arrest came as a surprise to many intelligence experts, given how many years he'd managed to live on the run. "He was an historical anachronism whose ideology does



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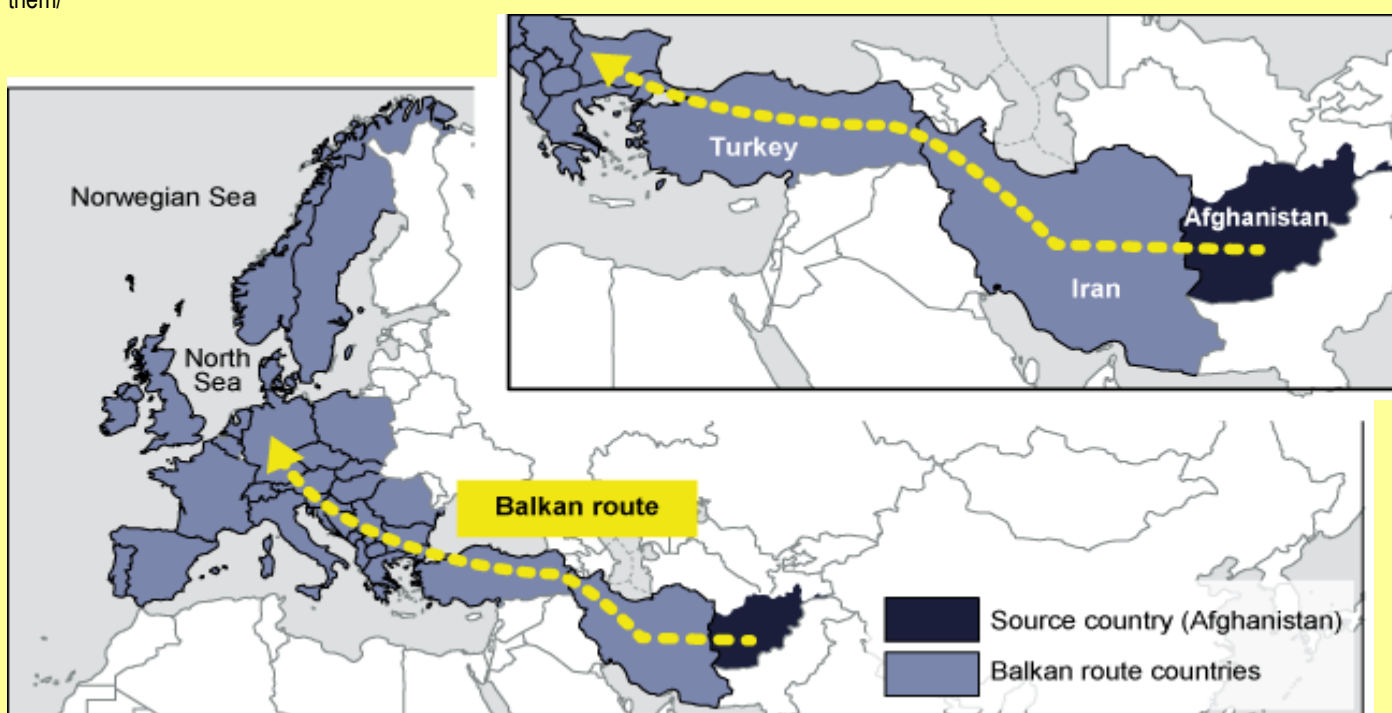
not fit into any present-day form of state-sponsored terrorism," former CIA counterterrorist expert Vincent Cannistraro told [the New York Times](#) at the time of his arrest. "He was of use to no one." Once in France, the Jackal was handed [three life sentences](#) in three trials held between 1997 and 2017.

In 2003, Sánchez published a book titled *Revolutionary Islam* with the help of French journalist Jean-Michel Vernochet, who compiled and edited letters and writings that inexplicably escaped the strictly controlled French prison system. In it, the Jackal [praised Osama Bin Laden](#) and his brand of Islam as a post-communist answer to American imperialism, metaphorically passing the baton to the new king of international terrorism.

Over the course of the past few years, Sánchez tried to appeal multiple times to be released, but to no avail. Extraordinarily charismatic as he might be, it seems that Carlos the Jackal will spend the rest of his days rotting in jail.

GAO Study Identifies Strategies Used by Criminal Groups and Terrorists and Federal Efforts to Combat Them

Source: <https://border-security-report.com/gao-study-identifies-strategies-used-by-criminal-groups-and-terrorists-and-federal-efforts-to-combat-them/>



Sources: Organisation for Economic Co-operation and Development, United Nations Office on Drugs and Crime. | GAO-22-104807

Jan 07 – FinCEN identified trafficking activity of transnational criminal organizations and terrorist groups as among the most significant illicit finance threats facing the United States in its 2021 Anti-Money Laundering and Countering the Financing of Terrorism National Priorities. Congress included a provision in the National Defense Authorization Act for Fiscal Year 2021 for GAO to review trafficking and related money laundering and federal efforts to combat them.

Among its objectives, this report describes what is known about the money laundering strategies of transnational criminal organizations and terrorists and information-sharing efforts among federal agencies to combat trafficking.

GAO reviewed documentation from Treasury and other federal agencies, international and nonprofit organizations focused on trafficking or money laundering, scholarly journals, and prior GAO work. GAO examined federal guidance to financial institutions and interviewed federal agency officials; experts in trafficking, money laundering, and use of data technology; and representatives of trade groups for lawyers and accountants. GAO also interviewed five groups of financial institution representatives about identifying trafficking-related suspicious activities.

The GAO reviewed how transnational criminal organizations and terrorist groups traffic goods such as illegal drugs, engage in human trafficking, and launder money. GAO also looked at the information sharing used to help detect these activities.



Responsibility for combating trafficking is spread across multiple federal agencies. Agencies collaborate via task forces that share information and resources with each other, the private sector, and foreign counterparts. The U.S. Treasury Department, for example, shares information with more than 160 international financial intelligence agencies.

Criminal groups move heroin and more from Afghanistan to western Europe via the Balkan route.

Federal agencies and others have reported that money laundering strategies used by transnational criminal organizations and terrorist groups include sophisticated techniques such as phony trade transactions or purchase and resale of real estate or art. Such techniques can involve the services of professional money laundering networks or service providers in legitimate professions, such as complicit lawyers or accountants. For example, lawyers or accountants can create shell companies (entities with no business operations) to help criminals launder illicit proceeds. Transnational criminal organizations and terrorist groups also continue to smuggle cash in bulk or transmit money electronically across borders.

Federal efforts to combat trafficking and money laundering incorporate multiple collaborative and information-sharing mechanisms and include the private sector.

- Law enforcement agencies collaborate through task forces in which they share information and analytical resources to aid in the investigation and prosecution of drug and other trafficking-related crimes.
- Federal agencies share intelligence with foreign counterparts. For example, the Financial Crimes Enforcement Network (FinCEN), a bureau of the Department of the Treasury, shares information with more than 160 international financial intelligence agencies.
- FinCEN collaborates with law enforcement agencies to share information with financial institutions on “red flags” for trafficking, which institutions can use to identify and report suspicious transactions (see box below).
- FinCEN also coordinates a voluntary program that allows financial institutions to share information with one another to better identify and report suspicious activities that may be related to money laundering or other illicit financing.

Examples of Human Trafficking “Red Flag” Indicators Provided to Financial Institutions

- Involvement of a third party who speaks for the customer, insists on being present for transactions, or acts aggressively toward the customer.
- Frequent customer transactions from different U.S. geographical regions.
- Transactions that are inconsistent with a customer’s expected activity.
- Customer accounts that share a telephone number or other identifiers with escort agency websites or commercial sex advertisements.
- Frequent sending or receipt of funds via cryptocurrency to or from internet addresses associated with illicit activity.

These mechanisms help address some of the challenges involved in combatting trafficking and money laundering, which include the increasingly sophisticated strategies of criminal and terrorist groups and the fragmentation of responsibility for anti-trafficking efforts among many federal agencies.

Hook-handed hate preacher's TOXIC family: Abu Hamza's seven sons are all criminals or extremists who have clocked up 40 years in jail between them (and the whole clan has cost taxpayers £10MILLION)

Source: <https://www.dailymail.co.uk/news/article-10404417/Seven-sons-hook-handed-hate-preacher-Abu-Hamza-criminals-extremists.html>



Incredible moment two hostages ESCAPE from gun-toting 'terrorist' who chases them out of Texas synagogue moments before SWAT team storms building, killing him and freeing remaining prisoner

Source: <https://www.dailymail.co.uk/news/article-10406409/Officials-negotiating-man-reportedly-holding-people-hostage-Texas-synagogue.html>

Jan 15 – All four hostages taken by the suspected terrorist who stormed a Texas synagogue 'armed with backpacks of explosives' have been released after the man was shot dead.

He held the hostages, including Rabbi Charlie Cytron-Walker, trapped inside the Congregation Beth Israel in Colleyville, for about 10 hours before the hostages were reported free and safe.

Dramatic footage revealed the moment two hostages ran out of the temple. The suspect can be seen popping out of the door as he chases after them with a gun, but he quickly retreats back inside, closing the door after spotting the nearby SWAT team.

Dozens of agents then quickly mobilize to breach the synagogue as gunshots can be heard firing off.

FBI special agent Matt Desarno said the agency's Hostage Rescue Team, who were flown in from Quantico in Virginia, entered the synagogue at around 9pm CST, freed the hostages and killed the suspect.

He added that the investigation is ongoing and they will be working with London police on the case. The suspect appeared to have a British accent when he spoke during the synagogue's livestream.



Colleyville Police Chief Michael Miller said bomb technicians are still active at the scene as police investigate the suspect's claims of having explosives inside the temple.

Officials said they have identified the suspect, but will not release his name yet or motive.

The suspect had demanded the release of convicted terrorist Aafia Siddiqui (photo) – known as Lady Al Qaeda - who, police say, he referred to as his 'sister.' However, a lawyer representing the woman's brother denied he was involved after networks reported it was him. Siddiqui was jailed for 86 years after being arrested in Afghanistan in 2008 for the attempted murder of a U.S. Army captain. The Pakistani-born neuroscientist was found with two kilos of **poison sodium cyanide** and plans for **chemical attacks on New York's Brooklyn Bridge and the Empire State Building**.

The assailant told a SWAT team from the Texas synagogue: 'If anyone tries to enter this building, I'm telling you...everyone will die.'

He was caught on the synagogue's Sabbath livestream, before it was cut off at 2pm CST, saying: 'I'm going to die. Don't cry about me'

'Are you listening? I am going to die,' he repeated over and over.

The terrorist spoke with a New York City rabbi earlier Saturday who was being interviewed by the FBI. He bizarrely demanded the female rabbi release Aafia.

Dallas Mayor Eric Johnson and New York City Mayor Eric Adams had deployed additional patrol units at synagogues as did other major cities, like Los Angeles and Washington, D.C. Police say there is no current threat to the general public.

Who is Aafia Siddiqui, the 'Lady Al Qaeda' terrorist who planned chemical attacks on Empire State Building and Brooklyn Bridge

Siddiqui, who was a biology major at MIT, said in 1993 that she wanted to do 'something to help our Muslim brothers and sisters' even if it meant breaking the law.

She jumped to her feet and 'raised her skinny little wrists in the air' in a display of defiance that shocked her friends.

An in-depth account of her journey to infamy also reveals that she took a National Rifle Association shooting class and persuaded other Muslims to learn how to fire a gun.

Siddiqui lied to her husband and after they wed over the phone he was stunned to discover she was just marrying him for his family's connections to better enable her to wage jihad.





She was arrested in Afghanistan in 2008 by local forces who found her with two kilos of poison sodium cyanide and plans for chemical attacks on New York's Brooklyn Bridge and the Empire State Building. Siddiqui, a mother-of-three, eventually got her twisted wish and became the most wanted woman in the world by the FBI.

She was handed to the Americans and convicted of attempted murder in a U.S. court in 2010.

But her hatred for the U.S. was so strong that during her interrogation she grabbed a rifle from one of her guards and shot at them shouting: 'Death to Americans'.

A 2014 [Boston Globe](#) profile of Siddiqui's time in Boston sought to answer what happened during her 11 years as a student in the U.S. Something happened to radicalize an intelligent and devout woman who not only graduated from MIT but also got a doctorate in neuroscience from Brandeis University.

At MIT she made few friends and was remembered as intelligent, driven and a regular at the Prospect Street mosque, which would later be attended by alleged Boston Marathon bomber Tamerlan Tsarnaev.

She wore long sleeves and the hijab and was seen as 'very sweet' for a former roommate at her all-female dorm.

The focus of her life was the Muslim Student Association but things appear to have changed with the start of the Bosnian War, which seems to have been the beginning of her radicalization.

Siddiqui became involved with the Al-Kifah Refugee Centre, a Brooklyn-based organization which is thought to have been Al Qaeda's focus of operations in the US.

Terrorism expert Evan Kohlmann said: 'Aafia was from a prominent family with connections and a sympathy for jihad. She was just what they needed.'

In 1993 as she and some friends debated how to raise money for Muslims being killed during the Bosnian War, one of them joked that they didn't want to go on the FBI's Most Wanted List.

Waqas Jilani, then a graduate student at Clark University, said: 'She raised her skinny little wrists in the air and said: 'I'd be proud to be on the Most Wanted list because it would mean I'm doing something to help our Muslim brothers and sisters'

'She said we should all be proud to be on that list'.

Jilani added that Siddiqui said in her speeches that Muslims should 'get training and go overseas and fight'.

He said: 'We were all laughing like, 'Uh-oh, Aafia's got a gun!'

'Part of it was because she was such a bad shot, but also because she was always mouthing off about the U.S. and the FBI being so bad and all.'

Siddiqui married Mohammed Amjad Khan, the son of a wealthy Pakistani family, in a ceremony carried out over the phone before he flew to Boston.

But upon arrival he discovered that far from being the quiet religious woman he had been promised, her life was very different.

He said: 'I discovered that the well-being of our nascent family unit was not her prime goal in life. Instead, it was to gain prominence in Muslim circles.'

Khan described to the Boston Globe how she regularly watched videos of Osama bin Laden, spent weekends at terror training camps in New Hampshire with activists from Al-Kifah and begged him to quit his medical job so he could join her.

In the end he stopped bringing work colleagues home because she would 'only talk about them converting to Islam'.

Khan said: 'Invariably this would lead to unpleasantness, so I decided to keep my work separate....'

'...By now, all her focus had shifted to jihad against America, instead of preaching to Americans so that they all become Muslims and America becomes a Muslim land'.

The breaking point was the September 11 2001 attacks after which Siddiqui, who was by now dressing in all black, insisted they return to Pakistan and got a divorce.

American officials suspect she remarried Ammar Al-Baluchi, the nephew of 9/11 architect Khalid Sheikh Mohammed, though her family deny this.

Siddiqui and her children disappeared in Karachi, Pakistan in 2003 shortly after Mohammed was arrested.

The following year she was named by FBI director Robert Mueller as one of the seven most wanted Al Qaeda operatives, and the only woman.



Norway massacre: Court weighs mass killer Breivik's application for parole

Source: <https://www.dw.com/en/norway-massacre-court-weighs-mass-killer-breiviks-application-for-parole/a-60456049>

Jan 18 – A Norwegian court on Tuesday was set to consider right-wing extremist Anders Behring Breivik's request for parole, a decade after he was [convicted of murdering 77 people](#) in Oslo and at a youth camp on the island of Utoya.



The Telemark district court in Skien will weigh whether Breivik continues to be a threat to society, as families of his victims — who are concerned he would use the hearing as a platform to share his political views — urge that he be deprived of the attention he is trying to muster.

What is happening in court?

The hearing, which will be broadcast live, is scheduled to last three days with an additional day in reserve.

A decision could come next week — but the court is widely expected to deny his request.

Last year, the Oslo state prosecutor's office had rejected Breivik's application for early release.

"Our position is that it is necessary with (continued) confinement to protect society," the prosecutor in charge, Hulda Karlsdottir said, news agency Reuters reported.

If his request for release is denied, Breivik can apply for a new probation hearing after a year, Karlsdottir said.

Breivik, who has legally changed his name to Fjotolf Hansen, triggered a truck bomb near the government offices in Oslo on July 22, 2011, killing eight people.

He then gunned down 69 others, [most of them teenagers](#), attending a camp organized by Norway's Labor Party on the island of Utoya.

In total, he killed 77 people, amounting to Norway's worst peacetime atrocity.

Breivik said he killed the people because they embraced multiculturalism, and cited other right-wing extremist and anti-Muslim beliefs as the motive behind the mass killings.



In 2012, he was sentenced to 21 years in prison — the maximum possible sentence in Norway.

Calls for 'as little focus as possible on Breivik'

A support group for the families has said that it wants to "encourage as little focus as possible on Breivik and his message." "Any mention of this case in general, and the terrorist in particular, is a great burden for survivors, parents, and those affected by the terrorist attacks in Norway," the group said.

During his past court appearances and communications, Breivik has claimed to have distanced himself from violence.

"As in any other state governed by the rule of law, a convict has the right to request conditional release and Breivik has decided to exercise this right," his lawyer Oystein Storrvik told news agency AFP.

Tore Bjorgo, the head of the Center for Research on Extremism (C-REX) at the University of Oslo, said that "he has in no way distanced himself from the mass killing."

"He has not become less of an extremist from an ideological standpoint," the extremism researcher told AFP.

The Oslo court that originally sentenced him, however, ruled that he was likely to have the intention and capacity to commit further murders even after serving his sentence.

EDITOR'S COMMENT: At first, I thought it was a Norwegian joke or something! I thought that they put him in a jail cell and throw the key into the sea. Now I read that they are going to hear his appeal at court! Are they serious??? Too much democracy is dangerous for public safety! Norway, stop living in your own bubble and reform the counter-terrorism legislation and sentences.

Six Facts on the Texas Synagogue Terror Attack

A Middle East Forum Fact Sheet

Source: <https://www.meforum.org/62952/six-facts-on-the-texas-synagogue-terror-attack>

Jan 18 – The [near-tragedy](#) in Texas is a much-needed reminder about the dangers of jihad. Here are six facts to consider following Malik Faisal Akram's terrorist attack on the Colleyville, TX synagogue, where he demanded the release of Aafia Siddiqui, "Lady Al Qaeda," from federal prison.

1. U.S. Vetting for Potential Jihadist Infiltrators Is Weak

Akram had been investigated by [British security services](#) in 2020 as a potential Islamist terrorist threat. Yet, he was allowed to enter the U.S. at the end of last year.

The Middle East Forum has a [detailed plan](#) to identify and weed out Islamist immigrants – differentiating them from moderate Muslims – presenting 93 questions to ask would-be immigrants.

**We Rally In Support Of
Dr. Aafia Siddiqui**

Saturday, Sept. 18th @ 5:30 - 7 PM
Federal Medical Center
1200 Meanderling Rd., Fort. Worth TX 76114
(Where Dr. Aafia Siddiqui is Being Held)

Speakers

Faizan Syed Executive Director CAIR-TX Austin & DFW	Imam Zafar Anjum Calvary Islamic Center	Dr. Omar Suksiman President Yaqeen Institute	Nahela Morales Activist ICNA-CSJ	Maori Saadkhan Director of Operations The Aafia Foundation
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Logos: AMP, CAIR, MAS, PACE, Aafia

2. Islamists Bear a Moral Responsibility for the Attack

a. Advocating for the release of convicted terrorists

Islamist organizations such as the Council on American-Islamic Relations (CAIR) should be held accountable for the events at Congregation Beth Israel, since they perpetuated wildly inaccurate conspiracies about Siddiqui's [crimes](#) and regularly promoted antisemitic views.

[The Council on American-Islamic Relations \(CAIR\) and other self-described Muslim civil rights groups have spent more than a decade rallying for an end to Siddiqui's 86-year prison sentence.](#)

Self-described Muslim civil rights groups have spent more than a decade rallying for an end to Siddiqui's 86-year prison sentence, imposed after the Pakistan American was found guilty of trying to kill U.S. soldiers and plotting terrorist attacks. They have staged protests and held rallies proclaiming Siddiqui's innocence and denouncing U.S. counter-terrorism efforts.



They have also called for the release of other convicted criminals with an Islamist ideology, like the Blind Sheikh and Jamil al-Amin. Siddiqui's incarceration has united both Arab and South Asian Muslims belonging to a variety of Islamist movements, many of which were represented at an October [protest](#) outside of the Pakistani Consulate in New York, where participants referred to her arrest as a war against Islam.

"Our religion, our book, our faith was desecrated when [Siddiqui] was tortured. And our prophet is disappointed because we have not done enough for her," said Yousef Baig, formerly of CAIR-Houston.

During a CAIR [press conference](#) in November, Siddiqui was described as "one of the greatest victims" in the War on Terror, who was "kidnapped" by U.S. authorities. A CAIR-Texas social media [post](#) advertising the event even claims that she was "repeatedly tortured and raped" by her American captors.

"The unjust incarceration of Dr. Siddiqui cannot be atoned for by simply releasing her, but her release would be a step in the right direction by allowing her to be returned back to Pakistan," warned CAIR-Michigan Director Dawud Walid.

b. Trafficking in Antisemitism

The Colleyville attack was not just a symptom of jihadist conspiracies surrounding the War on Terror. Antisemitism dominates Islamist rhetoric and activism, and it was no coincidence that the gunman chose a synagogue to carry out his plans.

In November, [CAIR-San Francisco Director Zahra Billoo](#) warned of "Zionist synagogues" and advised Muslims against working with "polite Zionists" known for their interfaith outreach.

[Mauri Saalakhan](#), head of the Aafia Foundation, remains one of Siddiqui's most ardent defenders. Yet, shortly after the hostages' escape from custody in Colleyville, Saalakhan claimed in a video address that local Zionists harassed Siddiqui for her religious beliefs while she attended school in Boston.

"This was somebody who literally thought that Jews control the world," recalled Rabbi Charlie Cytron-Walker, one of four hostages to survive the ordeal. "[Akram] thought he could come into a synagogue, and we could get on the phone with the 'Chief Rabbi of America' and he would get what he needed."

3. Aafia Siddiqui is a Terrorist Icon

Siddiqui earned the moniker "Lady Al-Qaeda" in 2004, after the FBI named her as one of seven senior al-Qaeda figures plotting attacks against the United States. [FBI director Robert Mueller](#) described her at the time as "an al Qaeda operative and facilitator."

Years later, Siddiqui was captured in Afghanistan. Upon her arrest, investigators [found](#) "handwritten notes that referred to a 'mass casualty attack'" and listed "various locations in the United States, including Plum Island, the Empire State Building, the Statue of Liberty, Wall Street, and the Brooklyn Bridge." Other notes found on Siddiqui included reference to "the construction of 'dirty bombs.'" While being questioned by U.S. military and FBI officials in Ghazni, Afghanistan, Siddiqui [grabbed](#) a U.S. Army officer's M-4 rifle and fired it at another U.S. Army officer and other members of the U.S. interview team."

In the lead-up to her trial, Siddiqui rejected lawyers with purported Jewish ancestry, and she [demanded](#) that Jews be excluded from the jury. In September 2010, she was sentenced to 86 years for attempted murder.

4. Jihadists Have Long Sought Siddiqui's Release

Major jihadist groups have demanded Siddiqui's release since her conviction, including the Taliban, Al Qaeda and ISIS. [European jihadists](#) even named their vehicles, driven in convoys to Syria, in honor of Siddiqui.

In particular, Islamists have sought to [trade](#) Western hostages to secure Siddiqui's release. ISIS tried unsuccessfully to barter for her release by offering to exchange American think journalist James Foley. Following Foley's gruesome beheading, ISIS offered the same deal for journalist Steven Sotloff, who subsequently met the same end.

5. Siddiqui's Champions Are Welcome in Washington

Despite their radical views, Siddiqui's Islamist champions enjoy access to the highest political offices in the United States. For example, the [Coalition for Civil Freedoms](#) (CCF) regularly lobbies Congress on behalf of terrorist offenders, successfully commuting sentences and securing the release of prisoners from Guantanamo Bay. Its audience has included presidential candidates and senators from both sides of the aisle, legitimizing its cause and bringing Siddiqui one step closer to freedom.

In fact, the events in Colleyville have only served to further galvanize CCF and other Islamists. Even as the hostage situation was "ongoing," the coalition issued a press release calling on "President Biden to immediately consider" a petition to commute Siddiqui's sentence.



6. Gunman Akram May Have Belonged to the Radical Deobandi Sect

Siddiqui has long been the object of accolades within networks in both South Asia and the West that belong to the Deobandis, a Sunni South Asian Islamist movement to which Siddiqui and her family belonged. The best-known offshoot of the Deobandis is, in fact, the Taliban.

In the West, counter-extremism analysts in the UK have warned that Deobandis control over 40 percent of British mosques. Figures for the extent of Deobandi networks in the United States are not known, although the Middle East Forum has identified dozens of prominent Deobandi institutions with radical ties. The deceased gunman Akram attended Masjid-e-Irfan, a Deobandi mosque in the British city of Blackburn.

A close relative of Akram is reported to have noted that he was also a member of Talbighi Jamaat, a Deobandi missionary organization which Western security officials have implicated in dozens of terrorist plots.

Europe is blind to the next jihadi threat

By Liam Duffy

Source: <https://unherd.com/2022/01/europe-is-blind-to-the-next-jihadi-threat/>



Jan 17 – It's been a while since Isis staged a major attack on the West. Occasionally the group's degraded propaganda organs will [try and claim one](#), but even that is less common nowadays. Still, just because Isis central isn't orchestrating mass murder in Europe, it doesn't mean that there aren't still people killing in the name of jihad — if anything, the Islamist terror threat is still claiming many more lives and much more frequently than we realise.

The overwhelming focus from authorities, political leaders and the press has become the personal and psychological dramas of the perpetrators. After every incident, the attackers' pasts are combed and every twist and turn in their tangled biographies is retrospectively injected with significance and relevance to their (often much later) decision to kill.



Of course, the personal profiles of perpetrators are important, but the resultant disconnection of the spate of stabbings, vehicular attacks and, less frequently, shootings and bombings across Europe leaves us in danger of prematurely writing off the lingering jihadist threat.

We should know by now that militant Islamism in the West has long horizons. It was eight years between the 7/7 bombings and the murder of Lee Rigby; the following year, Isis proclaimed itself a “Caliphate” and instructed Muslims worldwide to migrate to their bloody utopia — at least 6,000 from Europe answered the call. France and Belgium suffered terribly in the years to follow, while Britain saw a wave of jihadist attacks three years later.

There is no reason that lulls should be interpreted as a waning threat, yet today attention seems elsewhere. Last October, political leaders in Britain [greeted](#) what looks like the jihadist assassination of one of their colleagues with a very serious debate on online anonymity. And only this month, thanks in part to the Americanisation of political discourse, the bloated cottage industry of which I am a part was more comfortable gorging on year-old events 3,600 miles away at the US Capitol building than discussing threats closer to home.

In the wake of America’s withdrawal from the region, much has been made of the danger of Afghanistan once again becoming a terrorist safe haven threatening the West. Such concerns are certainly legitimate. Whenever they have controlled territory, jihadists have made the West pay: from the archipelago of training camps in Afghanistan which churned out the “[Magnificent 19](#)” hijackers, to the commandos dispatched from the Isis caliphate to gun down revellers and commuters in Paris and Brussels.

The more urgent concern, however, should be on Europe, and how the jihadist movement reconstitutes itself inside the continents borders *after* the Islamic State. The principal concern for security services has been the threat posed by Isis returnees, and with good reason. There is nothing new about Europeans travelling to jihadist conflict zones, but [more travelled to Syria and Iraq for jihad than every previous jihadist insurgency combined](#). Not all made it home, but many did or will in future.

Available evidence does suggest that only a [minority of foreign fighter returnees attack](#) at home, but this should not necessarily be a cause for complacency. The statistics alone do not account for the constant ideological transformation and evolution of militant Islamism in the West: when commuters were murdered in London in 2005, or when Mohammed Merah executed Jewish schoolchildren and soldiers in France in 2012, these acts sparked internal debates on legitimacy within salafi-jihadist circles. Today, thanks to the work of salafi-jihadist scholars, there would be no such debate.

Nor do low rates of attack tell the whole story of the impact of returnees. Each generation of returnees from conflict overseas has successfully helped to cultivate a new and larger generation of extremists. Isis hotspots in Europe often directly overlap with recruitment hotspots for jihadist insurgencies from decades ago. If the Isis generation is able to socialise a new, more violent, more extreme generation of salafi-jihadists then it may be years, or even decades, until we feel the full force of the most recent returnee wave.

That isn’t to say these jihadis are driven by pure rage and bloodlust, reflexively likely to slaughter the first infidel they see. Like any terrorist group or movement, jihadists learn from their tactical and strategic mistakes, and some believe they overplayed their hand with the attacks of 2015-17. Many believed a tipping point had been reached, and that such bloodletting would spark the civil conflict on the continent they desired, in doing so drastically and disgracefully overestimating their support within Western Muslim communities. Meanwhile, the attacks on the West also served to accelerate the aerial bombardment of the “caliphate” on the ground, only hastening its demise. This helps explain why the main jihadist groups are no longer claiming or orchestrating major attacks in the West: it isn’t only a sign of weakness, but of the movement adapting to realities.

Hakim el-Karoui and Benjamin Hodayé’s recent extensive study of European militants [suggested two possible scenarios](#) for the future of jihadism in the West: the first, as hinted at above, sees the veterans of the Syrian jihad and their future cohorts turn their crosshairs primarily towards Europe, rather than some distant war zone.

The second, arguably more unsettling, prospect, is the jihadist population in Europe reconstitutes into a social movement, accelerating what European governments term [separatism](#). At the very least, it’s possible a faction of Europe’s salafi-jihadis remain committed to mass casualty violence against civilians and their dreams of a caliphate. Recognising the shortcomings of ISIS need not lessen commitment to the utopian ideology: “*real communism has never been tried.*”

In this scenario, salafi-jihadis would establish closed communities withdrawn from and hostile towards the ignorance and sin of wider society. Perhaps they would only occasionally lash out, but more people would certainly die in Europe over ‘blasphemy’ and cartoons. There is precedent here in the monastic communities established in some of the global jihadi hotspots, from [Toulouse and the surrounding countryside](#) to the isolated salafi-jihadi communes in the [Caribbean](#).

Another French academic, Hugo Micheron, recently [spoke to dozens of imprisoned jihadis](#) and some hinted at this change in strategy. Instead of simply radicalising others for attacks, their aim is rather the total homogenisation of Western Muslim belief under their interpretation (the *only* true Islam, as they see it), before encouraging or enforcing separation



and withdrawal from the surrounding unbelief. The objective, according to the incarcerated extremists, is to insert a salafi-jihadist project at the heart of Europe instead of a faraway battlefield. If this strain of thought becomes dominant then, as Micheron writes, jihadism becomes a social, intellectual and political challenge “before it ever picks up a Kalashnikov”.

For now, Western Jihadis have gone quiet. But it could prove a major miscalculation to interpret this lull as jihadism finally on the wane, to be usurped by some other ideological challenge. As expert Suzanne Raine recently [warned](#), when terrorists have gone quiet in the past, it usually means they are planning. The challenge is syncing the terrorist planning cycle with the resource and short attention cycle of Western governments and publics.

Perhaps we're lucky that many of Europe's most committed jihadis and thinkers — ones with real experience and connections — are in prison, or stranded in Syria. Thus, the residual attacks are perpetrated by losers and the misfits without links to formal cells or networks, so we put it down to mental health and soothe ourselves into believing this is all that is left of Western jihad. But those in prison will soon get out and others will make it back from Syria. They now know better than to blunder into more confrontations with Western states from a position of weakness. A movement that thinks in centuries will not rush into its next move.

Of course, the jihadist movement *could* collapse or fade into irrelevance. It's just that there's no reason to think it will, and that all the indicators — mostly from historical precedent — point the other way. Jihadis are not some nightmarish omnipotent force as they were too often portrayed during the Isis years. But while there is no call for alarmism, there may well be cause for pessimism.

[Liam Duffy](#) is a researcher, speaker and trainer in counter-terrorism based in London.

Climate Change and Terrorism: Three Risk Pathways to Consider

Source: <https://www.hstoday.us/subject-matter-areas/climate-security/climate-change-and-terrorism-three-risk-pathways-to-consider/>

Jan 14 – A new report from the Center for Climate and Security says climate change will increasingly create terrorist recruiting opportunities and expose weaknesses in state institutions that will make existing and future terrorist organizations more capable and/or likely to emerge.

Environmental issues have not yet been a primary cause around which terrorist organizations have organized. Setting aside destructive but largely nonviolent groups like the Animal and Earth Liberation Fronts, the report notes that there are very few terrorist organizations that explicitly cite environmental issues as their primary motivation. None of the organizations on the State Department list of foreign terrorist organizations – neither past nor present – are primarily oriented around environmental issues. Even in cases where environmental issues are central to terrorist discourse, they may be as much about marketing as they are about conditions on the ground. Non-state armed groups, whatever their actual aims, are more likely to receive favorable Western press when they couch their motives in environmental terms.

The Movement for the Emancipation of the Niger Delta (MEND) is often thought of as an environmentally-motivated terrorist organization. Oil is a central pillar of the Nigerian economy, accounting for nearly 90 percent of exports and 70 percent of government revenues. All of Nigeria's oil production, however, occurs in and around the Niger River Delta, which makes up 7.5 percent of the Nigerian land mass and about 20 percent of its population. Vast networks of small pipelines crisscross the landscape and are prone to leaks and sabotage; in the recent past, the region has averaged almost 420 spills per year. Environmental issues have been a part of MEND's discourse as they have remobilized in the last 18 months. But their primary objective has morphed over time from independence from Nigeria to a more equitable distribution of the oil wealth the region generates: their grievances are as much economic as they are environmental.

But that doesn't mean climate change won't pose security challenges that operate through the activities of terrorist organizations.

The report lays out three channels through which climate change and climate-related natural disasters may affect terrorist activities. The first is via its effects on recruitment. The second is by weakening state institutions – or exposing the weakness thereof – and eroding the capacity of governments to respond to challenges generally and climate change specifically. The third is via second order effects: the effects of collective attempts to mitigate climate change through transitions to more sustainable energy systems.

Climate change effects on terrorist recruitment

It is no secret that food and livelihood security have been central components of military recruitment for centuries. The promise of three-square meals, shelter, and protection from other armed groups are powerful inducements to join terrorist organizations, especially in contexts where battle lines are highly fluid and competing armed groups may be present. In



a survey covering seven countries in Latin America, Africa, and the Middle East, unemployment and idleness – sustained lack of livelihood or income generating opportunities – were the most common motivations for participating in rebel movements and joining street gangs. As recently as a few years ago, Boko Haram expanded its recruiting activities to northern Nigeria and Cameroon by offering young men in food-insecure communities' monthly salaries of between \$600 to \$800. That might not sound like much money to some readers, but it's a staggering sum in that part of Nigeria, where underemployment at the time was as high as 75 percent and the minimum wage was perhaps a tenth of that.

For these reasons, food insecurity and depressed agricultural livelihoods can be a source of motivation for violent extremism. Climate change will pose massive challenges to many traditional livelihoods, especially those that revolve around agriculture in the developing and middle-income world, and the profile of a recently unemployed agricultural worker – typically young and male – is similar to the profile of those who join armed groups. According to a recent study in *Nature Climate Change*, climate change has already caused global agricultural productivity to decrease by about 21 percent relative to where it would be absent the effects of higher temperatures, drought, and increasingly erratic rainfall. Further, it is anticipated to do so even more moving forward, which will render rural livelihoods less sustainable and prompt migration. It does not help that climate change is easy to portray as a problem caused largely by the industrialized countries of the West, which may help the anti-Western messages of many of these groups resonate with potential recruits.

Moreover, sea level rise will render many currently densely populated areas unlivable, contributing to migration above and beyond climate change's effects for rural livelihoods. Several hundred million people in Sub-Saharan Africa, Asia, and the Middle East are anticipated to move within and across borders in just the next couple decades. While most of this migration can in fact be beneficial and adaptive in nature, some of it could place strains on existing institutions and potentially contribute to conflict via large-scale migration and tensions between recent arrivals and host communities.

Climate change effects on state institutions and legitimacy

The second channel through which climate change may affect terrorist activities is via the effect on state institutions and state legitimacy. Reasonable people do not hold the government responsible for droughts, cyclonic storms, flash floods or other rapid onset natural disasters. Even insurance companies, for whom assigning blame is the key to guarding the bottom line, term such events "Acts of God," for which no one can be held accountable. People do, however, hold governments accountable for their preparations for and responses to disasters. Look no further than the Syrian Civil War to see this in action. From 2006-2011, Syria experienced one of the worst long-term droughts in the history of the Fertile Crescent, with climate scientists calling it the worst "in the instrumental record." Further analysis would link the drought to climate change, arguing that climate change had made this type of extreme drought more likely. Agriculturally dependent regions like Hasakeh in the northeast saw 75 percent of crops fail and herders lose 85 percent of their livestock. These losses left 1-1.3 million Syrians food-insecure and made rural life unsustainable. Fleeing the drought-imposed hardship, more than 1.5 million people – mostly agricultural workers and family farmers – moved from rural areas to cities, slums, and camps in and around Syria's major cities: Aleppo, Damascus (the capital), Dara'a, Deir ez-Zour, Hama, and Homs. Many of these migrants were young men accustomed to farm work who found their employment prospects dim in these urban centers. Successful farmers and farmhands became unskilled, lowly paid laborers almost overnight. This mass, rapid migration placed significant strain on these urban centers, especially as food prices skyrocketed across the Middle East and North Africa. Taking cues from the Arab Spring uprisings in neighboring countries and angered by spiraling food prices related to Russia's drought and wildfires, some of these displaced young men began protesting the al-Assad regime, demanding the release of political prisoners in March 2011. These demonstrations began peacefully but escalated to violent clashes as the security forces responded in a heavy-handed manner. The rest, as they say, is history.

Now, it would be wrong to state the Syrian Civil War is about climate change. Many Syrians were already dissatisfied with the Assad regime. The Syrian Civil War, and the terrorist groups that have been active therein, and emboldened by the ungoverned space it created. They are not fighting over climate change. Long-standing issues like authoritarian rule, human rights abuses, exclusionary patronage networks built around religious identity and proximate "sparks" like surging food and fuel prices and the demonstration effect of Arab Spring uprisings in neighboring countries were and are obviously factors as well. But it was the drought that cast into stark relief the regime's inability to meet the basic needs of its citizens and disastrous policy decisions, like the Syrian government's removal of farm subsidies on inputs like fertilizer and water that tripled farmer's operating costs. More generally, climate change is going to challenge governments to respond to natural disasters and increasing pressure on social and economic systems, and the quality of the responses thereto will have a huge impact on whether those governments are perceived as legitimate or not. Weak state institutions and a lack of popular legitimacy, mixed with hardship in the wake of a natural disaster, are a recipe for violent extremism. It would be a reasonable impulse to think the



U.S. government could help forestall these challenges by providing enhanced military aid and training to partner governments. But absent improvements in more general government effectiveness and bureaucratic capacity, increasing military capacity often has the opposite effect. Generally speaking, bureaucratic and administrative capacity has terror-suppressing effects, while larger, more technologically sophisticated militaries tend to provoke more attacks.

Energy transition and terrorism

The third channel through which climate change interfaces with terrorism is less about what climate change is doing to communities and more about what the world is doing in an attempt to curb warming. Attempts to mitigate climate change will have seismic effects for global energy systems, with particularly important security implications for a) major legacy hydrocarbon producers and countries that invested heavily in energy exploration and infrastructure during the 21st century commodity boom of the past two decades, and b) countries with large, exportable endowments of critical minerals, like aluminum, copper, rare earths, lithium, and cobalt, that will underpin transitions to more sustainable energy systems.

Mitigating climate change will require decarbonizing energy systems. This may augur poorly for political stability in legacy energy-exporting countries, like Saudi Arabia and the other countries of the Gulf Cooperation Council, and for newer energy exporters, like Ghana, which has been producing for about a decade. These countries are now facing a future where such assets are potentially significantly diminished in value, if not stranded: the International Energy Agency warns that oil and gas-producing economies may “lose” up to \$7 trillion by 2040.

As resource rents—and the patronage networks and repressive capacities they fund—are the foundation of domestic stability in many resource-exporting countries, the energy transition will imply fewer resources to invest in either repressive or accommodative responses to social unrest, increasing probability of regime change, and/or adverse changes in leadership. But in terms of its effects for international terrorism, it may on margin reduce funding options, especially for those terrorist organizations built around jihadist ideology and aims. The oil-rich economies of the Gulf have long allowed some oil proceeds to filter through the domestic economy and fund terrorist activities abroad, so as these resources dry up, so will this opportunity for funding. Of course, we should anticipate terrorist groups will try to adapt to a changing financial reality.

In the near term, some of the most dire consequences of the energy transition may fall on those countries, like Ghana and Mozambique, which invested heavily in infrastructure to develop oil and natural gas resources but that are saddled with a price environment that makes the twin goals of debt repayment and addressing domestic pressures to see oil dividends translate into beneficial social spending more difficult to achieve, potentially resulting in mass disillusionment with government institutions. But there will be serious consequences as well for countries like Saudi Arabia and other Gulf states.

These countries have been remarkably unsuccessful at diversifying their economies away from oil and gas for almost five decades. There are few reasons to believe they will be more successful in the short- or medium-term without significant political and economic reforms that rulers in these states have thus far largely resisted.

A long-term oil bust implies a potential boon for countries rich in critical minerals. Some of these minerals, like coltan and tungsten, have fueled terrorist organizations in places like Eastern Congo. Many of these metals are found in countries that are highly agriculturally-dependent, face migration pressures and environmental stresses, and have comparatively weak institutions to manage these stresses, such as Guinea or the Democratic Republic of Congo. They face many of the problems described in mechanisms one and two and have endowments of valuable natural resources that provide funding opportunities for armed groups. This is a volatile combination.

For these reasons, we should be concerned about both the emergence and/or strengthening of terrorist organizations in places like Eastern Congo and western Uganda, but also across the Sahel – where livelihoods are heavily affected by climate change – and South Asia, particularly the Indian/Bangladeshi border.

A potentially even more combustible combination is in Angola, which has rich deposits of these resources but is set also to face significant budgeting and revenue challenges as its oil resources become “lost” to the energy transition. The report concludes that, for the foreseeable future, climate change by itself is unlikely to be a cause around which terrorist organizations coalesce and around which their political aims revolve.

But climate change will create recruiting opportunities and expose weaknesses in state institutions that will make existing, or future terrorist organizations more capable and/or likely to emerge. Attempts to address climate change can have their own security consequences that, if not mitigated, can increase risks for both legacy energy exporters and countries rich in critical minerals.

●► [Read the report at the Council on Strategic Risks](#)





Berlin: Man, attacks woman with knife for 'working'

Source: <https://www.dw.com/en/berlin-man-attacks-woman-with-knife-for-working/a-59093270>

Sept 2021 – A 29-year-old Afghan man [attacked and severely injured](#) a 58-year-old landscape gardener as she was working in a park in the Berlin district of Wilmersdorf, police said in a statement on Sunday. The authorities said the man attacked the woman allegedly because he didn't like the fact that as a woman she was working.

The assailant allegedly approached the woman on Saturday afternoon, and talked to her. He then suddenly pulled out a knife and stabbed her several times in the neck.

A 66-year-old passerby tried to come to the woman's rescue but was also attacked by the 29-year-old, and sustained serious injuries.



What was the motivation behind the attack?

Berlin's general state prosecutor's office said on Sunday that the suspect was arrested on charges of [attempted murder](#) and aggravated assault. [Police said he may suffer from a mental illness.](#)

Prosecutors and criminal police are also probing the assailant on suspicion that his attack may have been motivated by Islamist ideology. The suspect's and victims' identities were not released in line with German privacy laws.

EDITOR'S COMMENT: It drives me crazy every time I read about "mental illness" and "attempted murder" or "serious bodily harm" when it is a pure dreadful case of terrorism. Chickens of mass information afraid to say things by their names ... The article forgot to include the fact that the unfortunate woman was also voluntarily teaching German to illegal immigrants in the park to make them integrate faster with the German way of life.

Jesus Christ as Palestinian Terrorist?

By Raymond Ibrahim

Source: <https://www.meforum.org/62960/jesus-christ-as-palestinian-terrorist>



Jan 20 – Not only has Islam transformed Jesus Christ into a Muslim, and a "[Palestinian](#)" one at that; Palestinians are apparently trying to transform him into a "heroic martyr"—a term often translated by those on the receiving end of such heroism as a "terrorist."

As a January 14, 2022 article by [PMW](#) explains:

The PA uses many euphemisms and terms to refer to terrorists, and they are applying two of them to Jesus. The first is *Fida'i*, literally "self-sacrificing fighter." For example, terrorist Ashraf Na'alwa, who brought a rifle to work, tied up a young mother of a 15-month-old, and then murdered her and another coworker, was called by Fatah: "The heroic *Fida'i*." Fatah official Rawhi Fattouh applied this status to Jesus: "Jesus the first Palestinian *Fida'i*."

The second term is *Shahid* – Islamic "Martyr" – the word the PA uses for every terrorist killed during his/her attack, including suicide bombers. Senior Fatah leader Tawfiq Tirawi applied both terms to Jesus: "The first *Fida'i* and the first Martyr, the messiah Jesus."

It must, of course, be remembered that for Palestinians and Muslims in general, those who sacrifice their lives for the cause of Allah—and Allah is very much interested in things like land and territorial disputes—are the apple of that deity's eye, deserving of the

highest paradisiacal rewards. As the Muslim prophet, Muhammad, explained in an oft cited and canonical hadith, "the martyr"—the *shahid*—"is special to Allah":

He is forgiven from the first drop of blood [he sheds]. He sees his throne in paradise. . . . Fixed atop his head will be a crown of honor, a ruby that is greater than the world and all it contains. And he will copulate with seventy-two Houris [\[celestial sexual women\]](#)—"big-



bosomed" and "wide-eyed" says the Koran (56:22, 78:33)—created by Allah for the express purpose of sexually gratifying his favorites in perpetuity].

In this context, Jesus Christ, whom Muslims have appropriated and transformed into "Isa the prophet," is a great martyr—not because he was crucified for the sins of mankind (Islam teaches someone else was crucified in Christ's place at the last minute), but because he gives his life to fight infidels and uphold sharia.

To understand the true nature of Islam's Jesus, consider what some of the most canonical hadiths say about him (translations of the following are from [Muslim Sources of the Crusader Period](#) by James E. Lindsay and Suleiman Mourad).

In one, Jesus approvingly quotes Muhammad saying that whoever makes him, Muhammad, Christ's equal—and thereby contradicts the oldest Christian Creed (1 Cor. 15: 3-7)—will go to heaven: "Whoever testifies that there is no god but God, alone with no partner, and that Muhammad is His servant and messenger, and that Jesus is His servant and messenger ... Allah will admit him to paradise for saying that."

In another hadith, a woman says to Jesus, "Blessed is the womb that bore you and the breast that suckled you." To this, a shocked Jesus replies: "No, but blessed is he who reads the Qur'an and follows what is in it!"

But it is only when he returns in Islam's version of the "end times" that the Muslim Jesus truly shines. According to Islamic teaching, he will return to "break the crosses, slaughter the pigs, end the jizya tax on non-Muslims, making warfare against the People of the Book (e.g. Jews, Christians, Zoroastrians, etc.) and others licit." In the midst of the final showdown between the forces of Allah and the forces of Antichrist (al-Dajjal), Jesus will first appear "praying behind" an Islamic leader. Then, "after Jesus finishes his prayer, he will take his lance, go toward the Antichrist and kill him. Then Jesus will die and the Muslims will wash him and bury him."

In such a manner is he a "martyr"—no different, for many Muslims, than his supposed Palestinian kinsmen who blow themselves up in the service of Islam.

Here, then, is yet another stark reminder that Islam's appropriation and subsequent mutilation of biblical figures is not a source of "commonalities" and "bridges" between Islam on the one hand and Judaism and Christianity on the other, as the "ecumenists" insist. Rather, it is Islam's way of manipulating the figures of Judaism and Christianity for its own agenda and precisely against Jews and Christians.

[Raymond Ibrahim](#) is the Judith Friedman Rosen Fellow at the Middle East Forum.

EDITOR'S COMMENT: An unknown adverse effect of Covid-19?



2022 Terrorism-related conferences

By Olivia Kearney

Perspectives on Terrorism | Vol 15; Issue 6

Source: <https://www.universiteitleiden.nl/binaries/content/assets/customsites/perspectives-on-terrorism/2021/issue-6/kearney.pdf>

What Can We Learn From Interviewing ‘Formers’

Center for Research on Extremism (C-REX), Online

12 May, Norway

Website: [visit](#) | Twitter: @CrexUiO

GLOBSEC 2022 Bratislava Forum

Globsec, Bratislava

2-4 June, Bratislava, Slovakia

Website: [visit](#) | Twitter: @Globsec

BISA 2022 Conference

British International Studies Association, Newcastle-upon-Tyne

15-17 June, United Kingdom

Website: [visit](#) | Twitter: @MYBISA

International Terrorism and Social Media Conference

Swansea University, Swansea

28-29 June, United Kingdom

Website: [visit](#) | Twitter: @SwanseaUni

Olivia Kearney is an Associate Editor of *Perspectives on Terrorism* as well as a member of the Editorial Board for the *ICTR Journal*. She is the Community Building Officer for Project CRAFT led by RUSI Europe. Before that, she worked as a Project Assistant for the International Centre for Counter-Terrorism – The Hague (ICCT) after having obtained a Master’s degree in Crime and Criminal Justice at Leiden University.

Eco-Terrorism and Eco-Activism: A Security Perspective

By Neha Ramesh (GCTC India)

Source: <https://www.gctcworld.org/eco-terrorism-and-eco-activism-a-security-perspective/>

Although ‘Ecoterrorism’ was coined in the 1980s, history dates to the 18th century when peasants revolted forest reforms in France. The term has since evolved and covered an array of attacks carried out for the protection of the environment. The most famous examples being the Earth Liberation Front and the Unabomber.

In the path towards sustainable development, the idea of environmental preservation is given great importance.

Regrettably, this was not always the case. The industrial revolution was made possible by fossil fuels and the degradation of the environment. In this piece, I wish to explore the security threat posed by eco-terrorism while outlining the need for eco-activism.

The farmers protest in India was an event of historic proportions that gained traction and support globally from celebrities and environmental activists. The government released a bill that was perceived to be detrimental to farmers. The intricacies of the bill aside, it was met with backlash by farmers of the northern states of India who took to blocking one of the capitals most coveted expressways. The government of India treated the farmers as anti-governmental forces. This is an example of eco-activism being treated as eco-terrorism. The line between the two may be slim but distinct.

Here it is important to note the divided perception of the bill. Both sides deserve merit for their respective arguments. Now let us discuss how environmental activism can be used as a gateway into terrorist elements. Psychologically there is merit to using causes that people are passionate about to drive them into anti-national and anti-governmental entities. There is a president of eco-terrorists being regarded as extremists however it is important to note that the government often uses the excuse of eco-terrorism to suppress eco-activism.

The lack of clarity in policy when defining eco-terrorism or environmental extremism has caused a lot of damage in the form of ill-constructed policy and state response. States are now resonating with the term eco-terrorism to avert potentially dangerous environmental activism, targeting protestors as terrorists with extreme outcomes for the protection of civil



liberties. For example, at least a dozen of environmental activists were deported back, or denied entry to Poland, on the occasion of the 2018 United Nations Climate Conference in Katowice, because they were considered a threat to national security. Some argue that to clearly define terrorism and make it a useful term, we must draw the line at human life. If an act seeks to destroy human life, and, therefore, coerce or intimidate through the threat to human life, it is terrorism. However, if an act destroys property and is careful not to injure or kill, it may be vandalism or arson, but it is not terrorism.

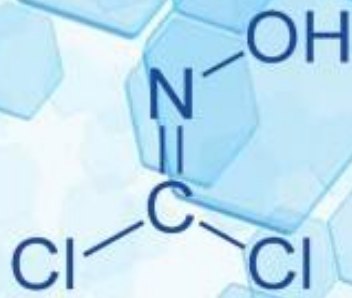
Climate change and the stress it places on environmental resources has been linked to conflicts of various nature. For some, this relationship has smaller effects within country-armed conflicts, as compared to other drivers of conflicts. Others have shown that climate stressors are linked to increased opportunity for violence and conflicts in areas of low living standards and poor governance. However, climate change has now been recognized to fuel greater political instability and conflicts due to resource competition and increasing global insecurity that places the most affected areas at the mercy of insurgencies, organized crime, and terrorism recruitment.

However, environmental activists are being increasingly categorized and targeted as terrorists by well-established democracies. The exacerbated role of these states may fuel a sense of injustice and desperateness capable of compelling radical individuals to join the likes of the Earth Liberation Front or to drive themselves to a new terrorism threat. This could trigger a security risk effect at the heart of advanced regions, where not yet the scarcity of water, but the loss of civil rights would potentiate the rise of a new form of eco-terrorism. Thereafter, the conditions linked to climate change have provided both, an opportunity for environmental terrorism developments in areas of resources scarcity, and a potential platform for a new form of terrorism born from extreme anti-progress ideologies.

At this point let us look at some important lessons we can take away from the mistakes we have made in the past. First, we need to go about establishing a clear understanding of eco-terrorism and differentiate it from environmental activism. Second, we need to protect environmental activists. Finally, we need to embrace sustainable growth and agricultural practices which will help us achieve our growth goals without compromising the environment.



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CHEM NEWS





CBRN threats and Paris2024 Olympic Games Opening Ceremony

By the Editor of C²BRNE Diary

PARIS 2024



No doubt organizing the Opening Ceremony of the 2024 Olympic Games in the Seines River is a brilliant idea never done before! But is it a safe idea as well? France's terrorism history is well known and the situation is not getting any better in recent times. So far, there were no CBRN incidents recorded during the biggest mega-sport event on the planet but the unexpected always happens. The ongoing pandemic is proof of this!

The proposed venue

Both banks of the Seines River and several bridges will host approximately 600.000 people. Usually, opening ceremonies held in stadiums gather 60,000 to 80,000 spectators. It is easy to understand that it is like having 10 opening ceremonies at the same time. Stadiums have 4-6 entrances/exits. Paris' ceremony will have countless access points difficult to guard properly if not at all. Due to the design of the ceremony, it would be difficult to assign evacuation points and routes and set decontamination stations. In addition, crowded bridges will make transportation of casualties almost impossible. River-based CBRN solutions should be incorporated as well.

The threats

1. "N" is out of the question for obvious reasons.
2. "C" is not the number one priority, since it has to be released in the open space and this will affect both its concentration and effectiveness. But it will affect many spectators enough to spread the panic desired and cause a stampede environment with additional victims.
3. "R" is a threat combining lethality and panic sufficient to disrupt or even cancel the Games.
4. "B" is a slow onset emergency that will take some time before the state will be alarmed and mobilized to deal with the pathogen released. The ongoing pandemic provided an idea of what to expect although if Category A pathogens are released the overall situation will be much worse than what we are currently experiencing worldwide.

Dissemination means

Spraying drones or swarms can be easily used and quite difficult to identify and intercept.



C²BRNE DIARY – January 2022

Chemical and radiological sources are deadly even without the use of improvised explosive devices that modern technology can easily identify even from a distance.

The river setting is ideal for various types of mines (e.g., magnetic) although this possibility can be effectively secured by Navy and Coast Guard specialized personnel.

Field response

The number of possible targets is huge and this means that response forces should be divided into small groups to cover the X-long festivities area. In addition, containers containing specialized equipment (e.g., decontamination means; antidotes) should be strategically positioned in many areas to support the needs of field responders. Reconnaissance drones can provide a real-time operational picture and specialized software can predict the movement of the contaminated plume based on meteorological data and the properties of the agent released. A centralized software can assist in the evacuation operation providing off-wind escape routes while manipulating the traffic together with Traffic Police. The river can be the inspiration for decontamination and first aids solutions on modified river cargo boats.

Hospital response

It is well known and anticipated that all those having even minor symptoms will end up in hospitals seeking medical advice. In addition, the “worried-well” (expected ratio 1:5) will exacerbate the problem and will overwhelm hospitals and clinics city-wide. But the biggest problem is that the healthcare personnel of hospitals is not prepared to deal with mass contaminated casualties – especially of the radiological type that will require a unique hospitalization environment (radiation shielding). A small number of hospitals might have the specialized equipment and have conducted one or two drills but this is not enough to provide proficiency and confidence to those involved (Emergency Department).

Impact

Games: Olympic Games will be postponed even if no venues have been affected. All visitors will flee the country by all possible transportation means.

National: The impact will be tremendous (national pride; country’s brand; financial; security; exports; tourism – to name a few).

Conclusion

This is just a limited analysis of possible CBRN threats during the Paris Olympiad. But the overall conclusion is that despite the inspirational innovation for the opening ceremony, it would be much safer to use the traditional “stadium model” that is a bit easier to handle these asymmetric threats.

Did Turkey Use Chemical Weapons in Northern Iraq?

By Jonathan Spyer

Source: <https://www.meforum.org/62903/did-turkey-use-chemical-weapons-in-northern-iraq>



Left: Still shot of an alleged victim of a Turkish chemical attack in the mountainous Duhok province of Iraq on May 3, 2021. Right: A protest against Turkish atrocities in Iraq in Stuttgart, Germany, October 30, 2021

Dec 23 - On December 3rd, a stormy demonstration took place outside the headquarters of the Organization for the Prohibition of Chemical Weapons (OPCW) in the Hague. Some 40 to 50 demonstrators, most of them Kurds, were arrested. The demonstrators were demanding that the OPCW investigate allegations of use by Turkish forces of chemical weapons against Kurdish fighters in northern Iraq. The arrests were made after demonstrators managed to bypass security, and tried to enter the offices of the OPCW.

Left: Still shot of an alleged victim of a Turkish chemical attack in the mountainous Duhok province of Iraq on May 3, 2021. Right: A



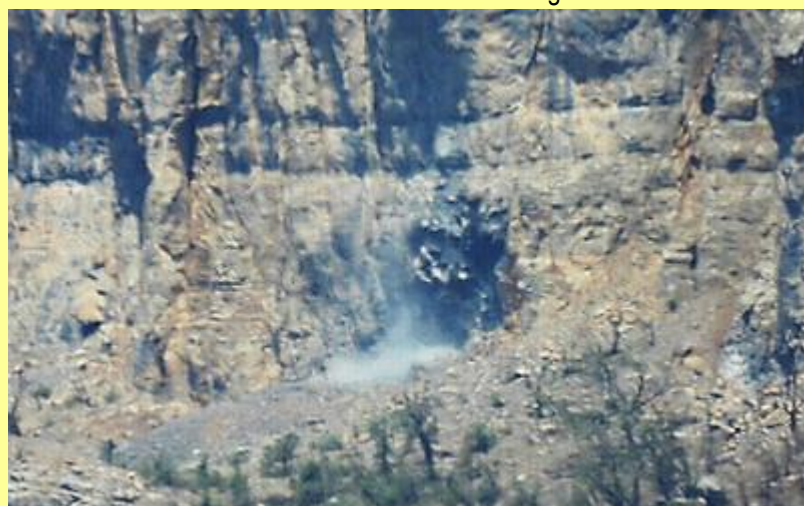
The protest was part of an ongoing effort by Kurds and their supporters to draw international attention to claims of ongoing use by Turkish forces in northern Iraq of banned chemical substances against fighters of the PKK (Kurdish Workers Party).

The attacks are alleged to have taken place within the framework of the Turkish military operation in Northern Iraq, dubbed "[Operation Claw Lightning](#)," which began on April 23 of this year. This operation, centering on the Metina, Zap and Avashin-Basyan regions of Duhok and Erbil governorates, is an effort to secure an area of de facto Turkish control blocking the Kurdish area of control in Syria from the PKK heartland in the Qandil Mountains of northeast Iraq.

What is the nature of these allegations? A report in late October on the pro-Kurdish ANF News website quoted PKK claims of a systematic campaign of chemical weapon use in the combat zone. The organization said that 323 attacks using chemical weapons took place over the first six months of the operation. The first use, the report asserted, was in the Gare area in February, 2021, prior to the launch of the main offensive. In this attack, it is claimed that six fighters were killed. Thirty-two additional fighters, the report asserts, were subsequently killed in chemical weapons attacks in Avashin, Metina and Zap. So, according to Kurdish claims, 38 fighters in total have died from use of chemical weapons in the first six months of Operation Claw Lightning.

What proof has been offered in support of the allegations? The KCK (Kurdish Communities Union), a Europe-based Kurdish body, has circulated a video showing what it says is the aftermath of a chemical attack in the Avashin region of Duhok Province on May 3, 2021. The clip, which KCK spokesman Zagros Hiwa said had previously been circulated on Turkish nationalist WhatsApp groups, shows the bodies of three PKK fighters, bearing no apparent wounds, after being dragged from a cave by Turkish soldiers.

ANF has also released an additional video showing what it asserts to be footage of a gas being used by Turkish forces on June 8



against tunnels held by Kurdish fighters in the Werxele area. Another video, also apparently showing the use of a gas of some kind, was broadcast by the pro-Kurdish Medya News on October 10, 2021.

[Still shot of gas allegedly being used by Turkish forces on June 8 against Kurdish fighters in the Werxele area of northern Iraq.](#)

In addition, testimony of PKK fighters who survived what they describe as a chemical attack by Turkish forces has been circulating.

These accounts are, by themselves, not sufficient to prove the accuracy of claims of chemical weapon use. Turkey strongly rejects the accusations. In November, Turkish Defense Minister Hulusi Akar rejected the

notion that Ankara even possesses weapons of this kind. "There is absolutely, and in no way, chemical weapons in the TAF (Turkish Armed Forces) inventory," Akar said, according to a report by the Turkish *Arti Gercek* news site. "It is very easy to follow where chemical weapons are taken from, and to where they are taken. Such allegations are periodically repeated in order to tarnish the fight against terrorism, which is carried out in an honorable and transparent manner."

Turkey is a signee of the Chemical Weapons Convention of 1997, which prohibits the use, development "stockpiling and transfer of chemical weapons."

This denial notwithstanding, similar allegations have, nevertheless, repeatedly resurfaced over the last two decades regarding the claimed use of chemical weapons by Turkey against the Kurds. In 2019, an OPCW investigation into allegations that they had been used in the Ras al Ain/Sere Kaniye area of northern Syria was dropped after OPCW officials concluded that the substance used was "likely" white phosphorous, a substance not classed as a chemical weapon nor banned from use by armies in combat.

Murat Karayilan, a senior PKK official, meanwhile, has named Tabun nerve gas, chloropicrin (also known as "green cross") and mustard gas as the substances his organization asserts to have been used by the Turkish army in the course of the recent fighting in northern Iraq.

But while no conclusions regarding the veracity of these claims can, at this stage, be drawn, the substantive issue at hand is whether they will even be investigated. Kurdish voices are calling for an independent OPCW or UN-led investigation in northern Iraq to independently examine the issue. Nilufer Koc, a Europe based KNK official, told *The Jerusalem Post* that "we are calling on the OPCW to fulfil its obligation and investigate immediately the use of CW on the ground."



A new Europe-based initiative, dubbing itself the "Coalition against Chemical Weapons in Kurdistan" was launched in late November, with the intention of organizing a high level delegation including medical experts to visit the region and gather evidence.

Official responses to the allegations remain cautious in the extreme, and no major state supported initiative looks imminent. Lord Ahmad, British minister of state for the foreign office, responded to a question on this subject in the British parliament on December 17 by noting that the British government was "monitoring the recent allegations of chemical weapons use in northern Iraq." He went on to describe the allegations as "unsubstantiated."

Kurdish sources in response told the *Post* that such allegations are likely to remain unsubstantiated in the absence of any effort to substantiate them. It appears unlikely, however, that any major initiative to investigate these allegations will emerge in the near future. For this to happen, pressure from a state or alliance of states in international bodies would be necessary. The PKK, against whom Turkey is engaged in northern Iraq, remains a proscribed organization on both the US and EU's list of terrorist groups. A look at the record of recent years indicates that responses to allegations of this kind are a function of political interests and power brokerage, rather than any abstract legal principle. The Saddam Hussein regime in Iraq, which killed 5,000 Kurdish citizens in the Iraqi Kurdish town of Halabja in 1988, paid no price at the time for this act. Only later, after the Iraqi dictator invaded Kuwait, the matter of his use of chemical weapons became widely known.

The Assad regime in Syria, having ignored a US ultimatum against [chemical weapons](#) use in 2013, paid little substantive price for its subsequent employment of sarin gas. The OPCW confirmed Assad's use of Sarin on a number of occasions in the course of the Syrian civil war. The absence of US and international will to enforce the US 'red line' rendered it empty of substance.

Both these precedents appear to indicate that the truth of what happened in recent months in Metina, Zap and Avashin looks for the moment likely to remain unexplored, at least by official bodies. Turkey's role as a NATO member, a US ally and not least as the potential dispatcher of migrants towards European shores seems likely to ensure this. Kurdish protests against this state of affairs, meanwhile, look similarly set to continue.

[Jonathan Spyer](#) is a Ginsburg/Milstein Writing Fellow at the Middle East Forum and director of the Middle East Center for Reporting and Analysis.

US military translator reveals details of Saddam Hussein's detention

Source: <https://aboutlyrics.eu/us-military-translator-reveals-details-of-saddam-husseins-detention>

Dec 30 – An Iraqi translator in an interview with RIA Novosti said that during the arrest of former Iraqi President Saddam Hussein, the US military used some kind of sleeping powder and stole a significant part of his personal belongings. The identity of the translator was not disclosed because he fears for his safety.

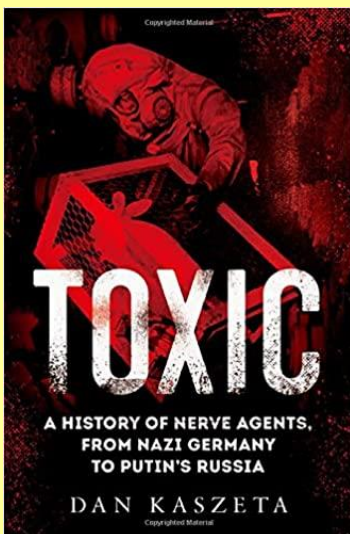
According to him, the military tracked Hussein through one of his guards, who went to local markets and bought the most expensive products. As a result, the military figured out in which area and house the ex-president could be.

Special units and troops were sent to the site. The translator was not allowed to approach the place of the special operation, since he was not wearing a **gas mask**.

"Several people were taken out of there. As it turned out, it was Saddam Hussein and the special forces who detained him. We were all forbidden to approach him. The gas mask was necessary in order not to breathe in the **soporific gas** that the US military sprayed on the premises and on the farm where the ex-president was," the translator noted. After Hussein was put into the helicopter, the translator was able to inspect the room where he lived. There were the ex-president's personal belongings, which were later stolen by the US military as trophies.

"The soldiers stole most of Hussein's personal belongings. For example, shoes, clothes, watches, and even food. We took it as trophies, as a keepsake. After the special operation, the trees on the farm were covered with some kind of white substance. **At the same time, all the seedlings of orange trees, cattle, parrots, stray dogs were dead**," the agency's interlocutor said.





TOXIC

Author: Dan Kaszeta

Source: <https://www.hurstpublishers.com/book/toxic/>



Nerve agents are the world's deadliest means of chemical warfare. Nazi Germany developed the first military-grade nerve agents and massive industry for their manufacture--yet, strangely, the Third Reich never used them. At the end of the Second World War, the Allies were stunned to discover this advanced and extensive programme. The Soviets and Western powers embarked on a new arms race, amassing huge chemical arsenals.

From their Nazi invention to the 2018 Novichok attack in Britain, Dan Kaszeta uncovers nerve agents' gradual spread across the world, despite international arms control efforts. They've been deployed in the Iran-Iraq War, by terrorists in Japan, in the Syrian Civil War, and by assassins in Malaysia and Salisbury--always with bitter consequences.

Toxic recounts the grisly history of these weapons of mass destruction: a deadly suite of invisible, odourless killers.

Dan Kaszeta lives in London, where he runs a specialist consulting firm. He has decades of experience in protecting against chemical and biological weapons, and has held positions in the US Army, the White House Military Office, the US Secret Service and private industry.

West: Syria Must Answer 20 Questions on Its Chemical Weapons

By Edith M. Lederer (Associated Press)

Source: https://www.washingtonpost.com/world/west-syria-must-answer-20-questions-on-its-chemical-weapons/2022/01/05/3cb330de-6e9f-11ec-b1e2-0539da8f4451_story.html

Jan 06 — Western nations accused Syria on Wednesday of refusing for eight years to clear up 20 outstanding issues about its undeclared research, production and possible weaponization of unknown quantities of chemical weapons.

U.S. Ambassador Linda Thomas-Greenfield told the U.N. Security Council the world “should not be fooled by Syria’s veneer of cooperation” while it deliberately delays and obstructs answers to the international chemical weapons watchdog.

France’s U.N. Ambassador Nicolas De Riviere went further, saying Syria is not only not cooperating with the Organization for the Prohibition of Chemical Weapons but it has continued to use chemical weapons. “And these facts must be qualified as crimes against humanity,” he said.

Syria joined the Chemical Weapons Convention in September 2013, pressed by its close ally Russia after a deadly chemical weapons attack that the West blamed on Damascus. A Security Council resolution adopted at that time endorsed the decision of the OPCW, which implements the convention, to destroy Syria’s chemical weapons program and banned Syria’s use, development, production or acquisition of chemical weapons.

By August 2014, Syrian President Bashar Assad’s government declared that the destruction of its chemical weapons was completed, but Syria’s initial declaration of its chemical stockpiles and chemical weapons production sites to the OPCW has remained in dispute. U.N. disarmament chief Izumi Nakamitsu told the council Wednesday that 20 of the 24 outstanding issues in the declaration opened by the OPCW in 2014 remain unresolved. They not only include the undeclared production and possible weaponization of toxic chemicals but the unknown whereabouts of significant quantities of chemical warfare agents and munitions.

Nakamitsu said the OPCW also has not received a requested declaration on undeclared nerve agents produced at a former chemical weapons facility that Syria declared “as never having been used to produce and/or weaponize chemical warfare agents,” and other requested information.

She called on Syria to respond to the organization’s requests “as soon as possible” and to allow all members of its team analyzing the declaration “unfettered access,” citing the government’s refusal to grant a visa to one member.

Last June, OPCW chief Fernando Arias told the council its experts investigated 77 allegations against Syria and concluded that in 17 cases chemical weapons were likely or definitely used. He called it “a disturbing reality” that eight years after Syria joined the Chemical Weapons Convention, many questions remain about its initial declaration of its weapons, stockpiles and precursors, and its ongoing program.



In April 2020, OPCW investigators blamed three chemical attacks in 2017 on the Syrian government, which it has vehemently denied. The OPCW Executive Council responded by demanding that Syria provide details. When it didn't, France submitted a draft measure on behalf of 46 countries in November 2020 to suspend Syria's "rights and privileges" in the global watchdog. In an unprecedented vote on April 21, 2021 the OPCW suspended Syria's rights until all outstanding issues are resolved. Nakamitsu said Wednesday that unfortunately Syria hasn't completed any of the measures required by the OPCW for reinstatement. She reiterated her call for Syria's government to cooperate with the chemical weapons watchdog. Syria's U.N. Ambassador Bassam Sabbagh told the council his government "rejects any attempt to question the Syrian declaration and serious cooperation with the OPCW and its technical secretariat." He also denied blocking an OPCW visit. As for the OPCW's findings, he said, "we reject any baseless accusations that rely on erroneous information and any attempts to jump into conclusions based on misinterpretations and probabilities without relying on accurate physical evidence." Sabbagh also accused council members of distracting attention from an Israeli attack on a declared chemical weapons facility, which led to the destruction of two chlorine cylinders that had been linked to a 2018 deadly attack on the Syrian town of Douma. Russia's deputy ambassador Dmitry Polyansky claimed there has been "no scientifically based evidence" refuting that Syria's chemical potential was eliminated. He also denounced the OPCW's investigative methods and accused the organization and Western nations of politicizing the issue and "turning a blind eye to the topic of the use of chemical weapons by terrorists in Syria and neighboring states." Britain's U.N. Ambassador Barbara Woodward countered that expert investigations confirmed that Syria used chemical weapons including chlorine and Sarin on at least eight occasions since its conflict began in 2011, attacks that killed and injured hundreds of innocent people. Islamic State terrorists were found to have used chemical weapons on three occasions, she said. Alluding to Russia's threatened veto on any council action to hold Syria accountable and its "concerted disinformation campaign to malign and undermine the OPCW findings," Woodward called on council members to "put aside narrow political motivations and unite behind the full implementation" of the 2013 resolution in 2022.

New Trends in CBRN Decontamination

By Lt. Col. Christian Resch

Research and Development Manager, Federal Ministry of Defense of Austria

Source: <https://nct-magazine.com/nct-magazine-december/new-trends-in-cbrn-decontamination/>

Current globalization trends and our interconnected world are creating a certain demand for CBRN protection. There is a lack of ability in the transportation of contaminated or infected soldiers or civilians. Protection systems currently consist of impermeable systems. However, these systems must also be manageable, e.g., in aircraft. Closed systems create the challenge with decompression that they simply explode when the pressure drops in the cabin. Ultraviolet irradiation, vaporized hydrogen peroxide, moist heat, microwave-generated steam processing, and liquid chemicals were reported to sterilize PPE, but each method has its disadvantages – especially for aircraft equipment the demand is high.

Use of Soapy Water in a Multi-Threat Environment

By Mr. Terrence K. Cloonan

Former U.S. Army Chemical Corps/CBRN Major, CM, RA

Source: <https://nct-magazine.com/nct-magazine-december/use-of-soapy-water-in-a-multi-threat-environment/>

What is a multi-threat environment? It is a hostile situation where soldiers or responders must successfully react to any multitude of threats that present themselves. This requires suited-up responders to scan, identify, adapt, overcome, and mitigate the threats from active shooters, rogue vigilantes, clandestine terrorism, or brazen force-on-force adversaries. To succeed in a multi-threat environment operators must either avoid it or wear personal protective devices capable of offering protection against a plethora of different toxic agents.



DConX: a New Product by Oak Defense

By Mr. Subi Kalo

Sales and Marketing Director, Oak Defense

Source: <https://nct-magazine.com/nct-magazine-december/dconx-a-new-product-by-oak-defense/>

DConX is an emergency spray for skin, clothing, and equipment with a wide range of applications. The product is user-friendly and designated for use in rescue services, industry,



workshops, laboratories, and hospitals. It can be used without precise knowledge of the chemical causing the problem. Thanks to the fact that there is no need for cold storage, [DConX](#) can be always carried with easily. Its rapid neutralization and inactivation for corrosive and skin-damaging chemicals only take seconds.

How Clean is Clean?

By Lt. Col. Alan Gavel

Biological Analyst and Trainer, Population Protection Institute of the Czech Republic

Source: <https://nct-magazine.com/nct-magazine-december/how-clean-is-clean/>

The decontamination process is a set of activities that should lead to the removal of unwanted contamination. If importance and residual level requirements differ among agencies, there is one fact that should never be forgotten. Validation of the process for field conditions cannot be complete without verifying developed methods outside the laboratory. All involved factors like material compatibility, dirt burden, operators, or commonly used technical means need to be tested. Decontamination is often only shown during trainings and exercises, but it is a crucial element of “real” CBRN response. This should be highlighted in case of biological incidents where we cannot evaluate residual contamination immediately.

The CBRNe Civil Response in France

By Lt. Col. Yannick Durocher

CBRNe Expert, Etat-major interministériel de zone de défense et de sécurité Ouest

Source: <https://nct-magazine.com/nct-magazine-december/cbrne-civil-responce-in-france/>

The first specialized operational response to the CBRN risks and threats in France is provided by the Fire department. There are two levels of response. A first generalist level is provided by non-specialized personnel using conventional means and basic PPE. Their missions are to take general safeguard measures (Establishment of a first security perimeter, support for victims, fast assessment of the situation...) and to trigger the engagement of the second level of response. The second level is provided by chemical and radiological intervention teams – CMIC and CMIR – which are composed of specifically trained firefighters.

Carbophos - As An Imitator In The Indication Of Organofosforous Chemical Warfare Agents

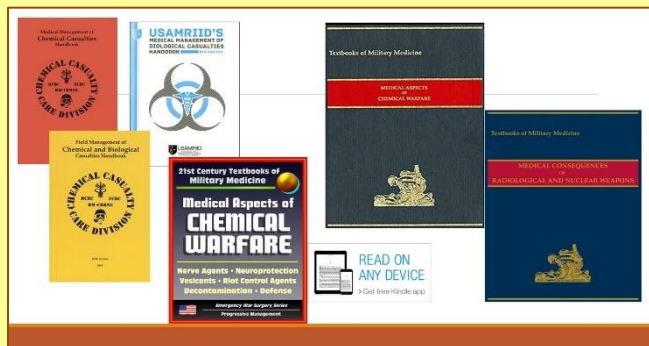


By Prof. Col. (Ret.) Mihail Haralampiev

Professor Engineer, Vasil Levski National Military University of Bulgaria

Source: <https://nct-magazine.com/nct-magazine-december/carbophos-as-an-imitator-in-the-indication-of-organofosforous-chemical-warfare-agents-copy/>

Although chemical weapons have been almost destroyed, their relevance remains. This is because the ability to synthesize old and new toxic substances is determined by the powerful chemical industry of many countries. Therefore, CBRN specialists must have a solid engineering chemical and physical education and appropriate practical training for the detection of combat poisons, as well as their timely disposal in case of possible use. A study was carried out to identify a suitable CWA simulator. The organophosphate insecticide carbophos (**malathion**) turned out to be such a possible imitator.



Podcast Episode 31: CBRN for Dummies By COL Missy Givens



Source: <https://prolongedfieldcare.org/2017/11/26/podcast-episode-31-cbrn-for-dummies-by-col-missy-givens/>



CBRN Terrorism Interdictions (1990–2016) and Areas for Future Inquiry

By Wesley S. McCann

Perspective on Terrorism | December 2021

Source: <https://www.universiteitleiden.nl/binaries/content/assets/customsites/perspectives-on-terrorism/2021/issue-6/mccann.pdf>

The pursuit and use of chemical, biological, radiological, and nuclear (CBRN) weapons has been examined by scholars for more than two decades. What has not been examined are the cases in which non-state actors were prevented from obtaining or using these weapons and agents and the corresponding reasons for successful interdiction. This article uses the Profiles of Incidents

Table 10: Modes of Interdiction by Agent/Weapons (n=217)

Agent	Unknown	Chance	Routine	Probable Cause	Surveillance	Undercover	Sting	Total	Collaborations
Hydrogen Cyanide	3	2	0	6	5	1	0	17	2
Ricin	0	2	1	6	5	1	1	16	3
Unknown Chemical	1	2	2	5	3	0	1	14	4
Unknown Poisons	2	2	0	5	3	0	0	12	2
Unknown Radiological	1	2	2	3	4	0	0	12	5
Sarin	0	1	0	4	4	0	1	10	6
Unknown Biological	1	1	1	4	0	3	0	10	3
Unknown Cyanide Salt	2	2	1	2	1	2	0	10	2
Potassium Cyanide	1	3	2	2	1	0	0	9	1
Sodium Cyanide	1	3	0	4	1	0	0	9	0
Bacillus Anthracis	1	2	0	4	1	0	0	8	1
C. Botulinum Toxin	0	1	0	2	4	0	0	7	1
Uranium-235	1	3	0	0	2	0	0	6	2
Unknown Nuclear	4	0	0	1	0	0	0	5	1
Arsenic	1	1	1	1	0	0	0	4	0
Chlorine	1	0	1	0	2	0	0	4	0
Mustard Gas	1	1	1	0	1	0	0	4	1
Hydrochloric Acid	0	0	0	3	0	0	0	3	1
Nitric Acid	0	0	0	2	1	0	0	3	1
Sulfuric Acid	0	1	0	1	1	0	0	3	0
Uranium-238	0	0	3	0	0	0	0	3	2

Involving CBRN and Non-State Actors (POICN) database to carry out an exploratory analysis of CBRN interdictions around the world from 1990–2016. Using basic descriptives and cross-tabulations, this study finds that successful interdictions often resulted from probable cause searches, surveillance operations, but also from other, unknown reasons. However, there is a tremendous amount of variation when it comes to modes of interdiction and actor motivation. The same goes for jurisdiction, whether international collaboration aided the interdiction, and weapon acquisition and delivery. This text is intended to serve as a foundation for the study of CBRN terrorism interdiction as it seeks to uncover why some law enforcement efforts fail while others succeed.

Wesley S. McCann is assistant professor of criminology, law and society at George Mason University. His research interests center on combating extremism, terrorists' pursuit of CBRN weapons and interdiction efforts, immigration and border security, and criminal law. He has taught at half a dozen different universities and is also affiliated with several research institutes and centers that promote more effective scholarship on combating extremism and anti-immigrant sentiments, as well as fostering national security efforts, particularly concerning CBRN weapons and terrorism.

CBRN Risk Assessment Training Sessions Completed in Southeast and Eastern Europe

Source: <https://www.hstoday.us/subject-matter-areas/wmd/cbrn-risk-assessment-training-sessions-completed-in-southeast-and-eastern-europe/>

Jan 14 – At the request of ten partner countries of the South East and Eastern Europe (SEEE) region, the SEEE Regional Secretariat initiated conducting a series of capacity building and online training activities, aimed at enhancing the Chemical, Biological Radiological and Nuclear (CBRN) risk assessment and mitigation capabilities. These training



sessions were conducted within the framework of the European Union's CBRN Centres of Excellence (CoE) Initiative, in close cooperation with the European Commission (EC) through its Joint Research Centre and its Service for Foreign Policy Instruments, and the United Nations Interregional Crime and Justice Research Institute (UNICRI)

The training package included two generic regional training sessions on the International Organization for Standardization (ISO) 31000 Risk Management, followed by two practical training sessions on the CBRN Risk Assessment. Both training packages were conducted in July and December respectively. Fifty-four nominated trainees from nine countries of the SEEE region attended two summer training courses on 14 and 21 July 2021. Same participants who completed the initial summer training sessions were invited to attend the CBRN Risk Assessment course conducted recently on 1 and 16 December 2021 for the Balkan and Eastern European subregions.

The CBRN Risk Assessment practical training sessions delivered in December consisted of six "breakout sessions" dedicated to discussing in group the following components: identifying the context; identifying the CBRN Risk ideas; describing CBRN risks; CBRN Risk Prioritization; CBRN Risk Treatment; and CBRN Risk Assurance. Participants from the nine SEEE countries were assigned to their respective country groups during all six breakout sessions. This exercise allowed participants to practice the CBRN Risk Assessment with their own countrymates, so that they may repeat it when necessary with their CBRN National Team members back at home.

Since the SEEE partner countries have successfully completed a series of regional generic training sessions, they were encouraged to consider the possibility of requesting additional national training session on specific CBRN Threat Assessment issues. This tailored national training session can be easily adopted and become a country specific capacity building activity to address any selected CBRN area of their interest.

The SEEE Regional Secretariat, the EC European Joint Research Centre, the EC Service for Foreign Policy Instruments and UNICRI will continue to render their support to partner countries in moving towards the third step of the process, which aims at the development of the national CBRN Threat Assessment. This approach in CBRN Risk Management and CBRN Threat Assessment can easily replicated in any the other seven regions which are part of the EU's CBRN CoE Initiative. Partner countries may avail themselves of this opportunity prior to developing their CBRN National Strategies and National Action Plans.

All four training courses were funded by the European Commission's Joint Research Centre and conducted in English language. The SEEE Regional Secretariat used the professional Zoom communication platform and received simultaneous interpretation from the Albanian, Macedonian, Serbo-Croatian and Russian languages, which were graciously provided thanks to cooperation with the EU CBRN CoE Project P53.

We Have Breached the **Safe Planetary Limit** for Synthetic Chemicals, Scientists Warn



Source: <https://www.sciencealert.com/synthetic-chemicals-aren-t-just-pushing-earth-s-boundary-they-ve-crossed-it>

Jan 20 – From [sea](#) to [land](#) to [sky](#), Earth's systems are contaminated with synthetic substances, and scientists warn it has already pushed the integrity of our planet over the brink.

Today, there are about 350,000 human-made chemicals on the market, including plastics, pesticides, industrial chemicals, cosmetic chemicals, antibiotics, and other drugs.

The fact this number continues to rise at an extraordinary rate makes it virtually impossible for any authority to keep track of their potential impacts on the environment.

At this point, there's no keeping up. Now, a new analysis of the situation suggests we have firmly crossed a planetary boundary into an unsafe space.

Since the 1950s, chemical production has increased by 50-fold. By 2050, it's on track to triple again.

"The rate at which these pollutants are appearing in the environment far exceeds the capacity of governments to assess global and regional risks, let alone control any potential problems," [says](#) ecotoxicologist Bethanie Carney Almroth from the University of Gothenburg.

Even if we can slow chemical production in the future, novel entities of our own making have [already infiltrated the atmosphere](#), [the hydrosphere](#), [the cryosphere](#), [the geosphere](#), and [the biosphere](#).

Given that many of these chemicals can live '[forever](#)' in the environment, any potential threat they pose could be the foundation for ongoing problems far into the future.

Ignoring the problem is foolish, but that is largely what humanity has done.



In 2009, an international team of researchers [put together a list of nine boundaries](#) that kept our planet stable for human existence, including greenhouse gas emissions, the [ozone](#) layer, forests, and freshwater.

[In 2015](#), they concluded humanity had breached four of these boundaries: [climate change](#), greenhouse gas emissions, land-system change, and the extinction rate.

Until now, chemical pollution, or 'novel entities', had never been quantified.

Like a cap on greenhouse gases, researchers say nations also need to limit the rapid production of synthetic chemicals, while assessing the ones they've already got.

Today, [tens of thousands of chemicals](#) on the market are untested, and even the ones that have been assessed for health and safety [still hold many unknown risks](#).

While some chemicals might be safe on their own, for instance, [studies have shown](#) they can grow toxic when breaking down or in the presence of other chemicals. If enough of these byproducts accumulate in the environment, it could potentially have long-lasting and detrimental impacts.

Much of the research so far has focused on the impact of chemicals on human health, but our species can't live without the environment around us. Entities like the US Food and Drug Administration [are required](#) to assess the environmental impact of new pharmaceuticals for approval, though in spite of the best intentions, it can often take time for more subtle influences to become apparent. The chemicals in some sunscreens, for instance, have turned out to be [toxic to coral](#). In recent years, antidepressants have also been found [accumulating in water sources](#), where they appear to impact how [some fish hunt for food](#).

Avoiding similar mistakes in the future will be all but impossible if we do not dramatically slow the global production of novel entities, and soon. "Shifting to a circular economy is really important," [says](#) Sarah Cornell, who works in sustainability research at the Stockholm Resilience Centre in Sweden.

"That means changing materials and products so they can be reused not wasted, designing chemicals and products for recycling, and much better screening of chemicals for their safety and sustainability along their whole impact pathway in the Earth system." It's a gargantuan task, but so are the consequences.

●► The study was published in [Environmental Science & Technology](#).

The invisible danger of CBRN weapons

By Dishan Joseph

Source: <http://www.dailynews.lk/2022/01/22/features/270744/invisible-danger-cbrn-weapons>



Jan 22 – Terrorists and radicalised extremists use different means to launch the terrorist attacks. In past decades, they used conventional weapons, but there are also examples for which everyday equipment was weaponised, such as vehicles (e.g. Nice and Berlin Christmas market terrorist attacks) and the pressure cooker bomb at the Boston Marathon.



Thus, chemical, biological, radiological and nuclear (CBRN) weapons coupled with explosives (CBRN&E) might not only be of interest to those seeking to inflict a maximum amount of damage. They may be seen as advantageous by those who aim at creating fear and anxiety in societies as this is more likely to be achieved through the use of CBRN weapons than through conventional weapons.

Since there are readily available, easier means for carrying out terrorist attacks, it is important to consider why terrorists may decide to seek CBRN materials. The potential for drawing significant attention both in traditional and social media will raise the international profile of the terrorist organisation and their ideology. The potential to inflict mass casualties, and inflict significant economic damage can cripple the targeted nation.

The strong symbolism of a successful CBRN terrorist attack, which would demonstrate the power of the group is another reason. The willingness to answer the calls of some clerics has advocated the use of CBRN weapons against Western populations (theological motivation) as in the case of some Islamist extremists. These international regimes can play an important role in reducing the risks of CBRN weapons that are being used. The regimes seek to constrain state actors but, by tackling proliferation, also have an impact on non-state actors.

Three key treaties underpin the international regimes against CBRN weapons – namely, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). In addition, some United Nations Security Council Resolutions have introduced new relevant and binding obligations on States which contribute to addressing the CBRN threat. In this regard, Resolution 1540 has to be mentioned as it aims at preventing non-state actors from acquiring nuclear, biological, and chemical weapons, their means of delivery and related materials. The NPT is the cornerstone of the international regime against the proliferation of nuclear weapons. It came into force in March 1970. It aims to prevent the spread of nuclear weapons and weapons technology, foster the peaceful uses of nuclear energy, and further the goal of disarmament. The NPT establishes a safeguards system under the responsibility of the International Atomic Energy Agency (IAEA).

The Chemical Weapons Convention (CWC) is a multilateral treaty of unlimited duration that bans chemical weapons and requires their destruction within a set period of time. It builds upon the 1952 Geneva Protocol but is more comprehensive than the Protocol which did not outlaw the possession of chemical weapons but only their use. The CWC has been enforced since 1997 and currently has 193 parties.

The main instrument governing biological weapons is the 1972 Biological and Toxin Weapons Convention (BTWC). It became effective

in 1975 and is of unlimited duration. The BTWC prohibits the development, production, stockpiling, acquisition or transfer of biological agents and toxins 'of types and in quantities' that cannot be justified for protective or peaceful use. This treaty bans the development of weapons, equipment, or delivery systems for disseminating such biological agents or toxins. The BTWC declares that States shall address compliance issues through multilateral or bilateral cooperation. States also have the possibility to submit complaints to the United Nations Security Council should they suspect that another State is not respecting its obligations under the BTWC.

In 1994, residents of Matsumoto, Japan, began turning up with symptoms of illness due to nerve gas. There were seven deaths and some 500 injuries. This was a test run for a second attack in 1995 in a Tokyo subway, in which 12 people died and thousands sought medical attention. The attacks came from the apocalyptic Aum Shinrikyo cult, which was trying to develop biological weapons. In the recent past, we saw CBRN weapons used in assassination attempts, against specific individuals. In February 2017, Kim Jong-Nam, the half-brother of North Korea's leader Kim Jong-un, was assassinated at the Kuala Lumpur Airport in Malaysia with the nerve agent VX. In November 2006, a former Russian spy was killed with radioactive polonium-210, which is believed to have been served in a cup of tea.



In March 2018, the nerve agent Novichok was used in the attempted poisoning of Sergey Skripal and his daughter in Salisbury in the UK. Although they both survived, two members of the public were later exposed to the nerve agent, which had been carelessly discarded in a perfume bottle after the Skripal attack. Interestingly, one of the responding police officers was also contaminated and eventually left his job. Other chemicals used in terrorism are lung-damaging agents such as chlorine, cyanide, and blister agents such as mustard gas, nerve agents such as sarin and VX and incapacitating agents such as BZ. During the Vietnam War, the American Forces used Agent Orange against their enemy. It is believed that they sprayed almost 11 million gallons of this deadly substance from helicopters.

Some observers believe that drones (or Unmanned Aerial Vehicles (UAVs)) may have a significant impact on the capabilities of non-state actors, including those considering the use of CBRN materials for a terrorist attack. Further, drone swarms could be used by non-state actors to conduct CBRN attacks, including on critical infrastructure. The Dark Web enables terrorists to communicate anonymously and securely over the internet. It gives significant opportunities for information-sharing relating to illegal activities, including the production or acquisition of CBRN weapons and the planning of future terrorist attacks.

CBRN in the possession of State agencies must be monitored. Robust risk assessment includes the assessments of how high-risk CBRN materials and facilities are secured, whether staff live and work in a 24/7 security culture, how secure transport systems are, and how secure and efficient information and communications can be exchanged. There will be great concerns about the theft of radioactive materials that could then be associated with acts of terrorism. CBRN threats will present challenges to law enforcement and allied agencies, with multiple actors and scenarios to consider. These threats are infused by rapid technological change and involve threats ranging from natural sources through accidental releases and negligence in the manufacturing and the use of CBRN materials to use by criminals, terrorists or even state actors. In 2020, a massive blast occurred in Beirut when ammonium nitrate exploded killing 220 people, although the reason was attributed to fire.

Radiation and radioactive substances have many beneficial applications, ranging from power generation to use in medicine, industry and agriculture. Activities such as the medical uses of radiation, the operation of nuclear installations, the production, transport and the use of radioactive material, and the management of radioactive waste must therefore be subject to the standards of safety. The IAEA safety standards are a useful tool for contracting parties to assess their performance. In addition to the radioactive and fissile properties, any other dangerous properties of the contents of the package - such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall be taken into account in the packing, storage and transport in order to be in compliance with the transport regulations for dangerous goods. It is best to transport such chemical/radioactive goods under armed police or military escort as such convoys have been attacked in the past.

A unique case was seen in Goiania, Brazil in 1987. A medical clinic had abandoned its building leaving behind a radiotherapy machine. The machine with its radioactive capsule was now an 'Orphan Source' - without secure supervision. A man named Roberto Alves illegally entered the building at night and stole the machine. He went home and dislodged the small metal capsule. He broke open the glass casing.

The 93 grammes of Caesium substance gave a blue luminous glow. Roberto and his family were immediately exposed to radiation, but didn't know. The next day 22 other people touched the deadly Caesium because it had a strange blue glow, and within a few days 249 people were contaminated showing symptoms of serious skin burns, vomiting and dizziness. Later four people died and 42 contaminated houses had to be demolished. All this was due to just 93 grammes of Caesium. This shows how terrorists can keep a small capsule in a crowded public place to create mass panic and death. Such a capsule can be tossed into a water distribution reservoir. Across the world, police must know how to identify and respond to such seemingly harmless objects. The public must be wise not to meddle with unknown chemicals or any suspicious substances.

The recent assassination of Iranian scientist Mohsen Fakhrizadeh by a remote satellite-controlled weapon (machine gun mounted and concealed on a parked truck) presents a new threat. Now convoys of any nature can be attacked from hundreds of miles away, increasing the risk associated with CBRN transport.

The threat of terrorists using chemicals as weapons is a significant global challenge. The Organization for the Prohibition of Chemical Weapons (OPCW) Member States have recognised the threat posed to the Chemical Weapons Convention by non-state actors, and have underlined that the effective implementation of all provisions of the Chemical Weapons Convention is in itself a contribution to global counter-terrorism efforts. The global norm against chemical weapons is not only a legal agreement, but also a moral declaration about the dignity of humanity.



2022 CBRNe-related conferences

Qatar Health 2022

08-12 February 2022

<https://www.hamad.qa/EN/All-Events/Qatar-Health-2022/Pages/default.aspx>

Qatar Health 2022 is a collaborative effort between Hamad Medical Corporation and the Ministry of Public Health in preparation for the FIFA World Cup 2022. It will be virtually hosted in Qatar from 8 to 12 February 2022. The conference will build on the previous success of QH2020 and QH2021 by continuing to provide state-of-the-art learning from experts in the fields of disaster medicine, infectious disease and trauma surgery for healthcare professionals and students from different backgrounds and countries. It will maintain a focus on providing quality care during mass gatherings with the inclusion of recent developments and best practice in pandemic mitigation. It shall also provide opportunities in professional development for a wide variety of healthcare providers from a diverse set of disciplines and practice. Qatar Health 2022 will offer a 3-day program, with multiple full and half-day tracks, preceded by a 2-day of pre-conference workshops and symposia. The main tracks will be as follows:

- Multidisciplinary collaboration in preparation for the 2022 World Cup
- Best practice and lessons learned from sports mass gatherings
- Healthcare preparations for the 2022 World Cup



Conference Objectives

1. To provide the participant with updates on the latest developments, recent evidence, and best practice in the multidisciplinary approaches to the preparations for WC2022.
2. To provide the participant with updates on the latest developments, recent evidence, and best practice in the fields of disaster medicine, infectious disease and trauma surgery in the context of mass gatherings.
3. To recognize, celebrate and showcase the lesson learned from the successful conduct of large-scale sporting events in the pandemic setting, in Qatar and globally.
4. To provide the participant with professional education activities to enhance their knowledge of the latest initiatives and programs from the MoPH, PHCC, SCDL and other stakeholders in FIFA2022.

11TH SYMPOSIUM ON CBRNE THREATS

<https://nbc2022.org/>

The NBC 2022 symposium on CBRNE threats has been rescheduled to take place at the [Sibelius Hall](#) in [Lahti](#), Finland on **June 5 – 8, 2022**.



CBRNe Summit Asia 2022

Bangkok, Thailand | 04-05 April 2022

<https://intelligence-sec.com/events/cbrne-summit-asia-2022/>

INTELLIGENCE-SEC

We are pleased to announce our next edition of our CBRNe Summit Asia conference & exhibition which will take place in Bangkok, Thailand on the 4th – 5th April 2022. The world has been hit hard over the last two years by the COVID pandemic and many Asian nations have been well prepared to deal with this new pandemic we have all been living in. Infectious diseases have been a common occurrence in South-East Asia with many outbreaks that have been fought against by national public health agencies. Our CBRNe Summit Asia 2022 show will look at how different Asian nations have coped with the recent pandemic and will analyse their current pandemic preparedness and CBRNe capabilities.

As well as looking at pandemic preparedness our event will also look at how Asian nations train emergency services, law enforcement and the military to prepare for a CBRNe incident



C²BRNE DIARY – January 2022

and a natural disaster. By attending our international show, it will allow you to hear insightful presentations from leading government and military officials discussing many issues such as medical countermeasures, CBRNe response and techniques, cooperation in dealing with CBRNe incidents, pandemic preparedness, lessons learnt and much more.

To be part of our international CBRNe Summit Asia conference & exhibition either as a speaker, sponsor, exhibitor or delegate please contact us either by telephone +44 (0)1582 346 706 or email events@intelligence-sec.com

NCT CBRNe Pavilion @ Eurosatory 2022

13-17 June 2022 | Paris, France

<https://nct-events.com/event/nct-cbrne-pavilion-eurosatory-2022>



For its first edition, the NCT CBRNe Pavilion will gather the global CBRNe community under one flag at the leading defense and security exhibition worldwide: Eurosatory 2022.

During five days, you will have the opportunity to meet with leading companies in the field and discover their latest innovations. Daily **workshops and conference sessions** will tackle the trendiest topics in the field, creating a unique platform to exchange on best practices and lessons learned. Operators will also have the chance to join in the **NCT PRO Experience** for mock CBRNe scenario trainings led by expert instructors, while **Live Demonstrations** will showcase European CBRNe capabilities.

Join the CBRNe experts, industry leaders and operators to discover the world of Chemical, Biological, Radiological, Nuclear and Explosive defense. Don't miss the NCT CBRNe Pavilion @ Eurosatory 2022!



Explosives & Blasting Techniques Conference

30 Jan – 02 Feb 2022 | Paris Las Vegas Hotel & Casino, Nevada USA

<https://isee.org/conferences/2022-conference>

Join nearly 1,600 blasters, manufacturers, government officials and industry leaders at the world's largest conference on explosives engineering, sponsored by the International Society of Explosives Engineers.

CBRNe Summit EMEA 2022

10-12 May 2022 | Kharkiv, Ukraine

<https://intelligence-sec.com/events/cbrne-summit-emea-2022/>

INTELLIGENCE-SEC

We are pleased to bring our CBRNe Summit series to Kharkiv, Ukraine for our first CBRNe Summit EMEA conference and exhibition. The event will provide you a great opportunity to hear from leading military, civil and scientific officials from across Ukraine, Middle East, South Eastern Europe and the Caucasus regions.

With the recent global COVID pandemic other key CBRNe incidents have taken place in the region which will all be discussed during the conference. CBRNe Summit EMEA will discuss national CBRNe capabilities, pandemic response, recovery and lessons learnt, chem-bio threats in the region, threat intelligence, international cooperation, first responder challenges and lessons learnt, medical countermeasures to biological outbreaks and asymmetrical threats.

Many governments in light of the global pandemic are now creating CBRNe jobs and placing more emphasis on improving their CBRNe capabilities to be better prepared for future CBRNe incidents and global pandemics. CBRNe Summit EMEA will provide you the perfect opportunity to network with leading officials who work tirelessly in the CBRNe domain.



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To be part of our CBRNe Summit EMEA conference and exhibition please contact us via email at events@intelligence-sec.com or by phone +44 (0)1582 346 706 and we will be happy to provide you further information on how you can participate either as a speaker, sponsor/exhibitor or as delegates.

CBRNe Summit USA 2022

4-6 Oct 2022 | Denver, Colorado USA

<https://intelligence-sec.com/events/cbrne-summit-usa-2021-2-2/>

INTELLIGENCE-SEC

Our 2nd annual CBRNe Summit USA will be coming to Denver, CO on the 4th – 6th October 2022. This event brings together leading officials from the military, civil and scientific agencies to provide you will a full perspective on all CBRNe threats and challenges.

Over the 2-day conference and exhibition you will hear different perspectives on CBRNe preparedness, resilience and response. With the world entering a new chapter with the global COVID pandemic behind us many governments are now seeing the importance to improve CBRNe capabilities to deal with a future pandemic.

CBRNe Summit USA will also focus on Colorado State CBRNe response capabilities and analyse the challenges they face across the State; Chem-Bio countermeasures and emergency response procedures and agency collaboration; First responder techniques and training to allow inter-agency response to CBRNe incidents; International CBRNe threats and response techniques and Military CBRNe capabilities and development.

To take part in our inaugural CBRNe Summit USA conference and exhibition as either a speaker, sponsor, exhibitor or delegate please contact us at events@intelligence-sec.com or call us at +44 7792 47 32 46.

Global Health Security Conference

28 Jun – 01 Jul 2022 | Singapore

<https://www.ghsconf.com/event/ce6e8302-3682-4893-9a1f-26827766de77/summary>



CBRNe Protection Symposium

20-22 September 2022 | Malmö, Sweden

<https://cbw.se/>

As an engaged professional within the CBRNe-protection field this symposium is for you! Contribute to the symposium through fruitful meetings, elaborated conversations and sharing of recent research. Visit the exhibition of CBRNe protection equipment, where industry and institutes display their latest products and research in an encouraging environment. The exhibition offers a good opportunity for the symposium participants to make themselves acquainted with commercially available state-of-the-art equipment related to CBRNe-protection.

Radiological Emergency Planning

18-22 Jul 2022 | Harvard Longwood Campus; Boston, MA

<https://www.hsph.harvard.edu/ecpe/programs/radiological-emergency-planning/>



This program moves beyond the basics of emergency planning to provide skills and strategies for communicating about radiological emergencies, medically managing



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casualties of incidents involving radioactive material, and supporting other organizations during these crises.

This course is designed for anyone involved in emergency planning, response, or recovery in the public, private, or nonprofit sectors. Health physicists, public safety professionals, and first receivers and responders will also find this program beneficial. Foreign and domestic participants from organizations with the following functions are likely to attend:

- Nuclear or energy-industry regulatory bodies
- Homeland security and emergency management agencies
- Defense or military organizations
- Departments of health
- Power generation, especially nuclear power generation
- State and local emergency agencies
- State radiation control agencies



NCT Events 2022

<https://nct-events.com/>

NCT is back! After the stop imposed on us by the pandemic, we have a large calendar of events coming up in 2022. We will start in Abu Dhabi, February 7th and 8th. We will then reach almost every continent: NCT is scheduled for Brazil, Germany, Thailand, Croatia, the United States, and South Korea. [Visit our website](#) for the latest news regarding dates and locations!

Dear colleagues,

I am pleased and honoured to invite you to participate in the first edition of the Cannes International Resilience Forum (CIRF). CIRF is an international conference dedicated to crisis management and resilience, which will take place at the Palais des Festivals et des Congrès in Cannes from Sunday 23rd to Wednesday 26th, October 2022.

IsraTeam Ltd., established in Israel in 1988, has a renowned expertise in the field of emergency management and mitigation, particularly during times of war, natural disasters or terrorist attacks. Its team is comprised of highly qualified experts, including high ranking personnel in the Israel Defence Forces (IDF) and Ministry of Health.



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Regarding the prevention and management of major risks, Cannes is a pioneer city as it was certified in 2018 by the Ministry of Europe and Foreign Affairs for its expertise in “preventing terror risk during the organisation of events”. In March 2021, the City of Cannes obtained an enlargement of this labelling to “sanitary and natural risk”, as part of the Ministry program meant to highlight the expertise of local authorities.

The first edition of the Cannes International Resilience Forum will focus on building resilience strategies to face the consequences of Covid-19 pandemic as well as on sanitary crisis management.

Main issues to be discussed at the conference will be - Building the Resilience today to be ready for the next generation and will dive into such topics as:

1. "COVID-19" – LESSONS LEARNT.
2. "POST – COVID-19 ERA" Health Systems Preparedness.
3. CLIMATE CHANGE EFFECTS ON EMERGENCY PREPAREDNESS
4. The Mayor leadership
5. RADIOLOGICAL DISASTER MANAGEMENT
6. BUILDING RESILIENCE.
7. "THE CYBER WORLD" Threats and responses.
8. The Financial Challenge in a Disaster
9. The Functional Continuity in the Supply of electricity and Water
10. The Activity of First Responses
11. "THE WORLD TERRORISM" Counter terrorism and responses
12. Multidisciplinary Simulation Exercise Simulation systems to emergencies and crises events
13. TECHNOLOGICAL INNOVATION FOR BETTER RESILIENCE
14. The advance methodology to deal with MASS CASUALTY INCIDENT (MC)

Undoubtedly, the lessons learnt from COVID-19 Pandemic would be very useful for any case of mass disaster mitigation; it will be extremely crucial factor in any mitigation planning or crisis management in the future.

Your contribution to the conference will surely lead to a better understanding of the governing powers, the participants' roles, and the possibilities to be properly prepared in the future at the national and global levels.



General Abraham Bachar

Chair of the Cannes International resilience Forum

Founder and CEO of IsraTeam

Former Chief of Staff, Israeli Home Front Command and

Former Head of the Israeli National Emergency Management Agency.

CBRNe Convergence Canada 2022

11-13 April 2022,
Hilton Lac Leamy, Ottawa



<https://cbrneworld.com/events/cbrne-convergence-canada>

CBRNe World prepares to take CBRNe Convergence back to Canada! Our last event there in 2019 was a sell-out success, and we are looking forward to saying the same for 2022. The event will be a combination of national and international speakers, chosen by our conference panel composed of the leading lights in CBRN defense. Bringing together military and civilians, scientists and first responders, vendors and customers it is THE place to meet people in CBRN.

Held once again in the beautiful Lac Leamy, a short drive from the nation's capital, it is a convenient location for our conference, exhibition and demonstration - all held on-site! Over 40 exhibitors and 25 speakers will be present for our two-day conference, and pre-conference workshop, with an expected 350 delegates.

CBRNe
WORLD





March 23-24, 2022 | The Sunset Room, National Harbor, MD

<https://jointcbrn.dsigroup.org/>

The **10th Annual Joint Civil & DoD CBRN Symposium** will provide a forum for members of the DoD, Federal Government, State and Local Government, Private Industry, Academia, and other relevant CBRN stakeholders to discuss the latest updates in advancing a government wide approach to improving CBRN defense, readiness and response strategies and capabilities.

Topics to be covered at the 2022 Symposium:

- ✓ Transforming how the Nation Thinks about CBRN Defense
- ✓ Developing CBRN Defense Equipment and Medical Countermeasures to Protect the Joint Force
- ✓ Bridging the Valley between Concepts and Requirements to enhance CBRN Protection of Warfighters, First Responders and the Nation
- ✓ Managing a Coordinated and Effective Response to WMD Threats
- ✓ Providing a Scalable CBRN Response Capability with Flexibility to Operate in a Wide Variety of Environments
- ✓ Coordinating with Domestic and International Partners to Safeguard the United States against CBRN and Health Security Threats
- ✓ Delivering Advanced Medical Countermeasures to Mitigate Harmful CBRN Effects
- ✓ Countering Nuclear and Radiological Challenges Through Innovative Science, Technology, and Policy-Driven Solutions
- ✓ Manning, Training and Equipping the CBRN Response Enterprise
- ✓ Providing Rapidly Deployable Technical Experts, Specialized Equipment, and Incident Management Capabilities in Support of National CBRN Response Efforts



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BIO NEWS



Merck's antiviral COVID-19 pill approved by U.S. FDA for at-home use

Source: <https://globalnews.ca/news/8470537/mercks-covid-19-pill-approved-u-s-fda/>

Dec 23 - The U.S. Food and Drug Administration on Thursday authorized [Merck & Co's](#) antiviral pill for [COVID-19](#), after giving the go-ahead to a similar treatment but more effective treatment from [Pfizer Inc.](#) a day earlier.

Merck's drug, [molnupiravir](#), developed with Ridgeback Biotherapeutics, was shown to **reduce hospitalizations and deaths by around 30 per cent** in a clinical trial of high-risk individuals early in the course of the illness.

The U.S. Food and Drug Administration authorized Merck's drug to treat mild-to-moderate COVID-19 in adults who are at risk for severe disease, and for whom alternative COVID-19 treatments are not accessible or clinically appropriate.

Pfizer's drug, Paxlovid, was authorized on Wednesday for people aged 12 and older and has shown to be nearly 90% effective in preventing hospitalizations and deaths in patients at high risk of severe illness, according to trial data.

The Pfizer treatment's two-drug regimen may not be appropriate for some patients because it includes an older antiviral called ritonavir that is known to have interactions with some other prescription medicines.

The agency's decision on Thursday comes despite concerns about its use by some outside advisers to the FDA.



Both the Merck and Pfizer pills could be promising tools for those who are sick with COVID-19, especially in the face of the fast-spreading Omicron variant, which is now dominant in the United States. Some existing monoclonal antibody therapies given in the hospital are not as effective against Omicron.

"This drug is also incredibly easy to use," Nick Kartsonis, senior vice president of clinical research for vaccines and infectious diseases told Reuters.

"It doesn't require any second drug to boost its efficacy, and you can give it in a variety of special patient populations, including people who have significant issues with liver function or kidney function, and you don't have to worry about concomitant medications."

Merck's drug is not authorized for use in patients younger than 18 because molnupiravir may affect bone and cartilage growth, the FDA said. The pill is not recommended for use during pregnancy, the agency added.

The drug is meant to be taken twice a day – four pills each time – for five days, making a full treatment course 40 pills.

The U.S. government's contract for 10 million courses of the Pfizer drug at a price of \$530 per course compares to the deal with Merck for as many as 5 million courses of molnupiravir at a price of \$700 per course.

Paul Schaper, Merck's head of global public policy, said the company will ship hundreds of thousands of treatment within several days and million courses of treatment within several weeks in the United States.

"We have entered into agreements with the US government for slightly more than 3 million doses, 3 million courses of treatment over 2021 and 2022," Schaper told Reuters.

Merck has said molnupiravir, which helps prevent the virus from replicating, should be effective against any variant, including the new Omicron variant.

COVID-19 Drug & Vaccine Candidate Tracker

The goal of GEN's [COVID-19 Drug & Vaccine Candidate Tracker](#) resource is to provide a comprehensive collection of news, milestones and updates on more than 300 drug and vaccine candidates currently being developed for the COVID-19 pandemic. To help navigate through the potential therapeutic options for COVID-19, GEN had divided this list of candidates into four broad categories based on their developmental and select where applicable) clinical progress. **+ MORE**



FDA authorization of Merck COVID pill called "worst decision in its history"

Source: <https://newatlas.com/health-wellbeing/fda-merck-coronavirus-molnupiravir-mutation-variant-side-effect/>

Dec 23 – The US Food and Drug Administration (FDA) has issued emergency use authorization to a second oral COVID-19 treatment. Called molnupiravir the new drug is not as effective as Pfizer's recently approved COVID antiviral pill, and many experts suggest the FDA should never have authorized it in the first place as it has the potential to generate new SARS-CoV-2 variants.

Just a few months ago molnupiravir, being developed by pharma giant Merck, was being mooted as a game-changing new drug that could turn the tide of the pandemic. It was [one of the first antiviral pills](#) to directly target SARS-CoV-2, and a [preliminary Phase 3 trial announcement indicated promising efficacy](#).

But as the weeks passed molnupiravir quickly lost its luster. Pfizer's novel antiviral pill raced to the head of the pack with [impressive clinical trial data](#), while a final analysis of molnupiravir's Phase 3 data [revealed a stark drop in efficacy](#), down to levels bordering on insignificant.

While Pfizer's final trial analysis [reported up to 90 percent protection](#) from COVID-19 hospitalization or death, molnupiravir's efficacy strangely dropped from interim analysis to final reporting. Initially Merck announced [molnupiravir delivered around 50 percent](#) protection from COVID-19 hospitalization or death but a final trial analysis weeks later revealed that efficacy had [dropped to barely 30 percent](#).

Alongside the disappointing efficacy data, questions began to arise over the drug's safety profile, on both individual and societal levels.

Molnupiravir is a very different drug to [Pfizer's COVID antiviral Paxlovid](#). Pfizer's drug is specifically targeted at SARS-CoV-2, working to inhibit the activity of a key enzyme the virus needs to replicate. Molnupiravir, on the other hand, targets RNA viruses in general. It was originally developed in 2018 as a tool to treat influenza, and lab work revealed it potentially worked against other RNA viruses including Ebola and the first SARS coronavirus.

It works by generating transcription errors as a virus replicates. This essentially produces a massive volume of downstream mutations in a virus as it replicates and this quickly leads to major dysfunction in the viral copies.

While there were no significant adverse effects reported in molnupiravir's Phase 3 clinical trial, its particular mode of action has concerned some experts who argue this mutagenic mechanism could theoretically cause problems in some fast-growing human cells. As an FDA advisory panel [debated the safety and efficacy](#) of molnupiravir in late November, the main safety issue they raised was whether the drug should be offered to someone who is pregnant.

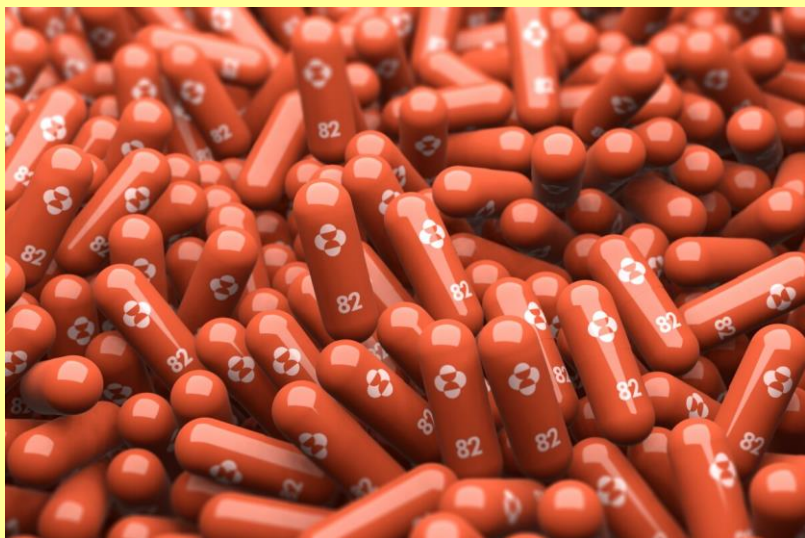
The independent advisory panel ultimately voted to recommend approval of molnupiravir, but the result was far from unanimous. A divisive 13-10 vote led a Merck representative at the meeting to affirm the company would not recommend pregnant individuals take the drug. However, the representative also indicated these decisions should be made in conversation between patients and their individual doctors.

"We would not recommend its use in pregnancy and we would also recommend contraception in women of childbearing age," the Merck representative was [reported as saying](#). "But I think the idea here is that ultimately the physician is the best position to determine the relative risk benefit for their patients."

In the FDA's statement announcing the emergency use authorization of molnupiravir it accepts the drug may cause fetal harm but stopped short of completely disallowing pregnant individuals from being prescribed the drug.

"Molnupiravir is only authorized to be prescribed to a pregnant individual after the prescribing healthcare provider has determined that the benefits of being treated with molnupiravir would outweigh the risks for that individual patient and after the prescribing health care provider has communicated the known and potential benefits and the potential risks of using molnupiravir during pregnancy to the pregnant individual," the FDA statement notes.

Besides questions of efficacy or individual safety, some experts have also questioned whether molnupiravir's mutagenic mode of action could accelerate the chances of new



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variants emerging. A drug that intentionally forces a virus to mutate could, in theory, generate mutations that don't kill the virus but help it become more virulent.

The concern is entirely theoretical at this stage, but it is a problem. James Hildreth, a HIV researcher from Meharry Medical College, was one of the most vocal on the FDA's advisory panel to express this concern. He voted against recommending molnupiravir and indicated Merck has not done enough to clearly quantify this potential risk.

"Even if the probability is very low, 1 in 10,000 or 100 000, that this drug would induce an escape mutant which the vaccines we have do not cover, that would be catastrophic for the whole world," [Hildreth said](#).

Hildreth more recently said he was baffled at the FDA's ultimate approval of the drug. [On Twitter Hildreth questioned](#) why approval would be granted to a drug with only 30 percent efficacy, known birth defect risks and a potential to drive viral mutation, when there is another COVID-19 pill now available that works better and has none of these risks.

Michael Lin, a neurobiologist from Stanford University, was even more frank in his criticism of the FDA's molnupiravir authorization, calling it "the worst decision in its history." Lin argues there has never been a drug like molnupiravir authorized for widespread use and there are more effective safer alternatives already developed.

"The worst case scenario that we haven't ruled out is MOV [molnupiravir] will lead to years of new variants, with people desperately taking it to fight the new variants that it spawns, creating a vicious positive feedback loop while causing countless suffering and deaths," [Lin writes on Twitter](#). "Isn't that grim enough to delay this decision until Merck convincingly tells us how many functional mutants are created and transmitted per every 1000



Michael Lin, PhD-MD
@michaelzlin

🙄 Dismayed that FDA has now made the worst decision in its history. We cannot give up on raising awareness of the dangers of molnupiravir, and its poor efficacy. We must limit its use while we work on a worldwide campaign to reverse this.

[fda.gov/news-events/pr...](https://www.fda.gov/news-events/pr...)

The primary data supporting this EUA for molnupiravir are from MOVE-OUT, a randomized, double-blind, placebo-controlled clinical trial studying molnupiravir for the treatment of non-hospitalized patients with mild to moderate COVID-19 at high risk for progression to severe COVID-19 and/or hospitalization. Patients were adults 18 years of age and older with a prespecified chronic medical condition or at increased risk of SARS-CoV-2 infection for other reasons who had not received a COVID-19 vaccine. The main outcome measured in the [trial](#) was the percentage of people who were hospitalized or died due to any cause during 29 days of follow-up. Of the 709 people who received molnupiravir, 6.8% were hospitalized or died within this time period compared to 9.7% of the 699 people who received a placebo. Of the people who received molnupiravir one died during the follow-up period compared to nine people who received placebo. Side effects observed in the trial included diarrhea, nausea and dizziness. The safety and effectiveness of molnupiravir for the treatment of COVID-19 continue to be evaluated.

4:53 PM · Dec 23, 2021



patients to their family members for example?"

The FDA indicates it has weighed up the risks versus benefits of molnupiravir and deemed it worthwhile considering the current state of the COVID-19 pandemic. It makes clear this is not a full approval of molnupiravir but rather a finite emergency use authorization with limits on its use to adults over the age of 18 at high risk of severe COVID-19 with no access to alternative treatment.

"Based on the FDA's review of the totality of the scientific evidence available, the agency has determined that it is reasonable to believe that molnupiravir may be effective for use as treatment of mild-to-moderate COVID-19 in certain adults when alternative COVID-19 treatment options authorized by the FDA are not accessible or clinically appropriate," the FDA's statement reads. "The agency has also determined that the known and potential benefits of molnupiravir, when used consistent with the terms and conditions of the authorization, outweigh the known and potential risks of the product."

New Studies Suggest Omicron Infections Are Less Severe Than Delta Ones

Source: <https://www.medscape.com/viewarticle/965448>

Dec 22 – People who get COVID-19 infections caused by the Omicron variant are less likely to need hospital care, compared with those infected by the Delta variant, according to two large new studies from the U.K. and South Africa.

The findings, which were released ahead of peer review, add to previous glimmers of evidence suggesting that Omicron — while extremely contagious — may result in less severe symptoms than its predecessors.



"This is helping us quantify how much less severe Omicron is than Delta, and it appears to be between 40 to 75% reduced risk of hospitalizations, adjusted for many factors, which is very good," said Eric Topol, MD, the editor-in-chief of Medscape and a cardiologist at Scripps Research Translational Institute in La Jolla, CA.

1. The [first analysis](#), which was done by the World Health Organization Collaborating Centre for Infectious Disease Modelling and Imperial College London, found that overall, people infected by Omicron had about a 20% reduced risk of needing any hospital care for their infections and a 40% lower risk of an overnight hospital stay, compared to those infected with Delta.

Meanwhile, people who were re-infected — meaning they caught Omicron after recovering from a previous COVID-19 infection — had a 50%-60% lower risk of needing hospital care, likely reflecting the benefits of having some prior immunity against the same family of viruses.

The study included everyone with polymerase chain reaction-confirmed COVID-19 in the U.K. during the first 2 weeks of December — roughly 56,000 Omicron cases and 269,000 Delta infections.

2. The [second study](#), from researchers at the National Institute for Communicable Diseases in South Africa, included more than 29,000 COVID-19 cases that had lab results highly suggestive of Omicron infections. Compared to people infected with the Delta variant, those with presumed Omicron infections were about 70% less likely to have severe disease.

While the news is hopeful for people on a population level, health care systems may still be stressed, the study authors warned.

"Given the high transmissibility of the Omicron virus, there remains the potential for health services to face increasing demand if Omicron cases continue to grow at the rate that has been seen in recent weeks," said study author Neil Ferguson, PhD, who studies how infectious diseases spread at Imperial College London.

The study authors say their findings are specific to the U.K. and South Africa, where substantial portions of the population have some immune protection from past infection. In other words, they may not apply to countries where fewer people have been vaccinated or recovered from a bout with COVID-19.

Top Experts Release Handbook for Ending Catastrophic Biological Risks

By Francesco Femia and Caitlin Werrell

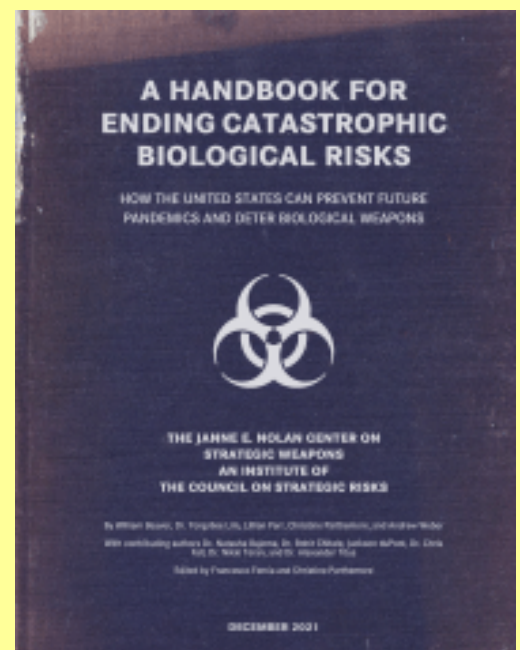
December 2021

Source: <https://councilonstrategicrisks.org/2021/12/20/release-top-experts-release-handbook-for-ending-catastrophic-biological-risks/>

Dec 20 – In a time of daily confusion in the public discourse on the current pandemic, the Janne E. Nolan Center on Strategic Weapons, an institute of the Council on Strategic Risks (CSR), is releasing [A Handbook For Ending Catastrophic Biological Risks: How The United States Can Prevent Future Pandemics and Deter Biological Weapons](#). Authored by some of the nation's top experts in combating biological risks, this unique guide presents a "clear, viable and improved path" toward addressing them. It calls for a U.S. government surge of investments in addressing biological threats of all origins, with detailed recommendations for improving U.S. government programs and cooperative partnerships.

The *Handbook for Ending Catastrophic Biological Risks* starts with a bold, moonshot-level vision that can drive transformative changes—not the incremental improvements the U.S. government has often pursued in the past. That vision has two critical parts:

1. The *Handbook* promotes an ideal yet achievable vision on naturally-arising biological risks: **preventing future pandemics** – moving beyond simply enduring them and accepting the lives lost and damage to health security, national security, and the economy that pandemics can cause.
2. The *Handbook* also details a complementary vision regarding deliberate biological risks (one which will require far more significant shifts in the nation's goals and policies), asserting that: **The United States should lead the world in making biological weapons the first category of weapons of mass destruction to be effectively eliminated or rendered obsolete**. To advance this vision, the report recommends that national security leaders adopt a **deterrence by denial** strategy that focuses on denying an attacker success in their likely aims regarding biological weapons, such



as causing mass casualties, mass confusion, and erosion of operational capabilities.

As the authors describe, efforts to pursue these goals will often complement and accelerate one another. Moreover, pursuing this vision will help meet the pressing need to reduce the risks of biological accidents.

In order to align investments to implement the vision outlined in this report, the authors propose that the U.S. federal government adopt a resourcing plan that they call **10+10 over 10**: investments of \$10 billion per year for ten years for deterring and addressing biological weapons threats, plus \$10 billion per year for ten years for global health security and direct pandemic prevention initiatives. The *Handbook* provides dozens of specific recommendations to advance the nation toward the two-part vision outlined above. This includes:

The U.S. Department of Defense should:

- Develop & implement a “deterrence by denial” strategy regarding biological weapons threats, and, as such, expand missions of key programs to include deterrence
- Implement an annual exercise program to enhance early warning & rapid response capabilities
- Expand the Chemical and Biological Defense Program significantly
- Use the Biological Threat Reduction program to deploy new technologies for pathogen early warning
- Broaden the mission of USAMRIID & grant the institute more independence through restructuring

The Department of Health and Human Services should:

- Re-envision the Strategic National Stockpile as an asset for a healthy bio-industrial base and rapid response to crises
- Expand programs that have shown incredible value during COVID-19, such as RADx
- Fund research with high impact potential, especially platform technologies & pathogen-agnostic tools
- Provide stronger and clearer guidance on gain-of-function research

The Department of Energy should:

- Make the National Laboratories leaders in engineering biology for the nation
- Create a Biosecurity Reserve Corps in which non-governmental experts sign on for a period of service & can be easily called on in crises
- Rededicate the National Nuclear Security Administration to the biosecurity mission

The *Handbook* provides additional recommendations for these and other agencies, including the Departments of State and Homeland Security. It also makes several suggestions that cut across many U.S. government agencies, such as creating the role of Chief Biotechnology Officers in all key agencies and ensuring a strong medical countermeasures manufacturing base supported by various government agencies.

The lead authors of the *Handbook* stress that it offers an ambitious but achievable roadmap for ending catastrophic biological risks. “We can’t end catastrophic biological risks alone,” notes **CSR’s Chief Executive Officer and former senior defense official Christine Parthemore**. “Robust international cooperation is crucial. To prevent future pandemics and effectively eliminate biological weapons, the United States should pursue a surge in diplomacy, global technology sharing, and threat reduction cooperation as a key component in future efforts to mitigate catastrophic biological risks and deter any actors who may consider biological weapons activities.”

“Some of the nation’s top advances against biological threats have come from collaboration across multiple agencies, including the Department of Health and Human Services and the Department of Defense,” says **Honorable Andy Weber, CSR Senior Fellow and former Assistant Secretary for Nuclear, Chemical, and Biological Defense Programs**. “To prevent future pandemics and render biological weapons obsolete, the nation must move to an even better-coordinated, all hands on deck approach with long-term commitments by these and other key departments and agencies.”

CSR Fellow Dr. Yong-Bee Lim argues, “As outlined in the *Handbook*, the ambition of the U.S. government should be big – ending catastrophic biological risks. A key component of that is to develop a strong bio-industrial base that can leverage new emerging tech and life sciences capabilities to do everything from developing early warning systems and strong diagnostic tools to the rapid development and deployment of safe and effective rapid medical countermeasures for future biological events.”

“Throughout the COVID-19 pandemic, the United States has made great progress in developing capacity for testing, vaccine development, and pathogen early warning,” notes **CSR Fellow Lillian Parr**. She adds, “As we eventually move beyond this pandemic, the United States needs to ensure that this progress is built on and serves as a new baseline, helping us prevent future biological threats and making us better prepared.”

CSR Fellow Bill Beaver argues, “The United States needs tools that can be used against any biological threat, whether known or unknown. The versatility of these tools needs to match the creativity of evolution and the ingenuity of malicious actors. This *Handbook* charts a path forward for that.”



●► Read the report [here](#).

Francesco “Frank” Femia is Co-Founder and Research Director of the [Council on Strategic Risks \(CSR\)](#) and the [Center for Climate and Security](#), as well as Co-Founder and Senior Advisor at the [International Military Council on Climate and Security \(IMCCS\)](#). He oversees all of CSR’s research and analysis efforts, including at the Center for Climate and Security, the Janne E. Nolan Center on Strategic Weapons and the Converging Risks Lab. He has published extensively on the security implications of climate change, water stress and natural resource mismanagement in Syria and North Africa, including in the seminal report *The Arab Spring and Climate Change*, the *SAIS Review of International Affairs*, and the *Brown Journal of World Affairs*. He is also a regular commentator on how national security, defense and intelligence communities address climate change-related threats, appearing on a range of television programs and the feature film documentary, *Age of Consequences*.

Caitlin Werrell is Co-Founder and Senior Advisor at the [Council on Strategic Risks \(CSR\)](#) and the [Center for Climate and Security \(CCS\)](#), as well as Co-Founder and Senior Advisor at the [International Military Council on Climate and Security \(IMCCS\)](#). She has published extensively on the security implications of climate change, water stress and natural resource mismanagement in Syria and North Africa, including in the seminal report *The Arab Spring and Climate Change*, the *SAIS Review of International Affairs*, and the *Brown Journal of World Affairs*, as well as on the potential for new technologies like additive manufacturing for addressing climate risks. Caitlin is a regular commentator on climate and international security issues, is a lead author of the “Responsibility to Prepare” framework, and has appeared before the UN Security Council. She is frequently-cited and interviewed issues in both mainstream and niche media outlets, including *the New York Times*, *the Washington Post*, *USA Today*, *CNN*, *the New Republic*, *the National Journal*, *the Atlantic*, *the Bulletin of Atomic Scientists* and *Defense News*, among others.

Ad5-nCoV COVID-19 Vaccine is Safe and Efficacious

Source: <https://www.contagionlive.com/view/ad5-ncov-covid-19-vaccine-is-safe-and-efficacious>

Dec 24 – A single dose of the Ad5-nCoV (**Convidecia**) COVID-19 vaccine is 57.5% effective against symptomatic COVID-19 and 91.7% effective against severe disease beginning 28 days postvaccination, a phase 3 trial demonstrated. **The vaccine was developed in China** and the results were published in [The Lancet](#).

“Our study suggests that one dose of Ad5-nCoV is highly effective against severe disease— potentially helping to ease the tremendous strain COVID-19 has put on health systems around the world by keeping people from becoming seriously ill or requiring hospitalization,” study lead author Scott Halperin, MD, Dalhousie University, Canada, said. “In addition, because the vaccine is effective against severe disease after one injection, it could help provide improved access to vaccination, especially in low- and middle-income



countries, where it can be more challenging to reach people with a two-dose primary vaccination course.”

The study investigators randomized **36,727 participants** to receive either the investigational vaccine or placebo across 66 enrolment sites including Argentina, Chile, Mexico, Pakistan, and Russia. The researchers conducted an efficacy analysis once the protocol threshold of 150 laboratory-confirmed (RT-PCR positive) symptomatic COVID-19 at 28 days post-injection was reached on January 15, 2021. The investigators pointed out there were 21,250 trial participants in the primary efficacy cohort, and they reported 105 positive COVID-19 cases out of 10,590 participants in the placebo group and 45 positive COVID-19 cases out of 10,660 participants in the vaccine group, resulting in an efficacy of 57.5% at 28 days postvaccination.



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In looking at efficacy against severe disease, they reported it was 91.7% effective at 28 days post-vaccination. Severe disease was defined as a minimum of 1 of clinical signs at rest indicative of severe systemic illness, respiratory failure, evidence of shock, significant acute renal, hepatic, or neurologic dysfunction, or admission to an ICU. There were no COVID-19-related deaths among vaccine recipients.

In terms of safety, **no vaccine-related serious adverse events were reported**, and most adverse events, including injection-site pain, headache, drowsiness, and generalized muscle aches, were mild to moderate.

The study's authors caution that the efficacy analysis was conducted in samples collected on or before January 15, 2021, and **do not include recent variants of concern such as the Delta and Omicron variants**.

"More research is needed to determine Ad5-nCoV's effectiveness and durability over a longer period of time as well as its effectiveness against variants of concern, including omicron, which is rapidly overtaking delta as the dominant strain worldwide," says Joanne Langley, MD, Dalhousie University, Canada.

The authors also point out the study is still ongoing,

EDITOR'S COMMENT: The (injection) photo accompanying this article is very strange...

This Indian robot is helping Covid patients deal with their loneliness

Source: <https://www.livemint.com/technology/tech-news/this-indian-robot-is-helping-covid-patients-deal-with-their-loneliness-11600252893686.html>



A patient suffering from the coronavirus disease (COVID-19) speaks to his family members, using a robot named 'Mitra' at the Intensive Care Unit (ICU) of the Yatharth Super Speciality Hospital in Noida, on the outskirts of New Delhi, India, September 15, 2020. Picture taken September 15, 2020. REUTERS/Adnan Abidi (REUTERS) *1 min read* . Updated: 16 Sep 2020, 04:20 PM IST Edited By Danny Cyril D Cruze

Mitra is mainly used by patients who are not able to communicate using their phones and is also being used for remote consultations with specialists to reduce their risk of becoming infected

As Covid healthcare workers across the globe are facing a serious threat of getting infected. An Indian hospital is taking the help of a [robot](#) to mitigate the risks faced by their staff and specialists. A robot called Mitra has been deployed as a customer-service robot to [patrol](#) the hospital wards. The robot also helps coronavirus patients connect to friends and relatives.



Mitra is mainly used by patients who are not able to communicate using their phones and is also being used for remote consultations with specialists to reduce their risk of becoming infected.

At the Global Entrepreneur Summit in Hyderabad in the year 2017, Mitra shot to fame after being introduced to US President Donald Trump's daughter Ivanka Trump and Prime Minister Modi.



Robot named 'Mitra' (REUTERS)

The robot has been developed by a Bengaluru-based start-up called Invento Robotics. According to the director of the company that runs the hospital, the robot cost them ₹10 lakh according to Yatharth Tyagi, director of the company that runs the hospital.

The robot is equipped with facial recognition technology to help it recall people it has previously interacted with. A tablet attached to Mitra's chest allows patients to see loved ones, as well as medical staff unable to access the wards.

"It takes a lot of time to recover, and during this time, when patients need their families the most, they are unable to visit," said Dr Arun Lakhanpal, a doctor at the Yatharth Super Speciality Hospital in Noida Extension, a satellite city of the capital New Delhi.

"We mainly discuss my health," said Makhantal Qazi, a retired government bureaucrat and coronavirus patient who has used the robot to communicate with relatives. "I came here on Friday and now I have started feeling better. I am feeling very happy now."

"Normally it is very difficult for a psychologist or a dietician to see a Covid patient," Tyagi said, adding the robot is "very useful".

India's novel coronavirus cases surged past 5 million on Wednesday, only the second country in the world to cross the grim milestone after the United States.





Abu Dhabi teams up with Pfizer to train health workers

Source: <https://www.thenationalnews.com/uae/2021/12/23/abu-dhabi-teams-up-with-pfizer-to-train-health-workers/>

Dec 23 – [Abu Dhabi](#)'s Department of Health has teamed up with Pfizer to bolster expertise in clinical trials and medical processes. The biopharmaceutical company, which jointly developed a [Covid-19](#) vaccine, will train up to 150 clinical researchers as part of the agreement, it was announced on Thursday.

Under the agreement, [Pfizer](#) will support the department in establishing a training curriculum in advancing the early phases of clinical trials and drug development.

This will help to develop clinical trials to conduct and enhance research efforts and medical processes in the emirate.

Participants will also receive training in technologies and artificial intelligence tools that accelerate the drug discovery process.

The DoH aims to have 500 qualified clinical researchers by 2025 through various collaborations and initiatives.



The deal was signed by Dr Jamal Al Kaabi, undersecretary of the Department of Health, and Lindsey Dietschi of Pfizer. Photo: Wam

"We are excited for our collaboration with Pfizer, which focuses on conducting safe and efficient early-stage clinical trials based on international guidelines and global best practices," said Dr Jamal Al Kaabi, undersecretary of the department.

The [UAE](#) has one of the world's most successful Covid-19 vaccination drives, with 100 per cent of eligible people having received their first dose.

As of November, more than 90 per cent had received both doses.

Since the pandemic started, the Emirates was swift in making vaccines available to the public, as well as partaking in vaccine trials.

Last month, the DoH announced the procurement of the AZD7442 drug made by AstraZeneca, a new [antibody drug](#) to fight infections in high-risk patients.



“DoH is committed to positioning Abu Dhabi as an incubator for innovation in the field of life sciences and as a leading healthcare destination in the world,” Dr Al Kaabi said. “We do this by providing a legislative environment that attracts and motivates research and innovation in health care, enhancing the means of co-operation that join Abu Dhabi with global partners, and continuing to roll out promising clinical trials and research projects.”

Pfizer's Lindsey Dietschi said Abu Dhabi has established a robust and sustainable healthcare system that fosters innovation in research and development. “We believe in the vision of Abu Dhabi that aims to deliver more medical breakthroughs and ensure healthier communities,” she said.

EDITOR'S COMMENT: The interesting things with the Emirates is that they are ruled by rich leaders bearing out-of-the-box brains. What an excellent innovative deal that will boost national research leading to interesting healthcare products!

New nose mask reduces infection risk during mealtimes

Source: <http://global.chinadaily.com.cn/a/202003/05/WS5e609757a31012821727c976.html>

Why not?



A modified mask which covers only the nose has recently been used by medical workers at the frontlines of the novel coronavirus battle in Hubei province.

The prototype of the mask, which is aimed at **reducing the risk of contracting the virus while medical personnel have their meals**, was developed by Jiang Jinjun, a doctor of pneumology department of Zhongshan Hospital in Shanghai.

“Doctors and nurses work long hours in hospital, and we have to remove our mask to eat or drink. Although the time required to do so is short, the risk of getting infected is high,” said Jiang, who was the leader of a team sent to Wuhan Jinyintan Hospital on Jan 24, during a previous interview with China News Service.

To design the mask, Jiang formed a task force of four people. They later applied for a patent on Feb 10.

Jiang has said that he hopes the new mask can be mass manufactured to aid medical professionals. Textile manufacturer Luolai Group and medical equipment producer Shanghai Longhong have since answered the call and started producing the new mask. More than 20,000 pieces of the mask have been delivered to Wuhan as of the end of February.

Fact Check-List of ‘108 FIFA soccer players’ is not proof of a common link between COVID-19 vaccines and athlete deaths

By [Reuters Fact Check](#)

Source: <https://www.reuters.com/article/factcheck-coronavirus-sport-idUSL1N2T81NY>

Dec 23 – Widespread claims that 108 FIFA soccer players have died in a six-month period in 2021 are not based in fact – nor are suggestions that the alleged deaths are linked to COVID-19 vaccines.

Thousands of social media users have engaged with posts across Facebook, Twitter and Bitchute that make the specific claim about the number of deaths in the six months up to November.

“One hundred and eight young and healthy players in six months!” reads one screenshot shared nearly 700 times ([here](#)).

In a video on Bitchute, one man elaborates: “Let’s just pretend that they didn’t take part in a pharmaceutical trial with no long-term data. Let’s pretend it’s not happening. All so we can say those so-called anti-vaxxers were wrong” ([here](#)).

Other examples of the claims can be found [here](#), [here](#), [here](#), [here](#), [here](#), [here](#), [here](#), [here](#) and [here](#) and have been spread by verified Twitter users with significant followings [here](#) and [here](#).

However, the cited figure does not relate exclusively to FIFA-registered soccer players.

Reuters has also found multiple factual inaccuracies in linking the alleged 108 deaths to COVID-19 vaccines.



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The 108 figure initially surfaced in a Hebrew-language article on Real Time News, a website which describes itself as a media organization with “a deep sense of mission and a desire to bring about a fundamental change in public consciousness” (bit.ly/3pvnrm).

In the article itself, published on Nov. 13 ([here](#)), the writer claims 108 “professional athletes, coaches, college and youth athletes” have died since December 2020.

Reuters looked into the list of 108 names provided by Real Time News (bit.ly/32part7, page 6). It appears to be compiled using news reports of the deaths of 108 people, aged 12 – 64, worldwide.

Among the sports attributed to the names are American football, archery, athletics, badminton, ballet, baseball, basketball, body building, boxing, canoeing, cricket, cycling, field hockey, footvolley, handball, ice hockey, rugby (league and union), soccer, table tennis, tennis, volleyball and weightlifting.

A mixture of sporting levels is included which range from professional, semi-professional, amateur, retired, youth (under 15 years old), high school and college.

There are also four soccer coaches listed among the names, as well as one body building coach, one cricket teacher, one athletics trainer, a golf caddie, a marching band member and a doctor who died while out jogging.

VACCINE-RELATED DEATHS?

In the Real Time News article, the writer says the majority of the 108 deaths were “heart-related” and highlights that they occurred since the global rollout of COVID-19 vaccines.



The piece adds: “This large amount speaks for itself and tells a very different story from the mantra repeated by the media, according to which, the athletes who refuse to get vaccinated are just a handful of ‘vaccine opponents’”.

While it is true that many of the deaths were linked in news reports to heart issues, there is no current evidence that they prove a common link between COVID-19 vaccines and fatality.

In 53 cases, a cause of death was reported. These include heart attacks brought on by previously known or unknown heart conditions, while others included prior COVID-19 infections, a cerebral aneurysm, a traumatic brain injury, a motorbike accident, one



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suicide, two suspected suicides, heatstroke, and a rare congenital condition – the anomalous origin of the coronary artery. Moreover, one case was reported in August 2019, prior to the pandemic, and another had a family confirm their relative was not vaccinated.

Some of the listed deaths also occurred prior to vaccine rollouts for respective age groups in certain countries.

Three cases did involve speculation of a vaccine link – but this has not been confirmed.

Reuters has previously addressed claims about vaccine-related cardiac arrest and myocarditis (heart inflammation) in soccer players ([here](#) and [here](#)).

Dr June Raine, chief executive of Britain's Medicines and Healthcare products Regulatory Agency (MHRA), said at the time that myocarditis and pericarditis remained a "very rare potential risk" with Pfizer and Moderna vaccines, but that sporting exercise was not thought to be a contributing risk.

Reuters presented the claims to FIFA, world soccer's governing body, which reaffirmed its statement to Reuters in November: "FIFA is not aware of a rise in episodes of cardiac arrests as indicated in your email and no cases have been flagged in relation to individuals receiving a COVID vaccine.

"Generally speaking, FIFA is in regular contact with leading research centres and experts to do research on a variety of medical topics."

Reuters also reached out to World Athletics, the Rugby Football League (RFL), the National Collegiate Athletic Association (NCAA) – which regulates student athletes in more than a thousand North American institutions and conferences – the International Handball Federation (IHF), the International Basketball Federation (FIBA), International Rugby League (IRL), the National Rugby League (NRL) of Australia, the International Cricket Council (ICC), World Rugby and the International Weightlifting Federation (IWF) for comment.

A spokesperson for World Athletics said via email: "World Athletics has seen no evidence that supports claims of an increase in the death rate of athletes in the last two years." For England's national governing body for rugby league, the Rugby Football League, another spokesperson added: "There are no indications at all from our playing population that any of the COVID-19 vaccines have had any significant adverse effects on player health or welfare, let alone any suggestion there has been any link to deaths of players. "The RFL continues to encourage players to vaccinate against COVID-19 for specific sporting reasons, but also as part of the national vaccination effort and public health narrative." The National Rugby League (NRL) of Australia also said: "The NRL has not had any deaths related to COVID or COVID vaccines." Cardiac Risk in the Young (CRY), a British charity that funds medical research and supports families of young people affected by heart conditions, told Reuters: "It's important to understand that young sudden cardiac death (in both sportspeople and the general population) is tragically not a new phenomenon."

It pointed Reuters toward data published in 2008, which showed 12 "apparently fit and healthy" young people (aged 35 and under) die in the United Kingdom every week from previously undiagnosed heart conditions (www.c-r-y.org.uk/statistics/ and [here](#)).

VERDICT

No evidence. Claims that 108 FIFA soccer players died in 2021 are based on a problematic list of deaths in an Israeli news article. The list does not prove a common link between the deaths of athletes and COVID-19 vaccines.

This article was produced by the Reuters Fact Check team.

EDITOR'S COMMENT: OK, let us assume that these deaths are not linked with vaccination. What if they are linked and are caused by an unknown pathway that if identified it might save the lives of ordinary people. It is very easy to deny things that we do not know. And this is the case with molecular vaccines and their mode of action. In that respect, it is wiser to say "we do not know" instead of "no" that might embarrass us shortly. **UPDATE** (Dec 26): **375 cardiac arrests in athletes | 215 deaths**

Pfizer Covid pills may be risky with other medications

Source: <https://news.yahoo.com/pfizer-covid-pills-may-risky-093036174.html>

Dec 26 – As the omicron surge pummels a pandemic-weary nation, the first [antiviral pills for Covid-19](#) promise desperately needed protection for people at risk of severe disease. However, many people prescribed Pfizer's or Merck's new medications will require careful monitoring by doctors and pharmacists, and the antivirals may not be safe for everyone, experts caution.

The Food and Drug Administration authorized [Pfizer's Paxlovid](#) for mild to moderate Covid in people as young as 12 who have underlying conditions that raise the risk of hospitalization



and death from the coronavirus, such as heart disease or diabetes. However, one of the two drugs in the antiviral cocktail could cause severe or life-threatening interactions with widely used medications, including **statins, blood thinners and some antidepressants**. And the FDA does not recommend Paxlovid for people with severe kidney or liver disease. Because of experts' concerns about the potential side effects of [Merck's molnupiravir](#), the FDA has restricted its use to adults and only in scenarios in which other authorized treatments, including monoclonal antibodies, are inaccessible or are not "clinically appropriate."



Paxlovid, Pfizer's Covid-19 pill, is manufactured in Ascoli, Italy. (Pfizer via Reuters)

The Paxlovid cocktail consists of two tablets of the antiviral nirmatrelvir and one tablet of ritonavir, a drug that has long been used as what is known as a boosting agent in HIV regimens. Ritonavir suppresses a key liver enzyme called CYP3A, which metabolizes many medications, including nirmatrelvir. In the case of Paxlovid treatment, ritonavir slows the body's breakdown of the active antiviral and helps it remain at a therapeutic level for longer.

The boosting effect was likely to have been crucial in driving [Paxlovid's high effectiveness](#) in clinical trials.

When Paxlovid is paired with other medications that are also metabolized by the CYP3A enzyme, the chief worry is that the ritonavir component may boost the co-administered drugs to toxic levels.

Complicating matters, the drugs that pose interaction risks are widely prescribed to people at the greatest risk from Covid because of other health conditions.

The medications include, but are not limited to: blood thinners; anti-seizure medications; drugs for irregular heart rhythms, high blood pressure and high cholesterol; antidepressants and anti-anxiety medications; immunosuppressants; steroids (including inhalers); HIV treatments; and erectile dysfunction medications.

"Some of these potential interactions are not trivial, and some pairings have to be avoided altogether," said Peter Anderson, a professor of pharmaceutical sciences at the University of Colorado Anschutz Medical Campus. "Some are probably easily managed. But some we're going to have to be very careful about."

In its [fact sheet about Paxlovid](#), the FDA has published a detailed list of medications that may interact harmfully with ritonavir, including those that should not be paired with the Covid antivirals.

However, pharmacists stress that many of the drug interactions are manageable and that they should not preclude most people from taking Paxlovid.

"Pharmacists are highly trained experts in medication safety and monitoring and are an excellent source of information and advice about interactions between medications and also supplements and herbal products," said Emily Zadvorny, a clinical pharmacist who is the executive director of the Colorado Pharmacists Society. "They will help determine if a significant interaction exists and devise solutions to mitigate the interaction if possible."

'A breakthrough drug'

The good news is that health care providers have experience navigating ritonavir's use among people with HIV — a group that often takes medications for other health conditions, in addition to antiretroviral therapy.

Dr. William Werbel, an assistant professor of medicine at Johns Hopkins University who specializes in transplant infectious diseases, advised people at high risk of Covid-19 complications to talk to their health care providers, as well as a savvy pharmacist, about changes they could make to their drug regimens should they need Paxlovid — even before they become infected with the virus.

Anyone seeking Paxlovid, which must be prescribed within five days of the first symptoms, should be sure to let their prescribers and pharmacists know the complete lists of other medications and over-the-counter supplements they are taking, Anderson said.

Some medications, such as particular statins, are most likely safe to stop taking during treatment with the Covid pills, Anderson said. For example, it might be better to stay on certain blood thinners but to lower the doses. Some heart rhythm drugs cannot be taken with Paxlovid.



Conversely, some anti-seizure medications can boost liver enzymes' metabolic action and thus lower the body's Paxlovid levels, as can the herbal supplement St. John's Wort. The FDA warned that they should not be combined with Paxlovid.

Because the Paxlovid treatment is brief — 30 pills, taken as three pills twice a day for five days — experts are hopeful that the risk of adverse interactions with other medications is low.


“Five days of interactions is not a big deal for the majority of drugs,” said Jason Gallagher, a clinical pharmacy specialist in infectious diseases at Temple University Hospital in Philadelphia.

If a drug's potential interaction with Paxlovid poses too much of a risk, Anderson said, a safe and effective alternative Covid-19 therapy would be [GlaxoSmithKline's sotrovimab](#) — the sole authorized monoclonal antibody treatment that research indicates reliably neutralizes the omicron variant of the virus. Otherwise, the antiviral molnupiravir is an option, albeit one with a much lower efficacy than either Paxlovid or sotrovimab.

Even with the concerns about taking Paxlovid with other prescription medications, experts are excited about the drug's potential.

“Paxlovid is a breakthrough drug,” Anderson said. “This could make a real difference in the pandemic by making an effective Covid treatment available to many people.”


Transportation Research Interdisciplinary Perspectives 9 (2021) 100328



Contents lists available at ScienceDirect

Transportation Research Interdisciplinary Perspectives

journal homepage: www.elsevier.com/locate/trip



Cruising through a pandemic: The impact of COVID-19 on intentions to cruise

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ARTICLE INFO

Keywords:
Cruise ship
COVID-19
Risk
Health
Travel intentions

ABSTRACT

The global coronavirus pandemic has devastated the cruise sector with widespread disruption and cancellations affecting millions of cruise passengers. The cruise industry was negatively affected due to the enclave and confined environment onboard, the high infection rates among both crew and passengers, and widespread negative media coverage. This study explores the impact of COVID-19 on willingness to cruise and attitudes towards cruising for both cruisers and non-cruisers living in Australia and the United Kingdom. Data analysis of respondents' comments was undertaken using both Leximancer text analytic software and manual content analysis. Findings indicate country of residence has a significant influence on risk perceptions for a cruise holiday and affects future intentions to cruise. Specific impacts for the cruise industry are discussed and recommendations proposed for policy and practice.



●► Read also: Why [cruise ships](#) are setting sail again as COVID-19 rages?

Must Read

Do you have symptoms of the flu or COVID-19? Here is how you can tell the difference.

Source: <https://news.yahoo.com/symptoms-flu-covid-19-tell-100013651.html>

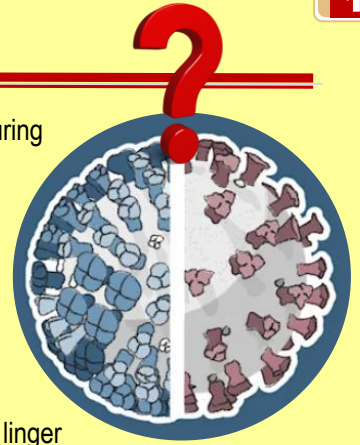
Dec 26 – Due to overlapping symptoms between influenza and COVID-19, physicians and health experts are urging everyone six months and older to get vaccinated for the flu this year. One infection can make you more susceptible to others by weakening your immune system.

The flu vaccine reduces the severity and risk of serious complications, according to the Mayo Clinic. But it will not protect you from COVID-19.

Many of the steps recommended to prevent the spread of COVID-19 – such as mask-wearing, hand-washing, and physical distancing – also help prevent the spread of seasonal



flu. The Centers for Disease Control and Prevention reported that the number of hospitalizations during the last flu season was the [lowest since 2005](#). The flu and COVID-19 share several common symptoms. Here's a look at how to differentiate the two viruses:



How are they transmitted?

According to World Health Organization (WHO), [COVID-19 and influenza viruses](#) can occur through direct, indirect, or close contact with infected people through secretions such as saliva and respiratory droplets which are expelled when a person coughs, sneezes, or talks.

Droplets from a sick person can transmit the virus to other people nearby. The smallest particles may linger in the air, and another person can inhale them and become infected.

What symptoms COVID-19 and seasonal flu have in common?

According to the CDC, the flu has killed an average of 37,000 Americans per year since 2010. The flu season typically gets going in late October, gathers steam over the next two months, and crests in January and February. The agency [has issued a warning](#) to providers in November about the early circulation of a strain of flu known as influenza A(H3N2), particularly in young adults.

How flu and coronavirus symptoms typically develop

A study [led by researchers from the University of Southern California](#) determined the order of COVID-19 symptom progression, potentially making it easier to recognize an infection. The first symptom of the flu was most likely to be a cough while for COVID-19 it was fever. COVID-19 can also be distinguished by the loss of taste and smell.

However, symptoms vary from person to person. In [40% to 45% of COVID-19 cases](#), there may not be any symptoms at all. [Fewer than 20% of infected](#) who show up at a hospital report having had a sore throat or runny nose. Patients experience muscle weakness, inflammation, arrhythmia, and in some cases, heart attacks.

How long does it take for symptoms to appear?

When a person is exposed to COVID-19, it can take up to two weeks before symptoms show up. It takes even more time for additional people to become ill after being exposed to that person. So several cycles of infection can occur before public health officials notice signals in data used to track the pandemic.

Studies show that dual waves of coronavirus and influenza threaten to overburden the health care system. The highest rates of mortality from COVID-19 are usually in the areas where the pandemic [has hit hardest](#), overwhelming hospital resources and staff. According to the CDC, relaxing of mask mandates and stay-at-home orders may result in an increase in flu cases during the upcoming 2021–2022 flu season compared to the last one. "From a health care capacity standpoint, we're concerned about having both of these serious viruses circulating at the same time," said Lisa Maragakis, senior director of infection prevention at Johns Hopkins. "The hospitals and health system may become even more overwhelmed."

It's also possible to have flu and COVID-19 at the same time. An [analysis by Public Health England](#) found that people with the two viruses were more at risk of severe illness. Overall, 43% of people with co-infection died compared to 27% of those who had COVID-19 alone. Most cases of co-infection were in older people, and more than half of them died. People with preexisting conditions are also more vulnerable.

How long do symptoms last?

For people with a mild case of COVID-19, the recovery time can be between [1 to 2 weeks](#). Some cases become much worse around the 10 to 14-day mark, these individuals often need to go to the hospital. In severe cases, the recovery time may take up to six weeks or more and there may be lasting damage to the heart kidneys, lungs and brain. [Around 1.6%](#) of those in the U.S. who contract COVID-19 die from the disease.

According to the [CDC](#), uncomplicated flu symptoms typically are resolved after 3-7 days for most people. Although a cough and overall weakness can persist for two weeks, especially in elderly people and those that have chronic lung disease.



Age groups most at risk from Influenza

Young children are also at risk of severe influenza. An outbreak of flu or other preventable disease in children could make it harder for doctors and hospitals to care for all patients.

The study recently [published in the Journal of General Internal Medicine](#) showed that fewer than half of U.S. adults and just two-thirds of children received the flu vaccine during the 2017–2018 season.

If you are worried about getting sick with COVID-19 while getting a flu shot, Maragakis recommends calling your provider and asking about safety measures they have in place. "In my experience, every clinic and health care system facility as well as the drugstores and other places that are administering the vaccine are doing a very good job to try to keep everyone safe while they get their vaccine," Maragakis said. "It shouldn't be a risk for people to go and get their flu shots. Make sure that you wear your mask and wash your hands and practice social distancing while you do it."

Getting vaccinated

It's important to get vaccinated for both flu and COVID. According to the CDC, flu vaccines do not protect against COVID-19 and COVID-19 vaccines do not protect against the flu. If you have not been able to get vaccinated for flu until November or later, vaccination is still recommended because flu most commonly peaks in February and can continue into May. After vaccination, it takes about two weeks for antibodies to develop in the body and provide protection against influenza infection. It is safe to administer COVID-19 vaccines and flu vaccines to patients at the same time, and doing so might increase vaccination rates, according to a report published in The Lancet in November. According to the CDC, you can also get a flu vaccine at the same time you get a COVID-19 booster shot.

UAE approves new Sinopharm vaccine to be used as booster

Source: <https://www.thenationalnews.com/uae/2021/12/27/uae-approves-new-sinopharm-vaccine-to-be-used-as-booster/>

Dec 27 – A new [vaccine](#) from Chinese manufacturer Sinopharm CNPG has been approved for emergency use in the UAE. The Ministry of Health and Prevention announced on Monday that a study had been carried out on the new "recombinant protein-based vaccine" in the UAE, and that it would be used as a booster for those who had previously received two doses of the inactive Sinopharm vaccine.

Recombinant protein vaccines target the spike protein that the virus uses to enter human cells.

The study showed improved immunity against the virus and was effective against variants.

The vaccine will be available to the public as a booster dose starting in January 2022 in further attempts to contain the spread of [Covid-19](#). The ministry also announced the new vaccine will be manufactured and distributed by Hayat Biotech, a joint venture between Sinopharm CNPG and G42.

Hayat-Vax is the locally-produced version of the inactive Sinopharm vaccine also made at the Hayat Biotech plant and is a key part of the UAE's strategy to support inoculation drives both at home and abroad. Sinopharm's new booster shot is similar to Hayat-Vax in that it can be kept at normal fridge temperatures, making it easier to use in low-income countries than mRNA vaccines, which need ultra-cold storage.



Researchers develop groundbreaking ultrasound treatment that could destroy COVID-19

Source [+video]: <https://www.studyfinds.org/ultrasound-treatment-covid-19/>

Dec 27 — Since March 2020, more than 250 million people have tested positive COVID-19. Scientists around the world have scrambled to identify the best methods of preventing and treating the virus, from face coverings to vaccinations. Now, a recent study at MIT's



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Department of Mechanical Engineering has found that ultrasound vibrations may damage the structure of the coronavirus — creating a revolutionary response to the public health threat.

Using computer simulations, researchers visualized the structure of the coronavirus and modeled its reactions to ultrasound vibrations at various frequencies. They found that frequencies between 25 and 100 megahertz lead to the shell and spikes of virus cells crumbling and breaking down.

Researchers had a difficult time creating a model that would accurately simulate the behaviors and structures of SARS-CoV-2. Much about the physical makeup of the novel virus is still unknown. “We don’t know the material [properties of the spikes](#) because they are so tiny — about 10 nanometers high,” says professor of applied mechanics at MIT, Tomasz Wierzbicki, in a [university release](#). “Even more unknown is what’s inside the virus, which is not empty but filled with RNA, which itself is surrounded by a protein capsid shell.”

Vibrating our way out of the pandemic?

Using elastic shells and spikes to mimic the structure of the virus, researchers tested the model against various levels of [ultrasound vibrations](#). In both air and water, the team observed as

frequencies ranging from 25MHz and 100MHz caused the model to collapse — folding in on itself at high frequencies and crumbling even faster at lower frequencies.

While [vaccinations](#) against the virus are now widely available, [finding successful treatments](#) for individuals who do contract COVID-19 has proved difficult. The findings of this study are a hopeful indication that ultrasound technology may be a possible tool for effectively treating coronavirus patients.

“We’ve proven that under ultrasound excitation the coronavirus shell and spikes will vibrate,” says Wierzbicki. “The amplitude of that vibration will be very large, producing strains that could break certain parts of the virus, doing visible damage to the outer shell and possibly invisible damage to the RNA inside.”

However, this research is also raising even more questions for future studies. Scientists will need to understand how ultrasound treatments would work off the computer and inside a real human body, as well as how doctors would realistically administer the treatments to [COVID-19 patients](#).

“The hope is that our paper will initiate a discussion across various disciplines,” says Wierzbicki. The team, which includes Wierzbicki’s co-authors Wei Li, Yuming Liu, and Juner Zhu of MIT, hope that their findings will inspire other scientists to continue exploring this new treatment option. “The potential is something that could be great in the current critical situation,” Wierzbicki concludes.

●► The team’s findings are published in the [Journal of the Mechanics and Physics of Solids](#).

Worrying Omicron symptom on your skin that could be a sign of Covid

Source: <https://www.mirror.co.uk/news/uk-news/worrying-omicron-symptom-your-skin-25798935>



Dec 28 – As [Omicron spreads across the UK](#), people have been presenting with various signs of infection that we haven’t seen with previous Covid variants.

Experts have already warned that [symptoms of Omicron are quite different to the traditional signs](#) of [coronavirus](#), which includes a new and continuous cough, fever and loss/change to your smell and taste.

Unlike previous variants like Delta, symptoms of this super mutant strain has been found to be similar to a common cold. And though they are described as “extremely mild,” [Omicron symptoms](#) seem to be targeting different parts of the body.

Here’s one sign on the skin that many patients who have tested positive for Omicron have reported.

What is the telltale sign on the skin that could be a sign of Omicron?

One of the lesser-known but common symptoms of Omicron is a skin rash, according to the ZOE COVID Study app.



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Described as “a fourth key sign” of the coronavirus infection, there have been two types of rashes reported by Covid positive patients.

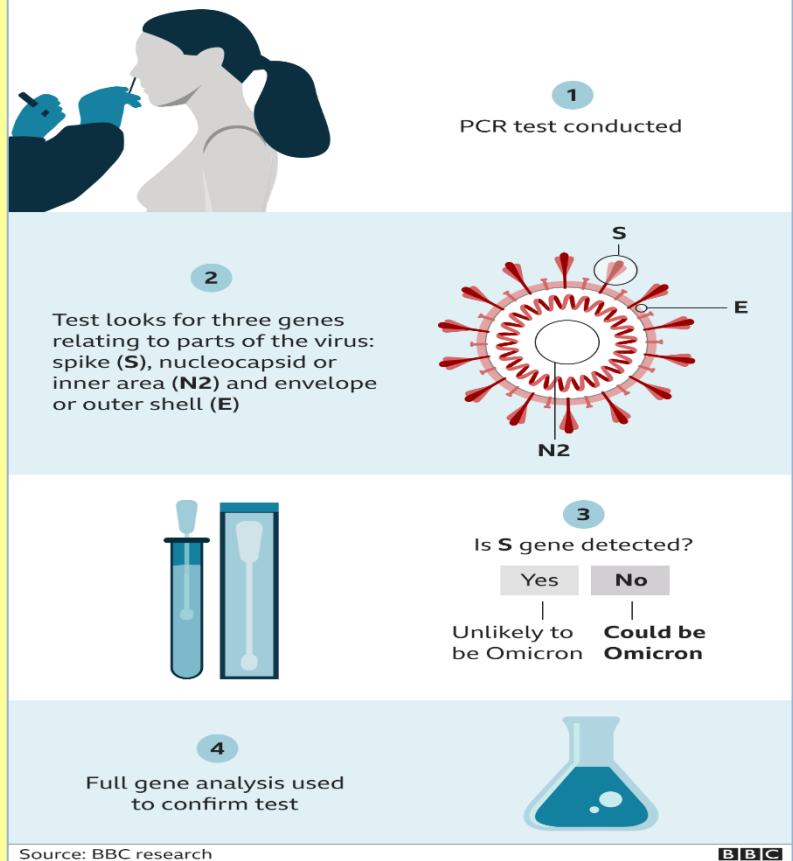


The **first** is a hive-type rash that comes on suddenly in the form of raised bumps on your skin. These tend to be very itchy and often start with intense itching of the palms or soles.

The **second** type is a prickly heat rash that comes on as areas of small, itchy, red bumps. Though they can appear anywhere on the body, this kind of rash tends to be most common on elbows, knees, and the backs of hands and feet.

While the hive-type rashes tend to come and go

How is the Omicron variant detected?



Papular & Vesicular



Oral



Pityriasis Rosea



Viral Exanthem



Purpuric



COVID Digits



Urticarial



Purpuric

quickly, the prickly heat rash can persist for days or weeks, according to ZOE. Omicron: Expert reveals five symptoms to look out for. Another common skin sign has been the Covid fingers and toes, also known as chilblains. These appear as red and purple bumps on fingers and toes, which could feel sore. Unlike the rashes, these are not usually itchy and tend to be more common with younger people with the virus. Research has shown that these skin symptoms can appear even when there are no other symptoms linked to Covid present.



What are the common symptoms of Omicron?

Other common symptoms of Omicron that are different from the original coronavirus symptoms include scratchy throat; runny nose; sneezing; mild muscle aches; extreme tiredness; night sweats; congestion and brain fog.

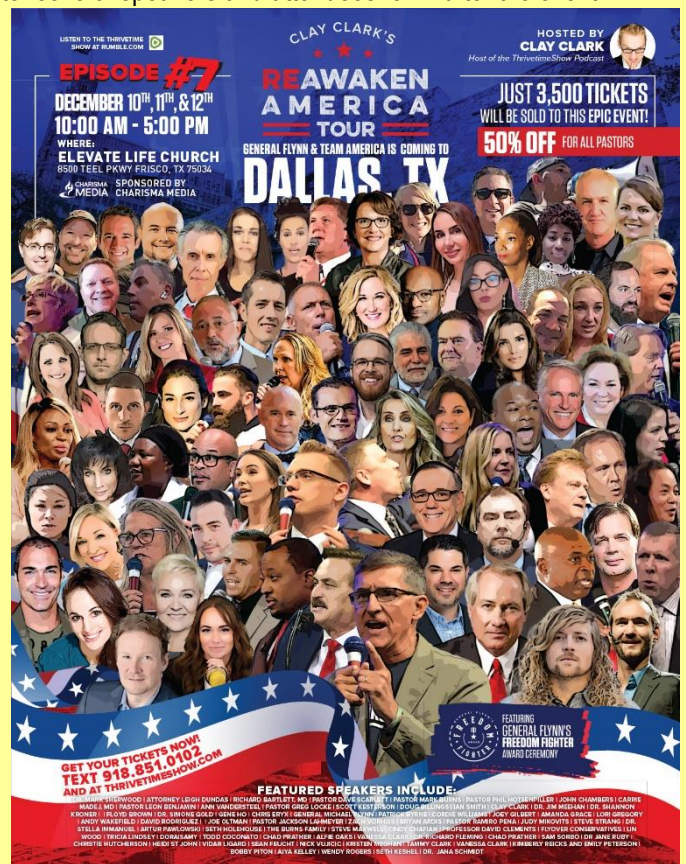
► Read also: [Covid-19 Skin Patterns](#) (British Association of Dermatologists)

Anthrax Attack at 'ReAwaken America' Rally Leaves Many Sick? Bizarre Conspiracy Theory After Speakers Show Symptoms

Source: <https://www.ibtimes.sg/anthrax-attack-reawaken-america-rally-leaves-many-sick-bizarre-conspiracy-theory-after-speakers-61984>

Dec 28 – A viral claim suggesting that a bioweapons attack was launched in the "ReAwaken America" event in Texas using anthrax or other biological agent is found to be fake. The claim originated after several speakers and attendees fell ill after the event.

The conservative ReAwaken America conference was held in Texas from December 9 to 11 and saw several speakers including Former U.S. President Donald Trump adviser Michael Flynn, MyPillow CEO Mike Lindell, and the Founder of Infowars Alex Jones.



What Started the Hoax?

As per the US Centers for Disease Control (CDC), the symptoms of anthrax poisoning include cough and shortness of breath. The hoax theory came into existence after Joe Oltmann, a far-right influencer who was one of the speakers at the event, wrote on his Telegram account about being sick.

"South Florida peeps. I have an [sic] urgent need! I have been sick with what could be an anthrax attack it turns out. More later on this," read his post. He also posted about the 2020 election conspiracy theorist Jovan Pulitzer, who was also part of the ReAwaken America event, was also not well. "Jovan Pulitzer is in a bad place right now. Please pray for him. Bring the spirit of healing upon him. In Jesus name, Amen," Oltmann wrote. "Might be Anthrax."

Later in a series of tweets, Pulitzer also confirmed that he was sick and that the "evidence suggests that several of us were targeted by biological agents at an event (sic)."

Claiming that he suffered from rashes, blistering, passing blood, hallucinations as well as "massive fever storms," Pulitzer wrote, "o my friends tried to keep this under wraps until we knew what we were dealing with but Evidence suggests that several of us were targeted by biological agents at an event This has wreaked havoc on my system wall of the most dangerous symptoms appearing Scary, to say the least."

Here is the Truth

Debunking the claim being made by the conspiracy theorists, Snopes, a fact-checking website, claimed that it was not a bioterrorism attack as was being claimed by the prominent speakers at the event. "The bioterrorism attack on U.S. soil would no doubt spark a massive emergency response and result in investigations at multiple levels of government," the article read.

The outlet even contacted the local police to ascertain if they were aware of any such incident taking place in the ReAwaken America event. The police claimed that nothing of the kind had been reported to them. Further, in a communique to the outlet, a spokesman for Frisco police said that there have been "no reports" of anthrax or any biological agent deployed against the event.



Are COVID-19 data reliable? The case of the European Union

By Pavlos Koliass

Section of Statistics and Operational Research, Department of Mathematics, Aristotle University of Thessaloniki, Greece

Source: <https://www.medrxiv.org/content/medrxiv/early/2021/12/25/2021.12.24.21268373.full.pdf>

Abstract

Previous studies have used Benford's distribution to assess whether there is misreporting of COVID-19 cases and deaths. Data inaccuracies provide false information to the media, undermine global response and hinder the preventive measures taken by countries worldwide. In this study, we analyze daily new cases and deaths from all the countries of the European Union and estimate the conformance to Benford's distribution. For each country, two statistical tests and two measures of deviations are calculated to determine whether the reported statistics comply with the expected distribution. Four country-level developmental indexes are also included, the GDP per capita, health expenditures, the Universal Health Coverage index, and full vaccination rate. Regression analysis is implemented to show whether the deviation from Benford's distribution is affected by the aforementioned indexes. The findings indicate that **only three countries were in line with the expected distribution, Bulgaria, Croatia, and Romania.** For daily cases, **Denmark, Greece, and Ireland showed the greatest deviation from Benford's distribution, and for deaths, Malta, Cyprus, Greece, Italy, and Luxemburg had the highest deviation from Benford's law.**

Table 2. Goodness-of-fit statistics and distance measures across countries for new cases and deaths associated with COVID-19

	Cases				Deaths			
	χ^2	D	ED	MAD	χ^2	D	ED	MAD
Austria	30.49***	2.45***	1.905	0.032	13.29	1.57**	1.361	0.018
Belgium	24.19**	1.33*	1.846	0.022	45.99***	1.90***	2.53	0.038
Bulgaria	12.00	0.90	1.072	0.016	12.43	0.90	1.262	0.020
Croatia	8.00	0.90	1.202	0.018	13.46	0.85	1.148	0.020
● Cyprus	7.31	1.30*	1.03	0.016	75.12***	6.36***	3.051	0.060
Czech Republic	16.87*	1.73***	1.746	0.024	17.14*	3.03***	1.643	0.023
● Denmark	110.34***	4.37***	3.589	0.057	40.05***	4.61***	2.034	0.040
Estonia	15.62*	1.01	1.3	0.021	20.31**	6.30***	1.681	0.033
Finland	25.56**	3.15***	1.74	0.031	30.25***	7.23***	1.625	0.038
France	36.51***	1.49**	2.32	0.036	7.71	0.67	1.041	0.017
Germany	5.62	0.61	0.917	0.015	24.29**	1.14	2.005	0.029
●● Greece	77.20***	2.33***	3.389	0.050	54.84***	3.52***	3.108	0.045
Hungary	15.71*	3.43***	1.13	0.018	33.79***	4.08***	2.273	0.041
● Ireland	99.48***	2.58***	3.075	0.054	10.08	11.90***	0.798	0.025
Italy	10.08	0.44	1.11	0.018	60.58***	2.71***	3.303	0.045
Latvia	31.05***	1.59**	1.732	0.027	5.89	2.51***	1.081	0.015
Lithuania	4.62	0.38	0.694	0.011	22.68**	1.44**	1.886	0.028
Luxembourg	21.66**	4.35***	1.876	0.030	30.77***	10.96***	2.347	0.055
● Malta	15.29*	1.31*	1.25	0.020	50.94***	11.90***	2.966	0.079
Netherlands	61.24***	1.37*	2.926	0.047	12.49	0.47	0.925	0.016
Poland	29.73***	2.03***	1.932	0.032	25.43**	2.04***	1.755	0.027
Portugal	17.74*	1.78**	1.952	0.024	25.89**	1.79***	1.811	0.030
Romania	9.61	0.76	1.036	0.014	11.17	0.90	1.32	0.018
Slovakia	9.22	1.02	1.003	0.016	28.22***	4.42***	1.66	0.029
Slovenia	17.37*	1.02	1.154	0.019	12.47	3.65***	1.524	0.021
Spain	18.94*	5.25***	1.492	0.028	7.16	5.25***	1.256	0.018
Sweden	17.87*	1.95***	1.219	0.022	19.32*	2.04***	1.525	0.025

*** $p < .001$, ** $p < .01$, * $p < .05$

Furthermore, it was found that the vaccination rate is positively associated with deviation from Benford's distribution. These results suggest that overall official data provided by authorities are not confirming Benford's law, yet this approach acts as a preliminary tool for data verification. More extensive studies should be made with a more thorough investigation of countries that showed the greatest deviation.



Nasal spray to prevent COVID infection begins clinical trials

Source: <https://newatlas.com/health-wellbeing/nasal-spray-heparin-coronavirus-infection-clinical-trial/>

Dec 28 – An innovative clinical trial is set to commence in **Australia** testing whether a common blood thinning drug can prevent SARS-CoV-2 infection. The drug is administered by nasal spray and researchers believe it can block the virus from initially infecting cells in the nose.



The nasal spray is based on a hypothesis suggesting initial SARS-CoV-2 infections take hold in the nose [via a molecule called heparan sulfate](#). The virus's infamous spike protein binds to heparan sulfate which enhances its ability to subsequently interact with ACE2 receptors and infect human cells.

Heparin is a widely used anti-coagulant, first discovered over a century ago and safely used as a treatment for heart attacks and blood clots. Gary Anderson, from the University of Melbourne's Lung Health Research Centre, says [early research has indicated](#) heparin is so molecularly similar to heparan sulfate that it can neutralize SARS-CoV-2 particles when administered directly to cells in the nose.

"Heparin – the active ingredient in our spray – has a structure that is very similar to heparan sulphate, so it behaves as a 'decoy' and can rapidly wrap around the virus's spike protein like a python, preventing it from infecting you or spreading the virus to others," explains Anderson.

The large clinical trial testing the nasal spray will commence soon in the Australian state of Victoria. **The plan is to distribute the spray to 400 houses within 24 hours of a confirmed case in each household.** The trial will be blinded and placebo controlled, with each participant directed to take two puffs of the spray three times a day.

The goal will be to investigate whether the nasal spray prevents COVID-19 in close contacts of confirmed cases. Active COVID-19 cases will also be given the spray as the researchers are also looking at whether heparin reduces the infectiousness of a confirmed case. The researchers say administering heparin as a nasal spray should not lead to broader blood thinning as it doesn't reach the bloodstream when administered through the nose. Anderson also notes this prophylactic nasal spray should be effective against all viral variants. "Importantly, this nasal spray should prove effective for all COVID-19 variants because the heparan sulphate binding site is essential for infection, and is likely to be preserved in new variants," says Anderson. "Heparin binds avidly to the Omicron variant currently sweeping through the country."

The trial is set to run for six months, so it won't be known how well it works until the second half of 2022. However, if it does prove to be effective, it could be rolled out quickly as the drug is already approved for human use, doesn't require refrigeration, and is easily distributed in plastic vials. **The treatment is not being proposed as an alternative to vaccination.** Instead, the researchers suggest it will hopefully help protect those most vulnerable to severe COVID-19 and prevent onward transmission in those experiencing vaccine-breakthrough infections.

"If the treatment is proven to work in the setting of preventing progression and spread within homes, it would support using the spray to protect highly vulnerable populations such as the elderly, pregnant women, and those with weak immune systems," says Anderson. "It may also prove useful to protect our front-line health care workers from illness and to preserve capacity in the health care system."

Antibodies To Block Omicron Identified, Third Dose "Really Useful"

Source: <https://www.ndtv.com/india-news/coronavirus-omicron-variant-antibodies-that-might-neutralize-omicron-identified-study-2676725>

Dec 29 – During a recent study, an international team of scientists identified antibodies that neutralise Omicron and other SARS-CoV-2 variants. **These antibodies target areas of the virus spike protein that remain essentially unchanged as the viruses mutate.** By identifying the targets of these "broadly neutralizing" antibodies on the spike protein, it **might be possible to design vaccines and antibody treatments that will be effective against not only the Omicron variant but other variants that may emerge in the future**, said David Veessler, an investigator with the Howard Hughes Medical Institute and associate professor of biochemistry at the University of Washington School of Medicine in Seattle. "This finding tells us that by focusing on antibodies that target these highly conserved sites on the spike protein, there is a way to overcome the virus' continual evolution," Veessler said.



Veesler led the research project with Davide Corti of Humabs Biomed SA, Vir Biotechnology, in Switzerland. The lead authors of the study were Elisabetta Cameroni and Christian Saliba (Humabs), John E. Bowen (UW Biochemistry) and Laura Rosen (Vir).

The Omicron variant has 37 mutations in the spike protein, which it uses to latch onto and invade cells. This is an unusually high number of mutations. It is thought that these changes explain in part why the variant has been able to spread so rapidly, to infect people who have been vaccinated and to reinfect those who have previously been infected. "The main questions we were trying to answer were: how has this constellation of mutations in the spike protein of the omicron variant affected its ability to bind to cells and to evade the immune system's antibody responses," Veesler said. [Veesler and his colleagues speculate that omicron's large number of mutations might have accumulated during a prolonged infection in someone with a weakened immune system or by the virus jumping from humans to an animal species and back again.] To assess the effect of these mutations, the researchers engineered a disabled, nonreplicating virus, called a pseudovirus, to produce spike proteins on its surface, as coronaviruses do. They then created pseudoviruses that had spike proteins with the omicron mutations and those found on the earliest variants identified in the pandemic. The researchers first looked to see how well the different versions of the spike protein were able to bind to a protein on the surface of cells, that the virus uses to latch onto and enter the cell. This protein is called the angiotensin-converting enzyme-2 (ACE2) receptor. They found the Omicron variant spike protein was able to bind 2.4 times better than the spike protein found in the virus isolated at the very beginning of the pandemic. "That's not a huge increase," Veesler noted, "but in the SARS outbreak in 2002-2003, mutations in the spike protein that increased affinity were associated with higher transmissibility and infectivity." They also found that the Omicron variant was able to bind to mouse ACE2 receptors efficiently, suggesting Omicron might be able to "ping-pong" between humans and other mammals. The researchers then looked at how well antibodies against earlier isolates of the virus protected against the Omicron variant. They did this by using antibodies from patients who had previously been infected with earlier versions of the virus, vaccinated against earlier strains of the virus, or had been infected and then vaccinated. They found that antibodies from people who had been infected by earlier strains and from those who had received one of the six most-used vaccines currently available all had reduced ability to block infection.

Antibodies from people who had previously been infected and those who had received the Sputnik V or Sinopharm vaccines as well as a single dose of Johnson & Johnson had little or no ability to block - or "neutralize" - the omicron variant's entry into cells. Antibodies from people who had received two doses of the Moderna, Pfizer/BioNTech, and AstraZeneca vaccines retained some neutralizing activity, albeit reduced by 20- to 40-fold, much more than any other variants. Antibodies from people who had been infected, recovered and then had two doses of the vaccine also had reduced activity, but the reduction was less, about fivefold, clearly demonstrating that vaccination after infection is useful. Antibodies from people, in this case, a group of renal dialysis patients, who had received a booster with a third dose of the mRNA vaccines produced by Moderna and Pfizer/BioNTech showed only a 4-fold reduction in neutralizing activity. "This shows that a third dose is really, really helpful against omicron," Veesler said.

All but one antibody treatment currently authorized or approved to be used with patients exposed to the virus, had no or had markedly reduced activity against omicron in the laboratory. The exception was an antibody called sotrovimab, which had a two- to three-fold reduction of neutralizing activity, the study finds. But when they tested a larger panel of antibodies that have been generated against earlier versions of the virus, the researchers identified four classes of antibodies that retained their ability to neutralize omicron. Members of each of these classes target one of four specific areas of the spike protein present in not only SARS-CoV-2 variants but also a group of related coronaviruses, called sarbecoviruses. These sites on the protein may persist because they play an essential function that the protein would lose if they mutated. Such areas are called "conserved."

The finding that antibodies are able to neutralize via recognition of conserved areas in so many different variants of the virus suggests that designing vaccines and antibody treatments that target these regions could be effective against a broad spectrum of variants that emerge through mutation, Veesler said.

●► The study's findings were published in the [Journal Nature](#).

Israel's Oramed gets Vietnam pre-order for 10 mln COVID-19 vaccine doses

Source: <https://www.reuters.com/business/healthcare-pharmaceuticals/israels-oramed-gets-vietnam-pre-order-10-mln-covid-19-vaccine-doses-2021-12-29/>

Dec 29 – Israel's Oramed Pharmaceuticals ([ORMP.O](#)) said on Wednesday its Oravax Medical unit signed a deal with Vietnam's Tan Thanh Holdings for the pre-order of 10 million doses of its oral COVID-19 vaccine that is in clinical trials.





The agreement gives Tan Thanh, a drug distributor, the right to sell Oravax's oral vaccine in development throughout the Association of Southeast Asian Nations (ASEAN), which includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam, Oramed said.

"The parties have agreed to negotiate follow-on orders potentially worth hundreds of millions of dollars," it said, adding the ASEAN region has a prospective patient population of about 660 million.

Nadav Kidron, chief executive of Oramed, said its oral COVID vaccine is undergoing Phase I clinical trials and results should be available in early 2022. The vaccine has been shown to work in animal tests, he said.

As a Communist country, Kidron said, Vietnam could

decide on a short Phase II trial and then give emergency authorisation. "Potentially, marketing could be very, very fast," he told Reuters.

As long as Phase I results are as expected, Kidron believes more countries will be interested since the new technology is not likely to require as many boosters as current vaccines. "The idea is that you take it and that's going to be your dosing and you're done," he said.

Last week, Nikki Fried, Florida's Agriculture Commissioner, said that given the rapid spread of the Omicron variant, she was pushing the U.S. Food and Drug Administration to accelerate the review of oral vaccines as an alternative to injections.

"Countries like the U.S. and Israel (which uses the Pfizer vaccine) ... may end up being behind because if developing countries step up their game they may be having the newest technologies available to them before the Western world," Kidron said.

●► Read also: [Oravax](#)

Most People With PEG Allergy or Reactions to First COVID-19 Shot Can Still Complete Vaccine Series

Source: <https://www.medscape.com/viewarticle/962454>

Nov 06 – With the rollout of COVID-19 vaccines, there's been concern about possible allergic reactions to polyethylene glycol (PEG), an ingredient used to stabilize lipid nanoparticles in the Moderna and Pfizer-BioNTech's mRNA vaccines. Two posters presented at this year's [American College of Allergy, Asthma and Immunology annual meeting](#) show that allergists can help safely assess whether people who are allergic to PEG can receive a COVID-19 shot, and whether individuals who reacted to the first dose can take a second.

The new studies also suggest that "most patients in each category will be able to safely take the COVID-19 vaccine," Brian Schroer, MD, director of allergy and immunology at Akron Children's Hospital in Ohio, told *Medscape Medical News*.

In the first study, researchers led by allergy fellow Mitchell Pitlick, MD, at the Mayo Clinic in Rochester, Minnesota, combed Epic electronic health records for 100 adults with a PEG allergy documented before receiving a COVID-19 vaccine. As part of this retrospective chart review, the team collected information on demographics, comorbidities, atopic history, PEG allergy history, and vaccination outcome. Ninety-seven patients received mRNA vaccines (64 Pfizer-BioNTech vaccine, 33 Moderna), and three got the Johnson & Johnson vaccine.

Among those 100 adults, most of the symptoms in response to PEG-containing drugs occurred with oral preparations (84%), and the vast majority of these were reported as gastrointestinal intolerance with no other symptoms, indicating they were probably not true allergic reactions, said Pitlick. Five percent of patients had anaphylaxis listed as a reaction symptom for their PEG allergy. Yet these five individuals received a COVID-19 vaccine — four getting Pfizer-BioNTech and the other a Johnson & Johnson shot — and did fine. In fact, all 100 patients in the study tolerated the COVID-19 vaccine series without any allergy symptoms.

This study suggests that "just because you have an allergy label to PEG doesn't mean you need to be turned away from receiving an mRNA COVID-19 vaccine," Pitlick said, noting



that one of his patients received both doses of the Pfizer vaccine with no issues despite having had three separate episodes of anaphylaxis to PEG-containing devices and medications.

In a [multisite US study](#) published July 26 in *JAMA Internal Medicine*, even an immediate allergic reaction to the first dose of an mRNA COVID-19 vaccine did not keep patients from getting a second dose. Among the 84% who proceeded, 12% reported mild symptoms but all were able to safely complete their vaccination series.

The second study, presented by allergy fellow Jennifer Ohtola, MD, PhD, and colleagues at the Cleveland Clinic in Ohio, assessed the utility of PEG oral challenges in patients evaluated for COVID-19 mRNA vaccine allergy. The team reviewed charts to assess COVID-19 vaccination outcomes of 63 patients who underwent PEG/polysorbate 80 skin testing from January through June 2021 either because they were concerned pre-vaccination about previous adverse reactions to vaccines, medications, or PEG/polysorbate (n = 38) or reported a reaction to the first COVID-19 mRNA vaccine dose (n = 25).

In total, only five of 63 patients (7.9%) had a positive PEG skin test — and of the two who additionally underwent an oral challenge, both had symptoms. This is consistent with the low sensitivity and high specificity of PEG skin testing in [other studies](#). In this study, "patients who had negative skin testing and PEG oral challenge were able to receive a COVID-19 mRNA vaccine safely," said Ohtola. Among those who were PEG skin test negative, more than half who reported symptoms during their PEG oral challenge went on to tolerate COVID-19 mRNA vaccines. On the flip side, three patients with negative PEG skin testing subsequently reported allergic reactions during vaccination. These anomalies raise the question "if PEG is really to blame for mRNA vaccine reactions," Pitlick told *Medscape Medical News*.

Still, Ohtola said, the findings suggest that "PEG oral challenge can provide additional guidance for patient and allergist in the shared decision-making process of receiving COVID-19 vaccination."

EDITOR'S COMMENT: Practicing allergy & clinical immunology (@ hospital; private) for more than 25 years I cannot recall cases of PEG allergy. Nor skin prick test for that or lab equivalents. Keep also in mind that almost all antihistamines contain PEG. And we all know how often we have all used this type of OTC medication. Could they have sensitized individuals to the point to react to an mRNA vaccine? Possible, but I do not think this is the case.

Beyond case counts: What Omicron is teaching us

Source: <https://www.statnews.com/2021/12/30/beyond-case-counts-what-omicron-is-teaching-us/>

Dec 30 – The [Omicron wave](#) in the United States is upon us.

If you were fortunate enough to tune out from Covid-19 news over the holidays, you're coming back to startling reports about record high case counts and, in some places, increases in hospitalizations. The wave will crest, of course; the question is when.

For now, experts say, the country still has a ways to go to get through the Omicron surge. Below, STAT outlines what Omicron is already teaching us as this phase of the pandemic plays out.

A reminder: Scientists have known about this variant for just a little over a month. While a tremendous amount has been learned in a stunningly short amount of time, our understanding will continue to be refined as data pour in and key questions are answered.

The hypothesis that we're not immunological blank slates is holding up

When Omicron was [first identified in November](#), there was rightfully a lot of concern about how well protection from past infection and vaccination would withstand the new variant and its multitude of mutations. But many experts took what could be considered [an optimistic view](#): Yes, this virus had changed, but our immune systems still could see it for what it was.

That has largely held true — as protection against severe disease seems to have been broadly maintained.

Omicron can evade immunity to an extent, and our protection against infection has taken a major hit. It's why you likely know so many people who have been infected in the past few weeks even though they had already had Covid-19 or were fully vaccinated — and even boosted.

Early studies from South Africa and the United Kingdom have found that vaccine effectiveness from the primary series against symptomatic disease and, [to an extent, hospitalization](#) is lower in the face of Omicron than Delta. (It's also worth noting that some of the vaccines used in other parts of the world seem to be more threatened by Omicron than those authorized in the U.S.)

But there's been good news as well. While studies have repeatedly shown that our neutralizing antibodies [don't recognize](#) and block Omicron as well as earlier forms of the virus, our T cells haven't lost much of a step against the variant, as [two studies](#) this week



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showed. T cell protection can't prevent infections, but it can minimize the harm caused by the virus — and generally guard against severe outcomes.

Lab studies have also indicated that a combination of infection plus vaccination, or a booster shot, [can largely restore much](#) of the protection that Omicron saps away in people whose immunity is based on having recovered from Covid-19 or having had only a primary vaccine series. Some evidence from the U.K. suggests that the power of boosters against Omicron wanes as well, but that's against mild infection, not against severe disease.

It's time to rethink the way we view our metrics

Brace yourself: Case counts are going to reach astounding heights. Already, reported infections have doubled in just a few weeks. The average daily number of infections is greater than 300,000. (It's likely that our case counts will become increasingly less reliable as well, given both the shortcomings of our testing infrastructure and the [growing use of at-home tests](#).)

But, in large part because the immunological landscape today is far different than what it was two years ago, cases are less likely to result in severe disease than was the case at the start of the pandemic.

Back then, a rise in cases inevitably led to an increase in hospitalizations and deaths. When vaccines went into wide use, those metrics started to become decoupled; cases could rise sharply but hospitalizations and deaths occurred at a lower level than before. In the current phase of the pandemic, the distance between those metrics is growing even greater.

Based on the experience of hospitals in South Africa and the U.K., even the hospitalization numbers alone might get a bit difficult to interpret. As a whole, people who wound up in the hospital for Covid-19 during South Africa's Omicron spike often [weren't as sick](#) as in the past: they were less likely to need oxygen or intensive care. Clinicians have also found that lots of patients who were in the hospital for reasons other than Covid-19 happened to test positive for the virus — an indication of how widespread Omicron can be. (These patients can still be a challenge for facilities, because even though they're not hospitalized for Covid-19, they still have to be cared for in Covid-19 wards with the necessary precautions so they don't infect others.)

And though the connection between cases and severe outcomes is growing increasingly loose, it's not completely severed. Infections are going to reach such heights that even if only a small fraction of people need hospital care, in terms of sheer volume, there could be enough patients to swamp already strained hospitals. When that happens, care suffers — and not just for Covid-19 patients.

This time the crush of cases threatens more than just hospital care

The good news about Omicron is that the overwhelming proportion of cases it causes are mild. The bad news is that it causes so darn many cases, over a short span of time.

Systems — all sorts of systems — struggle to cope when large numbers of employees fall ill at the same time.

Hospitals that were inundated in the fall with the large surge of Delta infections are once again canceling elective surgeries because of an influx of Omicron cases or an anticipation of the same. In Britain, health authorities are considering turning car parks into [field hospitals](#). This is last-resort level care.

We've also seen the impact of Omicron in the disruption in air travel in recent days; airlines simply did not have enough healthy crew members to staff all their flights, resulting in [thousands of cancellations](#). New York City has seen [cutbacks in subway service](#), and first responders ranks have been so thinned by illness that the city has canceled days off for healthy police officers.

These are still early days in the age of Omicron; this kind of disruption will get worse before it gets better. It could have broad implications — on food distribution, on the ability to keep schools and universities open and functioning, on snow removal after storms, on utility system repairs, on public transit.

Paradoxically, the mildest wave of the pandemic to date may be the most taxing to navigate.

The open questions

For one, there's the question of whether Omicron — which already accounts for the majority of U.S. cases — takes over completely, or whether Delta can keep a toehold. Two different variants can cocirculate, though [a study](#) out of South Africa this week found that an Omicron infection protects against future Delta infections, suggesting that the newer variant might be able to push Delta out for good.

Experts will also be tracking whether the breakthrough infections and reinfections caused by Omicron can cause long Covid.

And scientists are still trying to parse what factors — or what combination of factors — explain two of the Omicron era's defining features: [the variant's enhanced transmissibility](#) and the fact that it's causing milder illness.

On the transmissibility front, some of Omicron's spreading prowess clearly comes from its ability to circumvent the immunity of people who have been previously infected or



vaccinated. But scientists are still trying to sort out if the virus innately can spread more efficiently than even the highly transmissible Delta variant, which would potentially give it a double edge over its rival.

And on the severity issue, while it's clear Omicron has caused milder illness in part because so many of those being infected have some level of immunity, there are clues that other factors could be at play. [Some lab studies suggest](#) that the variant, which excels at infecting cells in the upper respiratory tract, struggles to target the cells deeper in the lungs. That research supports the idea that the variant is also intrinsically less likely to cause severe disease than other variants. (A reminder that even a "mild" Covid-19 case can leave people feeling quite sick; it's just that they can ride it out at home.)

Finally, a key question relates to how long we'll be in Omicron's grasp. South Africa's bellwether wave soared to extraordinary heights — then quickly began to ebb. Data from several European countries also suggest that Omicron waves may be short, sharp shocks compared to the waves that have preceded it. But too little is yet known to predict with any confidence whether the experience of a country with a relatively young population, such as South Africa, will hold true in a country with an older population, such as the United States.

Stay tuned.

2022 forecast: With omicron extending the pandemic, how will biopharma respond to COVID?

Source: <https://www.fiercepharma.com/pharma/omicron-extending-pandemic-how-does-impact-biopharma-industry-planning-for-2022>

Dec 22 – Think back to this time last year. Remember the uncertainty the COVID-19 pandemic posed?

Well, thanks to omicron, here we are again, asking many of the same questions and with renewed anxiety about the future.

At least now we know the drill. "I see COVID continuing to have new variants and coming back each season," Cantor Fitzgerald's Grace Chen told Fierce Pharma.

We also know what questions to ask. Is omicron more contagious? Will vaccines and treatments be effective? Are we destined for a return of restrictions and lockdowns? And, after omicron, what's next? Are we simply on a coronavirus hamster wheel, with many more variants yet to contend with?

As the pharmaceutical industry approaches 2022, there is some comfort knowing that a blueprint is in place to respond to the pandemic—and one that will allow business to continue. But what about those best-laid plans based on the belief that the pandemic would transition into an endemic in 2022?

"If we look at the global situation, I think it's fair to say that we are still in very challenging times," Rasmus

Bech Hansen, CEO of Airfinity, a life sciences analytics company, said during a recent press briefing. "Cases globally are rising quite significantly. We are sadly not far from the biggest peak we had in 2021."



Vaccine makers respond to omicron

For pharma companies, the scramble is back on to find drugs that can prevent and treat omicron. COVID-19 vaccine producers such as Pfizer-BioNTech and Moderna have ramped up their efforts to create an omicron-tailored shot. And they are in an optimal position to do so quickly and efficiently, as they have the mRNA expertise.

"We continue with high speed with the development of a potential omicron vaccine to be ready if one is needed," BioNTech CEO Ugur Sahin, said earlier this month in a press conference.

The companies have said it would be possible to have an omicron-adapted vaccine ready by February or March. Airfinity estimates that it would take until September for a different company with a new omicron-adapted vaccine to receive approval.

"This is the highest level of alert we've ever been on, by far," Moderna President Stephen Hoge, M.D., [told](#) The Washington Post.



If an omicron-adapted vaccine is required, scaling up to manufacture it will slow the pace of production. Airfinity's current [projection](#) for 2022 global vaccine production is 8.7 billion doses. But if a new shot is needed, the analytics group figures only 5 billion doses will be manufactured, with some producers leaving the market entirely as demand for their shots disappears.

"We are already freeing up capacity for plasmid production," Sierk Poetting, BioNTech's chief operating officer, said in the press conference. "The production process itself, once you have the plasmid, is exactly the same."

The emergence of omicron will keep many more companies busy than the handful that have developed successful vaccines and antibodies. There are 358 COVID-19 vaccines in preclinical development around the world, says Airfinity. And of the 175 candidates in clinical development, 41 are in phase 3.

Among those in development are combination vaccines that would inoculate against COVID-19, the flu and other respiratory diseases. Also in the works are different forms of vaccines that might gain acceptance with those who are hesitant.

"There's no doubt that needle injections are keeping some people from being vaccinated, so we are seeing intranasal, we're seeing oral, we're seeing needle-free injection," Bech Hansen said in the press briefing. "Looking into 2022, we can expect significant innovations and scientific progress as we have already witnessed in 2021."

The emergence of omicron has been a wake-up call that COVID-19 will remain a major threat for a while. For example, it recently compelled analysts at Cantor Fitzgerald to increase their projection of 2027 sales for the Pfizer vaccine, Comirnaty, from \$10 billion to \$25 billion.

But while omicron presents a new challenge, it's not as though vaccine makers are starting at square one. Michelle McMurry-Heath, CEO of the Biotechnology Innovation Organization, remembers the "daunting" feeling the pandemic brought a year and a half ago.

"We set out to decouple infection from death and disability, and we are starting to see quite a bit of that decoupling, and that is incredibly promising," McMurry-Heath said. "In the U.S. alone, mRNA vaccines have saved more than a million lives in this last year. Can you think of another medical innovation that within its first year of use saved a million lives? It's absolutely miraculous."

Other COVID-19 treatments

With omicron's emergence, the scramble also is on to uncover drugs to treat those who are infected with COVID-19. In lab studies, the most commonly used treatments, antibodies by Regeneron and Eli Lilly, [show](#) little effectiveness against omicron.

Another approved antibody treatment, produced by GlaxoSmithKline and Vir Biotechnology, is the best available option against omicron, but supply is quickly becoming strained.

Meanwhile, Regeneron and Lilly are busily developing treatments to address the new variant. Regeneron CEO Len Schleifer, M.D., Ph.D., said the company could be ready with their adjusted version in the first quarter of 2022, and it will be effective against multiple variants.

"We need to figure out a way to get this to patients on a large scale before the next variant shows up. We don't want to be chasing our tail here," Schleifer [told](#) CNBC.

"We have a whole host of new antibodies which can work against both omicron and delta."

Another option coming is Pfizer's oral antiviral Paxlovid, which had yet to be approved as of Dec. 21. Considering that a trial has shown Paxlovid cuts the risk of hospitalization and death by 89% and the demand it is likely to generate, it could also face supply problems initially.

Merck and Ridgeback's oral antiviral molnupiravir hasn't fared as well in testing. After an interim trial result showed it cut the risk of hospitalization and death by 50%, more complete data later showed a risk reduction of 30%.

While the biopharma—and virtually every other—industry initially recoiled with the market uncertainty and restrictions brought on by the pandemic, those factors receded through 2021. Will the emergence omicron bring a return to those factors?

Glenn Hunzinger, leader of the U.S. pharma and life science segment at business consulting firm PwC, doesn't think so.

"We believe that we're past the concerns of COVID stopping the business environment," Hunzinger told Fierce Pharma. "Ultimately people have figured out a way to do business. I think this is just the new norm of how the world will operate."

Study Finds Cars Parked in The Sun Can Effectively Kill Coronavirus With Heat

Source: <https://www.news18.com/news/auto/new-study-finds-cars-parked-in-the-sun-can-effectively-kill-coronavirus-with-heat-2628297.html>

A study by the University of Georgia has found out that a car's greenhouse effect, resulting from the sun's shortwave radiation sneaking past the automotive glass, could kill the Coronavirus.

The study found out that even on days when the outside temperature was close to 21 degree Celsius, the temperature inside the car can go as high as 45 degree Celsius in one hour.





And on a 31 degree Celcius day, the number can climb up to 55-degree Celcius inside the car in just one hour. This same effect, according to the study, can cause heatstroke and death to multicellular organisms as well as the novel SARS-CoV-2 virus. The study suggests that this heating dramatically reduces the amount of time it takes to disinfect against the Coronavirus. It was earlier found out that the virus was able to live on paper and cardboard for about a day and on plastic and steel surfaces for three whole days. However,

as the temperature inside the car increases to 54 degrees Celcius, 99.99 per cent of the virus were killed within 20 minutes and at 74 degrees, the timeline shortened to just 5 minutes.

"More testing needs to be done, but we know that the warmer you make it, the less time it takes for the virus to die," said Travis Glenn, professor of environmental health science at the University of Georgia. "We are all being encouraged to wear face masks when we are shopping or doing other essential tasks outside our homes. Parked cars get pretty hot on sunny days. So, you can either rotate two masks, leaving one in the car while you shop, or just leave your mask in your car when you get home, as long as you're parking someplace warm."

What Was an Unexpected Finding in COVID-19 Mortality Risk Factors?

Source: <https://www.medscape.org/viewarticle/965576>

As we approach year 3 of the COVID-19 pandemic, there is increasing attention on the effects of COVID-19 on mental health. Research has suggested that COVID-19 is associated with worse mental health outcomes, but can preexisting psychiatric illness be a risk factor for COVID-19? Taquet and colleagues addressed this question, and the results of their study were published in the February 1 issue of *The Lancet Psychiatry*.^[1]

Researchers queried a database with records from 54 US managed care organizations to evaluate the association between mental health and COVID-19. Nearly 20% (18.1%) of patients had a psychiatric diagnosis in the 14 to 90 days after COVID-19, including 5.8% of patients with a first psychiatric diagnosis. Compared with 6 other health events, such as influenza infection and cholelithiasis, COVID-19 was associated with a 1.6- to 2.1-fold increase in a first psychiatric diagnosis during the 14 to 90 days after the event. Researchers found significantly higher rates of anxiety, insomnia, and dementia after COVID-19.

In addition, preexisting psychiatric illness in the past year was associated with a relative risk of 1.65 (95% CI: 1.59, 1.71) for incident COVID-19; however, this research did not closely examine whether patients with psychiatric illness had worse outcomes of COVID-19. The current study by and colleagues addresses this issue.

Study Synopsis and Perspective

Schizophrenia and severe mood and anxiety disorders are associated with a significantly lower risk for COVID-19 but are tied to a 2- to 4-fold increased risk for death from the virus, new research shows.

The study results held after controlling for other risk factors and contradict an earlier study that showed no increased mortality risk associated with mood or anxiety disorders. The findings come as the overall number of deaths in the United States approaches 800,000.^[2]

"These patients were less likely to be infected because they were probably less exposed, but once they have the infection, they are more prone to worse outcomes," lead author Antonio L. Teixeira, MD, PhD, professor of psychiatry with McGovern Medical School at The University of Texas Health Science Center at Houston, told *Medscape Medical News*.



The study was published November 1 in *JAMA Network Open*.^[3]

Unexpected Finding

Researchers analyzed electronic health records for 2.5 million adults with private health insurance who were tested for SARS-CoV-2, the virus that causes COVID-19, in 2020.

The overall positivity rate for the entire cohort was 11.91%, and patients with severe psychiatric illness fell below that rate. Positivity rates were 9.86% for people with schizophrenia or mood disorders and 11.17% among those persons with anxiety disorder.

Despite their lower positivity rate, patients with schizophrenia had the highest odds for death from COVID-19 after adjusting for age, race, body mass index, and comorbidities (adjusted odds ratio [aOR] = 3.74 [95% CI: 2.66, 5.24]).

Those results were not very surprising, Teixeira said, as earlier studies have reported similar findings; however, the data on individuals with mood and anxiety disorders were unexpected.

Patients with mood disorders were nearly 3 times as likely to die (aOR = 2.76 [95% CI: 2, 3.81]), and persons with anxiety disorders had more than double the mortality risk (aOR = 2.34 [95% CI: 1.68, 3.27]).

"We were expecting some increase, but there was strong evidence in those populations as well," he said. "We were especially surprised at the data on patients with anxiety disorders."

An Outstanding Question

These findings contradict a January 2021 study^[4] that showed no significant increase in mortality risk among those with mood or anxiety disorders.

Study methodology and timing might explain some of the differences, Katlyn Nemani, MD, a research assistant professor of psychiatry at the New York University Grossman School of Medicine, New York, New York, who led that earlier study, told *Medscape Medical News*.

Nemani's study had a smaller study sample, examined mortality over a 30-day period after a positive COVID-19 test, and was limited to the peak of the pandemic in New York, between March and May 2020. Teixeira's team examined a full year of data and assessed mortality for 7 days after a positive test.

"It is possible patients with some psychiatric disorders were less likely to receive or successfully respond to treatment for severe COVID-19, which evolved during the course of the pandemic," Nemani said, adding that it is also possible that differences in mortality in the days after infection became attenuated over time.

Although a meta-analysis published in July and reported by *Medscape Medical News* at that time^[5] did show higher COVID-19 mortality among patients with mood disorders, the risk was far lower than that reported in this new study. That report, which included 33 studies in 22 countries, also found no increase in risk among those with anxiety disorder.

In October, the Centers for Disease Control and Prevention added mood disorders to the list of medical conditions that increase the risk for more severe COVID-19.^[6] Schizophrenia was already on that list.

"The outstanding question is what underlies this increased risk," Nemani said. "Future studies focused on immune-mediated mechanisms and other potential explanations will help guide targeted interventions to reduce morbidity and mortality in this vulnerable population."

Funding for the study was not disclosed. Teixeira and Nemani report no conflicts of interest.

Study Highlights

- Investigators drew study data from a large US national healthcare database. Patients included in the study were adults who received a test for SARS-CoV-2 between February and December 2020.
- Researchers assessed records to determine which patients had a prior diagnosis of schizophrenia, mood disorders, and anxiety disorders before SARS-CoV-2 testing.
- Study analysis excluded patients who received psychotropic medications but who did not carry a diagnosis of psychiatric illness.
- The main study outcomes were how psychiatric illness affected rate of positive testing for SARS-CoV-2 as well as the mortality rate of COVID-19 among those persons with the infection. The researchers defined mortality related to COVID-19 as death during COVID-19 hospitalization or within 7 days of the diagnosis of COVID-19.
- The investigators adjusted the study results to account for demographic and disease variables, as well as smoking.



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- The study population included 2,535,098 patients. The mean age of patients was 44 ± 22 years, and 62% were female; 9% of patients were Black.
- 1.23% of patients had a diagnosis of schizophrenia, and approximately 10% and 6% of the cohort had mood and anxiety disorders, respectively.
- Characteristics in the cohort with psychiatric illness were significantly different compared with the control group without psychiatric illness. In particular, rates of smoking and most chronic illnesses were higher in the group with psychiatric illness.
- The overall rate of positive testing for SARS-CoV-2 was 11.91%. Lower rates of positive tests were found among women, smokers, and for most chronic illnesses, with the exception of diabetes.
- 31% of patients with schizophrenia received their SARS-CoV-2 test in an inpatient facility compared with just 12% of the control group.
- The aOR for a positive SARS-CoV-2 test in comparing patients with schizophrenia vs control patients was 0.93 (95% CI: 0.87, 0.99). Patients with schizophrenia and mood disorders were less likely to test positive for COVID-19 compared with patients with anxiety disorders and control patients, possibly because of more social isolation among patients with schizophrenia and mood disorders.
- The aOR for mortality for patients with schizophrenia vs the control group was 3.74 (95% CI: 2.66, 5.24). The respective aORs for COVID-19 mortality in the mood disorder and anxiety disorder groups were 2.76 (95% CI: 2, 3.81) and 2.34 (95% CI: 1.68, 3.27).

Clinical Implications

- A previous study by Taquet and colleagues found higher rates psychiatric illness after COVID-19 compared with rates after 6 common health events. Preexisting psychiatric illness was also associated with a higher risk for incident COVID-19.
- In the current study by Teixeira and colleagues, the presence of schizophrenia and mood disorders was associated with a lower risk for incident COVID-19, but mood disorders, anxiety disorders, and, particularly, schizophrenia were associated with higher risks for COVID-19 mortality.
- Implications for the healthcare team: Psychiatric illness was an independent risk factor for COVID-19 mortality in the current study. The healthcare team should consider more aggressive treatment for patients with psychiatric illness and COVID-19.

'Flurona' came amid uncontrollable corona, world's first case surfaced in Israel

Source: <https://hindustannewshub.com/world-news/florana-came-amid-uncontrollable-corona-worlds-first-case-surfaced-in-israel/>

Dec 31 – On one hand, while the world is battling Corona, the first infection of a new disease 'Flurona' has been registered in Israel. It is a double infection of corona and influenza, which has been revealed by the Israeli newspaper 'Yediot Ahronot'. The newspaper reported that the first case of **double infection has been registered in a pregnant woman who came to give birth** to a child at Rabin Medical Center this week.

The Israeli health ministry is still studying the case. It is not yet clear whether the combination of the two viruses can cause more severe disease. Health officials speculate that 'Flurona' may be present in other patients as well, which did not come up due to lack of testing. Israel is the first and currently the only country in the world where two booster doses are being applied to protect against corona.

Four doses of the corona vaccine are being administered in Israel. Recently, Israel started the trial of giving the fourth dose of the vaccine. This study is believed to be the first of its kind. At Shiba Medical Center on the outskirts of the capital Tel Aviv, trials began on 150 medical workers who received a booster (third) dose in August, being given the fourth dose of the Pfizer/Biontech vaccine.

Antibody levels decreased after the third dose

The additional doses given to the personnel were tested and found to have low levels of antibodies in their bodies. The trial has started at a time when Israeli officials are considering giving the country's population a second booster dose as infections from the Omicron form continue to grow out of the country. "Hopefully we will be able to prove that the fourth dose actually provides protection against Omicron and is much needed," said Professor Jacob LaVey, former director of the Department of Cardiovascular Transplantation at the Shiba Medical Center.

NOTE: Flurona or Florona or Delmicron? Still a debate!



China tightens Xi'an lockdown as city reports highest daily Covid-19 cases in nearly 2 years

Source: <https://edition.cnn.com/2021/12/28/china/xian-lockdown-tightened-intl-hnk/index.html>

Dec 29 – China's [Xi'an](#) has further tightened lockdown measures and rolled out the fifth round of mass testing as it reported the [highest daily count](#) of local symptomatic [Covid](#) infections in a Chinese city since March 2020.

Xi'an, an ancient city in northwestern Shaanxi province, reported 175 new local symptomatic cases on Tuesday.

Why?



This month, the city has reported 810 local symptomatic cases -- making it one of the worst community outbreaks in [China](#) since the initial wave of coronavirus infections in Wuhan, the original epicenter of the pandemic.

Authorities responded by enacting sweeping measures with intensity and on a scale rarely seen since Wuhan, as the Chinese government sticks rigidly to its [zero-Covid strategy](#) before the [Beijing Winter Olympics](#) in February.

Xi'an rolled out city-wide testing and placed its 13 million residents under a strict lockdown last week, closing schools, public venues and transportation except for essential services like supermarkets and hospitals. Residents were banned from leaving their homes except for urgent reasons such as medical emergencies.

The lockdown is China's largest since Wuhan, which sealed off 11 million people.

As cases continued to surge, Xi'an further tightened lockdown measures on Monday, requiring all residents to stay at home unless permitted to go outside for mass testing. Previously, each household was allowed to send one designated person out to buy groceries every two days.

[Subdistrict office staff carry daily necessities to be delivered to households in lockdown in Xi'an, in northwestern China's Shaanxi Province, Dec. 29, 2021. \(AP Photo\)](#)



On the Chinese social media platform Weibo, some Xi'an residents complained Tuesday they were running out of groceries at home.

"Can anyone save me?" [a user asked](#). "I'm about to starve at home. There was no one taking my orders online ... Please help me. It's OK if it's expensive, I just want to have some groceries. I'm desperate."

Under the new rules, university students are required to stay inside their dorms unless for special needs, while staff at supermarkets, convenience stores, logistics centers and markets selling agricultural products must wear N95 face masks and medical gloves, according to a statement issued by the Xi'an government.

The statement said authorities would adjust containment measures based on the results of the latest round of mass testing.

Authorities began disinfecting the whole city late Sunday, with workers in protective gear and trucks spraying disinfectant on roads, underground railways, buildings and into the air.

Residents were warned to close their windows and not to touch any outside surfaces and plants.



On Monday night, 150 military medics from the People's Liberation Army Air Force -- some with experience fighting the initial Covid-19 outbreak in Wuhan -- were sent to Xi'an to assist in local hospitals, state media reported.

Xi'an, a tourist hotspot known internationally as the home of the 2,000-year-old [Terracotta warriors sculptures](#), detected its first case connected to the latest outbreak at a quarantine hotel on December 9. The virus is believed to have then spread into the community via an infected hotel worker.

Officials believe the cluster is linked to an inbound flight from Pakistan on December 4, where at least six passengers were found to have the Delta variant. So far, there have been no reported cases of the Omicron variant in Xi'an.

The city is also a major transportation hub for western China. Its airport has been virtually shut down since last week, with all domestic flights canceled. According to flight tracker VariFlight, 681 flights departing and arriving at the Xi'an airport were canceled on Tuesday.

Studies Suggest Why Omicron Is Less Severe: It Spares the Lungs

Source: <https://www.nytimes.com/2021/12/31/health/covid-omicron-lung-cells.html>

Dec 31 – A spate of new studies on lab animals and human tissues are providing the first indication of why the Omicron variant causes milder disease than previous versions of the coronavirus.

In studies on mice and hamsters, Omicron produced less damaging infections, often limited largely to the upper airway: the nose, throat, and windpipe. The variant did much less harm to the lungs, where previous variants would often cause scarring and serious breathing difficulty.

"It's fair to say that the idea of a disease that manifests itself primarily in the upper respiratory system is emerging," said Roland Eils, a computational biologist at the Berlin Institute of Health, who has [studied](#) how coronaviruses infect the airway.

In November, when the first report on the [Omicron variant](#) came out of South Africa, scientists could only guess at how it might behave differently from earlier forms of the virus. All they knew was that it had a distinctive and alarming combination of more than 50 genetic mutations.

Previous research had shown that some of these mutations enabled coronaviruses to grab onto cells more tightly. Others allowed the virus to evade antibodies, which serve as an early line of defense against infection. But how the new variant might behave inside of the body was a mystery.

"You can't predict the behavior of virus from just the mutations," said Ravindra Gupta, a virologist at the University of Cambridge. Over the past month, more than a dozen research groups, including Dr. Gupta's, have been observing the new pathogen in the lab, infecting cells in Petri dishes with Omicron and spraying the virus into the noses of animals.

As they worked, Omicron surged across the planet, readily infecting even people who were vaccinated or had recovered from infections.

But as cases skyrocketed, hospitalizations increased only modestly. Early studies of patients suggested that Omicron was less likely to cause severe illness than other variants, especially in vaccinated people. Still, those findings came with a lot of caveats.

For one thing, the bulk of early Omicron infections was in young people, who are less likely to get seriously ill with all versions of the virus. And many of those early cases were happening in people with some immunity from previous infections or vaccines. It was unclear whether Omicron would also prove less severe in an unvaccinated older person, for example.

Experiments on animals can help clear up these ambiguities because scientists can test Omicron on identical animals living in identical conditions. More than half a dozen experiments made public in recent days all pointed to the same conclusion: Omicron is milder than Delta and other earlier versions of the virus.

On Wednesday, a large consortium of Japanese and American scientists released a [report](#) on hamsters and mice that had been infected with either Omicron or one of several earlier variants. Those infected with Omicron had less lung damage, lost less weight and were less likely to die, the study found.

Although the animals infected with Omicron on average experienced much milder symptoms, the scientists were particularly struck by the results in Syrian hamsters, a species known to get severely ill with all previous versions of the virus.

"This was surprising since every other variant has robustly infected these hamsters," said Dr. Michael Diamond, a virologist at Washington University and a co-author of the study.

Several [other](#) studies on [mice](#) and [hamsters](#) have reached the same conclusion. (Like most urgent Omicron research, these studies have been posted online but have not yet been published in scientific journals.)

The reason that Omicron is milder may be a matter of anatomy. Dr. Diamond and his colleagues found that the level of Omicron in the noses of the hamsters was the same as in



animals infected with an earlier form of the coronavirus. But Omicron levels in the lungs were one-tenth or less of the level of other variants.

A [similar finding](#) came from researchers at the University of Hong Kong who studied bits of tissue taken from human airways during surgery. In 12 lung samples, the researchers found that Omicron grew more slowly than Delta and other variants did.

The researchers also infected tissue from the bronchi, the tubes in the upper chest that deliver air from the windpipe to the lungs. And inside of those bronchial cells, in the first two days after an infection, Omicron grew faster than Delta or the original coronavirus did.

These findings will have to be followed up with further studies, such as experiments with monkeys or examination of the airways of people infected with Omicron. If the results hold up to scrutiny, they might explain why people infected with Omicron seem less likely to be hospitalized than those with Delta.

Coronavirus infections start in the nose or possibly the [mouth](#) and spread down the throat. Mild infections don't get much further than that. But when the coronavirus reaches the lungs, it can do serious damage.

Immune cells in the lungs can overreact, killing off not just infected cells but uninfected ones. They can produce runaway inflammation, scarring the lung's delicate walls. What's more, the viruses can escape from the damaged lungs into the bloodstream, triggering clots and ravaging other organs.

Dr. Gupta suspects that his team's new data give a molecular explanation for why Omicron doesn't fare so well in the lungs.

Many cells in the lung carry a protein called TMPRSS2 on their surface that can inadvertently help passing viruses gain entry to the cell. But Dr. Gupta's team found that this protein doesn't grab on to Omicron very well. As a result, Omicron does a worse job of infecting cells in this manner than Delta does. A team at the University of Glasgow [independently came to the same conclusion](#). Through an alternative route, coronaviruses can also slip into cells that don't make TMPRSS2. Higher in the airway, cells tend not to carry the protein, which might explain the evidence that Omicron is found there more often than the lungs.

Dr. Gupta speculated that Omicron evolved into an upper-airway specialist, thriving in the throat and nose. If that's true, the virus might have a better chance of getting expelled in tiny drops into the surrounding air and encountering new hosts.

"It's all about what happens in the upper airway for it to transmit, right?" he said. "It's not really what happens down below in the lungs, where the severe disease stuff happens. So you can understand why the virus has evolved in this way."

While these studies clearly help explain why Omicron causes milder disease, they don't yet answer why the variant is so good at spreading from one person to another. The United States logged [more than 580,000 cases](#) on Thursday alone, the majority of which are thought to be Omicron.

"These studies address the question about what may happen in the lungs but don't really address the question of transmissibility," said Sara Cherry, a virologist at the Perelman School of Medicine at the University of Pennsylvania.

Dr. Diamond said he wanted to wait for more studies to be carried out, especially in people instead of animals, before endorsing the hypothesis that TMPRSS2 is the key to understanding Omicron. "I think it is still premature on this," he said.

Scientists know that part of Omicron's contagiousness comes from its ability to evade antibodies, allowing it to easily get into cells of vaccinated people far more easily than other variants. But they suspect that Omicron has some other biological advantages as well.

Last week, researchers [reported](#) that the variant carries a mutation that may weaken so-called innate immunity, a molecular alarm that rapidly activates our immune system at the first sign of an invasion in the [nose](#). But it will take more experiments to see if this is indeed one of Omicron's secrets to success.

"It could be as simple as, this is a lot more virus in people's saliva and nasal passages," Dr. Cherry said. But there could be other explanations for its efficient spread: It could be more stable in the air, or better infect new hosts. "I think it's really an important question," she said.

New Russian vaccine **Convasele** can be registered before the end of 1Q 2022 - FMBA

Source: <https://tass.com/society/1383279>

Dec 31 – New Russian vaccine against the coronavirus, Convasele, can be registered before the end of the first quarter of 2022, head of the Federal Bio-Medical Agency (FMBA) Veronika Skvortsova said in an interview with the Rossiya-24 TV channel.

"We plan to submit a report by the end of this year. Of course, the regulator will decide, there are different approaches," she said adding that the period of observation of the people they began to vaccinate in August-September takes six months.



"If so, then it will be until the end of the first quarter [the registration may take place]," she said adding that the industrial site for the production of the vaccine is ready.

The Convasel vaccine was developed by the St. Petersburg Research Institute of Vaccines and Serums under the FMBA. In June 2021, preclinical studies of the vaccine were completed, as a result of which its safety, immunogenicity and protective potential were proved.

Tokyo researchers work toward 'dream' COVID-19 vaccine that gives protection for life

Source: <https://www.japantimes.co.jp/news/2021/12/29/national/science-health/one-shot-lifetime-covid-vaccine/>

Dec 29 – Researchers in Tokyo are developing a “dream” COVID-19 vaccine that offers lifetime efficacy, in what would be a game-changer as the fight against the coronavirus drags on into its third year.

At a time when it appears most COVID-19 vaccines will require periodic boosters due to a decline in recipients' antibody levels, the creation of a vaccine with lifetime efficacy could lead to huge financial savings globally and give the world an upper hand against the coronavirus, which has infected more than 270 million people and claimed more than 5 million lives around the world.

Soon after the pandemic began, in early 2020, **Michinori Kohara, emeritus investigator at the Tokyo Metropolitan Institute of Medical Science**, wondered if it was possible to develop a vaccine based on the tried and tested smallpox vaccine — which helped the world eradicate the deadly disease. The vaccinia virus used in the smallpox vaccine is a subject he has worked on for over three decades, and Kohara knows firsthand how significant a vaccine that gives strong protection for life can be.

The smallpox vaccine was developed by British doctor Edward Jenner in 1796 to counter the infectious disease, which had an extremely high mortality rate. In Japan, there have been no patients since 1956 and the government's periodical vaccination ended in late 1970s. The vaccine remains the only shot that has successfully eradicated an infectious disease, with the last known case being a patient in Somalia in 1977 after a coordinated global vaccination campaign by the World Health Organization.

So in April 2020, Kohara, in cooperation with the National Institute of Infectious Diseases, started developing a recombinant vaccinia virus containing the spike protein of the SARS-CoV-2 virus, which causes COVID-19. They picked the nonpathogenic strain of the vaccinia virus variant called DIs, which works as an extremely effective and safe viral vector for delivering the SARS-CoV-2 spike gene.

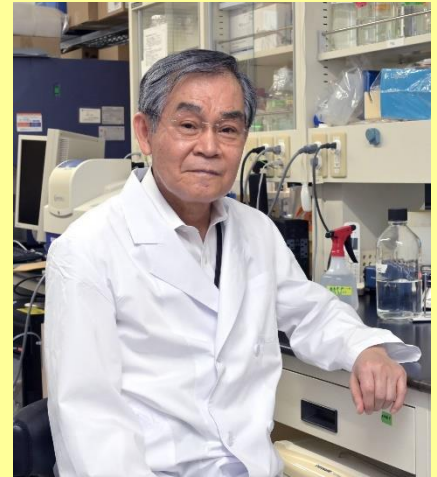
While the messenger RNA COVID-19 vaccines developed by Pfizer Inc.-BioNTech SE and Moderna Inc. have been successful in preventing severe illness and death, neutralizing antibodies fall significantly over six months after vaccination, making boosters necessary — particularly against the omicron variant.

In contrast, the vaccine that Kohara is spearheading can produce potent neutralizing antibodies within a week of inoculation and induce the strongest cellular immunity of any vaccine, he says. That would be significant as none of the currently available COVID-19 vaccines appear to offer long-term protection.

Experiments on mice using the recombinant vaccinia virus encoding the highly pathogenic avian flu HA gene have shown high antibody levels that were maintained for more than 20 months, or nearly the average life span of a mouse, and all vaccinated mice infected with the avian flu 20 months post-vaccination survived. In contrast, the unvaccinated mice all died.

The project, in which Tokyo Gov. Yuriko Koike has expressed her enthusiasm, has been undertaken as part of special research sponsored by the Tokyo Metropolitan Government.

"I have worked on various vaccine technologies such as the adenovirus and messenger RNA, but the vaccine using the vaccinia virus vector is the most powerful of all with few side effects," Kohara told The Japan Times in an interview. "The characteristics of this vaccine is that it can induce antibodies and lifelong immunity. One shot of the vaccine keeps its efficacy for more than 20 months, and there is no other vaccine that can achieve these effects."



Tests on crab-eating macaques also showed that the vaccine protected primates from developing pneumonia, and that the amount of the virus detected in their lungs was below the detection limit seven days after infection with the coronavirus.

Domestic drugmaker Nobelpharma Co. is set to conduct first and second phases of clinical trials of Kohara's vaccine in Japan within the first half of 2023 on 150 to 200 volunteers, including those who have experienced infections and fully vaccinated individuals. If efficacy and safety are confirmed, the final phase clinical trial is set to start immediately afterward, with commercialization targeted for 2024 at the earliest, he says.

One of the biggest hurdles for the vaccine is securing the several tens of billions of yen needed to conduct the last clinical trial, as Kohara says Nobelpharma cannot fund it alone. Although the government has allocated more than ¥100 billion to subsidize large-scale clinical trials by domestic drugmakers, there has been no plan to subsidize the project's clinical trials as Nobelpharma and the Tokyo Metropolitan Institute of Medical Science have no prior experience of commercializing a vaccine, Kohara said.

"I hope the government will change its mind once the first two stages of clinical trials show efficacy in humans," he said. "Or we would be looking to conduct the trial in collaboration with a major drugmaker as a more promising choice," he said.

While tests on mice have shown that one shot would induce enough neutralizing antibodies for lifelong protection within a week of vaccination, Kohara said two shots taken three weeks apart have increased neutralizing antibodies tenfold.

Kohara says the vaccine also has an edge in terms of side effects at a time when worries over high fevers and myocarditis, especially in young men, have put a damper on the COVID-19 vaccine campaign. Though no vaccines are said to be completely without side effects, vaccinia viruses have been safely used in the smallpox vaccine for more than two centuries and the vaccinia vaccine variant DIs used in the vaccine can no longer replicate in mammals. That means it would likely cause much fewer side effect reactions compared with other COVID-19 vaccines, he said.

Unlike AstraZeneca's chimpanzee adenovirus vaccine vector used in its COVID-19 shot, the vaccine developed by Kohara uses a smallpox vaccine strain that has already been used as a vaccine and whose efficacy and safety have been established as a vector, noted Tetsuo Nakayama, a project professor at Kitasato Institute for Life Sciences and director of the Japanese Society of Clinical Virology. Nakayama is not involved in the development of the vaccine.

"Prior to the eradication of smallpox in 1980 the smallpox vaccine was used until 1976, and virtually all of the people born before 1976 have received it," he said. "Though mice that received the smallpox vaccine have a confirmed immunity effect, there could be a reduced immunity effect in humans" who received the smallpox vaccine.

Such concerns over reduced efficacy have been also raised for vaccines using adenovirus as a vector to deliver genes or vaccine antigens as experts say the previous vaccine recipients could have pre-existing immunity against the vector itself, which could diminish the vaccine's efficacy.

Kohara says he has found a solution to such concerns. Vaccines are typically administered into the muscle beneath the skin or into the subcutaneous fat. If the recipient received the vaccinia virus vaccine via these conventional methods, there's been evidence showing that a seldom used method of intradermal inoculation, a shallow injection just under the skin, would ensure the efficacy of the vaccine without any problems, he said.

Lab tests have also confirmed the vaccine's broad efficacy against coronavirus variants, including delta. While there were four different vaccines developed globally for various variants of avian flu, Kohara says efficacy against all coronavirus variants has been shown from his single vaccinia vaccine candidate. The vaccine will likely show efficacy against the omicron variant as well, he added. Another advantage of the vaccine is its ability to be stored long-term in a dried form at room temperature, which would be particularly beneficial for developing countries with tropical climates.

"The current situation is that we would need to be vaccinated as often as every three or six months, and we would need to make new vaccines whenever new variants of concern pop up," he said. "So if our vaccine's efficacy lasted for even a year, two years or three years, that would translate to huge savings worth trillions of yen to the social infrastructure as a whole. The vaccine also has high cross-immunity to work against many variants, so these two things alone justify making this vaccine."

The mRNA-LNP platform's lipid nanoparticle component used in preclinical vaccine studies is highly inflammatory

By Sonia Ndeupen, Zhen Qin, Sonya Jacobsen, et al.

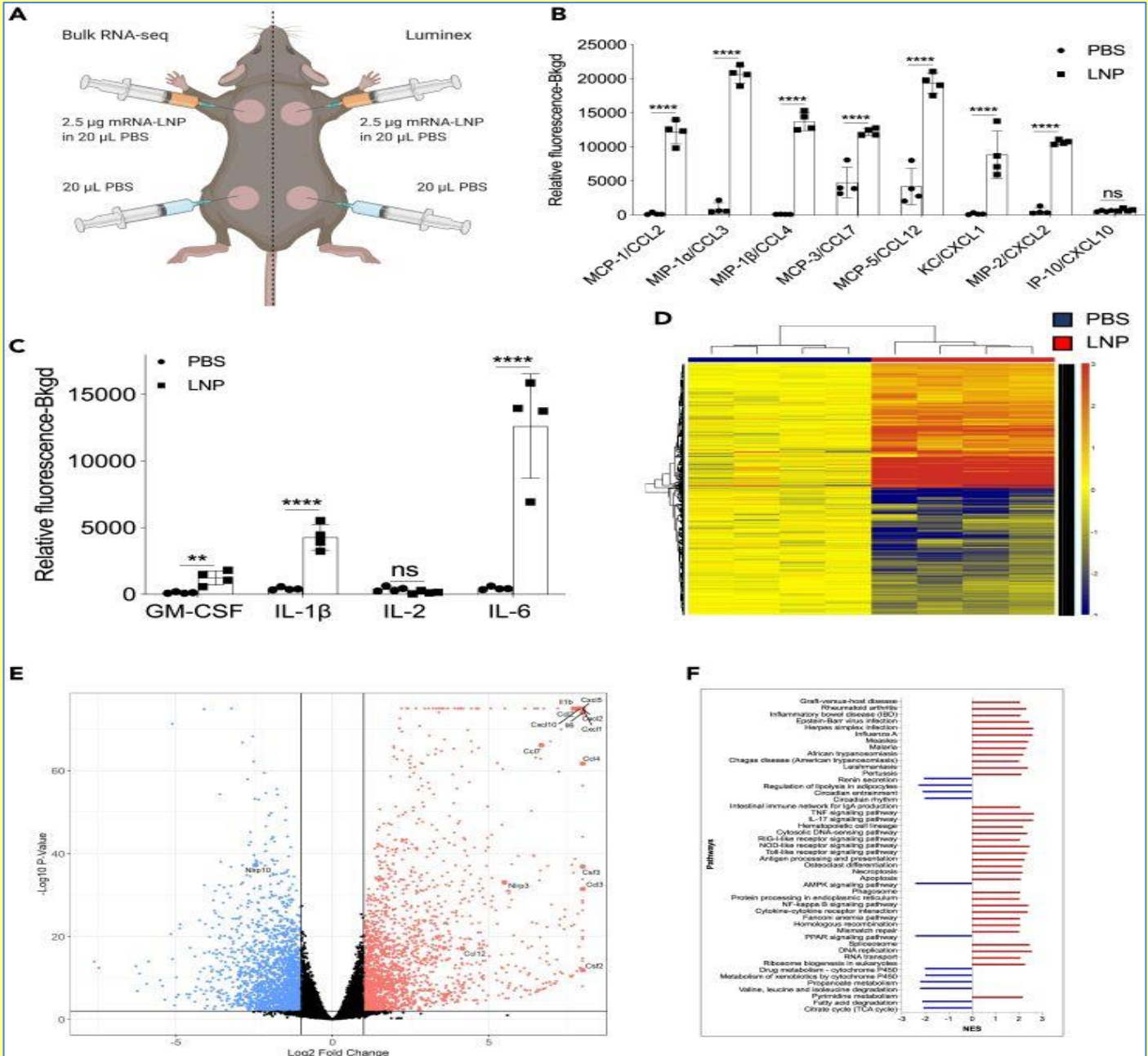
iScience. 2021 Dec 17;24(12):103479.

Source: <https://pubmed.ncbi.nlm.nih.gov/34841223/>

Vaccines based on mRNA-containing lipid nanoparticles (LNPs) are a promising new platform used by two leading vaccines against COVID-19. Clinical trials and ongoing

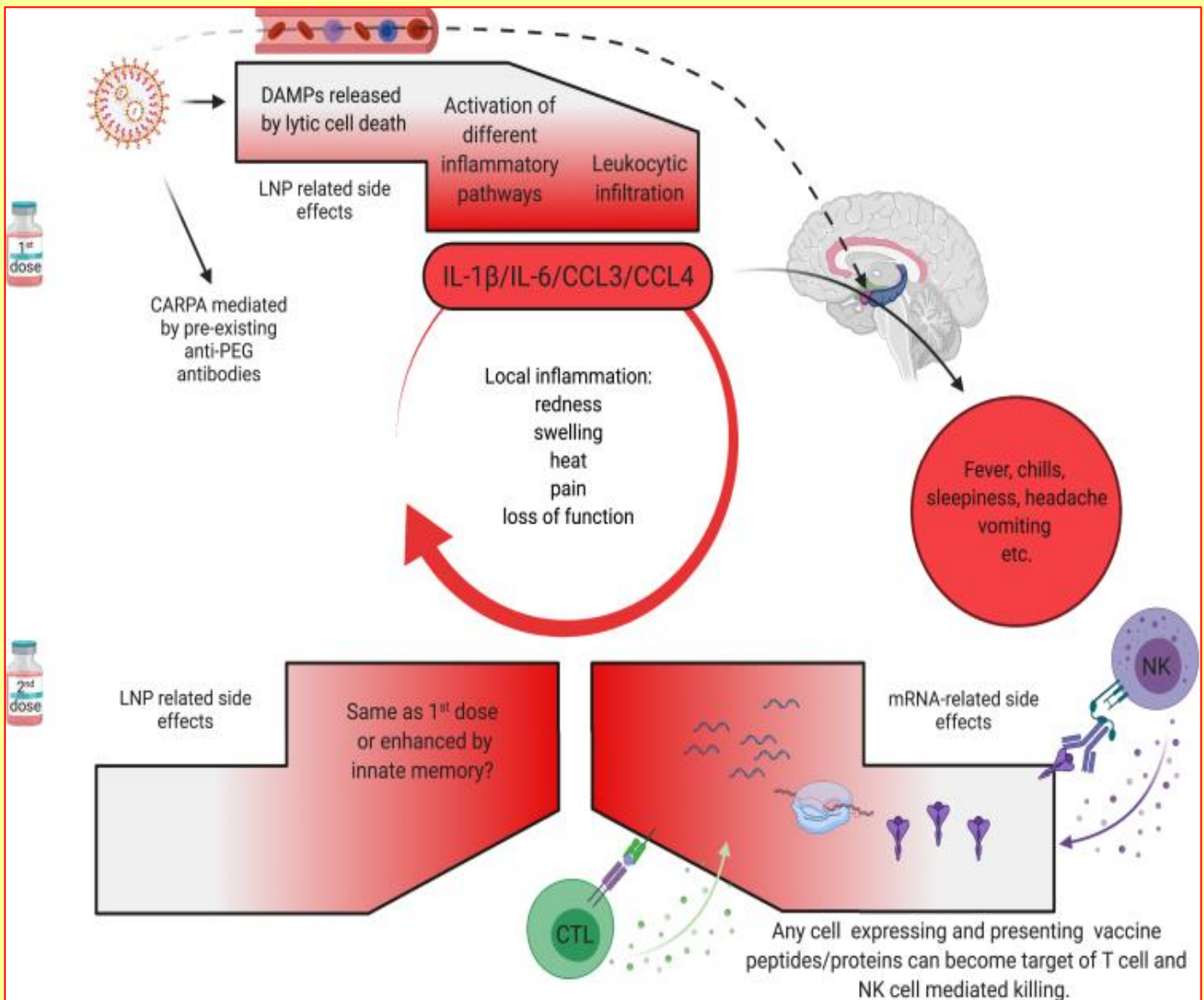


vaccinations present with varying degrees of protection levels and side effects. However, the drivers of the reported side effects remain poorly defined. Here we present evidence that Acuitas' LNPs used in preclinical nucleoside-modified mRNA vaccine studies are highly inflammatory in mice. Intradermal and intramuscular injection of these LNPs led to rapid and robust inflammatory responses, characterized by massive neutrophil infiltration, activation of diverse inflammatory pathways, and production of various inflammatory cytokines and chemokines.



Intradermal inoculation with LNPs complexed with noncoding poly-cytosine mRNA leads to an inflammatory milieu (A) Experimental design. The mice were treated as indicated, and 24 h later, the skin samples were prepared for Luminex and bulk RNA-seq analyses. (B and C) Luminex data summarizing inflammatory chemokines and cytokines induced by the LNPs. See also Figure S2. (D) Heatmap of gene expression changes triggered by the LNPs (FDR < 0.05, log₂ FC > 1–4091 genes). (E) Volcano plot summarizing the up- and downregulated genes upon LNP injection. (F) GSEA analyses of the KEGG pathways and displayed as normalized enrichment score (NES). FDR < 0.05. Pathways with NES less than ±2 are not displayed. N = 4.





Potential mechanism of side effects The side effects observed with the SARS-CoV-2 vaccine's first dose are likely associated with the LNPs' inflammatory properties. LNPs activate different inflammatory pathways that will lead to the production of inflammatory cytokines, such as IL-1 β and IL-6, that can initiate and sustain local and systemic inflammations and side effects. The dashed line indicates the possibility that the LNPs might also diffuse from the periphery and reach any organs in the body, including CNS (hypothalamus) where they could directly induce side effects. PEG is widely used as a food and medicine additive, and many of us develop antibodies to PEG. Therefore, the LNPs' PEGylated lipids can induce CARPA in humans with preexisting PEG-specific antibodies. Humans often experience more severe side effects with the second dose. Here we posit that might be due to multiple reasons. Firstly, innate immune memory against the LNPs might form after the first vaccination and that could lead to even more robust inflammatory responses upon the second vaccination. Secondly, after the first vaccination, adaptive immune responses are formed targeting the viral protein coded by the mRNA. As such, cells (shown as red shape) expressing the viral protein-derived peptides or protein itself can become the target of CD8⁺ T- or NK-cell-mediated killing (ADCC), respectively. Because the LNPs could diffuse throughout the body and transfect any cell in their path with the mRNA, and the mRNA could also be further distributed through extracellular vesicles (Maugeri et al., 2019), the target population could potentially be vast and diverse.

The same dose of LNP delivered intranasally led to similar inflammatory responses in the lung and resulted in a high mortality rate, with mechanism unresolved. Thus, the mRNA-LNP platforms' potency in supporting the induction of adaptive immune responses and the observed side effects may stem from the LNPs' highly inflammatory nature.



Coronavirus cases keep cruise ship Aida Nova stuck in Lisbon

Source: <https://www.dpa-international.com/topic/coronavirus-cases-keep-cruise-ship-aida-nova-stuck-lisbon-urn%3Anewsml%3Adpa.com%3A20090101%3A220101-99-560411>



Jan 01 – Nearly 3,000 cruise passengers had to spend New Year's Eve in an unplanned stay ashore in Lisbon because of the coronavirus, while it was unclear when the vessel would be able to continue its voyage. Due to several dozen cases of infection among the crew, the onward journey of the cruise ship Aida Nova in the port of the Portuguese capital city was delayed until the New Year. The planned trip to view the spectacular New Year's Eve fireworks over the port of Funchal on the Atlantic island of Madeira was cancelled, ruining New Year's Eve and the party mood for some passengers, according to reports on social media.

The positive coronavirus cases were discovered early on during routine checks and those affected were accommodated ashore in coordination with the authorities in Lisbon, German operator Aida Cruises said in the north-eastern German city of Rostock on Friday. The crew members had only mild symptoms and were receiving medical care.

Lisbon port director Diogo Vieira Branco told Portuguese state news agency Lusa that 52 of the 1,353 crew members on the Aida Nova had tested positive. They had all been accommodated in hotels in Lisbon, where they were to undergo the mandatory isolation. There were 2,844 tourists on the ship, among whom there was no positive case, the port commander was quoted as saying by Lusa late on Friday evening. According to this information, the Portuguese authorities meanwhile granted the Aida Nova a departure permit, notwithstanding the thinned-out crew.

However, according to Aida Cruises, it was not yet clear when the ship would continue its voyage to the Canary Islands. The company told dpa that it was waiting for the arrival of important crew members and was examining various travel options. The cruise passengers are reportedly allowed to leave the ship without restrictions.

The company pointed out that all passengers over the age of 12 and the crew had been vaccinated and that both an antigen and a polymerase chain reaction (PCR) test had to be carried out before departure.

Nurse saved from Covid coma by Viagra after 45 days in hospital fighting virus

Source: <https://www.mirror.co.uk/news/uk-news/nurse-saved-45-day-covid-25834031.amp>

Jan 02 – A nurse who spent 45 days fighting for her life in intensive care after catching [Covid](#) has been saved by Viagra.

Monica Almeida, 37, was given the erectile dysfunction drug around one week after being placed into a coma by doctors.

She says the Viagra helped open up her airways, allowing her to breathe.



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The specialist respiratory nurse is now recovering at home after being discharged from [hospital](#) at 6pm on Christmas Eve.

Mum-of-two Monica said: "It was definitely the Viagra that saved me.

"Within 48 hours it opened up my airways and my lungs started to respond.

"If you think how the drug works, it expands your blood vessels.

"I have asthma and my air sacs needed a little help."

Monica says that after Sildenafil (Viagra) was administered the amount of oxygen she needed was reduced by around 50 per cent.

"I had a little joke with the consultant after I came round, because I knew him," Monica added.



"He told me it was the Viagra, I laughed and thought he was joking, but he said 'no, really, you've had a large dose of Viagra.'

"It was my little Christmas miracle."

Monica, who is double jabbed, tested positive for Covid in early November this year.

Husband Artur and her two sons, aged nine and 14, also fell ill with the virus.

Around one week later she was taken to Lincoln County Hospital after struggling to breathe. Medics admitted her to ICU before she was placed into a medically induced coma on November 16. At one point her family, who live in Portugal, were warned she was on the brink of death.

"They were told my ventilator could be turned off within 72 hours," Monica said. "I could have been gone at just 37 years old, but I suppose I was a bit of a monkey and kept on fighting."

Before being put to sleep Monica signed a document saying she was happy to be in a study to try experimental drugs. The use of Viagra caused her condition to improve and she regained consciousness on December 14.

Monica, who lives in Gainsborough, Lincs., is now determined to recover fully so she can return to work. She says she owes her life to the staff at Lincoln County Hospital, where she started her nursing career.

EDITOR'S COMMENT: Notice the equipment provided to her husband when visiting her at the ICU. A pair of surgical gloves would be nice though – unless she is allergic to latex ...

Emergence in Southern France of a new SARS-CoV-2 variant of probably Cameroonian origin harboring both substitutions N501Y and E484K in the spike protein

By Philippe Colson, Jérémy Delerce, Emilie Burel, et al.

Source: <https://www.medrxiv.org/content/10.1101/2021.12.24.21268174v1>

This article is a preprint and has not been peer-reviewed. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

ABSTRACT

SARS-CoV-2 variants have become a major virological, epidemiological and clinical concern, particularly with regard to the risk of escape from vaccine-induced immunity. Here we describe the emergence of a new variant. For twelve SARS-CoV-positive patients living in the same geographical area of southeastern France, qPCR testing that screen for variant-associated mutations showed an atypical combination. The index case returned from a travel in **Cameroon**. The genomes were obtained by next-generation sequencing with Oxford Nanopore Technologies on GridION instruments within ≈8 h. Their analysis revealed 46 mutations and 37 deletions resulting in 30 amino acid substitutions and 12 deletions. Fourteen amino acid substitutions, including N501Y and E484K, and 9 deletions are located



in the spike protein. This genotype pattern led to create a new Pangolin lineage named B.1.640.2, which is a phylogenetic sister group to the old B.1.640 lineage renamed¹ **B.1.640.1**. Both lineages differ by 25 nucleotide substitutions and 33 deletions. The mutation set and phylogenetic position of the genomes obtained here indicate based on our previous definition a new variant we named "IHU". These data are another example of the unpredictability of the emergence of SARS-CoV-2 variants, and of their introduction in a given geographical area from abroad.

Some Face Mask Modifications Improve Fit and Boost Performance for Medical Professionals and for Public, Study Finds

Source: <https://www.medscape.com/viewarticle/965813>

Dec 30 – Certain modifications to face masks, such as double masking and adjusting the fit more tightly around the face, can greatly reduce the transmission of respiratory particles, says a study involving five types of masks, eight modifications, and both mannequins and human subjects.

"Wearing a face mask to protect others from potentially infectious aerosols and droplets, called source control, has been shown to be a highly effective infection control strategy to limit the spread of COVID-19," write Francoise M. Blachere, MSc, of the National Institute for Occupational Safety and Health, Morgantown, West Virginia, and colleagues.

Pandemic recommendations continue to call for mask wearing in various settings, regardless of vaccination status, but face seal leaks allow respiratory aerosols to escape vs passing through the mask filtering material, the researchers say. Data on the effectiveness of proposed modifications to improve mask fit, such as mask braces, earloop straps, knotting/tucking, and double masking, are limited, they note.

In [a study](#) published in the *American Journal of Infection Control*, the researchers evaluated several modifications to improve the fit of a medical or cloth face mask and reduce the amount of escaping aerosols. The masks evaluated were a disposable protective medical mask and a disposable protective surgical mask (both with elastic earloops and adjustable metal nose strips), a reusable two-ply polyester blend cloth mask with earloops, a three-ply cotton face mask with earloops and adjustable metal nose strip, and a four-ply cotton/polyester blend mask with earloops and adjustable metal nose strip.

The researchers simulated coughs and exhalations and measured the efficiency of the various masking modifications for blocking respiratory aerosols.

Overall, layering a three-ply cloth mask over a medical mask (double masking) and securing a medical mask with a brace provided the best protection against respiratory aerosols.

Unmodified medical masks blocked 56% or more of cough aerosols and 42% or more of exhaled aerosols. By comparison, adding a cloth mask on top of a medical mask blocked 85% or more of cough aerosols and 91% or more of exhaled aerosols, and adding a brace over a medical mask blocked 95% or more of cough aerosols and 99% or more of exhaled aerosols.

Examination of filtration efficiency and inhalation airflow resistance showed differences among the materials of medical and cloth masks. Overall, the filtration performance of cloth masks was twofold to fourfold lower and the airflow resistance was higher compared to medical masks.

In fit tests on mannequins and human subjects, mask-fitting modifications of crossing the earloops or using a mask bracket decreased the fit of both types of medical masks. However, using earloop toggles or an earloop strap, or knotting and tucking the mask, increased performance of medical masks compared to medical masks without modification. Using a mask brace improved fit for both medical masks and cloth masks.

The study findings were limited by several factors, including the focus on only five masks from the many available options, and by the use of simulation for cough and exhalation, which cannot account for the variation in breathing flow for individuals under different physiologic conditions, the researchers note.

However, the results yielded "practical combinations of face masks and mask modification devices that improved the mask seal and reduced the expulsion of respiratory aerosols into the environment," the researchers write. "These mask fit modifications can be

¹ Dubbed [IHU](#) after being discovered by scientists at the IHU Mediterranee Infection.



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implemented by healthcare workers, patients, and the general public alike," and the results can be broadly applied to reduce the transmission of other respiratory pathogens beyond COVID-19 and the current pandemic, they conclude.

"The study is important because face masks continue to be used to reduce the spread of infectious viruses such as SARS-CoV-2

that are transmitted by respiratory aerosols and droplets produced during activities such as talking, coughing, and breathing," lead author Blachere told Medscape in an interview. "In this study, our group evaluated various modifications that aimed to improve the fit of a medical or cloth face mask and reduce the amount of expelled aerosols," she said.

Blachere highlighted the finding that a medical mask was better at blocking coughed and exhaled aerosols of all sizes when the fit of a medical face mask was improved with a brace or layered with a cloth mask (double masking). "The improvements that we saw were most pronounced for smaller aerosols ($\leq 3.3 \mu\text{m}$ in size), which is important because smaller aerosols can stay airborne longer and travel deeper into the lungs when inhaled," Blachere said.

The key message for clinicians and the public is that the performance of face masks for controlling the spread of infection is twofold, dependent upon "both the ability of the mask material to filter aerosols, and on how well the mask fits the wearer," she emphasized.

Barriers persist to proper face mask use. "People may be less willing to wear masks or may wear them

incorrectly if the mask is uncomfortable, doesn't fit well, or is hard to breathe through," said Blachere. "It may help to try different masks in order to find one that is most comfortable. Finding a mask with a metal band that seals well around the nose or adding a mask fitter over the mask may help reduce fogging of eyeglasses, which is a common problem," she noted. She added that current CDC guidelines on face masks and fit modifications can be found on the CDC websites: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html> and <https://www.cdc.gov/coronavirus/2019-ncov/your-health/effective-masks.html>.

"Future studies will look at how well different mask designs and materials work and will study how the performance of the mask is affected by different breathing rates and cough volumes, Blachere explained. "We also hope to develop a model that can predict how well the mask blocks coughed and exhaled aerosols using widely used standard tests of filtration performance and fit."



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Promoting Proper Mask Fit Makes a Difference

"Improvements in the function of masks are important for reducing transmission risk in the healthcare environment, as well as in the general community," William Schaffner, MD, past president and current medical director of the National Foundation for Infectious Diseases, said in an interview with Medscape.

Schaffner was not surprised by the study findings. "The authors have demonstrated that several mask modifications can make masks fit more securely around the cheeks and chin, thereby improving their function in reducing the dispersal of aerosols by the wearer, source control," Schaffner said. "They also reinforce the concept that double-masking, adding additional layers, likewise improves mask performance.

"These are well-known principles, and it is important to have additional data in confirmation," said Schaffner. But "in the general population, the issues are more basic, namely, persuading people to wear any mask in indoor environments, as well as to remind them to wear the mask properly. As an example, all too frequently the mask does not cover the nose.

"The take-home message is to wear a mask that fits well, and if a cloth mask is used, to make sure that it consists of at least two layers of material," Schaffner emphasized.

●► [Read more @ Am J Infect Control](#). Published online December 15, 2021. [Full text](#)

New patent-free COVID vaccine developed as "gift to the world"

Source: <https://newatlas.com/health-wellbeing/patent-free-coronavirus-vaccine-protein-subunit/>



The initial Corbevax vaccine research was led by Maria Elena Bottazzi and Peter Hotez from the Texas Children's Hospital Center for Vaccine Development (Texas Children's Hospital)

Jan 03 – A new COVID-19 vaccine, developed by researchers from the Texas Children's Hospital and Baylor College of Medicine, is being offered patent-free to vaccine



manufacturers across the world. Human trials have shown the vaccine to be safe and effective, with India already authorizing its use as production ramps up to over 100 million doses per month.

The vaccine has been named **Corbevax** and it is based on a traditional protein-based technology that has been safely used for decades. Like other COVID-19 vaccines, Corbevax focuses on the coronavirus spike protein, but instead of using mRNA to direct our cells to produce those spike proteins internally **it delivers lab-grown spike proteins to the body.**

The researchers took the gene that codes for the spike protein and engineered yeast to produce it. These proteins are collected, purified, and combined with an adjuvant to enhance immune responses. This exact method has been used to produce the hepatitis B vaccine for years.

“Protein-based vaccines have been widely used to prevent many other diseases, have proven safety records, and use economies of scale to achieve low-cost scalability across the world,” says Maria Elena Bottazzi, one of the lead researchers on the project.

In late 2020 the US research team developing the vaccine [joined forces with India-based pharma company Biological E](#) to begin clinical trials and establish manufacturing capacity. Across 2021 those clinical trials included several thousand participants and ultimately found Corbevax to be safe and effective at generating robust immune responses to SARS-CoV-2.

The trial data was compared to an already approved vaccine called Covishield (the Indian-made version of AstraZeneca’s well-known COVID-19 vaccine). Corbevax generated significantly fewer adverse effects than Covishield and produced superior immune responses.

Neutralizing antibody responses to Corbevax indicate the vaccine should be at least 80 percent effective at preventing symptomatic COVID-19 from the Delta variant. Specific data against the Omicron variant is expected soon but it is hypothesized to be at least as effective as most currently available vaccines.

Perhaps the most important feature of this new vaccine is the fact it has been developed as a patent-free product that can be easily manufactured by vaccine-producers around the world. Peter Hotez, one of the researchers leading the project, has described it as a “gift to the world,” pointing out the technology has already been transferred to vaccine producers in India, Indonesia, Bangladesh and Botswana.

“This announcement is an important first step in vaccinating the world and halting the pandemic,” says Hotez. “Our vaccine technology offers a path to address an unfolding humanitarian crisis, namely the vulnerability the low- and middle-income countries face against the delta variant.”

The vaccine is similar to [Novavax’s protein sub-unit COVID-19 vaccine](#), which was recently [authorized for emergency use in a number of countries](#) around the world. **India is the first country to issue an emergency authorization to Corbevax** and Biological E reportedly has 150 million doses ready to go, with production capacity set for 100 million doses per month from February.



IOC’s Dick Pound says Covid-19 is a real concern for Beijing 2022 but only a ‘slim chance’ Winter Games will be canceled or postponed

Source: <https://www.scmp.com/sport/china/article/3162023/iocs-dick-pound-says-covid-19-real-concern-beijing-2022-only-slim>

Jan 04 – Veteran International Olympic Committee member Dick Pound has come out as the first high-profile IOC member to openly discuss the coronavirus threat to the Winter Games, but remains confident the Games will go ahead as planned.

The IOC member told *USA Today Sports* that while there was no immediate conversation around postponing the Beijing Olympics, he said there was “nothing in living memory” that compared to Covid-19 and the highly contagious Omicron variant now spreading around the globe.

His comments came after David Shoemaker, the Canadian Olympic Committee CEO, said last week that he was “worried” about the Beijing Winter Olympics going ahead in the midst of an explosion of the Omicron variant.

“We’re confident that these Games can still be scheduled safely,” Shoemaker said. But we’re taking it day by day and wake up every morning to make sure that is how we still feel about it.”

Pound, a Canadian who has been one of the most influential members of the IOC for decades, said Shoemaker “is worried more about the period before the Games than during the Games themselves”.



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“If I were in his shoes, that’s what I would be saying,” Pound said. “If you’re the CEO of a national Olympic committee, you have to have the public demeanour of not being blind to the possibility that the whole thing could blow up.”

It is a concern that is not unfounded. US Olympic skiing gold medallist Mikaela Shiffrin, who is expected to be one of the stars of the Games, announced she tested positive for Covid-19 last week.

She said she expects to be back competing soon. The Canadian bobsled federation placed 10 of its athletes and three staff members in Covid-19 protocols last week. The National Hockey League announced last month it would not send players to the men’s Olympic hockey tournament, while protocols have been strengthened at some Olympic trials in the United States and Canada, including not allowing spectators.

“The concern is about all the people who are not yet in China, if, one by one, they get picked off and you lose a bobsledder here, a skater there,” Pound said. “If you got to the point where there were only Chinese athletes, then no, these aren’t the Olympic Games and they wouldn’t be recognised as such.”

Asked to put a percentage on the chance of postponing or cancelling the Games, Pound said the chances were “very slim”.

“You’re nuts to try to put a number to it. It’s a possibility that can’t be wholly discounted but it’s not at the level of whole countries saying we should not be going there at all. It’s a shame if Athlete X is out of contention but you’ve still got a couple of hundred athletes who aren’t. You don’t cancel it even if it happens to be one of your stars.”

Asked about the possibility of postponing the Beijing Games, as the 2020 Tokyo Summer Olympics were, rather than cancelling them, Pound said, “I don’t think these things are postponable. In almost every respect the arrow has left the bow. They’re going to start February 4 and it would take a real upset of some sort to change that.

“I think there will be uncertainty surrounding the Games in public, as far as the ship sailing, but right now, the lines are cast off and the boat is leaving the dock, unless Armageddon happens and public health authorities say we lock down every country. At that point, it changes the entire paradigm.”

Pound said that even though the IOC says all systems are “go” for Beijing, it’s right for national Olympic leaders in countries around the world to acknowledge the severity of the situation.

“Anybody over room temperature has a concern and is alive to the possibility that [cancellation] could happen, although we don’t think it’s going to happen,” he said.

“It’s a cloud out there and you have to be alert to that possibility with a variant that is so easily transmissible.”

The IOC has repeatedly dismissed the possibility that the Games could be canceled or postponed, citing the rigorous Covid-19 protocols that Beijing organisers have put in place, including daily testing and a closed-loop system that will fully separate Olympic participants from the rest of Chinese society.

Juan Antonio Samaranch, the head of the coordination commission for the Beijing Olympics, was asked last month if he could imagine any Covid-related circumstances that would prompt the IOC to pull the plug on the Games.

“The answer is no,” he said.

EDITOR’S COMMENT: We have to get used to the fact that the current equation of priorities is profit > sports > public health.

Early Israeli Findings Show Fivefold Boost from Fourth COVID Vaccine Dose

By Lisa Schnirring

Source: <https://www.homelandsecuritynewswire.com/dr20220104-early-israeli-findings-show-fivefold-boost-from-fourth-covid-vaccine-dose>

Jan 04 – Researchers from Israel reported promising preliminary findings from a study on fourth COVID-19 vaccine shots, which suggest the second booster produces a fivefold increase in antibody levels. A few weeks ago, a team from Sheba Medical Center near Tel Aviv launched a study in 154 hospital workers to examine safety and antibody response. All had received their first booster before Aug 20 and had antibody readings below 700, according to [Haaretz](#), a newspaper based in Tel Aviv.

Israel pioneered the use of booster shots and is among the first to recommend them for high-risk groups. Two days ago, the country announced that it would begin offering fourth doses to those over 60, along with health workers.

Today, the country’s health ministry Director-General, Nachman Ash, MD, received his fourth dose. “We’re talking about a very, very contagious variant, as we can see. Infection rates are rising and soaring with each passing day,” he said in a [statement](#), adding that the best response is vaccination.

Researchers had recently released preliminary findings on safety, noting that the side effect profile was similar to that of third doses. Recent data from Israel indicated significant waning in protection as soon as 3 months after the third COVID-19 vaccine dose.



A number of global health experts, including top officials at the World Health Organization (WHO), have warned that a focus on booster doses in developed nations hampers the rollout of primary vaccine series to lower-income countries.

[Lisa Schnirring](#) is news editor at [CIDRAP](#).

EDITOR'S COMMENT: Perhaps it is time to change the definition of "Vaccine" because is far away from what we knew so far – especially if more boosts are to follow.

COVID-19 Vaccine Hesitancy in the Military Is a Manageable Challenge

By Douglas D. Jackson

Source: <https://www.homelandsecuritynewswire.com/dr20220104-covid19-vaccine-hesitancy-in-the-military-is-a-manageable-challenge>

Jan 04 – The U.S. Department of Defense (DOD) is in the final stages of a largely effective COVID-19 vaccination campaign, but a small percentage of service members are vaccine hesitant. As efforts enter a second year, military planners and policymakers should reflect on the nature of this hesitancy to enhance U.S. military preparedness for future global health emergencies and similar contingencies.

How Has DOD Policy on COVID-19 Vaccination Evolved?

In December 2020, when the first COVID-19 vaccine [met the U.S. Food and Drug Administration's \(FDA\) criteria](#) for emergency use authorization, the DOD implemented a tier-based vaccination plan. Military health-care professionals, service members responsible for critical national capabilities or preparing for overseas deployments, and medically high-risk individuals were prioritized first. Though the department encouraged all members to get vaccinated, doing so was voluntary until the FDA issued a full approval. For more than eight months of the campaign, including during the transition between presidential administrations, the DOD's COVID-19 vaccination policy was the same. In August 2021, however, when the FDA [fully approved](#) the first COVID-19 vaccine, the DOD [mandated vaccination](#) of all active-duty and Ready Reserve members of the armed forces.

What Are the Vaccination Deadlines?

The DOD authorized all military services—the U.S. Air Force, Army, Navy, Marine Corps, and Space Force—to execute this order as each deemed appropriate, but directed ["ambitious timelines for implementation."](#) The services then [established unique vaccination deadlines](#) for their components, ranging from early November 2021 for active-duty airmen to mid-December for reserve sailors and marines. The only outlier is June 30, 2022, for members of the Army's Ready Reserve, due to force structure and logistical challenges.

How Is the Vaccination Effort Going?

As of December 2021, [more than 97 percent](#) of the nearly 1.4-million-member active-duty force has been vaccinated. Close to half of unvaccinated active-duty service members submitted requests for exemption or accommodation, which are pending. Members can seek medical and administrative exemptions or religious accommodations, but so far only medical and administrative exemptions have been approved by any service.

What Happens If a Service Member Refuses Vaccination Without an Exemption?

Recently, the U.S. Air Force became the [first service to discharge members](#) who refuse the vaccine. The U.S. Marine Corps [discharged 103 members](#) shortly thereafter. The U.S. Army and Navy also intend to discharge members who refuse the vaccine. However, overall numbers of service members refusing vaccination will not increase, as recruits are now [required to acknowledge](#) and comply with the vaccination mandate as a precondition for joining the military.

What Groups Have Been the Most Hesitant?

Young, junior service members are [most likely to reject the vaccine](#). For example, all twenty-seven of the airmen recently discharged by the Air Force had less than six years of military experience. This trend is consistent with an [April 2021 analysis](#) of vaccine hesitancy among military members conducted by the DOD's Defense Health Agency. The study also found that among all active-duty forces, "Non-Hispanic Black service members were 28 percent



less likely to initiate vaccination.” Additionally, in the first three months of the DOD’s vaccination campaign, female service members were 10 percent less likely than their male counterparts to initiate vaccination. Factors associated with greater vaccination rates include higher age, education level, and rank.

What’s Behind This Reluctance?

The limited vaccine hesitancy within the military is driven by many of the same factors that influence the civilian population. The first and arguably most critical factor [driving vaccine hesitancy](#) in the military is misinformation, as some [DOD leaders have acknowledged](#). This is consistent with hesitancy assessments among the broader population, but it does not fully address demographic disparities, which, as the DOD [has found in studies](#), are influenced by other “interpersonal and societal factors.”

Second, vaccine-hesitant military members express a general sense of mistrust of public institutions, both military and nonmilitary, albeit at a considerably lower rate than the public. This mistrust is often deep-seated, shaped by [various historical factors](#), and therefore more difficult to overcome than misinformation. Whereas institutions can directly combat misinformation through outreach and education, restoring trust requires a longer and more holistic approach. Sustained efforts to build trust over time would likely decrease the vaccination disparities among non-Hispanic Black service members and young service members.

Personalization of risk is a third significant factor among vaccine-hesitant military members, particularly the young. Ultimately, an individual’s decision to accept a vaccine hinges on how they perceive the risk of getting vaccinated compared to the risk of inaction. For instance, in the late 1990s and early 2000s, the military required service members to [get the anthrax vaccine](#). Unlike the COVID-19 vaccine, the anthrax vaccine was not widely distributed outside of the military. Service members who refused—many of whom had accepted several other required vaccinations throughout their careers—stated that the reported side effects weighed heavily on them.

In the case of COVID-19, the perception of lower risk to the young and healthy appears to be similarly influential. These risk assessments, however, can change rapidly. For example, consider an anecdote from one Air Force unit: One of the highest increases in vaccinations within this wing occurred when deployed members were preparing to close U.S. medical facilities at Bagram Air Base in Afghanistan. There is nothing like the closure of the only hospital accessible within thousands of miles to alter one’s risk assessment.

Is Political Affiliation a Factor?

One correlating factor for vaccine hesitancy outside the military is political affiliation, and some have assumed that [partisanship is influencing the vaccination decisions](#) of service members. However, there is no data to support that assumption. Throughout the earliest stages of the pandemic, commanders of all services recognized a broad undercurrent of vaccine hesitancy that suggests party politics are an insignificant influence. Most of those who are hesitant appear to be making a personal statement, not a political one, in refusing the vaccine, which comports with historical experience. From smallpox vaccine hesitancy in the eighteenth century to anthrax vaccine hesitancy in the late twentieth century, American service members have demonstrated a history of skepticism that predates today’s hyperpoliticized environment.

What Are the Lessons from the DOD’s Campaign?

Although the DOD’s COVID-19 vaccination campaign has been widely effective, leaders should consider adjustments to enhance preparedness for future public health emergencies. Traditional, hierarchical communication can work, but it is not likely to motivate 100 percent of today’s force. Future communication efforts on vaccines should take demographic disparities into account, as well as hesitancy caused by misinformation and mistrust. Such efforts should emphasize transparency, acknowledge occasional missteps, and immediately correct course, when appropriate.

The lingering COVID-19 vaccine hesitancy in the military—particularly among non-Hispanic Black members and female members—should embolden the DOD to accelerate progress on [diversity and inclusion](#). Command teams that represent and reflect the forces they are empowered to lead are an essential element of trust restoration among service members. More diverse command teams, as well as empowered frontline supervisors, are generally more adept at inspiring action among varied demographic groups.

Finally, to influence the personal risk assessments of service members, especially among younger personnel, policymakers should consider incentives for vaccination. Accurate information about the benefits of vaccines should be an element of motivation but not the only one. Beyond mandating action, when policy and health guidance permit, the DOD should weigh enticements such as prioritizing vaccinated members for mission and training opportunities and offering accelerated leave and pass approval processes.



Providing these and other incentives early in vaccination campaigns could encourage more service members to get protected from a disease sooner, help overcome pockets of hesitancy, and even preclude the need for a mandate.

Disclaimer: *Opinions, conclusions, and recommendations expressed or implied within are solely those of the author and do not necessarily represent the views of the Air University, the U.S. Air Force, the Department of Defense, or any other U.S. government agency.*

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What is sleep paralysis and how could it be linked to Covid?

Source: <https://www.dailyrecord.co.uk/news/health/what-sleep-paralysis-how-could-25828797>

Jan 01 – Regular, consistent sleep patterns have taken a serious hit since [Covid-19 entered all our lives](#) around two years ago. Ever-changing rules and restrictions, working from home and quarantining are among the various factors that have taken their toll on many people's ability to enjoy a good night's sleep.

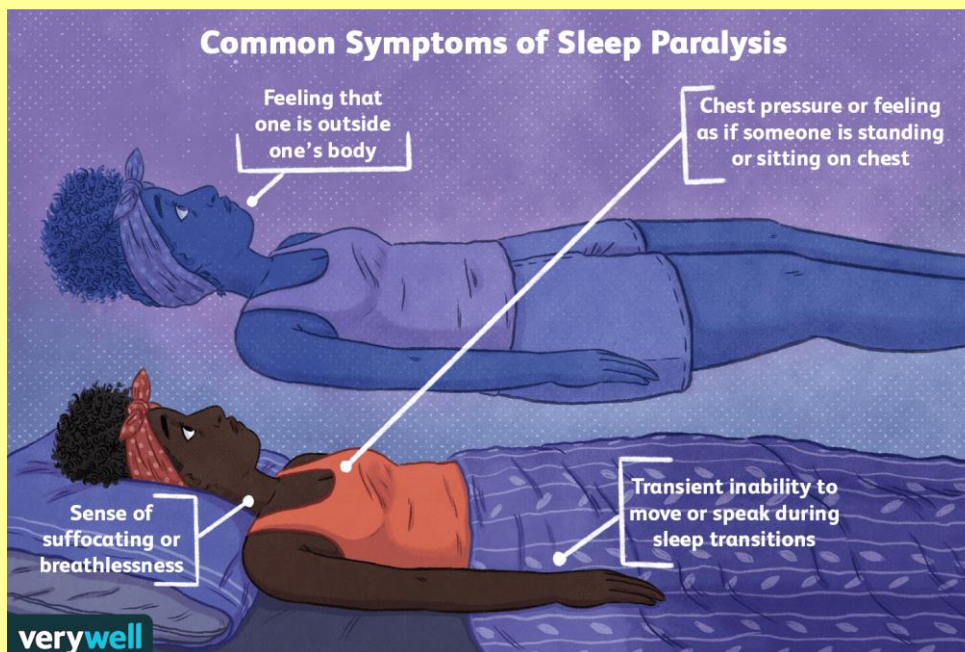
Reports of sleep paralysis are now emerging on social media, with some speculating that it could be a symptom of the new Omicron variant that has infected record numbers of people, [according to The Express](#).

But what is it and what are its symptoms?

[The NHS website describes sleep paralysis](#) as "when you cannot move or speak as you are waking up or falling asleep".

It admits that the sensation can be scary for anyone who experiences it but adds that it is harmless and that most people will only get it once or twice in their life.

The NHS website says people experiencing sleep paralysis can feel like someone is in their room or as if something is pushing them down and the feelings can last up to several minutes.



It is currently unknown for certain what causes sleep paralysis but it has been linked with insomnia; disrupted sleep patterns due to things like shift work or jet lag; narcolepsy; post-traumatic stress disorder; general anxiety disorder; panic disorder; a family history of sleep paralysis.

Reports on social media of people experiencing sleep paralysis after catching Covid have caused some to speculate that the two could be linked - although such a link has not been established in any research yet.

One study has, however, identified a marked rise in sleep disturbances among patients in quarantine. It suggests that sleep paralysis could be a side-effect of the pandemic and the societal changes it has caused, rather

than being caused by Covid itself.

Sleep therapy expert doctor Kat Lederly told MailOnline: "It could be the virus infection itself impacts on the sleep regulation in the brain (neurological effects of Covid have been reported).

"I think it is more likely that should there be an increase in sleep paralysis, that this is due to the stress resulting from the big changes to how we go and live our lives at the moment, the uncertainty and anxiety that we are facing which are impacting on our sleep system."



Night sweats and vivid nightmares

[The Express reports](#) Kathryn Pinkham, NHS consultant and founder of the Insomnia Clinic, as explaining how sleep paralysis can be caused by disrupted sleep patterns. She said: “Once our sleep pattern becomes disrupted due to ill health or anxiety, then we get stuck in a cycle where we begin to associate bed with being awake. “For example, the longer we spend in bed tossing and turning unable to sleep, the more we begin to relate our bed to being awake. “Equally, the more hyper-vigilant and anxious we become about sleep, the worse the cycle gets. “Sleep paralysis is linked to sleep deprivation, so that would go some way in explaining why Covid and sleep paralysis are linked.” Reports of other night-related upsets have also emerged since coronavirus swept the world in 2020. An increase in night sweats and vivid nightmares, for example, have been reported.

Face mask protection*

Source: <https://www.wsj.com/articles/cloth-face-mask-omicron-11640984082>

		PERSON NOT INFECTED IS WEARING				
		Nothing	Cloth mask	Surgical mask	N95	
PERSON INFECTED IS WEARING	Nothing	15 min.	20 min.	30 min.	2.5 hours	It will take 25 hours for an infectious dose of Covid-19 to transmit between people wearing non-fit-tested N95 respirators. If they're using tightly sealed N95s—where only 1% of particles enter the facepiece—they will have 2,500 hours of protection.
	Cloth mask	20 min.	27 min.	40 min.	3.3 hours	
	Surgical mask	30 min.	40 min.	1 hour	5 hours	
	N95	2.5 hours	3.3 hours	5 hours	25 hours	

Note: Results published in Spring 2021. The CDC expects the Omicron variant to spread more easily.
Source: ACGIH's Pandemic Response Task Force

* Data before the Omicron variant

Rivaroxaban versus no anticoagulation for post-discharge thromboprophylaxis after hospitalisation for COVID-19 (MICHELLE): an open-label, multicentre, randomised, controlled trial

By Eduardo Ramacciotti, Leandro Barile Agati, Daniela Calderaro, et al.

Lancet. 2022 Jan 1;399(10319):50-59.

Source: <https://pubmed.ncbi.nlm.nih.gov/34921756/>

Background: Patients hospitalised with COVID-19 are at risk for thrombotic events after discharge; the role of extended thromboprophylaxis in this population is unknown.

Methods: In this open-label, multicentre, randomised trial conducted at 14 centres in Brazil, patients hospitalised with COVID-19 at increased risk for venous thromboembolism (International Medical Prevention Registry on Venous Thromboembolism [IMPROVE] venous thromboembolism [VTE] score of ≥ 4 or 2-3 with a D-dimer >500 ng/mL) were randomly assigned (1:1) to receive, at hospital discharge, rivaroxaban 10 mg/day or no anticoagulation for 35 days. The primary efficacy outcome in an intention-to-treat analysis was a composite of symptomatic or fatal venous thromboembolism, asymptomatic venous thromboembolism on bilateral lower-limb venous ultrasound and CT pulmonary angiogram, symptomatic arterial



thromboembolism, and cardiovascular death at day 35. Adjudication was blinded. The primary safety outcome was major bleeding. The primary and safety analyses were carried out in the intention-to-treat population. This trial is registered at [ClinicalTrials.gov, NCT04662684](https://clinicaltrials.gov/ct2/show/study/NCT04662684).

Findings: From Oct 8, 2020, to June 29, 2021, 997 patients were screened. Of these patients, 677 did not meet eligibility criteria; the remaining 320 patients were enrolled and **randomly assigned to receive rivaroxaban (n=160 [50%]) or no anticoagulation (n=160 [50%])**. All patients received thromboprophylaxis with standard doses of heparin during hospitalisation. 165 (52%) patients were in the intensive care unit while hospitalised. 197 (62%) patients had an IMPROVE score of 2-3 and elevated D-dimer levels and 121 (38%) had a score of 4 or more. Two patients (one in each group) were lost to follow-up due to withdrawal of consent and not included in the intention-to-treat primary analysis. The primary efficacy outcome occurred in five (3%) of 159 patients assigned to rivaroxaban and 15 (9%) of 159 patients assigned to no anticoagulation (relative risk 0.33, 95% CI 0.12-0.90; p=0.0293). No major bleeding occurred in either study group. Allergic reactions occurred in two (1%) patients in the rivaroxaban group.

Interpretation: In patients at high risk discharged after hospitalisation due to COVID-19, thromboprophylaxis with rivaroxaban 10 mg/day for 35 days improved clinical outcomes compared with no extended thromboprophylaxis.

EDITOR'S COMMENT: Results might be encouraging but I always had an issue with the double-blind studies. What if someone in the "no drug" group could have been saved by the under-evaluation, medication?

Long COVID still a threat after mild infections, researchers warn

Source: <https://newatlas.com/health-wellbeing/long-covid-mild-infections-omicron-autoantibodies/>

Jan 06 – As the world grapples with the rapid spread of Omicron, and daily recorded COVID-19 cases reach [frightening heights](#), a handful of new studies are delivering potent reminders that even a mild SARS-CoV-2 infection can lead to the chronic illness that has been dubbed long COVID. Cedars-Sinai researchers are reporting even mild COVID-19 cases show lingering signs of an overactive immune system months after the acute disease and experts are concerned the massive volumes of Omicron infections right now could lead to huge rates of long COVID over the coming months and years.

Most people understand the role antibodies play in an effective immune response. These are the frontline immune cells that patrol the body, constantly on the lookout for specific pathogens.

When our immune system is working as it should, these antibodies can easily identify and ignore healthy cells, but sometimes these antibodies glitch out and learn to target non-threatening molecules (such as certain foods) or normal tissue. These rogue, self-attacking proteins are known as autoantibodies.

Autoantibodies play a role in many autoimmune diseases, from rheumatoid arthritis to lupus. These rogue immune cells have also been implicated in severe COVID-19, with a [key study from Yale University recently affirming](#) correlations between disease severity and autoantibody levels.

A new study from researchers at Cedars-Sinai has for the first time investigated levels of autoantibodies in recovered COVID-19 patients up to six months past their acute infection. The researchers found signs of elevated autoantibodies in all recovered COVID-19 patients, even those who initially experienced mild or asymptomatic infection.

"We found signals of autoantibody activity that are usually linked to chronic inflammation and injury involving specific organ systems and tissues such as the joints, skin and nervous system," says co-senior author Susan Cheng.

Persistent autoantibody activity following an acute viral infection has [previously been hypothesized to play a role](#) in chronic fatigue syndrome (CFS), also known as myalgic encephalomyelitis (ME). Some researchers [have also suggested](#) lingering autoantibody activity may explain the symptoms behind long COVID.

"These findings help to explain what makes COVID-19 an especially unique disease," explains co-senior author on the Cedars-Sinai research, Justyna Fert-Bober. "These patterns of immune dysregulation could be underlying the different types of persistent symptoms we see in people who go on to develop the condition now referred to as long COVID-19."

The new findings affirm chronic autoantibody activity can be generated by mild or even asymptomatic SARS-CoV-2 infections. A recent interview with Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, offered a pertinent reminder that even mild cases of COVID-19 can lead to long COVID.

"We should always be aware that when people get symptomatic infection ... anywhere from 10 to up to 30-plus percent of people will go on to have persistence of symptoms," Fauci said in an interview with [Spectrum News](#).



Fauci also said it is too early to tell whether the extraordinary transmissible Omicron variant is less likely to cause long COVID than previous variants. He stressed prior evidence indicates long COVID can occur regardless of the specific variant one is initially infected with.

"Long COVID can happen no matter what virus variant occurs," [said Fauci](#). "There's no evidence that there's any difference between Delta or Beta or now Omicron."

A [striking metastudy](#) published in late December 2021 looked at data from 81 research articles tracking fatigue and cognitive impairment in people at least 12 weeks after COVID-19. The findings revealed lingering fatigue in 32 percent of all COVID-19 patients at least three months after the acute disease, and signs of cognitive impairment in 22 percent of all patients.

Even more significantly, the research found no difference in the rate of fatigue and cognitive impairment between hospitalized and non-hospitalized populations. While other symptoms of long COVID did seem to correlate with initial disease severity, these two specific factors seemed to be persistent regardless of how mild the original case was.

The biggest uncertainty right now is just what Omicron means for future rates of long COVID. [A new survey](#) from the Office of National Statistics estimates around 1.3 million people in the United Kingdom currently suffer from long COVID. That is about two percent of the total population. And, it was calculated before the Omicron wave hit.

South African researcher Salim Abdool Karim recently co-authored a commentary in [The Lancet](#) trying to understand what Omicron means for the future of the pandemic. His concern is that even if Omicron leads to lower hospitalizations and milder acute disease, the stunning transmissibility of this variant is a serious problem.

"I have no idea what's in store for us as far as long COVID is concerned," Karim [recently said](#). "It's a really important question, and it's particularly so because Omicron is spreading so fast and so widely so quickly – the number of people getting infected is so big that ... if it's a common consequence of even mild infection, you can imagine, even if in 10 percent of people, there's going to be a lot of people with long COVID. It's certainly something we want to keep a beady eye out on."

Another issue researchers are closely tracking is the effect of reinfection on long COVID. With some studies finding [Omicron 10 times more likely](#) to reinfect those who have previously experienced a SARS-CoV-2 long COVID, experts are worried a second infection may make the chronic condition worse in those already suffering lingering symptoms.

"We have seen people in our clinic who have been reinfected with COVID with the other variants," [explained John Barrata](#), co-founder of University of North Carolina at Chapel Hill's long COVID clinic. "They have new or worsened long COVID symptoms after their reinfection."

●► The new Cedars-Sinai research was published in [The Journal of Translational Medicine](#).

Swab Your Throat First? Rapid Tests May Need Saliva to Detect Omicron, Early Data Find

Source: <https://www.sciencealert.com/throat-swabs-may-be-needed-to-detect-omicron-in-rapid-tests-study-finds>

Jan 07 – [Rapid COVID-19 tests](#) that use nose swabs alone might not pick up Omicron in the early days of infection, a new study suggests – but experts don't agree on whether you should also swab your throat.

A small study from a group of US researchers, [published Tuesday](#), found that rapid tests with nasal swabs didn't detect Omicron for one to two days after initial infection, which was confirmed with a lab test using a throat swab. Four participants spread infection before their rapid tests showed as positive, the researchers said.

The study, which hasn't yet been published in a medical journal or scrutinized by other scientists in a [peer review](#), adds to emerging evidence that for rapid tests, throat and nose swabs together might detect Omicron better than nose swabs alone.

However, the US Food and Drug Administration (FDA) said in a statement Tuesday that rapid tests should be used as per their instructions, citing safety concerns about self-collection of throat swabs, which were "more complicated" than nasal swabs. Throat swabs can be collected by a trained healthcare provider, as per Centers for Disease Control and Prevention guidance, the FDA said.

The study involved 30 participants from five workplaces in New York, Los Angeles, and San Francisco. All participants were fully-vaccinated and had received a booster dose, and 28 of them had Omicron, the study authors said.

In a sub-group of five participants, [virus](#) particles in saliva were found to have peaked one to two days before they were detected by a nasal rapid test, the researchers said.

Dr Michael Mina, a former associate professor of epidemiology at the Harvard TH Chan School of Public Health, [said of the findings](#): "Numerous reports show saliva comes up



earlier and with Omicron there have been MANY anecdotes that throat swabs (which interact with saliva!) are turning positive BEFORE nasal swabs."

The study suggests people become infectious when saliva turns positive, he added.

Mina has previously advocated testing both nose and throat for a rapid test, regardless of the test instructions – a [view advocated by others](#), if not by the FDA.

In the UK, some rapid tests tell users to [swab both nose and throat](#).

Dr Peter M B English, a recently-retired consultant in communicable disease control, [said on Twitter Thursday](#) that the study findings were "further confirmation that nose swabs alone do not effectively detect the Omicron variant. Test kit instructions which do not include throat swabs should be amended immediately."

Dan Lorremore, an assistant professor in the Department of Computer Science and the BioFrontiers Institute, [said on Twitter Wednesday](#) that a rapid test using saliva could "potentially" outperform a nasal rapid test, but it wasn't clear from the data available how much earlier it would be able to detect it.

Roy Gulick, chief of the infectious diseases division of New York-Presbyterian/Weill Cornell Medical Center, [told Today on Wednesday](#) that he couldn't recommend people using throat swabs.

"It's just not the way the tests have been authorized," he said. "Please don't take matters into your own hands. We need to wait to see if any of these tests will be valid to do a throat swab as well."

Gulick said that if an at-home rapid test is positive, then "believe it". If it's negative and you have [COVID-19](#) symptoms or been exposed to someone with COVID-19, then you should get a lab test, he said.

A study, from South Africa [posted December 24](#), also unpublished, showed using throat swabs for lab tests detected all Omicron infections but only 71 percent of Delta infections, while nose swabs caught 100 percent of Delta infections but only 86 percent of Omicron infections.

Czech Republic: Vaccination of children with super heroes!



Covid-19: Sinopharm's new protein-based booster stronger against Omicron than earlier shot

Source: <https://www.khaleejtimes.com/coronavirus/covid-19-sinopharms-protein-based-booster-stronger-against-omicron-than-earlier-shot>

Jan 07 – A protein-based Covid-19 vaccine made by Sinopharm, when given as a booster after two doses of an earlier shot from the Chinese firm, elicited a stronger antibody response against the Omicron variant than a third dose of the original, a study showed. The study, which was published on Tuesday and had not been peer reviewed, came amid concerns over the effectiveness of Sinopharm's BBIBP-CorV shot, one of the two leading Covid-19 vaccines exported by China, against the Omicron variant. An earlier study showed a BBIBP-CorV booster had weaker neutralisation against Omicron than against an older coronavirus strain from the central Chinese city of Wuhan.

Sinopharm's NVSI-06-07 protein-based vaccine, approved for emergency use as a booster in the UAE in December, adopts a different technology than the BBIBP-CorV shot that contains an inactivated form of the coronavirus.

Among 192 healthy adults vaccinated with two BBIBP-CorV doses for six months or longer, the neutralising antibody level against Omicron in those later given a NVSI-06-07 booster was "significantly higher" than that in those who received a BBIBP-CorV third dose, researchers said in a paper.

The antibody-based results are different from the efficacy readings about how well the NVSI-06-07 booster after BBIBP-CorV vaccination would protect people from Omicron-caused disease.

The authors of the paper cautioned that it remained unclear for how long the NVSI-06-07 booster's effect would last.

Many of our drugs will soon contain mRNA molecules, scientists predict

Source: <https://www.thenationalnews.com/uae/science/2022/01/07/many-of-our-drugs-will-soon-contain-mrna-molecules-scientists-predict/>

Jan 07 – If an award were to be given to the most significant molecule of the past year, messenger RNA – [or mRNA](#) – would be a very strong contender.

Despite no mRNA vaccine having previously been approved for human use before the coronavirus pandemic, shots containing the substance have proved vital to the [Covid-19](#) immunisation drive.

In the US, more than 96 per cent of Covid-19 [vaccine doses](#) administered have been Pfizer-BioNTech or Moderna mRNA jabs and these two vaccines account for about 87 per cent of doses given in the European Union.

Covid-19 vaccines are estimated by European health officials and the World Health Organisation to have saved 470,00 Europeans aged over 60 in the first year of use, with mRNA doing much of the heavy lifting.

Yet these jabs represent just the start of what some scientists expect to be a much wider range of medical uses for mRNA.

Valuable tool in fight against disease

Diseases including cancer, osteoporosis, diabetes and cystic fibrosis could all be targeted by mRNA-based treatments or preventative vaccines.

David Taylor, professor emeritus of pharmaceutical and public health policy at University College London, said developments involving mRNA were likely to be "very exciting over the next few decades".

"It remains to be proven, but it looks to me like it will open the door to both conventional vaccines and new forms of cancer therapy," he said.

Among the advantages of mRNA is that vaccines or other medicines that use it can be designed relatively quickly and are fairly easy to alter. Also, mRNA medicines can be generated in large quantities, because production is synthetic and does not require cells in which the pathogen itself is grown.

As has been the case with the Covid-19 vaccines, mRNA medicines can have very high efficacy and, while the mRNA Covid-19 vaccines have not been without side effects, the technology is seen as safe.

In a previous interview with *The National*, Ugur Sahin, the co-founder and chief executive of BioNTech, highlighted that clinical trials of mRNA vaccines went back more than 20 years.

He said mRNA vaccines offered benefits compared to, for example, inactivated vaccines, for which the pathogen is grown in culture before being inactivated by chemicals or heat.



“We understand much better what is in an mRNA vaccine compared with what’s in an inactivated vaccine,” Dr Sahin said.

“The inactivated vaccine contains hundreds of components which we don’t know, which are not well investigated. The viral vector vaccines have dozens of other viral proteins.”

Although mRNA can be made artificially, it is not a human invention, because it plays a central role in the production of proteins from an organism’s genes.

Consisting of a single strand of ribonucleic acid (RNA), mRNA is what genes (which in people are made from deoxyribonucleic acid or DNA) are copied inside the nucleus of cells.

The mRNA travels into the liquid area outside the nucleus, the cytoplasm, where, in a process called translation, it codes for the production of a protein.

The sequence of amino acids (protein building blocks) that make up this protein is determined by the sequence of the base pairs or repeating units of the mRNA.

When mRNA is administered as a vaccine or other therapeutic substance, it too ends up in cells, where translation takes place and proteins are produced.

With Covid-19 vaccines, these proteins are coronavirus spike proteins, the immune response to which offers protection if the person is subsequently infected with the virus.

Could vaccine 'holy grail' be next?

Other mRNA vaccines being developed are aimed at influenza, with three vaccine candidates from companies, including Pfizer and Moderna, in clinical trials. Malaria is another mRNA vaccine target.

In December it was reported that experiments on animals indicated that an mRNA vaccine against HIV, the virus that causes Aids, could prove effective, as the vaccine stimulated the hoped-for immune response.

“People are already looking at an HIV vaccine, which is the holy grail – no one has managed to develop one after 30 years,” said Dr Andrew Freedman, an infectious diseases specialist at Cardiff University in the UK.

“I think it will certainly be the case that we’ll get more [mRNA vaccines] against other infections.”

Many potential applications of mRNA were outlined in a new paper co-authored by a UAE-based researcher, Dr Ahmed Negmeldin, an assistant professor at Gulf Medical University in Ajman.

Titled, “Chemically modified mRNA beyond Covid-19: Potential preventive and therapeutic applications for targeting chronic diseases”, the study is the latest of many to highlight mRNA’s myriad potential medical uses.

Others may use the molecule to make a protein that a person’s cells cannot produce correctly. One such “protein replacement therapy” could lead to mRNA being used to promote heart regeneration after a person has had a heart attack.

Typically, damaged cardiomyocytes, the cells that make the heart contract, cannot be remade, leading to scarring, but mRNA treatments could help the organ to regenerate.

Boosting fight against cancer

Another potential use is in the treatment of various forms of cancer, with numerous therapies based on the technology having entered clinical trials.

Many types of cancer immunotherapy, in which the immune system is trained to target cancer cells, are already used, but typically these do not involve mRNA.

Therapeutic mRNA vaccines could offer an additional way of treating cancer that may ultimately improve survival rates for certain forms of the disease.

For example, trials are happening in which mRNA is administered to people with non-small cell lung cancer, which accounts for about 85 per cent of lung cancer cases.

This approach makes use of the fact that cancer cells often produce particular proteins or antigens that non-cancer cells do not make. If mRNA that codes for these proteins is introduced into a person’s cells, the immune system becomes trained to target these antigens, which should lead to the destruction of cancer cells.

BioNTech is among the companies working on mRNA-based cancer immunotherapies. It is involved with trials in the US in which colon cancer patients are having mRNA vaccines administered.

Drug makers are also trialling mRNA-based therapies against, for example, prostate cancer, a type of kidney cancer and melanoma.

Other illnesses could also be targeted by mRNA-based treatments, including metabolic disorders, such as diabetes.



Studies indicate that mRNA can stimulate pancreatic cells to produce insulin, which could be used to treat Type 1 diabetes, in which the pancreas does not produce much or any insulin.

Animal studies suggest that mRNA may be effective at treating conditions as varied as osteoarthritis and cystic fibrosis.

There are numerous technical hurdles to overcome with some mRNA treatments, as Dr Negmeldin and his co-authors made clear in their recent paper.

These include that production of proteins by mRNA used in medicines may be relatively transient, so ways to ensure that production takes place over a prolonged period are needed in some instances.

The cold-temperature requirements of some mRNA vaccines are another potential hurdle to wide-scale application of the technology. "Since this innovative technology has been recently employed in the clinical setting, a long-term safety profile has to be established, and thorough pharmacovigilance has to be considered," Dr Negmeldin and his co-authors wrote.

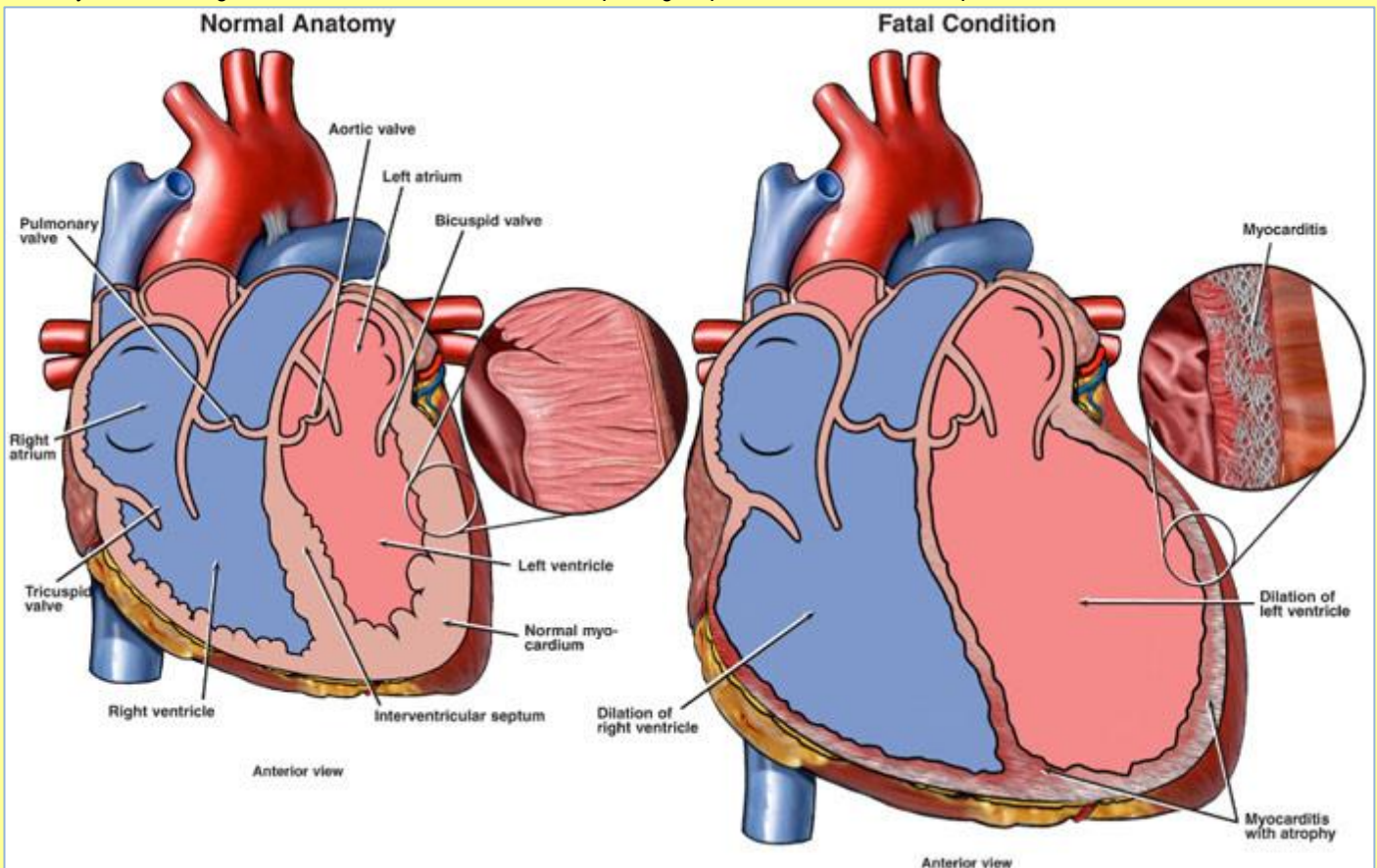
But overall the potential of mRNA for treating or preventing disease is seen as very significant and many uses could, it is hoped, come to fruition in the coming years and decades.

Alert: Japan Places Myocarditis Warning on 'Vaccines' - Requires Informed Consent

Source: <https://rairfoundation.com/alert-japan-places-myocarditis-warning-on-vaccines-requires-informed-consent/>

Dec 10 – Japan announces that public and private sectors can not discriminate against those who refuse the experimental mRNA gene therapy injections.

Japan is now labeling Covid "vaccines" to warn of dangerous and potentially deadly side effects such as myocarditis. In addition, the country is reaffirming its commitment to adverse event reporting requirements to ensure all possible side effects are documented.



These [efforts](#) from Japan's health authority are in stark contrast to the deceptive measures taken by other countries to coerce citizens into taking the injection, downplaying side effects, and [discouraging](#) proper adverse event reporting.



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Additionally, Japan is emphasizing informed consent and bodily autonomy. Until the coronavirus pandemic, the concept of “informed consent” was considered sacred to healthcare professionals in the West.

Japan is particularly raising concerns about the risks of myocarditis in young men injected with Pfizer or Moderna’s [gene-therapy](#) treatment. The country is enforcing a strict legal reporting requirement of side effects that must take place within 28 days of the injections.

Novel Additives: Descriptions Clarify

Three Covid-19 gene-therapy treatments are currently offered in Japan. They include the Pfizer/BioNTech (Comirnaty) and Takeda’s [Moderna formulation](#). The product descriptions ([here](#) and [here](#)) state that “this product contains an additive that has never been used in a vaccine before.”

Furthermore, the pharmaceutical companies urge you to consult your doctor about the additive if you plan to be injected with it. In addition to the Pfizer and Moderna gene-therapies, Vaxzevria (formerly AstraZeneca) is also administered in Japan. However, Japan only recommends it to people 40-year-old and over. Reference is [also made](#) to the new type of additive in the Vaxzevria injections.

No Compulsory Vaccination Or Discrimination

Japan’s [Ministry of Health](#) of health website encourages citizens to receive the “vaccine”; however, they stress it is not mandatory, Although we encourage all citizens to receive the COVID-19 vaccination, it is not compulsory or mandatory. Vaccination will be given only with the consent of the person to be vaccinated after the information provided.

In addition, the government recommends those who are considering taking the shot carefully consider both its effectiveness and side effects.

Please get vaccinated of your own decision, understanding both the effectiveness in preventing infectious diseases and the risk of side effects. No vaccination will be given without consent.

Furthermore, they stress that businesses do not force employees to receive the experimental gene therapy. Nor should employees discriminate against those who refuse the injections,

Please do not force anyone in your workplace or those who around you to be vaccinated, and do not discriminate against those who have not been vaccinated.

The government even links to a [“Human Rights Advice,”](#) including instructions for handling any complaints if individuals face “vaccine” discrimination at work.

Japan Breaks Ranks

Doctors worldwide have echoed Japan’s health authority warnings about the gene-therapies side effects. However, this kind of proper informed consent has cost many doctors in western nations their licenses to practice medicine. The government has accused these doctors of spreading ‘vaccine hesitancy.’

Furthermore, while Japan allows its citizens to choose whether to be injected with the experimental gene-therapies, other countries are forcing citizens to receive the jab. For example, in February 2022, Austria will mandate the injections. Citizens who refuse will face [heavy fines and up to one year in prison](#).

The Same N95 Mask Can Be Decontaminated at Least 25 Times, New Study Indicates

Source: <https://www.sciencealert.com/new-research-suggests-you-can-use-and-decontaminate-the-same-n95-respirator-at-least-25-times>

Jan 10 – With the enhanced virulence of the Omicron variant, some experts are urging us all to upgrade cloth and surgical masks to the much more protective N95s, but supply remains a concern. The limited supply is why this advice has so far been held back, but a new study may make this more feasible – suggesting N95s can be safely decontaminated many times in a clinical setting.

The study tested to see if these respirators deteriorate after decontamination – a process where the mask is exposed to UV light or vaporized hydrogen peroxide (VHP) to kill any [SARS-CoV-2 virus](#) particles that might have stuck around.

[While early in the pandemic](#) research indicated that an N95 could be decontaminated and reused a couple of times without being compromised, a new study from a team at Beth Israel



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Deaconess Medical Center in Boston has now shown that even after 25 rounds of VHP decontamination, the N95 respirator was just as good at fitting on the face and filtering particles.

[N95 respirators](#) are a type of mask fitted very closely to the face to create a seal. To be classified as an N95 respirator, the protective device must meet the US National Institute for Occupational Safety and Health N95 classification of air filtration – which means it



filters at least 95 percent of airborne particles.

"Most VHP studies were limited to evaluating decontamination efficacy, respirator filtration after 5-10 cycles, or fit on mannequins," [the team writes in their new study](#).

"We sought to determine whether repeated VHP reprocessing would affect N95 respirator integrity as defined by qualitative and quantitative fit and filtration efficiency over 25 reprocessing cycles."

From June to August 2020, the researchers assessed seven

volunteers who were using 3M 1860/1860S N95 respirators. Each volunteer was fitted for an appropriately sized mask (called [fit testing](#)), and then the team used VHP to decontaminate the respirators after use.

After the hydrogen peroxide had broken down, they returned the respirators to the volunteers, who were asked to perform [a user seal check](#). They then did this for 25 decontamination cycles – with a user seal check after each cycle.

Every few cycles a quantitative fit test was conducted – this is where specialized equipment checks how much air is leaking through the seal. Every five cycles a filtration efficiency testing and a qualitative fit test – a test where the mask fails if the volunteer can taste or smell anything while wearing the mask – was undertaken. After 25 decontamination cycles, the team found no changes from before the first cycle to the end. Although the masks might have lasted even longer, the researchers stopped at 25 because an FDA report has already found that by 35 cycles the straps start to degrade.

Unfortunately, most of us don't have access to a [specialized sterilization chamber](#) for doing VHP. However, all hope is not lost – there are other ways to sterilize an N95 mask at home. Another recent study [published in PLOS One](#) found that dry heat (like the one found in an oven) can also work. At 100 degrees Celsius (212 degrees F), 30 minutes was enough to kill SARS-CoV-2 virus particles but not damage the mask. This team of researchers specifically used a [walk-in oven rather](#) than a regular one, with only four types of respirators typically used in large health care facilities, so your results may vary. They also did the method only once, so heat decontamination may not be as long lasting as the VHP decontamination, although more widely available. In the meantime, this VHP research shows that medical staff don't need to be replacing masks every few uses to keep them up to code after decontamination. "The findings from our study expand upon previous findings and show that VHP is a relatively safe method for reprocessing N95 respirators and could help address shortages in future epidemics," [said first author of the VHP paper, Christina F. Yen, who now works at University of Texas, Southwestern](#).

"It is important that we now find ways to scale and translate this disinfection capability to smaller hospitals and resource-limited healthcare settings that could benefit just as much – perhaps more – from this type of personal protective equipment reprocessing in future disaster scenarios."

●► The new research has been published in the [American Journal of Infection](#)

20 Facts about Vaccination Your Doctor Forgot To Tell You

By Dr. Vernon Coleman

Source: <https://www.globalresearch.ca/20-facts-about-vaccination-your-doctor-forgot-to-tell-you/5766587>

Read this if you want to know more about vaccines than your doctor, practice nurse, and health visitor.



1. The US Health Department's National Vaccine Injury Compensation Programme has shown that between 2,500 and 3,000 children are killed or injured each year by vaccines.
2. The US Government has paid vaccine damage compensation to the parents of autistic children.
3. The Japanese Government has halted part of its vaccination programme because of children dying.
4. In the UK, GPs receive massive payments for giving vaccinations. And bonus payments if they vaccinate enough patients. Doctors get very rich out of vaccine programmes.
5. Vaccines are now given to eight-week-old babies, though there is absolutely no long-term scientific evidence available to show that it is safe to do so. By the time they reach their second birthday small children will have received over a score of vaccinations. American children will have received even more. The vaccine industry is forever looking for new vaccines to give.
6. You will find a full list of the research work done to investigate the safety or otherwise of mass vaccination programmes on the palm of your left hand.
7. The diphtheria vaccine was first introduced in Germany. After the vaccine was introduced the number of cases of diphtheria steadily increased.
8. The number of deaths from whooping cough had fallen long before the vaccine was introduced. The vaccine has not reduced the incidence of the disease.
9. The flu vaccine is, inevitably, designed to deal with last year's flu virus.
10. I have never met a doctor who has regular flu jabs (or any other jabs for that matter).
11. In the past, a flu vaccine contained different strains of flu virus (propagated in chicken embryos); formaldehyde (a preservative); polyethylene glycol; gelatin (made from cow's bones) and a substance that contains mercury. The odd thing is that the EU has banned barometers containing mercury because they are thought to be dangerous. But doctors inject the stuff into people.
12. The polio vaccine did not 'kill off' polio. On the contrary, the vaccine resulted in more sufferers. In Tennessee, in the US, the number of polio victims before vaccination became compulsory was 119. The year after vaccination was introduced, the figure rose to 386. Similar figures for other American states. Polio became less common as a result of better sanitation and cleaner water supplies. The vaccination had no useful effect.
13. Dr Jenner is widely acclaimed as the 'inventor' of vaccine. But it is not so well known that when he tried the first smallpox vaccine on his 10 month son, the boy became mentally retarded and died at the age of 21. Jenner refused to have his second child vaccinated. However, the medical profession saw the commercial possibilities and vaccination became popular (if deadly).
14. When Louis XV contracted smallpox he survived because his nurse hid him from the doctors whose vaccines had killed his father and brother.
15. Even though TB is now a major problem, many countries have abandoned the TB vaccine because it simply doesn't work. Indeed, the evidence suggests that the vaccine spreads the disease.
16. The risk of a child given the whooping cough vaccine developing brain damage is officially said to be 1 in 100,000. But that's the 'best' figure. Other research shows that the risk is as high as 1 in 6,000. There is no doubt that the vaccine causes far more harm than the disease and there is clear evidence linking the vaccine to brain damage.
17. Vaccines are dangerous and they don't always work. Up to half of the people given a vaccine jab do not develop a resistance to the disease concerned.
18. Drug companies now publish long lists of reasons for not vaccinating patients. Doctors rarely look at the lists, let alone take any notice. For example, for one vaccine the advice is that babies who cry persistently or develop a fever should not be given another jab. No one knows how much damage is caused by giving several vaccines in a single vaccine cocktail.
19. The French Government abandoned its hepatitis B vaccine programme for children after more than 15,000 lawsuits were filed for brain damage and other serious health problems.
20. In the US a group of paediatricians with 30,000 young patients do not vaccinate at all. They have no cases of autism in their practice.

Vernon Coleman is an English conspiracy theorist, anti-vaccination activist, AIDS denialist, blogger, and novelist who writes on topics related to human health, politics, and animal issues. Coleman's medical claims have been widely discredited and described as pseudoscientific.

EDITOR'S COMMENT: The biggest problem of the Internet is that everybody can post anything they like without controlling potential consequences on laypeople.



Pandemic Isolation and the **Elderly**: A Doctor Reflects on the Impacts

Source: <https://www.nationalacademies.org/news/2022/01/pandemic-isolation-and-the-elderly-a-doctor-reflects-on-the-impacts>



Jan 07 – The omicron variant-driven surge in COVID-19 over the holidays once again landed Americans in calculations about the risks and benefits of gathering with family and friends, weighing the hazard of possible illness versus the distress of loneliness and isolation.

The latter can have consequences not just for happiness but for overall health, especially for the elderly, according to [a National Academies report](#) released in February 2020, a month before pandemic lockdowns began. Among seniors, loneliness is linked to higher rates of depression and anxiety, for example, and social isolation is associated with a greater risk of dementia and of death from all causes.

Even before COVID-19, about one-quarter of Americans over age 65 were socially isolated, and more than 40 percent of people over age 60 reported feeling lonely. The pandemic's arrival left elderly people who lived alone even more isolated than before, and cut off those living in nursing homes and assisted living facilities from family and friends, as facilities closed their doors to visitors in an attempt to protect residents.

Carla Perissinotto, a professor of medicine at the University of California, San Francisco, has seen up close the impacts that pandemic isolation has had on the elderly, as a practicing geriatrician and palliative physician who cares for older, mostly homebound patients. She also served on the committee that wrote the 2020 report.

'There was just so much fear'

In the early days of the pandemic, Perissinotto and her colleagues worked hard to transition their elderly patients to virtual appointments when possible, and urged homebound patients to keep getting needed medical care despite the lockdown. "There was just so much fear about letting people get into the home that it was very, very complicated," explained Perissinotto. "Many of our patients didn't want us to come into the home, even though we had PPE [personal protective equipment]."

But as the report points out, for some older adults, medical visits are one of the few social contacts they have — and so skipping them can have consequences for both physical and mental health.

"I think thankfully, amongst our homebound patients, many of them fared fairly well — in the sense that they were somewhat protected at home or very diligent, but still had caregivers coming in and out of the home," said Perissinotto. "But there I think were others — and a good portion of them — that really saw concretely [circumstances] like what we show in the report, which is that isolation and loneliness, together or separately, have dramatic effects on health. I think some of our patients have not recovered from that. I also strongly believe we lost some people prematurely because of this."

Perissinotto and a colleague, Ashwin Kotwal, also found varying impacts when they surveyed older adults in the San Francisco Bay area to see how loneliness and isolation were affecting them. After the pandemic hit, some seniors felt a dramatic worsening of loneliness and mental health problems such as anxiety and depression, after which things perhaps stabilized a bit as the pandemic progressed. Others — probably those who were already very isolated, Perissinotto notes — weren't very affected, likely because the pandemic didn't change much about their level of social contact.

"So, it really was variable," said Perissinotto. "And I think that also highlights what is very interesting about loneliness and isolation, which is the pathways are all different. People are lonely, isolated for different reasons and different degrees ... One of the things that the report



highlights is that we have to be systematic and actually ask people about what's going on — rather than making assumptions about who is or isn't lonely."

Perissinotto also treated some patients in assisted living facilities and nursing homes, and saw firsthand the dilemma faced by long-term care facilities at the beginning of the pandemic. Family members of residents advocated from opposite directions — some arguing that their loved ones were dying from the isolation and that they needed visits, while other families urged the facilities not to let anyone in. They were also coping with staff shortages, lack of PPE, and the fact that little was known about how the virus was transmitted. "So they said, 'Ok, we have to lock it down,'" said Perissinotto.

"Looking back, I think we need a more thoughtful approach, should this happen again," she said. "It's very drastic to say 'No visitors' — nothing — right? That's not person-centric. And it's not actually following what may be best for someone."

Progress has been made, she added, noting that the CDC has revised its guidance for nursing homes and assisted living facilities to allow for compassionate visitation, including daily visits from caregivers or family members of people living with dementia.

"We've come a long way," she said. "And I think had we really taken social health and emotional health and mental health just as strongly as physical health at the outset, we probably could have avoided some of this. But it's a lot easier to say that now, when we understand more about the virus."

Opening doors to conversation and connection

While the pandemic has amplified loneliness for many, the silver lining is that its widespread nature made the topic easier for people to discuss — an observation made at [a December webinar](#) hosted by the National Academies and moderated by Perissinotto.

"A lot of prior literature has shown that this is a really sensitive topic, and there can be a lot of stigma around self-identifying as lonely," said Kotwal, an assistant professor in the Division of Geriatrics at the University of California, San Francisco School of Medicine, where he worked with Perissinotto on the survey of Bay-area seniors. "The pandemic has probably changed a lot of these experiences, though — it's normalized a lot of experiences of loneliness [and] the discussions around this topic."

There's an opportunity for health care providers to ask elderly patients how often they feel loneliness and use that as a starting point for a larger discussion, Kotwal continued. "We can start shifting from medical goals to social goals when those are the priority: How can we enhance your care so that you're able to spend more time with friends?"

Even when patients don't want help addressing the problem, just having a health care worker listen and bear witness to their loneliness and suffering can have value, said Christine Ritchie, the Kenneth L. Minaker Chair in Geriatrics at Massachusetts General Hospital. "Sometimes people may just want to be heard, and they may or may not want us to help them fix it."

The conversations themselves may help mitigate loneliness for patients and provide human connection, pointed out Karen Steinhauser, a health scientist at the VA Medical Center. "It's one of those times where the screening for it becomes the intervention."

T Cells from Past Coronavirus Infections Show Protection against SARS-CoV-2

Source: <https://www.genengnews.com/topics/translational-medicine/infectious-diseases/t-cells-from-past-coronavirus-infections-show-protection-against-sars-cov-2/>

Jan 11 – Exposure to SARS-CoV-2 does not, universally, result in infection. A subset of people are spared from COVID-19, despite living in close quarters with others who have tested positive. The reason why some people are more resistant to infection has remained unanswered. A leading theory has been that pre-existing T cells, primed by endemic human coronaviruses, might mediate protection in SARS-CoV-2-naïve people.

Indeed, previous studies have shown that T cells induced by other coronaviruses can recognize SARS-CoV-2. Now, a new study from the Imperial College London examines—for the first time—how the presence of these T cells at the time of SARS-CoV-2 exposure influences whether someone becomes infected.

The study's results suggest that pre-existing, non-spike cross-reactive memory T cells, protect SARS-CoV-2-naïve contacts from infection. This work not only provides the first evidence of a protective role for these T cells, it also supports the inclusion of non-spike antigens in second-generation vaccines that could prevent infection from current and future SARS-CoV-2 variants.

"Being exposed to the SARS-CoV-2 virus doesn't always result in infection, and we've been keen to understand why," says Rhia Kundu, PhD, postdoctoral associate at Imperial's National Heart & Lung Institute. "We found that high levels of pre-existing T cells, created by the body when infected with other human coronaviruses like the common cold, can protect against COVID-19 infection."

The study included 52 people who lived with someone with PCR-confirmed SARS-CoV-2 infection and had therefore been exposed to the virus. The participants were tested by PCR



at the outset, and four and seven days later, to determine if they developed an infection. Blood samples from the 52 participants were taken within 1–6 days of them being exposed to the virus.

The study assessed the 52 COVID-19 household contacts to capture immune responses at the earliest timepoints after SARS-CoV-2 exposure. They also analyzed the levels of pre-existing T cells induced by previous common cold coronavirus infections that also cross-recognize proteins of the SARS-CoV-2 virus. To do this, they used a dual cytokine FLISpot assay on peripheral blood mononuclear cells, measuring the frequency of T cells specific for spike, nucleocapsid, membrane, envelope and ORF1 SARS-CoV-2 epitopes that cross-react with human endemic coronaviruses.

The researchers found that there were significantly higher levels of these cross-reactive T cells in the 26 people who did not become infected, compared to the 26 people who did. The T cells targeted internal, non-spike proteins, to protect against infection.

Current vaccines do not induce an immune response to these internal proteins. The researchers note that, alongside our existing effective spike protein-targeting vaccines, these internal proteins offer a new vaccine target that could provide long-lasting protection because T cell responses persist longer than antibody responses which wane within a few months of vaccination.

“The spike protein is under intense immune pressure from vaccine-induced antibody which drives evolution of vaccine escape mutants, says Ajit Lalvani, MD, director of the NIHR Respiratory Infections Health Protection Research Unit at Imperial. “In contrast, the internal proteins targeted by the protective T cells we identified mutate much less. Consequently, they are highly conserved between the various SARS-CoV-2 variants, including omicron. New vaccines that include these conserved, internal proteins would therefore induce broadly protective T cell responses that should protect against current and future SARS-CoV-2 variants.”

●► **The study, entitled “[Cross-reactive memory T cells associate with protection against SARS-CoV-2 infection in COVID-19 contacts](#)” is published in *Nature Communications*.**

The Battle of the SARS-CoV-2 Variants

Source: <https://www.homelandsecuritynewswire.com/dr20220110-the-battle-of-the-sarscov2-variants>

Jan 10 – In order to fight the pandemic in the long term, it is crucial to understand why one variant prevails over another. An international [study](#) conducted by the Institute of Virology and Immunology and the [University of Bern](#), in collaboration with the Friedrich-Loeffler-Institut in Germany, has provided important answers by comparing the spread and transmission of different emerging variants in parallel. This approach is now applicable to the comparison of new variants, such as delta and omicron. This unique study has just been published in the scientific journal Nature.

As new SARS-CoV-2 variants continue to emerge and drive the pandemic, the Institute of Virology and Immunology (IVI) and the University of Bern with international collaborators have studied emerging variants in animal (*in vivo*) and biophysical interaction and cell culture (*in vitro*) models. The originality of this new study is to have put the variants in direct competition in multiple models to reveal why some variants had a real advantage to spread globally.

According to Charaf Benarafa, senior author of the study: “Taken independently, each of the variants appears to be as effective as their progenitor, the initial virus: it is difficult to separate them. By recreating the natural conditions of competition, where an emerging variant and its progenitor are simultaneously present, it becomes possible to truly detect which variant will preferentially propagate and be transmitted to another individual. The challenge of our study was to associate different experimental models to better understand these mechanisms; and the combined analyses enabled us to discriminate the differences between the variants.”

Alpha Wins in Restrictive Models, While Beta Is the “Big Loser”

The competition between the alpha and beta variants and their progenitor clearly show that the alpha variant has an advantage. Charaf Benarafa explains: “The more restrictive models of virus competition showed us that the alpha variant dominates and spreads better in the upper respiratory tract and transmits more efficiently. All the models also showed that the beta variant is the “big loser”. It seems that the beta variant has benefited from favorable epidemiological circumstances to develop locally. On the other hand, the alpha variant, which has spread globally, has demonstrated its intrinsic high transmission potential through its spike mutations.

Meanwhile, Other Variants Are Emerging

Predicting which variant will better spread and why continues to be a challenge. Only in-depth studies can provide a better understanding of the factors associated with this spread. According to Charaf Benarafa, “It is with a combination of different *in vitro* and *in vivo* models that we were able to consolidate our results to explain the dominance of the alpha variant in



immunologically naive populations. Now that a significant proportion of the population is vaccinated, we will also have to consider the impact of immunity on the advantage of new emerging mutants.”

Hospitals Recruit International Nurses to Fill Pandemic Shortages

Source: <https://www.medscape.com/viewarticle/966256>

Jan 07 — Before Mary Venus was offered a nursing job at a hospital here, she'd never heard of Billings or visited the United States. A native of the Philippines, she researched her prospective move via the internet, set aside her angst about the cold Montana winters and took the job, sight unseen.

Venus has been in Billings since mid-November, working in a surgical recovery unit at Billings Clinic, Montana's largest hospital in its most populous city. She and her husband moved into an apartment, bought a car and are settling in. They recently celebrated their first wedding anniversary. Maybe, she mused, this could be a "forever home."

"I am hoping to stay here," Venus said. "So far, so good. It's not easy, though. For me, it's like living on another planet."

Administrators at Billings Clinic hope she stays, too. **The hospital has contracts with two dozen nurses from the Philippines, Thailand, Kenya, Ghana and Nigeria, all set to arrive in Montana by summer. More nurses from far-off places are likely.**

Billings Clinic is just one of the scores of hospitals across the U.S. looking abroad to ease a shortage of nurses worsened by the pandemic. The national demand is so great that it's created a backlog of health care professionals awaiting clearance to work in the U.S. More than 5,000 international nurses are awaiting final visa approval, the American Association of International Healthcare Recruitment reported in September.

"We are seeing an absolute boom in requests for international nurses," said Lesley Hamilton-Powers, a board member of AAIHR and a vice president for Avant Healthcare Professionals in Florida.

Avant recruits nurses from other countries and then works to place them in U.S. hospitals, including Billings Clinic. Before the pandemic, Avant would typically have orders from hospitals for 800 nurses. It currently has more than 4,000 such requests, Hamilton-Powers said.

"And that's just us, a single organization," added Hamilton-Powers. "Hospitals all over the country are stretched and looking for alternatives to fill nursing vacancies."

Foreign-born workers make up about a sixth of the U.S. nursing workforce, and the need is increasing, nursing associations and staffing agencies report, as nurses increasingly leave the profession. Nursing schools have seen an increase in enrollment since the pandemic, but that staffing pipeline has done little to offset today's demand.

In fact, the American Nurses Association in September urged the U.S. Department of Health and Human Services to declare the shortage of nurses a national crisis.

CGFNS International, which certifies the credentials of foreign-born health care workers to work in America, is the only such organization authorized by the federal government. Its president, Dr. Franklin Shaffer, said more hospitals are looking abroad to fill their staffing voids.

"We have a huge demand, a huge shortage," he said.

Billings Clinic would hire 120 more nurses today if it could, hospital officials said. The staffing shortage was significant before the pandemic. The added demands and stress of covid have made it untenable.

Greg Titensor, a registered nurse and the vice president of operations at Billings Clinic, noted that three of the hospital's most experienced nurses, all in the intensive care unit with at least 20 years of experience, recently announced their retirements.

"They are getting tired, and they are leaving," Titensor said.

Last fall's surge of covid cases resulted in Montana having the highest rate in the nation for a time, and Billings Clinics' ICU was bursting with patients. Republican Gov. Greg Gianforte sent the National Guard to Billings Clinic and other Montana hospitals; the federal government sent pharmacists and a naval medical team.

While the surge in Montana has subsided, active case numbers in Yellowstone County — home to the hospital — are among the state's highest. The Billings Clinic ICU still overflows, mostly with covid patients, and signs still warn visitors that "aggressive behavior will not be tolerated," a reminder of the threat of violence and abuse health care workers endure as the pandemic grinds on.

Like most hospitals, Billings Clinic has sought to abate its staffing shortage with traveling nurses

— **contract workers who typically go where the pandemic demands.** The clinic has paid up to **\$200 an hour for their services**, and, at last fall's peak, had as many as 200 traveling nurses as part of its workforce.



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The scarcity of nurses nationally has driven those steep payments, prompting members of Congress to ask the Biden administration to investigate reported gouging by unscrupulous staffing agencies.

Whatever the cause, satisfying the hospital's personnel shortage with traveling nurses is not sustainable, said Priscilla Needham, Billings Clinic's chief financial officer. Medicare, she noted, doesn't pay the hospital more if it needs to hire more expensive nurses, nor does it pay enough when a covid patient needs to stay in the hospital longer than a typical covid patient.

From July to October, the hospital's nursing costs increased by \$6 million, Needham said. Money from the Federal Emergency Management Agency and the CARES Act has helped, but she anticipated November and December would further drive up costs.

Dozens of agencies place international nurses in U.S. hospitals. The firm that Billings Clinic chose, Avant, first puts the nurses through instruction in Florida in hopes of easing their transition to the U.S., said Brian Hudson, a company senior vice president.

Venus, with nine years of experience as a nurse, said her stateside training included clearing cultural hurdles like how to do her taxes and obtain car insurance.

"Nursing is the same all over the world," Venus said, "but the culture is very different."

Shaffer, of CGFNS International, said foreign-born nurses are interested in the U.S. for a variety of reasons, including the opportunity to advance their education and careers, earn more money or perhaps get married. For some, said Avant's Hudson, the idea of living "the American dream" predominates.

The hitch so far has been getting the nurses into the country fast enough. After jobs are offered and accepted, foreign-born nurses require a final interview to obtain a visa from the State Department, and there is a backlog for those interviews. Powers explained that, because of the pandemic, many of the U.S. embassies where those interviews take place remain closed or are operating for fewer hours than usual.

While the backlog has receded in recent weeks, Powers described the delays as challenging. The nurses waiting in their home countries, she stressed, have passed all their necessary exams to work in the U.S.

"It's been very frustrating to have nurses poised to arrive, and we just can't bring them in," Powers said.

Once they arrive, the international nurses in Billings will remain employees of Avant, although after three years the clinic can offer them permanent positions. Clinic administrators stressed that the nurses are paid the same as its local nurses with equivalent experience. On top of that, the hospital pays a fee to Avant.

More than 90% of Avant's international nurses choose to stay in their new communities, Hudson said, but Billings Clinic hopes to better that mark. Welcoming them to the city will be critical, said Sara Agostinelli, the clinic's director of diversity, equity, inclusion and belonging. She has even offered winter driving lessons. The added diversity will benefit the city, Agostinelli said. Some nurses will bring their spouses; some will bring their children. "We will help encourage what Billings looks like and who Billings is," she said. Pae Junthanam, a nurse from Thailand, said he was initially worried about coming to Billings after learning that Montana's population is nearly 90% white and less than 1% Asian. The chance to advance his career, however, outweighed the concerns of moving. He also hopes his partner of 10 years will soon be able to join him. Since his arrival in November, Junthanam said, his neighbors have greeted him warmly, and one shop owner, after learning he was a nurse newly arrived from Thailand, thanked him for his service. "I am far from home, but I feel like this is like another home for me," he said.

EDITOR'S COMMENT: Saudi Arabia did the same. Instead, in Greece, we preferred to put 6,000-7,000 healthcare hospital personnel on obligatory leave because they refused to vaccinate and now we are facing huge problems with the manning of intensive care units and Covid clinics ...

Most Hand Sanitizers Contain Allergens

Journal of the American Academy of Dermatology | online November 24, 2021.

Source: <https://www.medscape.com/viewarticle/965842>

Jan 03 – A new analysis of 160 hand sanitizers found that 71% contain at least one allergen listed by the North American Contact Dermatitis Group (NACDG).

"There are many products out there with an ideal formulation from a medical perspective (compliant with CDC guidelines and devoid of any common irritant or allergens), but it is very challenging for laypeople to identify these products because ingredient labels are hard to interpret, and marketing claims are so commonly misleading," Dr. Carina Woodruff, associate director of the Contact Dermatitis Unit at the University of California, San Francisco, told Reuters Health by email.



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"For example, many well-intentioned and thoughtful consumers opt for 'natural products,' unwittingly exposing themselves to highly sensitizing fragrances/botanical extracts and increasing their risk of irritant or allergic reactions. I believe our study points to a need for more regulatory oversight of personal product packaging," Dr. Woodruff said.

She and her colleagues analyzed 160 highly reviewed hand sanitizers sold online in May 2021 by Walmart, Target, Amazon, Walgreens and CVS. Their findings appear in the Journal of the American Academy of Dermatology.

All of the sanitizers had correctly labeled their active ingredients, such as isopropyl or ethyl alcohol. Another correctly labeled property was "moisturizing," as every sanitizer that claimed to moisturize indeed contained a humectant, according to the researchers.

Most products, however, contained at least one allergen listed in the NACDG 2017-2018 standard series, including 70% of the sanitizers labeled "hypoallergenic."

Tocopherol, or vitamin E, was the most common allergen, appearing in 73 products. Tocopherol has low allergenic potential with a sensitization rate of 0.7%, the researchers write. But 60% of the products examined contain ingredients with a sensitization rate of 1% or higher.

"Fragrance chemicals were among the most common potential allergens in the products we reviewed and as a class, they have a high sensitization rate, so recommending fragrance-free sanitizers makes a lot of sense," Dr. Woodruff said.

However, nearly 40% of products labeled "fragrance-free" actually contained a fragrance or cross-reactor listed in the American Contact Dermatitis Society's Contact Allergen Management Program database.

Other items on labels can be misleading, as well. "The phrases 'dermatologist recommended' and 'hypoallergenic' are essentially marketing terms that have no relationship to any regulatory authority," said Dr. Joel DeKoven, associate professor of dermatology at the University of Toronto, in Canada, who was not involved in the research.

"Labels like 'no parabens, sulfates, phthalates or dyes' have no bearing on whether the product contains common allergens that could cause a skin reaction in sensitized consumers," he told Reuters Health by email.

To guide patients and dermatologists, Dr. Woodruff and Dr. Nina Botto, a co-author of the paper who is also a dermatologist at UCSF, recommend ten hand sanitizers: SupplyAID, Hello Bello, Wave Gel, SanitizeRx, Hydra Pearl, Suave, Adam's Pipette and Avagard D. Their criteria were included meeting recommendations from the Centers for Disease Control and Prevention (CDC) for active ingredients, low cost, high customer reviews, no NACDG allergens and containing emollients.

Yale team develops clip-on monitor to detect coronavirus exposure

Source: <https://newatlas.com/health-wellbeing/yale-wearable-virus-monitor-covid-coronavirus-exposure/>



Jan 11 – Engineers from Yale University have developed a wearable device that can help individuals assess whether they have been exposed to SARS-CoV-2, the coronavirus that causes COVID-19. The cheap device can clip onto a person's clothes and capture aerosolized viral particles in the surrounding environment.

From rapid tests to vaccines, many extraordinary innovations have helped us navigate this global pandemic. While we have a number of ways to determine whether a person has been infected with SARS-CoV-2, we still can only guess when and how someone has been exposed to the virus.



The Fresh Air Clip can be used to screen indoor environments and establish whether they are high-risk areas for exposure to SARS-CoV-2

This new innovation from a team of Yale University researchers is hoping to fill that surveillance gap. Called the Fresh Air Clip, the device is cheap, designed to attach to a person's collar and capture aerosolized viral particles around a person's mouth and nose.

The clip captures viral particles on a polydimethylsiloxane (PDMS) surface. At the end of a day or several days, a wearer removes the clip and sends it to a lab that uses polymerase chain reaction (PCR) analysis to determine the presence of SARS-CoV-2.

A new study is reporting on several tests of the Fresh Air Clip establishing it can effectively capture airborne viral particles. One experiment involved supplying the clips to a number of volunteers who wore the monitors for up to five days. Of the 62 monitors deployed, five returned positive results indicating exposure to SARS-CoV-2.



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“Of the positive Fresh Air Clips, four were worn by restaurant servers and one was worn by a homeless shelter staff person,” the study indicates. “Notably, two positive samples collected in restaurants with indoor dining were found to have high viral load when compared to the other samples (>100 copies per clip), suggestive of close contact with one or more infected individuals.”

As well as establishing the wearable monitor as being able to capture detectable levels of viral particles the researchers note the device is sensitive enough to catch exposure events at sub infectious doses. This suggests the volume of viral particles picked up by the monitor allows for the quantification of environmental exposure to the virus. This is important as it means the device does not simply offer an indication of viral exposure but a measure of the level of exposure.

Krystal Pollitt, a researcher working on the device, says one interesting potential use for the device could be to test the effectiveness of ventilation settings in COVID positive patient hospital rooms. Speaking to [Yale News](#) recently Pollitt said her team found airborne traces of SARS-CoV-2 in hospital rooms that were thought to be well ventilated.

“We found this to be really interesting because we know that one of the infection control measures that is being highly recommended is enhanced ventilation,” said Pollitt. “Within the hospital network, we had very high air change rates. Despite having those high air change rates, we were still able to detect airborne levels across the room.”

In its current form, the Fresh Air Clip can be used as a way to screen indoor environments and establish whether they are high-risk areas for exposure. In an email to New Atlas Pollitt says the wearable can also be used to identify indoor exposure events days before positive cases appear.

“The Fresh Air Clip can be useful for early identification of exposure events and allow for rapid action to be taken,” Pollitt tells New Atlas. “Exposed individuals can get tested or quarantine to prevent potential community transmission.”

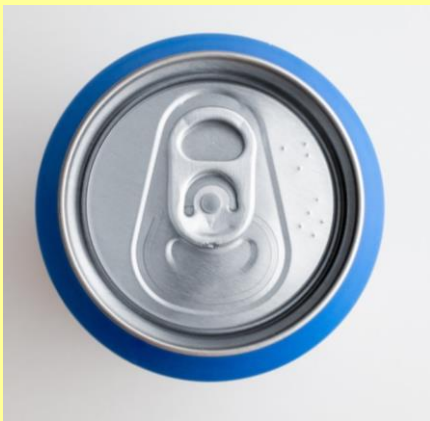
The next big step for the device will be to develop ways for the monitor to offer real-time notification of viral exposure, in much the same way a radiation strip can immediately notify a wearer they are exposed to gamma or x-rays. Pollitt says she is interested in further developing the device with real-time exposure notifications.

“It’s key to report back results quick,” Pollitt says. “We are keen to incorporate techniques for real-time SARS-CoV-2 detection.”

●► The new study was published in the journal [Environmental Science & Technology Letters](#).

All coronavirus in the world could fit in a soda can, study shows

Source: <https://www.dailysabah.com/life/science/all-coronavirus-in-world-could-fit-in-a-soda-can-study-shows>



Feb 2021 – A single soda can. That’s where all the coronaviruses causing COVID-19 could easily fit, according to a calculation by a U.K.-based mathematician whose study shows just how much devastation is caused by minuscule viral particles.

Using global rates of new infections with the pandemic disease, coupled with estimations of viral load, Bath University math expert Kit Yates worked out there are around 2 quintillion – or 2 billion billion – SARS-CoV-2 virus particles in the world at any one time. Detailing the steps in his calculations, Yates said he used the diameter of SARS-CoV-2 – at an average of about 100 nanometers or 100 billionths of a meter – and then figured out the volume of the spherical virus. Even accounting for the coronavirus’ projecting spike proteins and the fact that the spherical particles will leave gaps when stacked together, the total is still less than in a single 330-milliliter soda can, he said. “It’s astonishing to think that all the trouble, the disruption, the hardship, and the loss of life that has resulted over the last year could constitute just a few mouthfuls,” Yates said in a statement.

Model Predicts Future SARS-CoV-2 Variants

Source: <https://www.genengnews.com/topics/translational-medicine/model-predicts-future-sars-cov-2-variants/>

Jan 12 – Predicting, and being able to prepare for, SARS-CoV-2 variants that will come in the future would be incredibly useful for public health preparedness. To do that, a team has built a new predictive model to allow scientists to attempt to forecast the appearance of potential new mutations in emerging and future variants of SARS-CoV-2. The model, which provided accurate forecasts of mutations in the Delta variant, could give scientists and health agencies the means to both predict and manage the constant emergence of new variants of concern.



The rapid evolution of SARS-CoV-2 continues to extend the COVID-19 pandemic and deepen its toll, with new variants causing new waves of hospitalizations and deaths.

Although current vaccines still largely protect against severe disease, scientists fear that future variants with new mutations could be even better at evading vaccine-induced immunity. Vaccine efforts and public health preparedness, therefore, depend on being able to understand and predict the emergence and spread of problematic mutations.

Using predictive epidemiological features and neural network-based approaches, researchers created a predictive model to forecast the mutations that might appear in future variants. The researchers tested the predictive value of features comprising epidemiology, evolution, immunology, and neural network-based protein sequence modeling, and identified primary biological drivers of SARS-CoV-2 intra-pandemic evolution.

The team first trained their model with data from previous waves of the pandemic, including preliminary data on mutations in the Omicron variant. The model was able to predict the spike protein mutations that emerged and spread across different phases of the pandemic, with high accuracy and as many as four months in advance.

They found evidence that ACE2-mediated transmissibility and resistance to population-level host immunity has waxed and waned as a primary driver of SARS-CoV-2 evolution over time. They also identified mutations that will spread, up to four months in advance, across different phases of the pandemic.

They then produced a forecast of mutations in the Delta variant and identified several mutations that may contribute to new variants of interest and variants of concern in the coming months, including a mutation that might weaken the effects of clinical therapeutic antibodies.

"This modeling approach may be applied to any rapidly evolving pathogens with sufficiently dense genomic surveillance data, such as influenza, and unknown future pandemic viruses," the team concluded.

- The work is published in *Science Translational Medicine* in the article, "[Predicting the mutational drivers of future SARS-CoV-2 variants of concern.](#)"

COVID-Infected Mothers' Breastmilk Provides Infants with Antibodies

Source: https://www.bigcountrynewsconnection.com/idaho/study-covid-infected-mothers-breastmilk-provides-infants-with-antibodies/article_04f9e78a-6dc0-11ec-a8a2-cf1df7542d73.html

Jan 04 – Mothers who have recently been infected with coronavirus and breastfeed their infants can provide antibodies that can provide their little one natural protection against COVID-19, according to a study.

The new report expands on earlier findings that showed the milk of breastfeeding women infected with SARS-CoV-2 did not contain the virus. According to researchers, these results support recommendations encouraging lactating women to continue breastfeeding during and after COVID-19 illness.

"The expanded study included more than 60 women who provided samples up to two months after their COVID-19 diagnoses," said Michelle K. "Shelley" McGuire of the University of Idaho. She led the study along with University of Rochester Medical Center colleague Antti E. Seppo.

The full team included researchers from the U of I; Washington State University; University of Rochester Medical Center; University of California, San Francisco; Brigham and Women's Hospital; University of Arkansas for Medical Sciences; and Tulane University. The journal *Frontiers in Immunology* published the report December 23.

"What was really important was those antibodies remained elevated in most of those women for up to two months," McGuire said. "It just added confidence that even if you have COVID, breastfeeding is the right thing to do."

The team tested the breastmilk samples for immunoglobulin A antibodies specific to the spike protein in the novel coronavirus responsible for the pandemic.

The tests showed three-quarters of the women continued to produce the antibodies in breastmilk for up to two months with some beginning as early as within a week of their COVID-19 diagnosis. The researchers said the antibodies in breastmilk likely provided the women's infants with a lasting source of passive immunity.

The women also submitted swabs from breast skin before and after washing. Although no SARS CoV-2 virus was detected in milk, 29% of skin swabs tested positive for SARS CoV-



2 genetic material (RNA) before washing. Only two of 29 swabs, 6%, tested positive after washing. The researchers attributed the presence of the viral RNA to coughing by the women or household sources.

The researchers stressed that they found no evidence of live virus or reason to be concerned about this finding.

"The bottom line stayed the same: Breastfeeding during COVID-19 is not only safe for infants, it is likely protective," McGuire said.

Efficacy of Sputnik M vaccine against coronavirus amounts to 93%

Source: <https://tass.com/science/1386271>

Jan 11 – The effectiveness of the Sputnik M vaccine against the coronavirus infection for teenagers aged 12 to 17 amounts to about 93%, according to Russia's federal anti-coronavirus internet portal. "To date, the efficacy of the Sputnik M vaccine amounts to about 93%," the statement said.

On November 24, the Russian Health Ministry certified the Sputnik M jab for the prevention of the coronavirus infection in teens aged 12-17. It consists of two components introduced with a 21-day interval. The ministry noted that teenagers aged 12-15 can be inoculated only with the permission of parents or guardians, while those over 15 need to provide their own written informed voluntary consent. The trials of the vaccine began in July 2021, Phase Three of the trials at twelve children medical facilities in Moscow is nearing completion. To date, scientists have determined that elevated body temperature is the only side effect of the jab.

EDITOR'S COMMENT: What is the point! Another effective vaccine that will never reach Europe. Perhaps if they change the name of the vaccine Americans will allow it to circulate in the Western world.

Novartis in-licenses COVID-19 treatment ensovibep from Molecular Partners

Source: <https://www.reuters.com/business/healthcare-pharmaceuticals/novartis-in-licenses-covid-19-treatment-ensovibep-molecular-partners-2022-01-10/>

Jan 10 – Novartis ([NOVN.S](#)) said it will license in a new drug it has been developing with Molecular Partners to treat COVID-19, the Swiss company said on Monday, after getting positive trial data.

Novartis will pay 150 million Swiss francs (\$162.92 million) to in-license ensovibep from Molecular Partners to speed up its manufacturing ramp up and get approvals for the drug more quickly.

The decision comes after the two companies said they had received positive topline data from a phase 2 study for ensovibep (mp0420), an antiviral therapeutic for COVID-19 that will from now on be developed and manufactured by Novartis.

Molecular Partners had already received an upfront payment of 60 million francs, including equity.

The DARPIn (Designed Ankyrin Repeat Protein) antiviral therapeutic candidate met the primary endpoint of viral load reduction over eight days in a study in acute COVID-19 ambulatory patients comparing single intravenous doses of ensovibep versus placebo, the two companies said in a statement.

The two secondary endpoints also showed a clinically meaningful benefit compared with a placebo, the partners said.

Novartis will first seek approval from the U.S. Food and Drug Administration (FDA), where it is applying for an Emergency Use Authorization (EUA).

DARPins offer a differentiated approach to treating COVID-19 through a single molecule that can engage up to three parts of the SARS-CoV-2 virus simultaneously to neutralize the virus through multiple mechanisms, Molecular Partners said on its website.

Bloomberg: Unlike antiviral pills from [Pfizer Inc.](#) and [Merck & Co.](#), Novartis's medicine is given via an intravenous infusion, making a doctor's visit necessary. Ensovibep is what's known as a **DARPIn, a new class of drugs**. They're similar in some ways to monoclonal antibodies, medicines produced in cells that are used to treat a range of diseases including cancer and Covid. But DARPIn compounds can be made more simply, using bacteria, meaning more doses could be available sooner than is the case for traditional monoclonal antibodies. The key issue is that using an intravenous drug isn't possible in the broad population, so as such, data in patients with higher risks of developing severe Covid-19 is needed. Other questions include the lack of a dose-response, meaning a lower dose than 75 mg could also work. There's also a lack of safety data, the risk of anti-drug antibodies on repeated use, and the effect of the timing of dosing vs. symptom onset."



The COVID generation: how is the pandemic affecting kids' brains?

By Melinda Wenner Moyer (science writer based in New York)

Nature 601, 180-183 (2022)

Source: <https://www.nature.com/articles/d41586-022-00027-4>



A teacher in a biosecurity suit gives a lesson to a girl in her home in Cali, Colombia. Credit: Luis Robayo/AFP/Getty

Jan 12 – Like many paediatricians, Dani Dumitriu braced herself for the impact of the SARS-CoV-2 coronavirus when it first surged in her wards. She was relieved when most newborn babies at her hospital who had been exposed to COVID-19 seemed to do just fine. Knowledge of the effects of Zika and other viruses that can cause birth defects meant that doctors were looking out for problems. But hints of a more subtle and insidious trend followed close behind. Dumitriu and her team at the NewYork–Presbyterian Morgan Stanley Children’s Hospital in New York City had more than two years of data on infant development — since late 2017, they had been analysing the communication and motor skills of babies up to six months old. Dumitriu thought it would be interesting to compare the results from babies born before and during the pandemic. She asked her colleague Morgan Firestein, a postdoctoral researcher at Columbia University in New York City, to assess whether there were neurodevelopmental differences between the two groups. A few days later, Firestein called Dumitriu in a panic. “She was like, ‘We’re in a crisis, I don’t know what to do, because we not only have an effect of a pandemic, but it’s a significant one,’” Dumitriu recalled. She was up most of that night, poring over the data. The infants born during the pandemic scored lower, on average, on tests of gross motor, fine motor and communication skills compared with those born before it (both groups were assessed by their parents using an established questionnaire)¹. It didn’t matter whether their birth parent had been infected with the virus or not; there seemed to be something about the environment of the pandemic itself. Dumitriu was stunned. “We were like, oh, my God,” she recalled. “We’re talking about hundreds of millions of babies.”



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Although children have generally fared well when infected with SARS-CoV-2, preliminary research suggests that pandemic-related stress during pregnancy could be negatively affecting fetal brain development in some children. Moreover, frazzled parents and carers might be interacting differently or less with their young children in ways that could affect a child's physical and mental abilities. Lockdowns — which have been crucial for controlling the spread of the coronavirus — have isolated many young families, robbing them of playtime and social interactions. Stressed out and stretched thin, many carers also haven't been able to provide the one-to-one time that babies and toddlers need.

"Everyone wants to document how this is impacting child development, and parent-child relationships and peer relationships," says James Griffin, chief of the Child Development and Behavior Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development in Bethesda, Maryland. "Everyone has concerns."

Some of the teams looking into these issues around the world are starting to publish their findings. New studies have begun. Firm answers are hard to come by, not least because many child-development research laboratories shut down during the pandemic.

Some babies born during the past two years might be experiencing developmental delays, whereas others might have thrived, if carers were at home for extended periods and there were more opportunities for siblings to interact. As with many aspects of health during the pandemic, social and economic disparities have a clear role in who is affected the most. Early data suggest that the use of masks has not negatively affected children's emotional development. But prenatal stress might contribute to some changes in brain connectivity. The picture is evolving and many studies have not yet been peer reviewed.

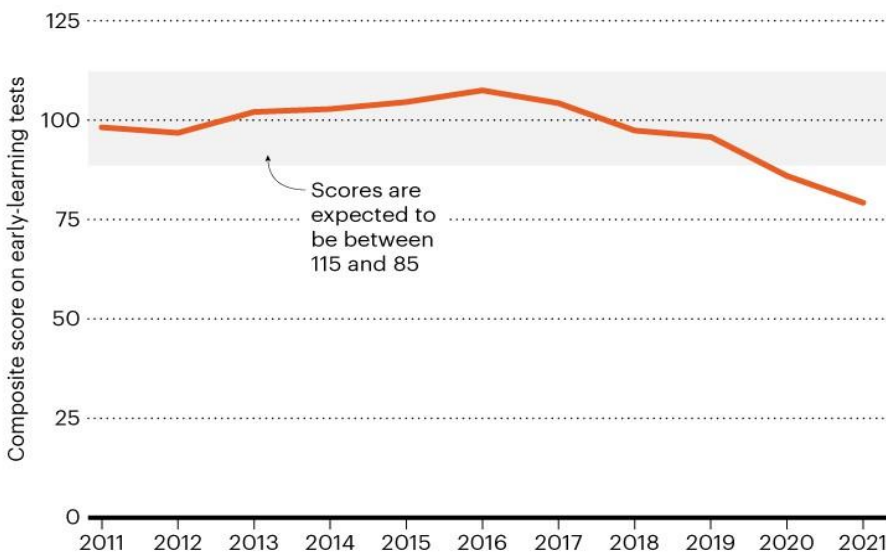
Some researchers propose that many of the children falling behind in development will be able to catch up without lasting effects. "I do not expect that we're going to find that there's a generation that has been injured by this pandemic," says Moriah Thomason, a child and adolescent psychologist at the New York University Grossman School of Medicine.

A precipitous drop in play

One lab that managed to stay open during the COVID-19 pandemic was Brown University's Advanced Baby Imaging Lab in Providence, Rhode Island. In it, Sean Deoni, a medical biophysicist, and his colleagues use magnetic resonance imaging (MRI) and other techniques to study how environmental factors shape brain development in infants.

DEVELOPMENT DIP

Researchers tested the cognitive performance of more than 600 children aged 3 months to 3 years, including 39 babies born during the COVID-19 pandemic. On average, those assessed in 2020 and 2021 scored lower on tests of early learning, including language, puzzle-solving and motor skills such as standing and walking.



Although the pandemic changed how they conducted their research — fewer visitors and more cleaning — they continued inviting babies to their lab, to track motor, visual and language skills as part of a seven-year National Institutes of Health study on early childhood development and its effects on later health.

[Source: Deoni, S. C. L., Beauchemin, J., Volpe, A., D'Sa, V. & the RESONANCE Consortium. \(2021\).](#)

However, as the pandemic progressed, Deoni began hearing worrying comments from his colleagues. "What our staff began to tell me, anecdotally, was 'Man, it's taking these kids a lot longer to get through these assessments,'" Deoni recalled.

He was mystified, so asked his researchers to plot and compare the

yearly averages and variances from the infants' neurodevelopmental scores. That's when they discovered that the scores during the pandemic were much worse than those from previous years (see 'Development dip'). "Things just began sort of falling off a rock the tail end of last year and the beginning part of this year," he said in late 2021. When they



compared results across participants, the pandemic-born babies scored almost two standard deviations lower than those born before it on a suite of tests that measure development in a similar way to IQ tests. They also found that babies from low-income families experienced the largest drops, that boys were more affected than girls² and that gross motor skills were affected the most.

At first, Deoni assumed that selection bias was at play: perhaps the families who made the effort to come in for testing during the pandemic were those whose children were at risk of developmental problems or were already showing them. But, over time, he grew convinced that selection bias wasn't explaining the findings, because the children coming in did not have different backgrounds, birth outcomes or socio-economic statuses compared with previous participants.

These effects appeared drastic, but some researchers argue that they are not necessarily predictive of long-term problems. "IQ, as babies, doesn't predict much," says Marion van den Heuvel, a developmental neuropsychologist at Tilburg University in the Netherlands. "It's really hard to say anything about what that will mean for their future." She points to a study³ showing that Romanian girls who started life in orphanages but were then adopted by foster families before 2.5 years of age were less likely to have psychiatric problems at 4.5 years of age than were girls who remained in institutional care. That situation is different from a pandemic, but suggests that babies could make up for hardship once restrictions are lifted.

Worryingly, however, Deoni has found that the longer the pandemic has continued, the more deficits children have accumulated. "The magnitude is massive — it's just astonishing," Deoni says of the findings, which are now under revision in *JAMA Pediatrics*.

When Deoni first posted his results on a preprint server², there was a flurry of worrying media coverage — and backlash from the research community. There was "a real concern about the fact that these results were being put out without proper peer review," Griffin says.

But, assuming the findings do have merit, why might babies born during the COVID-19 pandemic be experiencing significant cognitive — and especially motor — deficits? Deoni suspects that the problems stem from a lack of human-to-human interactions. In follow-up research that has not yet been published, he and his team have recorded parent—child interactions at home, finding that the number of words spoken by parents to their children, and vice versa, in the past two years has been lower than in previous years. He also suspects that babies and toddlers are not getting as much gross motor practice as usual because they aren't regularly playing with other children or going to playgrounds. "And the unfortunate thing is that those skills kind of lay the foundation for all the other skills," he says.

Other recent research supports the idea that lack of peer interactions could be holding some kids back. In a study published earlier this year, researchers in the United Kingdom surveyed 189 parents of children between the ages of 8 months and 3 years, asking whether their children received daycare or attended preschool during the pandemic, and assessing language and executive functioning skills. The authors found that the children's skills were stronger if they had received group care during the pandemic, and that these benefits were more pronounced among children from lower-income backgrounds⁴.

Those most at risk seem to be children of colour or those from low-income families. For instance, a growing body of research suggests that among school-aged children, remote learning might be widening the already-large learning and development gaps between children from affluent and low-income backgrounds and between white kids and children of colour. In the Netherlands, researchers found that kids did worse on national assessments in 2020 — compared with the three previous years — and that learning losses were up to 60% larger for children from less-educated families⁵.

In parts of sub-Saharan Africa — including Ethiopia, Kenya, Liberia, Tanzania and Uganda — research suggests that some children have lost as much as a full year of learning⁶. And in the United States, after the first lockdown, a report by the consultancy firm McKinsey suggested that students of colour began school in autumn three to five months behind in learning, whereas white students were only one to three months behind (go.nature.com/3fauntp).

Masked effects

Children who have attended school or other group settings during the pandemic have typically been interacting with others who wore face masks. One important question is whether masks, which obscure parts of the face important for expressing emotions and speech, might also be affecting kids' emotional and language development.

Edward Tronick, a psychologist at the University of Massachusetts Boston, has been bombarded with e-mails from parents and paediatricians concerned about the potential developmental effects of masking. Tronick is famous for his 1975 'Still Face' experiment, which showed that when birth parents suddenly remained straight-faced when interacting with their infants, their kids at first tried to get their attention, and then slowly withdrew and grew increasingly upset and wary⁷.

Tronick decided to see whether masks had a similar effect. With his colleague, psychologist Nancy Snidman, he conducted an experiment (which has not yet been peer reviewed) in which parents used smartphones to record interactions with their babies before, during and after they put on face masks. Although babies noticed when their parents put on masks —



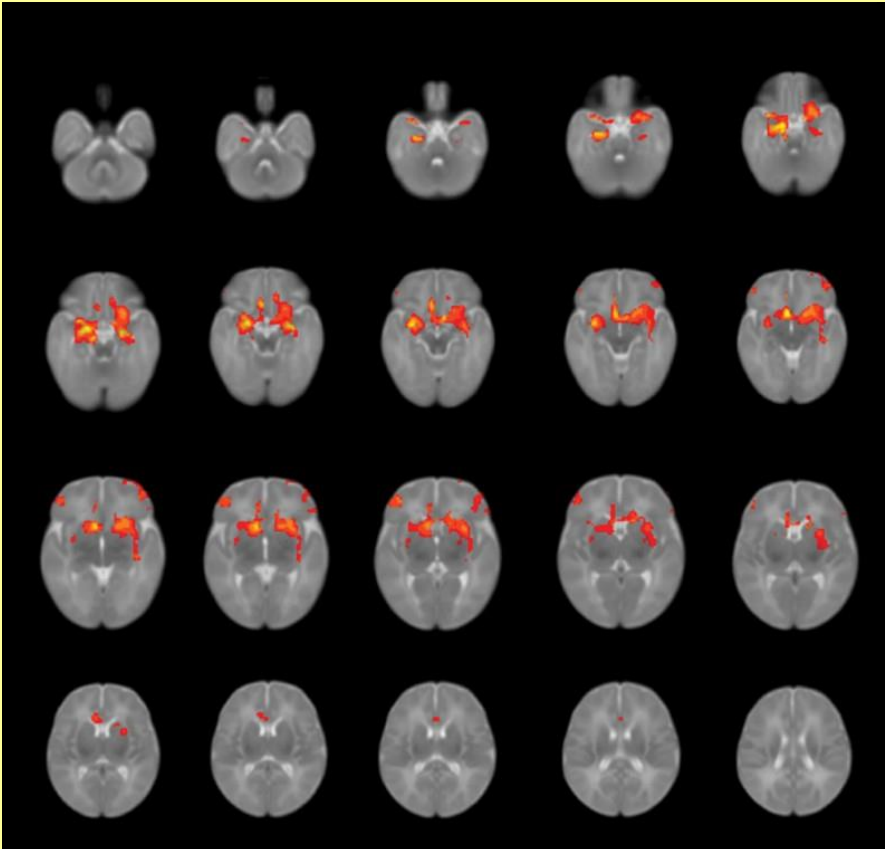
they would briefly change their facial expression, look away or point at the mask — they would then continue interacting with their parents as they had before⁸. The mask is blocking only one channel of communication, Tronick says. “The parent wearing a mask is still saying, ‘I’m interacting with you, I’m still here for you, I’m still connecting to you.’”

Face masks don’t seem to interfere all that much with emotional or language perception, either. A study published in May reported that two-year-olds were still able to understand words spoken by adults in opaque face masks⁹. Children “compensate for information deficits more readily than we think”, says study lead author Leher Singh, a psychologist at the National University of Singapore. Researchers in the United States found that, although face masks made it harder for school-age children to perceive adults’ emotions — about as difficult as when adults were wearing sunglasses — the kids were still, for the most part, able to make accurate inferences¹⁰.

“There’s a lot of other cues that kids can use to parse apart how other people are feeling, like vocal expressions, body expressions, context,” says study author Ashley Ruba, a postdoctoral fellow at the University of Wisconsin–Madison.

Pregnant and stressed

Other researchers are keen to know whether the pandemic could be affecting children’s development before they are born. Catherine Lebel, a psychologist who runs the Developmental Neuroimaging Lab at the University of Calgary in Canada, and her colleagues surveyed more than 8,000 pregnant people during the pandemic. Nearly half reported experiencing symptoms of anxiety, while one-third had symptoms of depression — a much higher percentage than in pre-pandemic years. How was this stress affecting babies in the womb?



To find out, the researchers used MRI imaging to scan the brains of 75 of the babies 3 months after birth. In a preprint posted in October, they found that babies born to people who reported more prenatal distress — more anxiety or depression symptoms — showed different structural connections between their amygdala, a brain region involved in emotional processing, and their prefrontal cortex, an area responsible for executive functioning skills¹¹.

Brain scans showing average connectivity patterns between the amygdala and other regions in infants. Pandemic-related stress during pregnancy weakened connections in some babies. Credit: Kathryn Manning

In a previous, small study, Lebel and her team had made the link between prenatal depression and brain connectivity differences in those same areas, and had suggested that in boys, these brain changes correlated with aggressive and hyperactive behaviour at preschool age¹². Other teams have found that changes in connectivity between these areas

in adults are risk factors for depression and anxiety¹³. “Those are the areas that are involved in emotion processing, and lots of different behaviours,” Lebel says. Other research has found similar associations between prenatal pandemic stress and child development. Livio Provenzi, a psychologist at the IRCCS Mondino Foundation in Pavia, Italy, and his colleagues observed that three-month-old babies of people who reported experiencing more stress and anxiety during pregnancy had more problems regulating their emotions and attention — they were less able to maintain their attention on social stimuli, for instance, and were less easily soothed — than were babies of people who were less stressed and anxious during pregnancy¹⁴. Thomason is running her own study to assess the effects of maternal stressors on children’s brains and



C²BRNE DIARY – January 2022

behaviour. She notes that, although there is a lot of concern about how prenatal stress might affect pandemic babies, early findings such as these do not mean that children are going to struggle for the rest of their lives. “Children are so adaptive, and elastic. And we do expect that things are going to improve and that they should be able to be resilient to a lot of what’s happened,” she says. Indeed, research on historical disasters suggests that, although stress in the womb can be harmful to babies, it doesn’t always have lasting effects. Children born to people who experienced considerable stress as a result of the 2011 floods in Queensland, Australia, showed deficits in problem-solving and social skills at six months of age, compared with children born to people who experienced less stress¹⁵. However, by 30 months, these outcomes were no longer correlated with stress, and the more responsive that parents were to their babies’ and toddlers’ needs after birth, the better the toddlers did¹⁶.

Caution and action

The research on pandemic babies presents a mixed picture, and scientists say it’s too early to draw meaningful interpretations. For one thing, some of these early, often unpublished findings might not reflect reality, says Catherine Monk, a medical psychologist who works with Dimitriu at NewYork–Presbyterian. The parents who chose to participate in some early studies, for instance, might not be a representative sample, Monk says. Perhaps they were already worried about their kids on the basis of the behaviours they are seeing. Furthermore, she says, the results of in-person studies such as Deoni’s could be affected by the wearing of face masks — perhaps not a lot, but enough to skew results. As Thomason wrote last year in a commentary¹⁷ in *JAMA Pediatrics*, the incentive to publish interesting findings might also be shaping these early studies. “Scientists are quick to go look for a harmful difference. It’s the thing that’s going to get the attention of the media; it’s the thing that’s going to get published in a high-impact journal,” she says. Researchers and funders are launching large studies and collaborations that could help to build a clearer picture. The US National Institute on Drug Abuse is funding a handful of studies through its Healthy Brain and Child Development Study. These will look at how maternal stress and substance use during the pandemic affect child development. In addition, alliances and conferences have been formed to bring researchers together and share emerging data. In March 2020, Thomason launched the international COVID Generation Research Alliance, which brings together researchers from 14 countries studying families with young children during the pandemic. The alliance, which held a research summit in November 2021, includes researchers in North and South America, Europe, Australia, Asia, the Middle East and Africa. Even if kids’ brains are truly being affected by the pandemic, there is still time to steer them back on course, Dumitriu notes. “We can totally get ahead of this becoming a public-health emergency,” she says. “The brains of six-month-olds are very plastic, and we can get in there, and we can change their trajectory.”

Parents can make headway by playing and talking with their young children regularly, and giving them opportunities to play with others in safe settings. Policy changes aimed at supporting families and children could make a difference, too. Lebel’s research¹¹ found that meaningful social support, such as from a partner or close friend, during pregnancy resulted in much less prenatal distress. “We could do so much more of that in the prenatal care ecosystem,” says Monk. Researchers also argue for interventions that support families immediately after birth. Provenzi’s research¹⁴ has found that people who had just given birth and were visited at home by nurses and neonatologists experienced less stress and anxiety than those who did not receive these visits.

Overall, researchers maintain that most children will probably be OK — but more than usual might currently be struggling. And if we want to support those who are falling behind, we should ideally intervene soon. “Kids are certainly very resilient,” Deoni says. “But at the same time, we also recognize the importance of the first 1,000 days of a child’s life as being the crucial early foundations.” The first pandemic babies, born in March 2020 are, at this point, more than 650 days old.

Children “are a product of their environment”, Deoni says. “The more that we can stimulate them and play with them and read to them and love them — that’s what it’s going to take.”

●► References are available at the source’s URL.

Polish scientists find gene that doubles risk of serious COVID

Source: <https://www.yahoo.com/now/polish-scientists-gene-doubles-risk-130314725.html>

Jan 13 – Polish scientists have found a gene that they say more than doubles the risk of becoming severely ill with COVID-19, a discovery they hope could help doctors identify people who are most at risk from the disease. With vaccine hesitancy a major factor behind high coronavirus death rates in central and eastern Europe, researchers hope that identifying those at greatest risk will encourage them to get a shot and give them access to more intensive treatment options in case of an infection.



"After more than a year and a half of work it was possible to identify a gene responsible for a predisposition to becoming seriously ill (with coronavirus)," said Health Minister Adam Niedzielski.

"This means that in the future we will be able to... identify people with a predisposition to suffer seriously from COVID."

The researchers from the Medical University of Bialystok found that the gene was the fourth most important factor determining how seriously a person suffers from COVID-19, after age, weight and gender.

The gene is present in around 14% of the Polish population, compared to 8-9% in Europe as a whole and 27% in India, said Marcin Moniuszko, the professor in charge of the project.

Other studies have also shown the importance of genetic factors in how seriously COVID-19 develops.

In November, British scientists said they had identified a version of a gene that may be associated with double the risk of lung failure from COVID-19.

Duration of Protection against Mild and Severe Disease by Covid-19 Vaccines

By Nick Andrews, Elise Tessier, Julia Stowe, et al.

N Engl J Med. 2022 Jan 12.

Source: <https://pubmed.ncbi.nlm.nih.gov/35021002/>

Abstract

Background: Vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (Covid-19), have been used since December 2020 in the United Kingdom. Real-world data have shown the vaccines to be highly effective against Covid-19 and related severe disease and death. Vaccine effectiveness may wane over time since the receipt of the second dose of the ChAdOx1-S (ChAdOx1 nCoV-19) and BNT162b2 vaccines.

Methods: We used a test-negative case-control design to estimate vaccine effectiveness against symptomatic Covid-19 and related hospitalization and death in England. Effectiveness of the ChAdOx1-S and BNT162b2 vaccines was assessed according to participant age and status with regard to coexisting conditions and over time since receipt of the second vaccine dose to investigate waning of effectiveness separately for the B.1.1.7 (alpha) and B.1.617.2 (delta) variants.

Results: Vaccine effectiveness against symptomatic Covid-19 with the delta variant peaked in the early weeks after receipt of the second dose and then decreased by 20 weeks to 44.3% (95% confidence interval [CI], 43.2 to 45.4) with the ChAdOx1-S vaccine and to 66.3% (95% CI, 65.7 to 66.9) with the BNT162b2 vaccine. Waning of vaccine effectiveness was greater in persons 65 years of age or older than in those 40 to 64 years of age. At 20 weeks or more after vaccination, vaccine effectiveness decreased less against both hospitalization, to 80.0% (95% CI, 76.8 to 82.7) with the ChAdOx1-S vaccine and 91.7% (95% CI, 90.2 to 93.0) with the BNT162b2 vaccine, and death, to 84.8% (95% CI, 76.2 to 90.3) and 91.9% (95% CI, 88.5 to 94.3), respectively. Greater waning in vaccine effectiveness against hospitalization was observed in persons 65 years of age or older in a clinically extremely vulnerable group and in persons 40 to 64 years of age with underlying medical conditions than in healthy adults.

Conclusions: We observed limited waning in vaccine effectiveness against Covid-19-related hospitalization and death at 20 weeks or more after vaccination with two doses of the ChAdOx1-S or BNT162b2 vaccine. Waning was greater in older adults and in those in a clinical risk group.

Visualizing How COVID-19 Antiviral Pills and Vaccines Work at the Cellular Level

By Mark Belan

Source: <https://www.visualcapitalist.com/visualizing-how-covid-19-antiviral-pills-and-vaccines-work-at-the-cellular-level/>

Jan 14 – Since the [pandemic](#) started in 2020, a number of therapies have been developed to combat COVID-19.

The leading options for preventing infection include social distancing, [mask-wearing](#), and vaccination. They are still recommended during the upsurge of the coronavirus's latest mutation, the Omicron variant.

But in December 2021, The United States Food and Drug Administration (USDA) granted Emergency Use Authorization to two experimental pills for the treatment of new COVID-19 cases.

These medications, one made by Pfizer and the other by Merck & Co., hope to contribute to the fight against the coronavirus and its [variants](#). Alongside vaccinations, they may help to curb extreme cases of COVID-19 by reducing the need for hospitalization.

Despite tackling the same disease, vaccines and pills work differently:





The medical information in this infographic is provided as an information resource only, and is not to be used or relied on for any diagnostic or treatment purposes.

Comparing How COVID-19 Vaccines and Antiviral Pills Work

How does a COVID Vaccine Enhance the Immune System?

Vaccines stimulate the production of antibodies, which fight infection. To do this, they put the immune system through a "rehearsal", or fire drill, before it has to fight off the real thing. Here, we explore how an mRNA vaccine works.

Creating antibodies requires an **antigen**, which can be found on any infectious material. The COVID-19 coronavirus's antigen is the **spike protein that covers its outer surface**.

mRNA vaccines safely expose an antigen to our immune system *without* the dangerous parts of the virus.

They do this by getting our cellular machinery to build the coronavirus antigen from scratch.

In our bodies, DNA in the nucleus tells the rest of the cell what proteins to build. It sends these instructions out of the nucleus via a molecule called **messenger RNA (mRNA)**.

1 mRNA vaccines send their **own mRNA** to the general part of the cell with instructions to build only the antigen. It has no interaction with our DNA.

2 Cell components read the mRNA instructions and start a complex assembly line to build **spike proteins**.

mRNA is short-lived and completely disintegrates a few days after it's read.

The spike proteins are sent to the cell surface.

The immune system recognizes the spike proteins and produces **antibodies**.

4 The extra antibodies wait for the opportunity to attack the real spike protein when a coronavirus enters the body.

How does a COVID Pill Disrupt Viral Assembly?

Pharmaceutical companies Pfizer and Merck have produced antiviral pills that treat and manage the symptoms of COVID-19. Here, we show how Pfizer's drug, **Paxlovid**[®], and Merck & Co.'s **Lagevrio**[®], work at the cellular level.

Unlike the vaccine, the pill is **taken orally**. It does not prevent COVID-19, but instead treats it.

This means that one must first test positive for COVID-19 before taking these medications.

Part of the **virus's genetic material** encodes instructions to create **new cellular parts** that help build more viruses.

A One of these new parts is called a **polymerase** (or **RdRp**), which creates **more copies of the viral instructions**.

Merck & Co.'s **Lagevrio**[®] uses **molnupiravir**, a polymerase inhibitor. It confuses the polymerase by putting itself into the viral instructions.

B Another part, called a **protease**, cuts **proteins made by the virus** into smaller, workable pieces.

Pfizer's **Paxlovid**[®] is made of two pills. The first pill, **nirmatrelvir**, is a protease inhibitor. It stops protease from cutting viral proteins into functional pieces.

The other pill, **ritonavir**, protects nirmatrelvir from destruction by the body and allows it to keep working.

Since these drugs disrupt the assembly of the virus, they can't replicate and infect other cells.

SOURCES: ¹cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html. ²nbcnews.com/health/health-news/covid-antiviral-drugs-merck-pfizer-pills-work-rcna5317. ³nature.com/articles/d41573-021-00202-8.

Vaccines	Pills
Taken by injection	Taken by mouth
Used for prevention	Used for treatment only
Create an enhanced immune system by stimulating antibody production	Disrupt the assembly of new viral particles

How a Vaccine Helps Prevent COVID-19

The main purpose of a vaccine is to prewarn the body of a potential COVID-19 infection by creating antibodies that target and destroy the coronavirus.

In order to do this, the immune system needs an antigen.

It's difficult to do this risk-free since all antigens exist directly on a virus. Luckily, vaccines safely expose antigens to our immune systems *without* the dangerous parts of the virus.

In the case of COVID-19, the coronavirus's antigen is the spike protein that covers its outer surface. Vaccines inject antigen-building instructions* and use our own cellular machinery to build the coronavirus antigen from scratch.

When exposed to the spike protein, the immune system begins to assemble antigen-specific antibodies. These antibodies wait for the opportunity to attack the real spike protein when a coronavirus enters the body. Since antibodies decrease over time, booster immunizations help to maintain a strong line of defense.

**While different vaccine technologies exist, they all do a similar thing: introduce an antigen and build a stronger immune system.*

How COVID Antiviral Pills Work

Antiviral pills, unlike vaccines, are *not* a preventative strategy. Instead, they treat an infected individual experiencing symptoms from the virus.

Two drugs are now entering the market. Merck & Co.'s [Lagevrio®](#), composed of one molecule, and Pfizer's [Paxlovid®](#), composed of two.

These medications disrupt specific processes in the viral assembly line to choke the virus's ability to replicate.

The Mechanism of Molnupiravir

RNA-dependent RNA Polymerase (RdRp) is a cellular component that works similar to a photocopying machine for the virus's genetic instructions. An infected host cell is forced to produce RdRp, which starts generating more copies of the virus's RNA.

Molnupiravir, developed by Merck & Co., is a polymerase inhibitor. It inserts itself into the viral instructions that RdRp is copying, jumbling the contents. The RdRp then produces junk.

The Mechanism of Nirmatrelvir + Ritonavir

A replicating virus makes proteins necessary for its survival in a large, clumped mass called a polyprotein. A cellular component called a protease cuts a virus's polyprotein into smaller, workable pieces.

Pfizer's antiviral medication is a protease inhibitor made of two pills:

1. The first pill, nirmatrelvir, stops protease from cutting viral products into smaller pieces.
2. The second pill, ritonavir, protects nirmatrelvir from destruction by the body and allows it to keep working.

With a faulty polymerase or a large, unusable polyprotein, antiviral medications make it difficult for the coronavirus to replicate. If treated early enough, they can lessen the virus's impact on the body.

The Future of COVID Antiviral Pills and Medications

Antiviral medications seem to have a bright future ahead of them.

COVID-19 antivirals are based on early [research](#) done on coronaviruses from the 2002-04 SARS-CoV and the 2012 MERS-CoV outbreaks. Current breakthroughs in this technology may pave the way for better pharmaceuticals in the future.

One half of Pfizer's medication, ritonavir, currently treats many other viruses including [HIV/AIDS](#).

Gilead Science is currently developing oral derivatives of [remdesivir](#), another polymerase inhibitor currently only offered to inpatients in the United States.

More coronavirus antivirals are currently in the pipeline, offering a glimpse of control on the looming presence of COVID-19.

Mark Belan is a scientific graphics journalist and visual communicator, working at the intersection of art and science to translate scientific concepts into impactful visuals. With two Master of Science degrees (one in Geochemistry/Astrobiology, another in Biomedical Communications), his work and past experience as a researcher has led him to champion



the values of visual storytelling when communicating complex and sophisticated ideas, especially in science. Mark is based in Toronto, Canada and yearns to make science more accessible to everyone with all forms of visual media.

At least 20 cases of Omicron sub-variant BA2 detected in Israel

Source: <https://www.timesofisrael.com/several-cases-of-omicron-sub-variant-ba2-detected-in-israel/>



Jan 13 – The Health Ministry on Thursday announced several cases of a sub-variant of the Omicron strain of the coronavirus have been found in Israel.

According to the Kan public broadcaster, at least 20 such cases have been identified in the country.

BA2 has already been identified in several countries and carries additional mutations beyond those possessed by Omicron.

It is not currently known whether BA2 is more dangerous than Omicron.

“At this point, there is no evidence that indicates it behaves differently from Omicron. The Health Ministry will update the public on any relevant developments,” the ministry said in a statement.

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Meanwhile, the Omicron virus variant has raced across Israel over the past week, leaving the country with 259,223 active patients, 228,044 of whom were diagnosed over the past seven days — a rate three times higher than the previous week. The rampage has left 188,899 Israelis in quarantine due to exposure to an infected person, ministry figures showed Thursday.

The number of patients seriously ill with COVID-19 has risen by 90 to 289, according to Health Ministry daily figures.

Of the 882 patients hospitalized in Israel with COVID-19, 89 are considered critical and 72 are on ventilators.

Of the 402,979 virus tests carried out on Wednesday, 11.99 percent — or 48,311 — confirmed infection, the newest data showed, in a continuation of the high positive rate seen over the past week. The number of tests was close to the highest ever in a single day, which was recorded in August last year, but at that time the positive rate was only around 6%.

Long COVID patients show abnormal immune activity 8 months post infection

Source: <https://newatlas.com/health-wellbeing/long-covid-immune-activity-eight-months-after-infection/>

Jan 16 – A comprehensive new study published in the journal *Nature Immunology* has reported immune dysregulation persists in long COVID patients up to eight months after initial infection. The Australian research found long COVID is characterized by elevated levels of specific immune biomarkers, offering the strongest objective evidence to date of this emerging chronic disease. However, researchers indicate it is still unclear what impact vaccination or the Omicron variant will have on long COVID.

The study systematically followed 147 people for eight months following an acute SARS-CoV-2 infection. About 20 percent of the cohort experienced symptoms of long COVID at four months past initial infection.

Blood samples were taken from all subjects at several points over the study. The researchers were interested in how each patient's immune system was responding in the months following COVID-19.

“In conducting this research, we were looking for proteins in the serum,” said co-lead author on the new study, Chansavath Phetsouphanh. “These proteins, or biomarkers, are evidence of an abnormal process caused by a disease. We analyzed 31 different biomarkers that we suspected could be ‘triggered’ by COVID-19, and we identified a small subset that were associated with long COVID syndrome.”

Compared to a control group composed of uninfected subjects, or subjects infected with other coronaviruses, six specific immune biomarkers were notably elevated in COVID-19 patients. There was little difference in these biomarker levels between long COVID cases and COVID cases with no persistent symptoms up to four months after infection. But from four months these elevated immune biomarkers began to drop in non-long-COVID subjects while remaining high in long COVID patients.

In particular, the research noted two types of immune cells known as interferons remained significantly high in the long COVID cohort at the eight-month mark compared to all other controls. This pattern of immune dysfunction was so apparent that the researchers could effectively identify a long COVID patient with 80 percent accuracy just by studying immune biomarkers in a blood sample.

“... we found persistently elevated levels of Type I and Type III interferons – types of protein that cells make in response to the presence of a virus,” explained Phetsouphanh. “These interferons generally disappear after an infection clears, but in patients with long COVID we found they were present for an extended period.”



Phetsouphanh also pointed out these ongoing immunological changes were not linked to the severity of the initial infection. While long COVID has been reported in high rates for those hospitalized with the acute disease, anywhere from 10 to 30 percent of mild cases are showing signs of long COVID.

This new research was conducted in a cohort of unvaccinated subjects initially infected in 2020. So it is unclear at this stage whether new variants such as Omicron, or two- to three-dose vaccination schedules, significantly affect these immunological long COVID characteristics.

“From some early international data, we are very hopeful that with a milder variant and with high vaccination rates we may see less long COVID, but we will need further immunological data before we can say this for certain,” added co-lead author David Darley. “We are currently looking at some data from the Delta wave to understand whether vaccination may reduce the possibility of long COVID.”

[A similar recent study](#) from researchers at Cedars-Sinai homed in on another immune biomarker that is persistently elevated in long COVID patients up to six months past initial infection. Deepti Gurdasani, a researcher from Queen Mary University of London who did not work on this new study, says it is unclear what this kind of lingering immune dysregulation means, but she calls it concerning nonetheless.

“Whether this is because of persistence of virus, or virus antigen, or auto-immunity post-infection isn't known yet,” Gurdasani said on [Twitter](#). “It could be one of these, or even a combination – but all possibilities should concern us.”

In a recent interview, Eric Topol, founder of the Scripps Research Translational Institute, discussed the uncertainty surrounding Omicron, vaccination and long COVID. He said because of Omicron's immune evasiveness it is possible long COVID could be highly prevalent with this variant. And, Topol pointed out, even if vaccination reduces a person's chances of developing long COVID by half, we still may be facing a huge problem by letting the virus sweep through a community.

“Right now we should plan for the worst about long COVID,” said Topol. “This whole idea of having millions of infections per day basically ignores the long COVID concern.”

Speaking to the [Sydney Morning Herald](#), co-author on the new study Greg Dore said the coming months will be key in understanding what kind of long COVID burden is leveled by the Omicron variant. Dore suggested Omicron's massive transmissibility could lead to considerable levels of long COVID.

“With an enormous wave of Omicron cases, even with a variant that is less severe, a small proportion of those with long COVID could translate to considerable disease burden,” said Dore. “We will know more about Omicron's impact on long in COVID in the next three months.”

●► The new study was published in [Nature Immunology](#).

Scientists Identify Specific Gene Variant That Protects Against Severe COVID-19

Source: <https://www.sciencealert.com/scientists-identify-specific-gene-variant-that-protects-against-severe-covid-19>

Jan 17 – Researchers have discovered a protective gene variant that seems to shield people from severe cases of [COVID-19](#), and the finding could lead to new breakthroughs in fighting the [coronavirus](#).

Since much earlier in the [pandemic](#), scientists have been busily investigating how [patient genetics influence the severity](#) of a [SARS-CoV-2](#) infection, exposing the inherited factors that [appear to protect people](#) from – or [alternatively predispose them](#) to – severe manifestations of the resulting disease.

Now that effort looks to have uncovered a promising new lead. Building upon [findings from late 2020](#) that revealed numerous genetic mechanisms linked to life-threatening cases of COVID-19, an international team of researchers has identified a specific gene variant that can confer protection from critical illness.

[In 2020](#), an analysis of genetic data primarily obtained from European people found that a locus of genetic variants in the OAS1/2/3 gene cluster was linked with several antiviral mechanisms. These variants conferred an [approximately 23 percent reduced risk](#) of becoming critically ill in cases of SARS-CoV-2 infection, in addition to other factors tied to [virus](#) susceptibility.

Nonetheless, it was unclear exactly what it was within this region of largely Neanderthal-inherited DNA that prompted the boosted protection against the coronavirus, meaning a causal gene or genes still remained to be identified – until now.

In a [new study](#), researchers compared information from people of different ancestries – looking at genetic datasets of people from both African and European lineages.



The scientists' goal was to see if they could narrow the search further within the OAS1/2/3 cluster and determine the same protective signal in the comparatively shorter [haplotypes](#) of African people – who don't carry the same complicated influx of Neanderthal and [Denisovan](#) genes in their own DNA, which makes identifying potentially causal variants much more problematic.

The approach worked. In an analysis of 2,787 COVID-19 cases alongside the genetic data of 130,997 individuals of African ancestry, the researchers identified an **allele in the gene rs10774671 that confers protection against COVID-19 hospitalization in individuals of African ancestry**, corresponding to what had previously been seen in Europeans.

"The fact that individuals of African descent had the same protection allowed us to identify the unique variant in the DNA that actually protects from COVID-19 infection," [says](#) first author and genomics researcher Jennifer Huffman from the VA Boston Healthcare System.

The variant in question – called rs10774671 G – confers protection against COVID-19 severity independently of other associated alleles in non-African populations, the researchers say, and their analysis suggests it is likely to be the only causal variant behind the protection effect.

Given that African ancestries do not usually feature Neanderthal haplotypes – unlike European populations, who adopted Neanderthal genes through breeding with [Neanderthals](#) during their long migration out of Africa – the common rs10774671 G variant exists today in both Africans and Europeans "as a result of their inheritance from the ancestral population common to both modern humans and Neanderthals," [the researchers write in their paper](#).

"Such variants have existed in modern humans on the order of approximately half a million years and therefore co-segregate with different variants than when they are derived from gene flow from Neanderthals into modern humans that occurred about 60,000 years ago."

While the variant appears to have been carried by humans for a very long time, it wouldn't have been easy to find, given how complex genetic analyses like this are – unless populations of different kinds are compared, that is.

"This study shows how important it is to include individuals of different ancestries," [says](#) senior researcher and evolutionary geneticist Hugo Zeberg from the Karolinska Institute in Sweden.

"If we had only studied one group, we would not have been successful in identifying the gene variant in this case."

While there's much more to yet study around rs10774671 G, the researchers suggest the protective effect comes about due to the variant's effect on the OAS1 gene, encoding a longer OAS1 protein that is more effective at breaking down SARS-CoV-2 than the unaltered form.

If they're right, the insight could be an important step toward new kinds of treatment that may boost immune response in a similar way.

"That we are beginning to understand the genetic risk factors in detail is key to developing new drugs against COVID-19," [says](#) senior researcher and geneticist Brent Richards from McGill University in Canada.

●► The findings are reported in [Nature Genetics](#).

The Dynamics of SARS-CoV-2 Infectivity with Changes in Aerosol Microenvironment

By Henry P. Oswin, Allen E. Haddrell, Mara Otero-Fernandez, et al.

Source: <https://www.medrxiv.org/content/10.1101/2022.01.08.22268944v1>

medRxiv



BMJ Yale

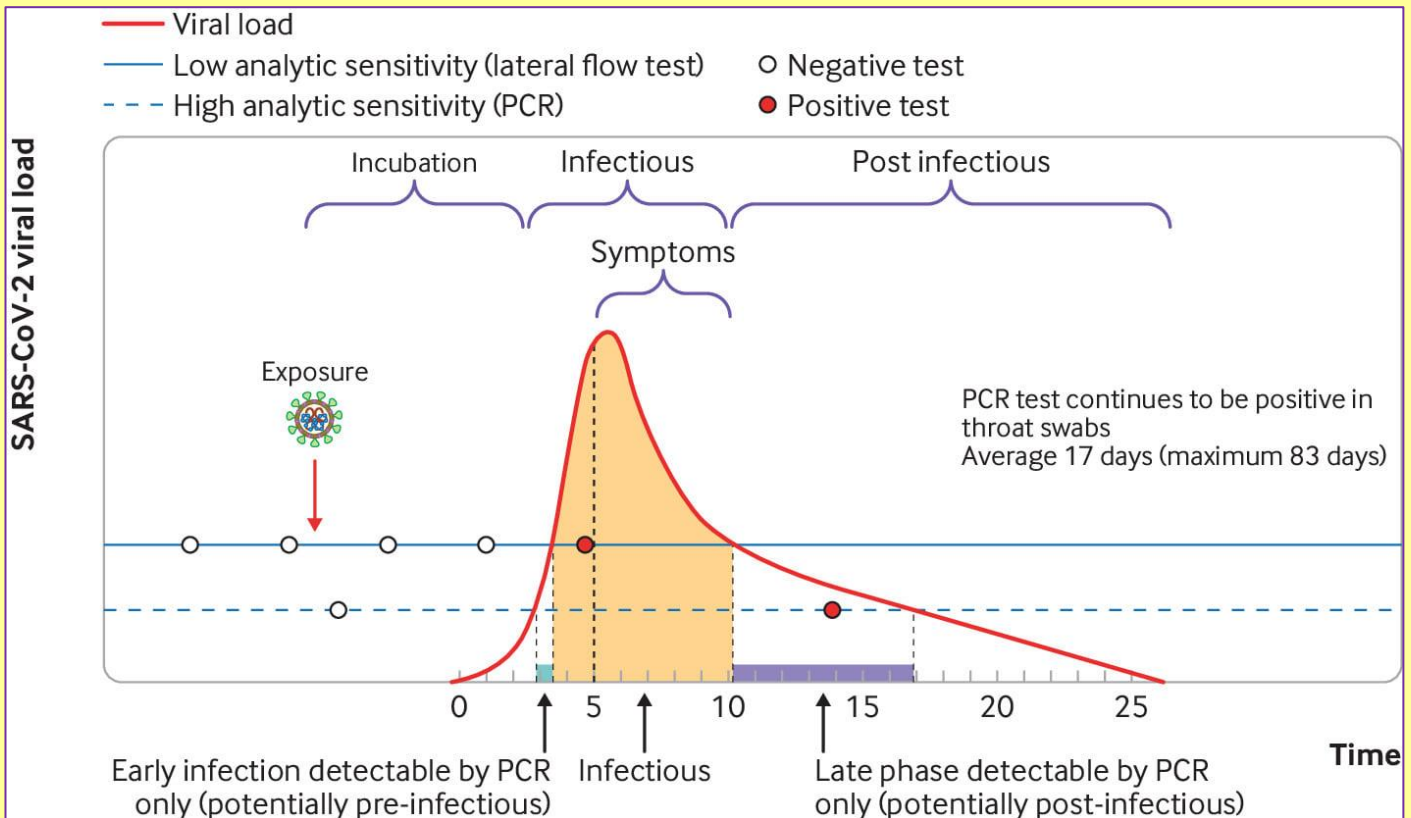
Understanding the factors that influence the airborne survival of viruses such as SARS-CoV-2 in aerosols is important for identifying routes of transmission and the value of various mitigation strategies for preventing transmission. We present measurements of the stability of SARS-CoV-2 in aerosol droplets (~5-10µm equilibrated radius) over timescales spanning from 5 seconds to 20 minutes using a novel instrument to probe survival in a small population of droplets (typically 5-10) containing ~1 virus/droplet. Measurements of airborne infectivity change are coupled with a detailed physicochemical analysis of the airborne droplets containing the virus. A decrease in infectivity to ~10 % of the starting value was observable for SARS-CoV-2 over 20 minutes, with a large proportion of the loss occurring within the first 5 minutes after aerosolisation. The initial rate of infectivity loss was found to correlate with physical transformation of the equilibrating droplet; salts within the droplets crystallise at RHs below 50% leading to a near instant loss of infectivity in 50–60% of the virus. However, at 90% RH the droplet remains homogenous and aqueous, and the viral stability is sustained for the first 2 minutes, beyond which it decays to only 10% remaining infectious after 10 minutes. The loss of infectivity at high RH is consistent with an elevation in the pH of the droplets, caused



by volatilisation of CO₂ from bicarbonate buffer within the droplet. Three different variants of SARS-CoV-2 were compared and found to have a similar degree of airborne stability at both high and low RH.

Significance The aerosol microenvironment is highly dynamic exposing pathogens, such as the SARS-CoV-2 virus when exhaled in respiratory aerosol, to extreme conditions of solute concentration, pH and evaporative cooling. Yet surviving this environment is a key step in the transmission of such pathogens. Understanding the impact that airborne transport has on pathogens and the influence of environmental conditions on pathogen survival can inform the implementation of strategies to mitigate the spread of diseases such as COVID-19. We report changes in the infectivity of the airborne virus over timescales spanning from 5 s to 20 minutes and demonstrate the role of two microphysical processes in this infectivity loss: particle crystallisation and aerosol droplet pH change.

PCR – Is it always SARS-CoV-2?



They identify a genetic risk factor for loss of smell or taste associated with covid

By Charles Dunkin

Source: <https://blazetrends.com/they-identify-a-genetic-risk-factor-for-loss-of-smell-or-taste-associated-with-covid/>

Jan 17 – A new study by the American biotechnology company [23 and me](#), reveals a genetic risk factor that influences the likelihood that an individual will experience **loss of smell or taste** as symptoms of covid-19. The finding was published today in the journal [Nature genetics](#).

According to the authors of the work, the **genetic locus** –specific place where a gene or other DNA sequence is located on a chromosome– located in the immediate vicinity of **UGT2A1 and UGT2A2 genes** is associated with an 11% increase in the chance of developing any of these symptoms after infection with **SARS-CoV-2**.

A cluster of variants close to the UGT2A1 and UGT2A2 genes increases the likelihood of loss of smell or taste after infection by 11%

Loss of smell or taste are characteristic symptoms of the coronavirus; however, not all infected individuals experience them, and the mechanisms responsible are unclear.



Almost 70,000 people

Adam Auton, vice president of the biotechnology company, and his team conducted a study of the world association **genome** in which 69,841 people participated (63% women; 37% men), all over 18 years of age and residing in the United States or United Kingdom. Data were collected through surveys.

The researchers found that the UGT2A1 and UGT2A2 genes encode **enzymes** that are expressed in the cells that line the inside of the nose and participate in the elimination of odorants –substances that give off odor– that bind to the receptors involved in their detection.

“It is unclear how both genes participate in this process, but given their location and essential function, these genes may play a role in the physiology of infected cells and the subsequent functional impairment that contributes to the loss of olfactory capacity,” they explain. The specialists.

Study limitations

The UGT2A1 and UGT2A2 genes encode enzymes that are expressed in the cells lining the inside of the nose.

This finding provides clues about the **biological mechanisms** underlying coronavirus-related loss of smell or taste. However, the researchers caution that their study has several limitations.

The work is biased towards individuals of European descent. Furthermore, a better differentiation between loss of taste and loss of smell should have been made, since these symptoms were combined. Finally, the authors conclude that it would be beneficial to repeat the study clinically, rather than relying on self-reported symptoms.

●► **Reference:** Shelton *and others*. “The UGT2A1/UGT2A2 locus is associated with COVID-19-related loss of smell or taste.” [Nature genetics](https://doi.org/10.1038/s41588-021-00986-w). DOI: 10.1038/s41588-021-00986-w

Nocebo affects after COVID-19 vaccination

By Professor Peter Sever

National Heart and Lung Institute, Imperial College London, United Kingdom

Lancet. 2017; 389: 2473-2481

Source: [https://www.thelancet.com/journals/lanpe/article/PIIS2666-7762\(21\)00259-3/fulltext](https://www.thelancet.com/journals/lanpe/article/PIIS2666-7762(21)00259-3/fulltext)

Jan 01 – Amanzio and colleagues are to be congratulated for their review of adverse events associated with vaccinations against corona virus-SARS-CoV-2.

Adverse events claimed to be caused by modern medicines be they tablets or injections, are the commonest reason given by patients for not accepting medication or for failing to adhere to prescribed drugs.



Nocebo:

A harmless thing that causes harm because you believe it is harmful!

This has serious implications not only for the individual who refuses potentially life-saving medication, but for the community in the case of vaccinations against infectious agents in the context of a pandemic. This is particularly frustrating when in many cases the perceived adverse reactions are not causally related to the administered drug or vaccine.

In the systematic review reported in this issue of the journal, the authors have identified 3 studies of SARS-CoV-2 vaccines—two mRNA based and one adenovirus type— involving approximately 45,000 subjects, and compared the rates of solicited adverse events, classified by the Medical Dictionary for Regulatory Activities, in patients assigned placebo and active vaccination. The key findings were high rates of commonly encountered adverse events in both placebo and active arms of the trials.

Fatigue was reported by 21–29% of patients in the placebo arms and 38–42% in the active treatment arms. For headache the proportions were 24–27% and 33–39% for placebo and active arms respectively, and for muscle aches and pains 10–14% and 18–33% respectively.

Injection site reactions were also common—12–17% in placebo and 48–84% following active vaccination. Other adverse events were reported less frequently but also in both placebo and active treatment arms. Generally younger subjects were more likely to report adverse events. Whilst there is clearly an excess incidence of these adverse events with the vaccination, with the exception of local injection site inflammation, it is evident that most of



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these events are not due to the vaccine and the authors have correctly attributed the nocebo reaction as the cause of most of these symptoms.

The nocebo response is less well described compared with its the opposite -the placebo response. It is a negative reaction characterised by the expression of adverse symptoms largely driven by the expectation of the individual that some untoward events will occur following the administration of a drug, vaccine or other medical intervention.

The phenomenon has been highlighted recently in relation to statin treatment where the majority of adverse events have been demonstrated not to be due to the statin but to the anticipation of adverse symptoms based on prior information provided by a variety of sources.

The nocebo response is extremely common in medical practice. Drug packaging inserts highlighting possible side effects of drugs, the internet, uncritical widespread media reports of adverse reactions attributed to (but not caused by) drugs and ill-informed comments from friends and relatives all contribute to the high incidence of adverse responses to various treatments.

Are there limitations to the current report? The authors have restricted their survey to trials registered with the European Medicines Agency and the Federal Drug Administration, but it is unfortunate that no information has been provided on the AZD 1222 trials. In the case of the latter, the reasoning provided was that most of these trials had meningococcal vaccination as the control arm instead of placebo. Of 171 studies, 3 were finally selected as meeting the inclusion criteria for the survey, thereby potentially introducing bias. However, whilst the actual number of adverse events will vary from trial to trial depending on the population studied and factors including the various methods of assessment and symptom retrieval, it is highly likely that a wider review, including the AZ trials, would confirm the high incidence of adverse events in the placebo arm and the importance of the nocebo phenomenon.

Highlighting the importance of the nocebo response associated with current vaccination against SARS-CoV-2 is timely. Not only in the UK, but in many countries where the vaccine has been made available there is a significant minority who refuse to be vaccinated. Amongst ethnic minority groups in the UK, there remains a high proportion of unvaccinated individuals. Most are poorly informed about the vaccine's safety, its ability to protect against severe SARS-CoV-2 infection and the importance of community immunity. The current paper adds importantly to the information on adverse reactions to the vaccine and it is hoped that physicians will use this knowledge in educating their patients on the need to accept vaccination against SARS-CoV-2.

●► References are available at the source's URL.

Public-Health-Crisis Lessons from the Pandemic

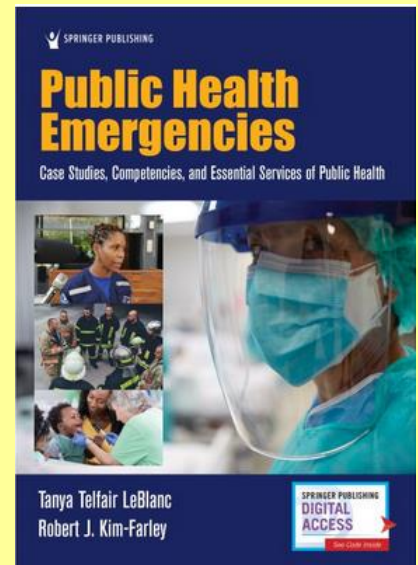
Source: <https://www.homelandsecuritynewswire.com/dr20220118-publichealthcrisis-lessons-from-the-pandemic>

Jan 18 - In "[Public Health Emergencies: Case Studies, Competencies, and Essential Services of Public Health](#)," published this month by Springer Publishing, [Dr. Robert Kim-Farley](#), UCLA Fielding School of Public Health professor of epidemiology and community health sciences, writes that the pandemic offers the public, and public health specialists, ample lessons for the next public health crisis. He answered questions by Brad Smith of the [Fielding School](#).

Brad Smith: *What are the lessons learned for crisis management from the pandemic (so far) for public health professionals?*

Robert Kim-Farley: The 'take-home lesson learned' from the pandemic, and similar crises, is that no two disasters are the same, and that such forces as the increasing effects of climate change mean that the mix of emergencies will vary over time. There will always be the 'expected-unexpected' events such as the COVID-19 pandemic, and we, in public health, need to be anticipating them, planning for them, stockpiling the needed supplies to address them – resources like the National Strategic Stockpile with medicines to counter bioterrorist attacks, personal protective equipment, ventilators, field hospitals, etc. - drilling on them, and responding to them.

Just as the emergency department in a hospital is in a constant state of preparedness and response to the needs of their patients on an individual level - and on a mass casualty level in disasters - public health professionals in emergency preparedness are always at the ready to prepare for, drill, and respond to the community and the disasters that inevitably will affect it.



Smith: *What lesson can everyone take from the experience of the past two years?*

Kim-Farley: We live in an inter-connected world, and has been said, 'an infection anywhere can become an infection everywhere' very quickly; no community in the world is more than a few hours or, at best, a days away from the next outbreak. Our public health services, locally, nationally, or globally, are as much first responders as fire and rescue or law enforcement – except the difference is public health crisis management has to be able respond not just locally, but on a national or even global scale.

In some ways, public health's mission, in terms of being able to plan for emergencies, mobilize, and deploy to meet it, across the spectrum of possible threats and responses, is possibly best explained to the public as similar to that of the U.S. Coast Guard ... or even the U.S. military as a whole. The difference in resources, however, is huge; public health agencies rarely if ever receive funding commensurate with their responsibilities ... even in times of crisis, unfortunately.

Smith: *What are some of the immediate public health threats that you are concerned about?*

Kim-Farley: Two years into the current pandemic, it goes without saying that infectious disease outbreaks, from local to global pandemics such as a 'viral tsunami' like COVID-19, have to be at the top of the list. In a world where wildlife habitat is disappearing rapidly due to development, the likelihood that new infectious diseases - bacterial, viral or parasitic - will jump from a non-human animal to humans, is almost a certainty. Along with that, natural disasters such as earthquakes, tornadoes, hurricanes, and floods, and human-made public health emergencies such as chemical disasters and food and water supply hazards, are all very real threats, across the country and around the world.

Smith: *How about (public health threats) farther out on the horizon?*

Kim-Farley: Deliberate human-made disasters, such as nuclear detonation and bioterrorism, remain a very real threat, and as horrible as anything like that would be, public health professionals will be on the front lines in any response to such an event. The possibility of a bioterrorism event is not limited to speculative fiction, tragically enough, and weapons of mass destruction still, even decades after the end of the Cold War, pose a very real threat to human civilization.

Of course, climate change is becoming increasingly recognized as a global health emergency, and encompasses a wide range of events, including heat waves, extreme weather events - rain, hurricanes, tornadoes, and flooding; drought, with the obvious implications to safe water and food supplies; wildfires; sea-level rise; increases in ground-level ozone, airborne allergens, and other pollutants; and changes in the transmission of vector-, food-, and waterborne diseases.

Smith: *What should a public health specialist — or the public, generally — be looking for from leaders?*

Kim-Farley: Thoughtful and rational public discourse requires honesty about the effectiveness of public policy. Unfortunately, in the United States and around the world, it seems that with each disaster, more examples of what should be 'lessons learned' - that have not been learned - are found. These include the many problematic issues of the COVID-19 response, locally, globally, and nationally. As my co-author, [Dr. Tanya Telfair LeBlanc](#), a public health emergency management specialist, has written: 'Preparedness depends upon having an existing strong system in place to protect and sustain life under normal circumstances that can be resilient under strained circumstances.'

We need to train a cadre of public health leaders who not only understand the complexities of emergency preparedness, but also comprehend the complexities of society itself, to meet the challenge of building and maintaining public health security – and we need the public, as rational, thoughtful, individuals – to understand that we are truly in this together; they have to do their part, so public health specialists can do ours.

Losing my religion: The pandemic is causing many to lose faith in God

Source: <https://newatlas.com/health-wellbeing/faith-religion-god-declined-pandemic-study/>

Jan 18 – New research published in the *Journal of Religion and Health* has found faith in God and trust in a higher power declined across the course of the pandemic. The German survey found the longer the pandemic went on, the more people seemed to lose their faith in God.

It is generally thought that belief in God and reliance on religious institutions increase during times of trauma and crisis. [Prior studies have indicated](#) faith-based beliefs can help people make sense of traumatic events that can initially seem meaningless or random.

"... trauma challenges so many assumptions about who we are, what our purpose is and how to make sense of a traumatic event," wrote theologian Danielle Tumminio Hansen, in a piece for [The Conversation](#) last year. "Faith-based beliefs and practices offer meaningful resources to help navigate those questions. This is why spiritual beliefs and practices across various religions can often lead to faith strengthening rather than weakening, following a trauma."



[A Pew Research poll](#) conducted in the summer of 2020 found, in the United States at least, the pandemic was strengthening many people's religious faith.

"Nearly three-in-ten Americans (28 percent) report stronger personal faith because of the pandemic, and the same share think the religious faith of Americans overall has strengthened, according to the survey of 14 economically developed countries," the Pew poll found after the first few months of the pandemic.



This new study focused more on temporal changes to religious belief over 18 months, beginning June 2020 and running up until November 2021. Nearly 5,000 people in Germany were surveyed at various points over the 18-month period, and the researchers found the longer the pandemic went on, the more people were losing their faith in God or a higher power.

"Analyses revealed that with the 2nd wave of the infection and its 2nd lockdown, trust in a Higher Source, along with praying and meditation decreased," the researchers wrote in the new study. "Also, the sharp increase in corona-related stressors was associated with a decline of wellbeing and a continuing loss of faith. These developments were observed in both Catholics and Protestants, and in both younger and older persons."

In June 2020, at the beginning of the study, only three percent of survey respondents indicated they had lost faith in a higher power due to the COVID-19 pandemic. Across six more surveys over the next 18 months this percentage consistently increased until the final survey conducted between August and November 2021 found 21.5 percent of people reporting a loss of faith due to the pandemic.

Loss of faith responses were consistent across not only Catholics and Protestants but also those more agnostic respondents classified as religiously non-affiliated. But the researchers hypothesize this general loss of faith trend during the pandemic is most likely due to a severing of the social bonds many religious communities rely upon.

"It seems that, due to the long course of social distancing and related restrictions, more or less vital social and religious bonds between people and local religious communities were affected and even disrupted," the researchers hypothesized. "... when sacred spaces (i.e., the churches) are not easily accessible, people may lose access to the center of their public religious life, and thus they may either develop new forms of spiritual practices in privacy or simply get used to the loss." [A recent survey](#) from the Pew Research Center suggests this pandemic-related decline in religious belief may not translate to the United States. Although Pew has found a consistent decline in general religious affiliation over the past 15 years, it has not detected any unusual drop over the past 24 months. While the pandemic has unsurprisingly led to decreases in US church attendance over the past 18 months, it is believed this should pick up as the coronavirus subsides. And many religious organizations are [indicating a need to modernize](#) their accessibility to make better contact with younger demographics.

●► The new study was published in the [Journal of Religion and Health](#).

COVID-19 Severity Predicted by Early Presence of Afucosylated Antibodies

Source: <https://www.genengnews.com/news/covid-19-severity-predicted-by-early-presence-of-afucosylated-antibodies/>

Jan 19 – Whether a person suffers from severe COVID-19, or has a milder infection, hinges in part on an inflammatory response that is implicated in disease pathogenesis. The mechanisms underlying the contributions of the inflammatory response, however, remain unclear. **IgG antibodies** are one area of investigation as they can form immune complexes (ICs) upon viral antigen binding that may impact inflammation. More specifically, IgG interactions with activating and inhibitory Fc gamma receptors (FcγRs) on myeloid cells.

In a new study, blood drawn from patients shortly after SARS-CoV-2 infection may yield insight into disease pathogenesis. Early non-neutralizing, afucosylated IgG antibodies,



specific to SARS-CoV-2, were found to be associated with progression from mild to more severe COVID-19. In addition, the antibodies detected were distinct from those elicited by the mRNA vaccines.

“Severe COVID-19 is largely a hyperinflammatory disease, particularly in the lungs,” said Taia Wang, MD, PhD, assistant professor of infectious diseases and of microbiology and immunology at Stanford University. “We wondered why a minority of people develop this excessive inflammatory response, when most people don’t.”

“We’ve identified an early biomarker of risk for progression to severe symptoms,” said Wang. “And we found that antibodies elicited by an mRNA vaccine—in this case, Pfizer’s—differ in important, beneficial ways from those in people infected with SARS-CoV-2 who later progress to severe symptoms.”

Blood samples were taken from **178 adults** who tested positive for COVID-19 upon visiting a Stanford Health Care hospital or clinic. At the time of testing, their symptoms were mild. However, 15 participants developed symptoms and entered the emergency department. By analyzing the antibodies in blood samples from day 1, and 28 days later, the researchers identified differences between those who developed severe symptoms and those who didn’t.

Many participants with mild symptoms had higher levels of neutralizing antibodies to SARS-CoV-2 early on, when compared to participants who ended up hospitalized, who had minimal or undetectable levels of neutralizing antibodies early on.

More specifically, the authors noted that early, non-neutralizing, afucosylated IgG antibodies specific to SARS-CoV-2 were associated with progression from mild to more severe COVID-19.

In addition, the antibodies elicited by mRNA SARS-CoV-2 vaccines were “highly fucosylated and enriched in sialylation, both modifications that reduce the inflammatory potential of IgG.”

In participants who progressed to severe COVID-19, sugar chains on certain antibodies targeting SARS-CoV2 were deficient in a variety of fucose. This deficiency was evident on the day these “progressors” first tested positive. So, it wasn’t a result of severe infection but preceded it.

Furthermore, immune cells in these patients featured inordinately high levels of receptors for the antibodies lacking fucose. Such receptors, called CD16a, are known to boost immune cells’ inflammatory activity.

“Some inflammation is absolutely necessary to an effective immune response,” Wang said. “But too much can cause trouble, as in the massive inflammation we see in the lungs of people whose immune systems have failed to block SARS-CoV-2 quickly upon getting infected”—for example, because their early immune response didn’t generate enough neutralizing antibodies to the virus.

The researchers developed an in vivo mouse model to study the biology of afucosylated IgG immune complexes. They applied immune complexes extracted from patients with high levels of fucose-deficient antibodies, patients with normal levels, or vaccinated adults, to the mice.

The fucose-deficient immune-complex extracts generated a massive inflammatory reaction in the mice’s lungs. By contrast, vaccine-elicited IgG did not promote an inflammatory lung response. When the experiment was repeated in mice that lacked CD16a, there was no hyperinflammatory response in their lungs.

Wang said the immunological factors the researchers have identified were each, on their own, modestly predictive of COVID-19 severity. But taken together, they allowed the scientists to guess the disease’s course with an accuracy of about 80%.

Wang speculates that the abundance of CD16a on immune cells and the relative absence of fucose on antibodies’ sugar chains may not be entirely unrelated phenomena in some people, and that while neither alone is enough to consistently induce severe inflammatory symptoms following SARS-CoV-2 infection, the combination leads to a devastating inflammatory overdrive.

●► The study’s findings are published in *Science Translational Medicine* in the paper, “[Early non-neutralizing, afucosylated antibody responses are associated with COVID-19 severity.](#)”

Oxford study detects cognitive deficits months after mild COVID

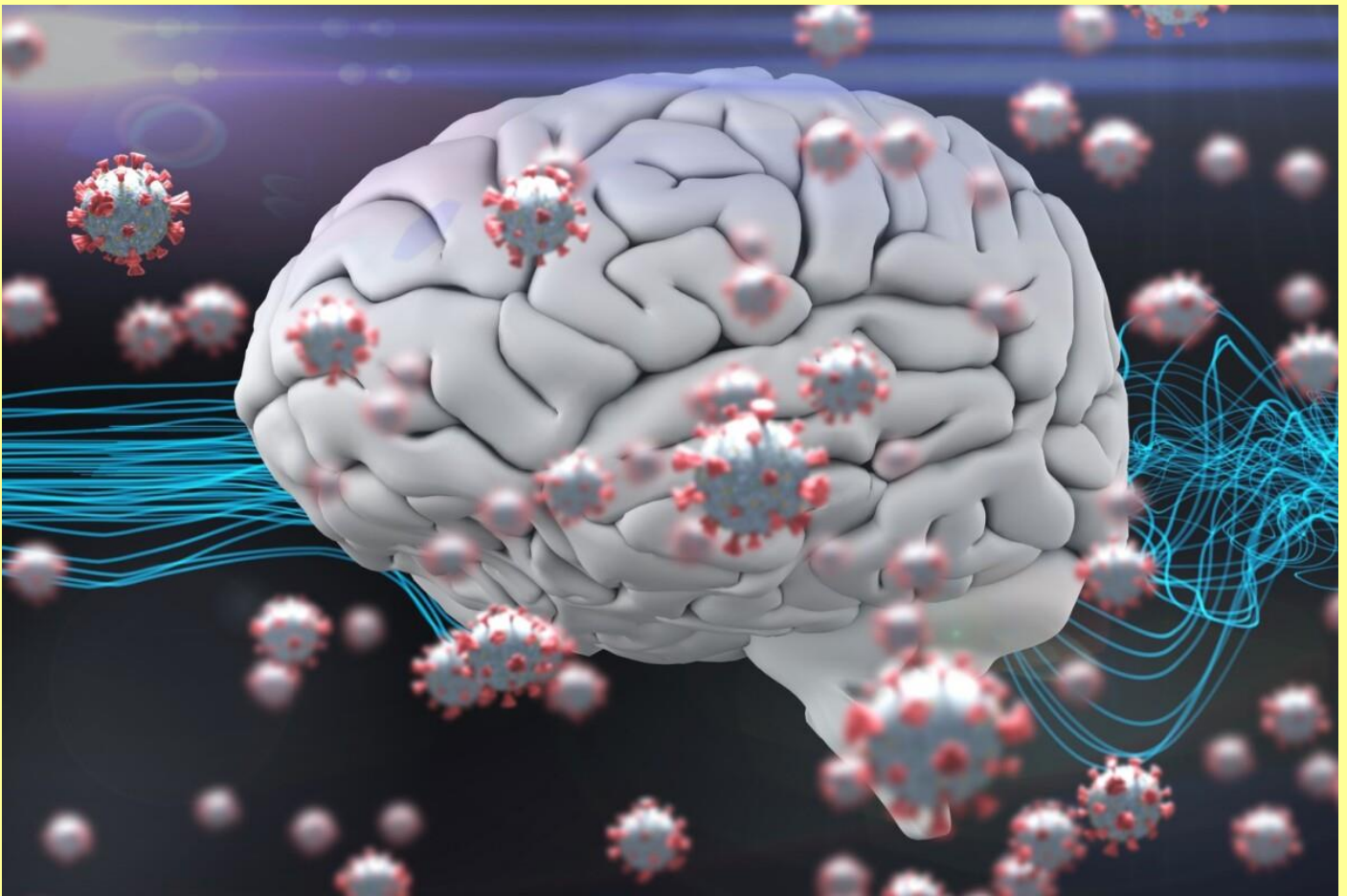
Source: <https://newatlas.com/health-wellbeing/cognitive-deficits-memory-attention-mild-covid-months/>

Jan 19 – A novel study led by researchers from the University of Oxford has investigated the lingering cognitive effects of mild COVID-19 in the months following infection. The research revealed minor deficits in attention and memory can be seen for up to six months following a mild infection.

It is [becoming increasingly clear](#) that a severe case of COVID-19 [can result in lasting impacts to the brain](#). Alongside these acute impacts on the brain, there are [persistent cognitive deficits being reported by long COVID patients](#) that last months past an initial infection.



This new study, published in the journal *Brain Communications*, set out to investigate the other end of the disease spectrum. Here,



the focus was on cognitive impacts in asymptomatic to moderate COVID-19 patients who do not report symptoms of long COVID. More than 150 subjects were recruited for the study, with around 60 reporting a PCR-confirmed case of mild COVID-19 up to nine months prior. The cohort completed 12 different online tests designed to measure a range of cognitive functions, from sustained attention and semantic reasoning to mental rotation and spatial–visual attention.

“Reassuringly, COVID-19 survivors performed well in most abilities tested, including working memory, executive function, planning and mental rotation,” the authors write in the new study. “However, they displayed significantly worse episodic memory (up to six months post-infection) and greater decline in vigilance with time on task (for up to nine months).”

The vigilance task is used to evaluate how quickly a person is fatigued during a cognitive exercise demanding consistent attention. Compared to a control group the COVID patients displayed rapid declines in accuracy on the task after about four minutes of concentration.

Sijia Zhao, an author on the new study from the University of Oxford, said it was surprising to see these minor cognitive deficits in the recovered COVID-19 subjects because none of the cohort were subjectively reporting any neurological problem.

“What is surprising is that although our COVID-19 survivors did not feel any more symptomatic at the time of testing, they showed degraded attention and memory,” said Zhao. “Our findings reveal that people can experience some chronic cognitive consequences for months.”

It is unclear exactly what could be causing these specific impairments so many months after an initial infection. The researchers hypothesize the virus may be causing a variety of immunological and microvascular changes in the brain. But the good news is, as study co-author Masud Husain explained, these potential cognitive impairments seem to disappear between six and nine months after initial infection.

“We still do not understand the mechanisms that cause these cognitive deficits, but it is very encouraging to see that these attention and memory return largely to normal in most people



we tested by six to nine months after infection, who demonstrated good recovery over time,” Husain said.

Stephen Burgess, a researcher from the University of Cambridge who did not work on this project, pointed out a number of limitations in the small study. He said the lack of randomization and blinding means the differences detected between COVID and non-COVID groups should be interpreted cautiously. But he does indicate the findings are certainly striking, and worthy of further investigation. “... differences between the COVID and non-COVID groups in terms of several specific measures of cognitive ability looked at in this study were striking, particularly in terms of delayed memory tasks and ability to perform tasks accurately when fatigued,” said Burgess. “Despite the limitations of non-randomized research, it seems unlikely that these results can be explained by systematic differences between the groups unrelated to COVID infection.”

The new study does conclude by noting it is plausible to assume transient minor cognitive deficits would be apparent following mild COVID-19 cases. Considering prior studies have indicated symptom severity at the time of infection is linked to severity of persistent neurological problems it is unsurprising mild COVID-19 cases can display minor signs of the same problems detected after severe cases.

“Just as the acute illness of COVID-19 demonstrates a wide severity spectrum from asymptomatic to fatal forms, our findings show that post-COVID cognitive deficits too can also manifest a wide severity spectrum,” the authors concluded in the study. “They highlight a pressing need to measure cognitive performance objectively in order to better understand how the brain is affected by COVID-19.”

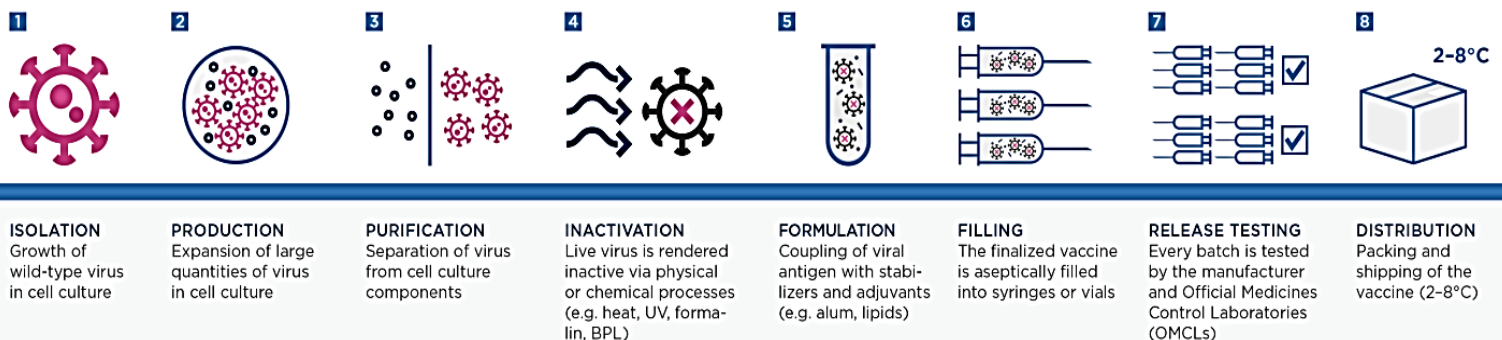
●► The new study was published in the journal [Brain Communications](#).

New whole-virus COVID vaccine may be effective against Omicron

Source: <https://newatlas.com/health-wellbeing/valneva-whole-virus-coronavirus-vaccine-omicron/>

Jan 20 – A new announcement from vaccine company Valneva indicates its experimental COVID-19 vaccine is effective at neutralizing the Omicron variant. The vaccine is at the tail-end of Phase 3 trials and is the first inactivated whole-virus vaccine to be trialed in Europe.

French company Valneva’s vaccine candidate is dubbed VLA2001 and it works a little differently to most currently approved COVID-19 vaccines.



The manufacturing process for Valneva's whole-virus vaccine (Valneva)

Most current vaccines focus on presenting a person’s immune system with the spike protein of SARS-CoV-2. But VLA2001 is what is known as an inactivated whole-virus vaccine. These vaccines actually contain complete copies of the whole virus grown in a lab and then inactivated (or “killed”) using chemicals or heat.

This process is one of the more traditional ways to make a vaccine. It has been utilized successfully for decades, going back to Jonas Salk’s landmark polio vaccine and has been more recently used to develop annual influenza vaccines.

Adam Taylor, a researcher from Australia’s Griffith University, [explained last year](#) that there is hope inactivated whole-virus vaccines could be more effective against SARS-CoV-2 variants because they help the body learn how to target more viral antigens beyond just the spike protein.

“This type of inactivation is expected to preserve the structure of the viral proteins, as they would occur in nature,” Taylor explained in a piece for [The Conversation](#). “This means the



immune system will be presented with something similar to what occurs naturally, and mount a strong immune response.” VLA2001 is currently deep in Phase 3 human trials. Ongoing trial data has been consistently supplied to regulatory bodies in Europe and approvals are expected to come over the next few months.

The latest announcement from Valneva reports on lab studies looking at how effective antibodies induced by the vaccine are at neutralizing both the Delta and Omicron SARS-CoV-2 variants. The research isolated antibodies from human trial subjects who had been given three shots of VLA2001.

All samples tested were effective at neutralizing the original strain of SARS-CoV-2 and the Delta variant. Against Omicron the research found 87 percent of samples presented neutralizing antibodies.

The findings are certainly promising, however, it is still unclear what kind of real-world protection may be generated by VLA2001 in the face of Omicron.

Valneva is not the first inactivated whole-virus vaccine to be developed for COVID-19. In fact, China’s Sinovac and Sinopharm vaccines use similar technology and have [already been administered](#) to billions of people.

However, recent research has indicated current whole-virus vaccines [may not be performing well](#) against the Omicron variant. Studies have found immune responses to Omicron after two shots of many currently available whole-virus vaccines are “sub-optimal.”

What this means for Valneva is unclear. It could be that whole-virus vaccines require a standard three-dose protocol to be effective, or maybe Valneva’s unique combination of adjuvants added to the vaccine help prompt better immune responses. Or possibly these lab studies measuring antibody neutralization simply don’t translate into real-world protection against Omicron.

What we do know is that Valneva’s vaccine demonstrates a good safety profile and should be relatively easy to manufacture. Over the coming months its approval should help amplify vaccine supplies to countries struggling for doses and offer well-vaccinated countries new options for booster programs.

“This is very encouraging data and adds to the positive Phase 3 data,” said Clive Dix, former lead on the UK Vaccine Taskforce. “Hopefully this vaccine will be approved soon and should become an important vaccine in both this pandemic in countries still behind the curve and as a vaccine for boosting during the winter of 2022/23.”

This Cheap, Effective, Patent-Free COVID Vaccine Could Be a Global Game-Changer

By Maureen Ferran

Source: <https://www.sciencealert.com/a-new-patent-free-covid-19-vaccine-could-be-a-global-game-change>



Jan 21 – The world now has a new [COVID-19](#) vaccine in its arsenal, and at a fraction of the cost per dose.

Two years into the COVID-19 [pandemic](#), the world has seen [over 314 million infections and over 5.5 million deaths worldwide](#). Approximately [60 percent of the world population](#) has received at least one dose of a COVID-19 vaccine. But there is still a glaring and alarming gap in global access to these vaccines. As a [virologist](#) who has followed this pandemic closely, I contend that this vaccine inequity should be of grave concern to everyone. If the world has learned anything from this pandemic, it’s that [viruses](#) do not need a passport. And yet approximately 72 percent of vaccine doses were administered in high- and upper-middle-income countries – and [only 1 percent in low-income countries](#). [Wealthy countries](#) are giving boosters, and even fourth doses, while first and second doses are not available to many worldwide. But there is hope that a new vaccine called [CORBEVAX](#) will help close this vaccination gap.

How does the CORBEVAX vaccine work?

All [COVID-19 vaccines](#) teach the immune system how to recognize the virus and prepare the body to mount an attack. The [CORBEVAX vaccine](#) is a [protein subunit vaccine](#). It uses a harmless piece of the spike protein from the [coronavirus](#) that causes COVID-19 to stimulate and prepare the immune system for future encounters with the virus. Unlike the three vaccines approved in the US – [Pfizer and Moderna’s mRNA vaccines](#) and [Johnson & Johnson’s viral vector vaccine](#), which provide the body instructions on how to produce the spike protein – CORBEVAX delivers the spike protein to the body directly. Like those other approved COVID-19 mRNA vaccines, CORBEVAX also requires [two doses](#).

How was CORBEVAX developed?

CORBEVAX was developed by the co-directors of the [Texas Children’s Hospital Center for Vaccine Development](#) at Baylor College of Medicine, Drs. [Maria Elena Bottazzi](#) and [Peter Hotez](#).



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During the [2003 SARS outbreak](#), these researchers created a similar type of vaccine by inserting the genetic information for a portion of the SARS virus spike protein into yeast to produce large amounts of the protein.

After isolating the virus spike protein from the yeast and adding an [adjuvant](#), which helps trigger an immune response, the vaccine was ready for use.

The first SARS [epidemic](#) was short-lived, and there was little need for Bottazzi and Hotez's vaccine – until the virus that causes COVID-19, [SARS-CoV-2](#), emerged in 2019. So they dusted off their vaccine and updated the spike protein to match that of SARS-CoV-2, creating the [CORBEVAX vaccine](#). A large US-based [clinical trial](#) found the vaccine to be [safe, well tolerated and over 90 percent effective](#) at preventing symptomatic infections.

The vaccine received [emergency use authorization](#) in India, and other developing countries are expected to follow. Interestingly, the group at Baylor was [not able to drum up interest or funding in the US](#) for their vaccine. Instead, newer technologies such as mRNA vaccines raced ahead, even though Bottazzi and Hotez's vaccine design was more advanced, thanks to their [previous work during the 2003 SARS and 2012 MERS outbreaks](#).

A vaccine built for the world

Protein subunit vaccines have an advantage over mRNA vaccines in that they can be readily produced using well-established [recombinant DNA technology](#) that is relatively inexpensive and fairly easy to scale up. A similar protein recombinant technology that's been around for 40 years has been used for the [Novavax COVID-19 vaccine](#), which is [available for use in 170 countries](#), and the [recombinant hepatitis B vaccine](#).

This vaccine can be produced at a much larger scale because [appropriate manufacturing facilities are already available](#). Also key to global access is that CORBEVAX can be [stored in a regular refrigerator](#). Therefore, it is possible to produce millions of doses rapidly and distribute them relatively easily.

In comparison, [producing mRNA vaccines](#) is more expensive and complicated because they are based on newer technologies, rely on highly skilled workers and often require [ultralow temperatures](#) for storage and transport. Another major difference is that the CORBEVAX vaccine was developed with [global vaccine access in mind](#). The goal was to make a low-cost, easy-to-produce and -transport vaccine using a well-tested and safe method.

Key to this, the researchers were [not concerned with intellectual property or financial benefit](#). The vaccine was produced without significant public funding; the [US\\$7 million](#) needed for development was provided by philanthropists. CORBEVAX is currently [licensed patent-free](#) to Biological E. Limited (BioE), India's largest vaccine maker, which plans to manufacture [at least 100 million doses per month starting in February 2022](#).

This patent-free arrangement means that other low- and middle-income countries can produce and distribute this cheap, stable and relatively easy-to-scale vaccine locally. Combined, this means that CORBEVAX is [one of the cheapest vaccines currently available](#). How well it works against the [Omicron variant](#) is under investigation. However, the CORBEVAX story can be [used as a model](#) to address vaccine inequity when it is necessary to vaccinate the world population – against COVID-19 and other diseases on the horizon.

The necessity of vaccine equity

There are many reasons [global access to vaccines is inequitable](#). For example, the governments of wealthy nations purchase vaccines in advance, which limits supply. While developing countries do have vaccine production capacity, low- and middle-income countries in Africa, Asia and Latin America still need to be able to afford the cost of placing orders.

The Indian government has ordered [300 million doses of CORBEVAX, and BioE plans to produce more than 1 billion shots](#) for people in developing countries. For context, the US and other G7 nations have pledged to donate [over 1.3 billion doses of COVID vaccines, yet only 591 million doses have been shipped](#).

These numbers mean that if BioE is able to produce 1.3 billion doses of CORBEVAX as planned, this vaccine will [reach more people than those vaccinated by what's been donated and shipped by the wealthiest nations](#). As the [omicron variant](#) has shown, new variants can spread across the world quickly and are much more likely to [develop in unvaccinated people](#) and [continue to emerge](#) as long as global vaccination rates remain low. It is [unlikely that boosters](#) will end this pandemic.

Rather, developing globally accessible vaccines like CORBEVAX represent an important first step in vaccinating the world and ending this pandemic.

Maureen Ferran is an Associate Professor of Biology @ Rochester Institute of Technology.



Terrorists, too, could use deadly pathogens

By Sanjay Pulipaka and Krishna Koundinya

Source: <https://www.thestatesman.com/opinion/terrorists-use-deadly-pathogens-1503040202.html>

Jan 21 – From this month onwards, India will be the Chair of the Counter-Terrorism Committee of the UNSC for the year 2022. Assuming the Chair, the Indian Permanent Representative at the UNSC, Ambassador T S Tirumurti, called on the international community to refrain from adopting a ‘my terrorist’ versus ‘your terrorist’ approach and combat the misuse of emerging technologies for terrorism.

The Indian representative’s unambiguous statements are understandable, given the fragility in the international system. For almost two years, the world has been reeling under the impact of Covid-19 and the resilience of many nation-states/societies has been tested. The economic, political and security challenges spawned by the pandemic have compounded the challenges.

In the midst of the pandemic, the world is witnessing an incipient great power competition and territorial contestations. Further, many established democracies in the West are looking inwards to bridge domestic political divides. Across various countries, there is an opinion that people of ‘other’ ethnic communities are instrumental in spreading the disease.

A spike in terrorist actions will further exacerbate tensions between various ethnic communities, especially in western democracies that are having an intense conversation on issues such as immigration. Largescale terrorist violence, in the context of the pandemic, will result in political and social instability in various countries, which will be difficult to contain. For many terrorist organisations, the pandemic may appear as a technology demonstrator.

The scale of disruption that the pandemic has unleashed may prompt terrorist organisations to explore new modes of violent actions. It is distinctly possible, as we read this article, that terror outfits will be scouting for financial and technical resources to develop their expertise in the realm of biological and chemical warfare. In fact, in March 2021, the Chairperson of the UNSC 1540 Committee, which deals with the proliferation of weapons of mass destruction, noted that the possibility of “non-State actors acquiring weapons of mass destruction, including the spread of deadly pathogens” continues to be a threat. It is easy to dismiss such possibilities as mere speculation – the Anthrax attacks in 2001 in the US and Tokyo subway sarin attack in 1995 point to historical precedence. Detonating a bomb or shooting at unarmed civilians, tragic as they are, are often confined to a geographic territory.

On the other hand, deployment of biological weapons can spread across countries and its impact may be visible only after significant damage is done. All terrorist activities require considerable financial resources, which are often provided by state actors. Quite often, concerns about possible international opprobrium for supporting terrorist organisations prompt some governments to create fronts such as civil society organisations, which raise the necessary resources through various activities such as drug trafficking, smuggling, extortion and illegal use of natural resources.

Sometimes, groups such as ISIS invested in legitimate commercial enterprises ranging from real estate, hotels, to automobile dealerships. Quite often, the profits from such enterprises are ploughed back to fund activities through money laundering and illicit financial transactions. ISIS’s assets, according to some estimates, run into “hundreds of millions of dollars across the Middle East and Central Asia.”

According to the US State Department, “criminals launder an estimated two to nearly four trillion dollars each year.” The pandemic has scaled up opportunities to mobilise resources for various terrorist outfits. A substantial amount of economic activity is now conducted on digital platforms due to lockdowns and social distancing measures to contain the spread of the virus. As a consequence, a large number of people across the world have not only dropped their reluctance to undertake financial transactions on virtual platforms but are also now increasingly comfortable with doing so. While increased digitization of the financial domain is a welcome development, various terrorist organisations are generating greater financial resources by tapping into gullible netizens.

For instance, a FATF report on money laundering and terrorist financing noted the prevalence of fundraising scams, in which entities posing as “international organisations or charities circulate emails requesting donations for Covid-19- related fundraising campaigns.” In June 2021, under the pretext of helping India combat the pandemic, USbased charity organisations with links to Pakistan reportedly collected funds that could be used for terrorist activities. Collecting money under the banner of charities by various terror groups has a long history.

For instance, a New York Times report in 2006, pointed out that some charities in Pakistan were funnelling money to fund terror activities. In 2019, media reports speculated that Lashkar-e-Taiba might have received support from civil society organisations based in the US. With the proliferation of financial digital platforms, there is an urgent need for enhanced tracking of finances to terror organisations /armed groups.



In fact, in August 2020, the US Justice Department announced the “dismantling of three terrorist financing cyber-enabled campaigns,” which involved 300 cryptocurrency accounts and social media platforms. A month later, French police arrested some 29 people for using cryptocurrency to finance terror outfits in Syria. In 2021, Germany banned religious organisations and conducted simultaneous raids in different parts of the country to disrupt international money laundering networks.

Given these developments, it is important that international organisations scrutinise and rigorously evaluate countries and their compliance with various international anti-terrorism standards/recommendations developed by multilateral institutions such as the Financial Action Task Force (FATF). The nation-states that are lackadaisical in implementing agreed recommendations to curtail money laundering and combat financial flows to terror organisations are actually few in number. However, their actions can have a deleterious impact on the regional and global economy. It is precisely for this reason that there is very little space for the arguments that call for a lenient approach under the pretext of domestic economic stress caused by the pandemic.

Countries that take a few symbolic actions instead of initiating genuine structural change in the financial system that make it difficult to launder money for terrorist actions should not be let off the hook.

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Krishna Koundinya is an Indian Revenue Service officer with the Government of India.

Researchers recommend clinical trials for CBD to prevent COVID-19 based on promising animal data

Source: <https://www.eurekalert.org/news-releases/940732>

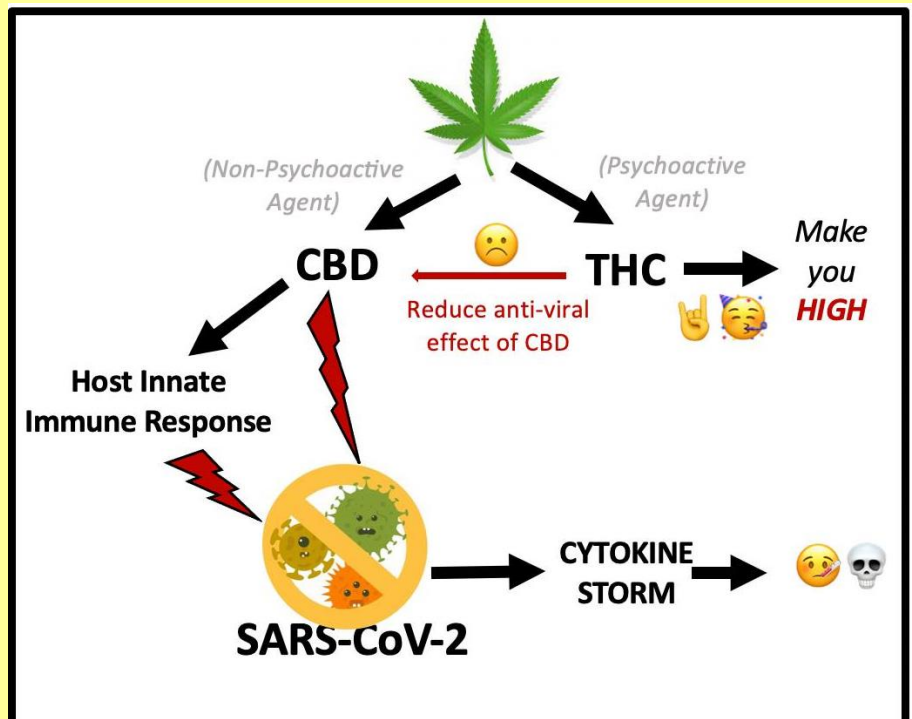
Jan 21 – An interdisciplinary team of researchers from the University of Chicago has found evidence that cannabidiol (CBD), a product of the cannabis plant, can inhibit infection by SARS-CoV-2 in human cells and in mice.

The study, published on January 20, 2022, in [Science Advances](#), found CBD showed a significant negative association with SARS-CoV-2 positive tests in a national sample of medical records of patients taking the FDA-approved drug for treating epilepsy. The researchers now say that clinical trials should be done to determine whether CBD could eventually be used as a preventative or early treatment for COVID-19. They caution, however, that the COVID-blocking effects of CBD come only from a high purity, specially formulated dose taken in specific situations. The study’s findings do not suggest that consuming commercially available products with CBD additives that vary in potency and quality can prevent COVID-19.

Scientists have been looking for new therapies for people infected by the coronavirus and emerging variants, especially those who lack access to vaccines, as the pandemic continues across the country and world and as breakthrough infections become more common.

CBD: An unexpected avenue for fighting COVID-19

The idea to test CBD as a potential COVID-19 therapeutic was serendipitous. “CBD has anti-inflammatory effects, so we thought that maybe it would stop the second phase of COVID infection involving the immune system, the so-called ‘cytokine storm.’ Surprisingly, it directly inhibited viral replication in lung cells,” said Marsha Rosner, PhD, Charles B. Huggins Professor in the Ben May Department of Cancer Research and a senior author of the study.



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To see this effect, the researchers first treated human lung cells with a non-toxic dose of CBD for two hours before exposing the cells to SARS-CoV-2 and monitoring them for the virus and the viral spike protein. They found that, above a certain threshold concentration, CBD inhibited the virus' ability to replicate. Further investigation found that CBD had the same effect in two other types of cells and for three variants of SARS-CoV-2 in addition to the original strain.

CBD did not affect the ability of SARS-CoV-2 to enter the cell. Instead, CBD was effective at blocking replication early in the infection cycle and six hours after the virus had already infected the cell.

Like all viruses, SARS-CoV-2 affects the host cell by hijacking its gene expression machinery to produce more copies of itself and its viral proteins. This effect can be observed by tracking virus-induced changes in cellular RNAs. High concentrations of CBD almost completely eradicated the expression of viral RNAs. It was a completely unexpected result.

"We just wanted to know if CBD would affect the immune system," Rosner said. "No one in their right mind would have ever thought that it blocked viral replication, but that's what it did."

The researchers showed that the mechanism by which CBD blocks SARS-CoV-2 replication involves CBD activation of one of the host cell stress responses and generation of interferons, an antiviral cell protein.

Real world data: Patients taking CBD test positive for COVID-19 at lower rates

The researchers wanted scientific data to show that CBD prevents viral replication in live animals. The team showed pretreatment with CBD for one week prior to infection with SARS-CoV-2 suppressed infection both in the lung and the nasal passages of mice. "These results provide major support for a clinical trial of CBD in humans," said Rosner.

And the success of CBD wasn't limited to the laboratory: An analysis of 1,212 patients from the [National COVID Cohort Collaborative](#) revealed that patients taking a medically prescribed oral solution of CBD for the treatment of epilepsy tested positive for COVID-19 at significantly lower rates than a sample of matched patients from similar demographic backgrounds who were not taking CBD.

The potential for CBD to treat patients recently exposed to or infected by SARS-CoV-2 does not precede the first lines of defense against COVID-19, which are to get vaccinated and follow existing public health guidelines for masking in indoor spaces and social distancing. But the published results offer a potential new therapeutic, something still needed as the pandemic rages on.

"A clinical trial is necessary to determine whether CBD is really effective at preventing or suppressing SARS-CoV-2 infection, but we think this may have potential as a prophylactic treatment," said Rosner. "Maybe you're in a hot spot or you think you might have been exposed or you've just tested positive — that's where we think CBD might have an effect."



Not your dispensary's CBD

The research team emphasized that the COVID-blocking effects of CBD were confined strictly to high purity, high concentrations of CBD. Closely related cannabinoids such as CBDA, CBDV and THC, the psychoactive element enriched in marijuana plants, did not have the same power. In fact, combining CBD with equal amounts of THC actually reduced the efficacy of CBD.

"Going to your corner bakery and buying some CBD muffins or gummy bears probably won't do anything," said Rosner. "**The commercially available CBD powder we looked at, which was off the shelf and something you could order online, was sometimes surprisingly of high purity but also of inconsistent quality. It is also hard to get into an oral solution that can be absorbed without the special, FDA-approved formulation,**" Rosner said.

Furthermore, CBD use is not without potential risks. It appears to be extremely safe when consumed in food or drink, but methods of use such as vaping can have negative side effects, including potential damage to the heart and lungs. It's also not well studied in certain populations, such as pregnant people, and so should be used only under the supervision of a physician and with caution.

While the study's results are exciting, additional study is needed to determine the precise dosing of CBD that is effective at preventing SARS-CoV-2 infection in humans as well as its safety profile and any potential side effects.

"We are very eager to see some clinical trials on this subject get off the ground," Rosner said. "Especially as we are seeing that the pandemic is still nowhere near the end — determining whether this generally safe, well-tolerated, and non-psychoactive cannabinoid might have anti-viral effects against COVID-19 is of critical importance."

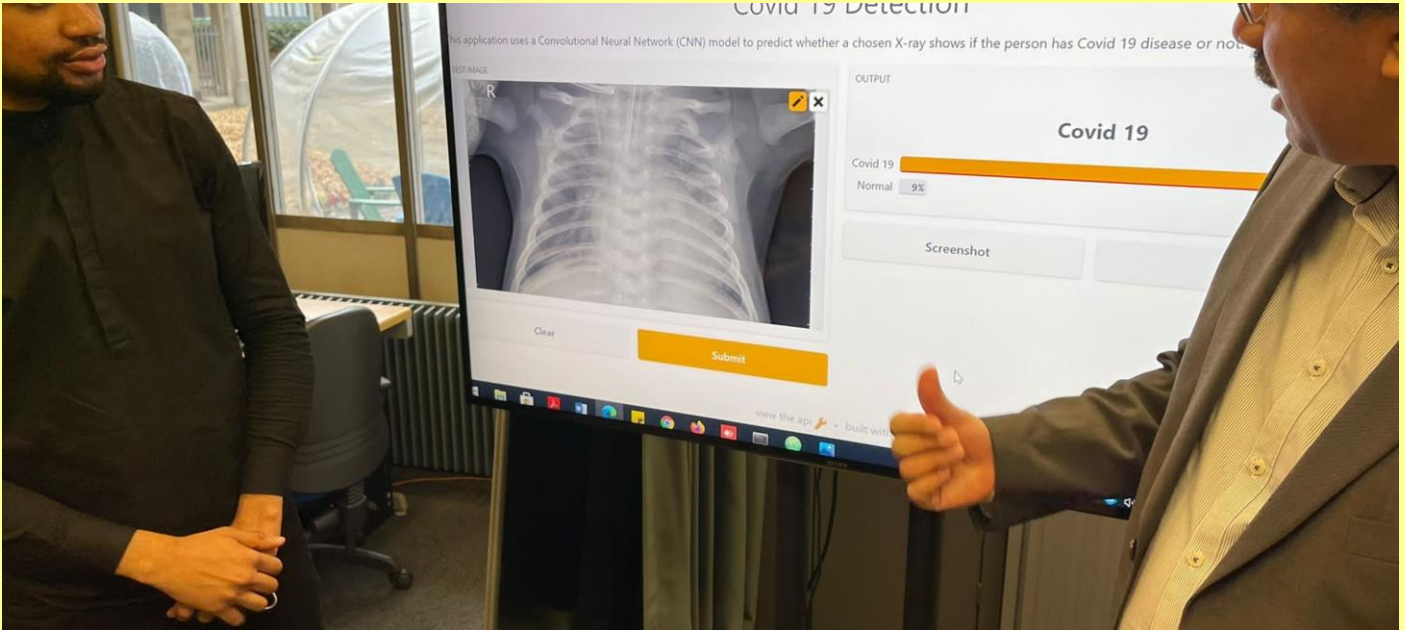
Rosner was also pleased that this research project was a case study in the power of scientific collaboration by bringing together a highly interdisciplinary group of researchers. Senior authors listed on the paper came from three different research universities and from departments as diverse as microbiology, molecular engineering, cancer biology and chemistry.

"This was truly a team-science effort, and that's something that really excites me," said Rosner. "From clinicians to David Meltzer's group who did the patient analysis to virologists like Glenn Randall, and it goes on and on. This is the way science should be carried out."



AI technology diagnoses Covid-19 “in minutes”

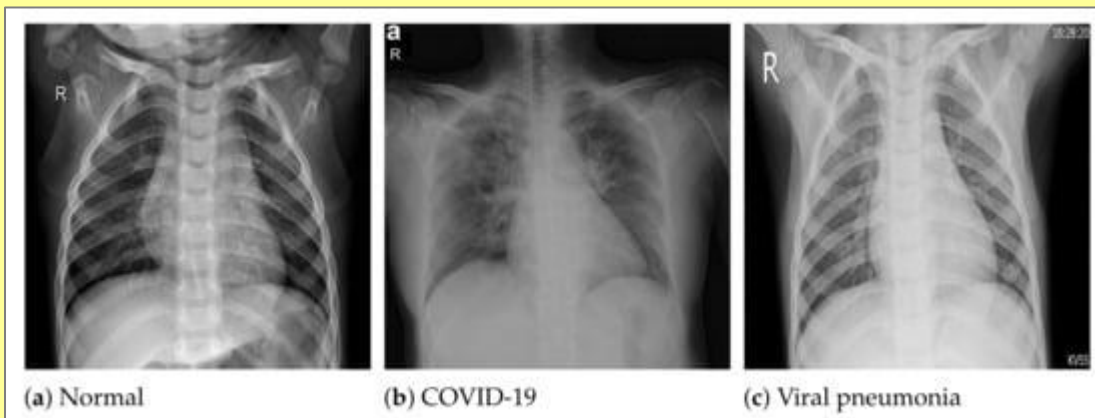
Source: <https://www.uws.ac.uk/news/groundbreaking-ai-technology-diagnoses-covid-19-in-minutes/>



Jan 20 – Pioneering Artificial Intelligence (AI) technology, developed by experts at University of the West of Scotland (UWS), is capable of accurately diagnosing Covid-19 in just a few minutes.

The groundbreaking programme is able to detect the virus far more quickly than a PCR test; which typically takes around 2-hours. It is hoped that the technology can eventually be used to help relieve strain on hard-pressed Accident and Emergency departments, particularly in countries where PCR tests are not readily available.

The state-of-the-art technique utilises x-ray technology, comparing scans to a database of around 3000 images, belonging to patients



with Covid-19, healthy individuals and people with viral pneumonia.

It then uses an AI process known as deep convolutional neural network, an algorithm typically used to analyse visual imagery, to make a diagnosis. During an extensive testing phase, the technique proved to be more than 98% accurate.

Professor Naeem Ramzan, Director of the Affective and

Human Computing for SMART Environments Research Centre at UWS, led the three-person team behind the project, which also involved Gabriel Okolo and Dr Stamos Katsigiannis.

He said: “There has long been a need for a quick and reliable tool that can detect Covid-19, and this has become even more true with the upswing of the Omicron variant.

“Several countries are unable to carry out large numbers of Covid tests because of limited diagnosis tools, but this technique utilises easily accessible technology to quickly detect the virus.

“Covid-19 symptoms are not visible in x-rays during the early stages of infection, so it is important to note that the technology cannot fully replace PCR tests.

“However, it can still play an important role in curtailing the viruses spread especially when PCR tests are not readily available.



“It could prove to be crucial, and potentially life-saving, when diagnosing severe cases of the virus, helping determine what treatment may be required.”

Professor Milan Radosavljevic, Vice-Principal of Research, Innovation and Engagement at UWS, added: “This is potentially game-changing research. It’s another example of the purposeful, impactful work that has gone on at UWS throughout the pandemic, making a genuine difference in the fight against Covid-19.

“I am incredibly proud of the drive and innovation demonstrated by our internationally renowned academics, as they strive to find solutions to urgent global problems.”

The team now plans to expand the study, incorporating a greater database of x-ray images acquired by different models of x-ray machines, to evaluate the suitability of the approach in a clinical setting.

●► [Read the research in full.](#)

Peter Daszak Worked For CIA, EcoHealth Alliance Is A ‘CIA Front Organization’

By Andrew White

Source: <https://www.infowars.com/posts/report-peter-daszak-worked-for-cia-ecohealth-alliance-is-a-cia-front-organization/>

Jan 20 – Dr. Andrew Huff, PhD, MS, publicly stated on January 12 that EcoHealth Alliance President Peter Daszak confessed to him that he was working for the Central Intelligence Agency, and further stated his belief that EcoHealth Alliance was a “CIA front organization.”

Huff received his Ph.D. in Environmental Health specializing in emerging diseases before becoming an Associate Vice President at EcoHealth Alliance, according to [report](#) by independent journalist Kanekoa, who detailed the ordeal on his Substack newsletter.

While working with the global scientific nonprofit, he was tasked with developing “novel methods of bio-surveillance, data analytics, and visualization for disease detection.”

EcoHealth Alliance, headed by Daszak, and financed by several US government agencies, partnered with Dr. Ralph Baric of the University of North Carolina and Dr. Shi Zhengli of the Wuhan Institute of Virology to conduct [gain-of-function](#) research on bat-borne coronaviruses in Communist China prior to the initial outbreak of COVID-19.

Daszak reportedly oversaw the screening of “thousands of bat samples for novel coronaviruses.” The controversial research also involved “screening people who work with live animals.”

The revelations added fuel to concerns that coronavirus pandemic originated from that very lab, which Daszak aggressively maintains is not true.

Through a series of [tweets](#) posted on January 12, Huff wrote:

For the Record: In 2015, Dr. Peter Daszak stopped me as we were leaving work late at night, and asked me if he should work with the CIA. I was shocked given my experience in security. Over the next 2 months he gave me updates on 3 separate occasions about his work with the CIA.

When he asked me the question I stated “Peter, it never hurts to talk with them and there could potentially be money in it.” Meanwhile, I was cringing that he told me this, in a non classified setting (a SCIF), to a person that was not “read-in,” and to a uncleared person (me).

Then, over the next two months at the break area while getting coffee, or between meetings, he stated that they were interested in the places that we were working, the people involved, the data that we were collecting, and that the work with them was proceeding. Then, Huff detailed his belief that Daszak’s EcoHealth Alliance was a “CIA front organization.” The statement continued:

Looking back, I now believe that EcoHealth Alliance was a CIA front organization to collect viral samples and to collect intelligence on foreign laboratory capacity. There was no way



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that the data collected or the models being developed, could predict transmission or pandemics.

Contextually, EcoHealth was barely solvent and it was common place to lay off employees with the ebb and flow of federal and private funding. Peter would do anything or say anything to obtain funding. Intelligence organizations often target people in financial distress.

From the CIA's perspective, it was a great plan in my opinion, if what Dr. Peter Daszak said was true. Since it was common place for Peter to lie, I didn't necessarily believe him when he told me. However...

Based on the past two months of the US government spending millions of dollars surveilling me and MTRX INC employees, including military aircraft, attempting to destroy my house, bugging everything in it, stealing my property, and hacking all my devices, I believe that the worst is likely true.

Prior to the public statement earlier that morning, Huff took to Twitter and claimed "members of the US Government IC community have been harassing me, broke into my house, stole hard drives, and installed electronic surveillance devices throughout my house." This, Huff said, suggests to him that Daszak was not lying to him when he apparently explained that he had been working for the CIA.

"EcoHealth Alliance is likely a CIA front organization. COVID-19 is the biggest intelligence failure since 9/11," wrote Huff. "The coverup is the greatest in US History, far worse than the Iran-Contra scandal. The truth is coming out and I will testify this under oath."

In a separate series of posts, Huff said that he "wouldn't be surprised if the CIA/IC community orchestrated the COVID coverup acting as an intermediary between Fauci, Collins, Daszak, Baric, and many others. At best, it was the biggest criminal conspiracy in US history by bureaucrats or political appointees."

Andrew White is a Northern Virginia native. His work here at National File has been previously featured on Alex Jones' Infowars and Revolver News. White is a constitutionalist Patriot, who focuses on social issues, election integrity, globalism, US politics, as well as general corporate and government corruption.

China brings back anal swab testing for Covid two weeks before Winter Olympics begin

Source: <https://www.dailymail.co.uk/news/article-10426431/China-brings-anal-swab-testing-Covid-two-weeks-Winter-Olympics-begin.html>

Jan 21 – China has brought back anal swab testing to screen for Covid-19 in a bid to stop the spread of the [Omicron](#) variant, just two weeks before the [Beijing](#) Winter Olympics begin.

At least 27 people underwent the controversial anal swab tests at an apartment building in Beijing where a 26-year-old woman had contracted Omicron, the city's first recorded case of the variant, according to Chinese newspaper [The Beijing News](#).

The anal tests involve inserting a sterile cotton swab up to two inches (5cm) into the rectum and rotating it several times. The swab is then removed before being analysed in a lab.

Beijing is in the midst of a strict [lockdown](#) and testing regime after the city reported its first local Omicron infection on January 15, and 11 cases have been confirmed in the capital as of Thursday afternoon, the official Xinhua News Agency reported.

Earlier this week, China cancelled plans to sell tickets to the public for the Olympics and said only 'selected' spectators will be permitted to attend, as the number of Covid-19 cases in the country reached their highest since March 2020.

And organizers today said the already scaled back Olympics torch relay will be cordoned off from the general public because of Covid measures.

The residential area of Haidian district where the confirmed Omicron case lives has been sealed off, with large barriers erected to stop people from going in and out, while tests - including anal swabs - are conducted.

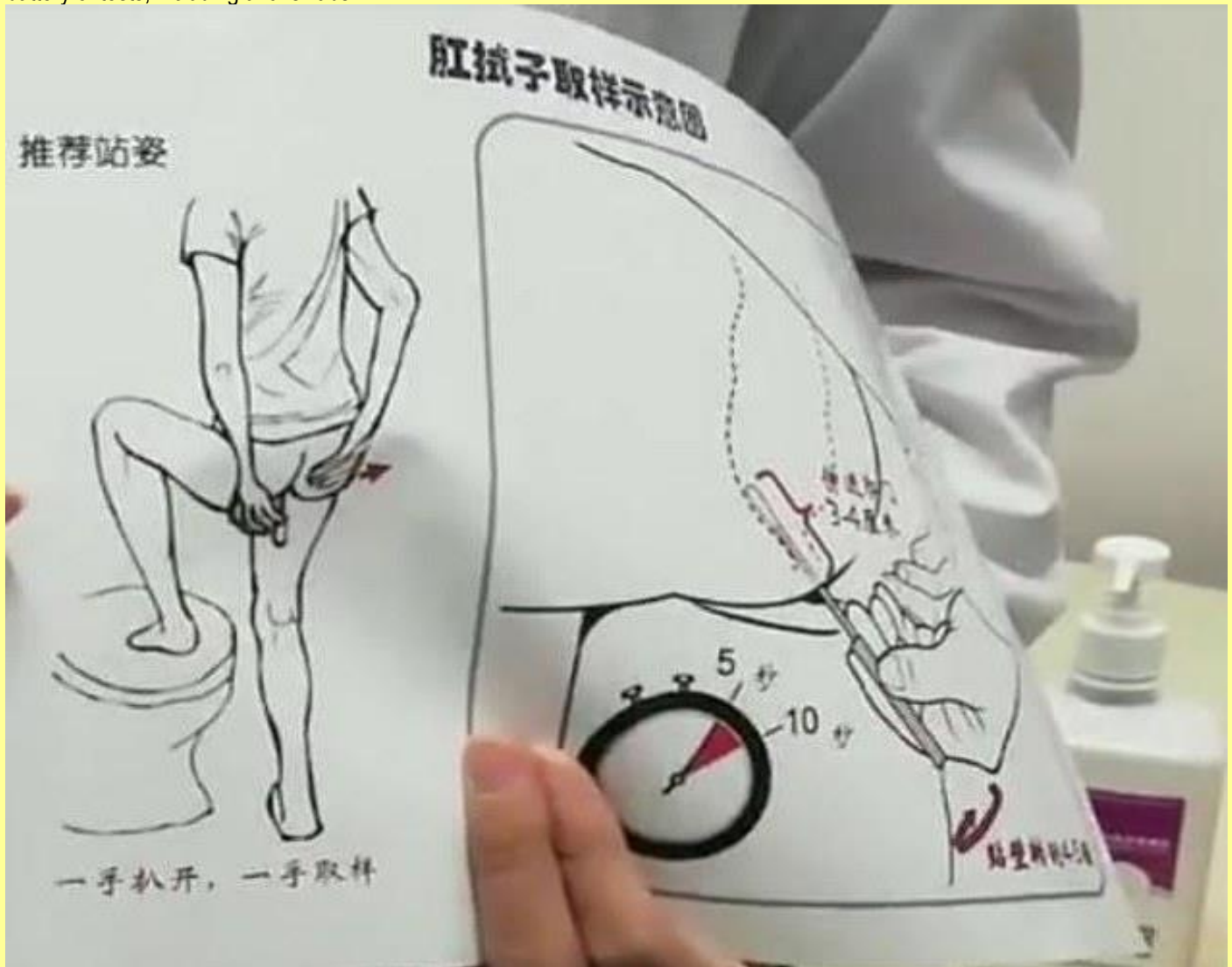
Anal swab testing has been used in China since 2020, but became prevalent in Beijing in January 2021 after a nine-year-old boy tested positive for the virus.

China sparked further controversy in March last year when it expanded the use of the anal swabs to any foreign travellers flying into Beijing.

A staffer at a Beijing epidemic control department told Chinese state media at the time that all international arrivals in the capital could be ordered to take the tests by health officials, although they are not compulsory for everyone.



And in Shanghai, travellers from high-risk regions and those who arrive on planes with at least five positive cases had to take a full battery of tests, including anal swabs.



A diagram used by a Chinese doctor to explain the use of anal tests for Covid-19, a practice which has drawn protests from various foreign governments

The US, [Japan](#), [South Korea](#) and [Germany](#), all raised concerns about the tests, although China has denied claims that they are required for US diplomats.

Doctors have told state media that the tests can prevent infections from being missed because traces are detectable there for longer than in the respiratory tract.

China has largely avoided major virus outbreaks with a regimen of lockdowns, mass testing for COVID-19 and travel restrictions, although it continues to fight surges in several cities, including the port of Tianjin, about an hour from Beijing.

Beijing has tested more than 13,000 people after their first Omicron case, in search of cases of cross transmission.

The office building where the woman who tested positive worked was sealed off from the outside world without advance warning on Sunday, with employees banned from leaving and subjected to compulsory Covid-19 testing.

Masked Covid control officials were seen carrying large boxes of bedding through the office entrance for those workers stuck inside.

The emergence of Omicron in Beijing and an average of 130 Covid cases being reported each day has meant organisers of the Winter Olympics have enforced strict restrictions on the Games.



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Today, organisers announced that the torch relay will be cordoned off from the general public because of Covid measures. The relay involving 1,200 torchbearers will take place across the Games' three sites and also travel to tourist attractions such as the Great Wall from February 2 to 4, when the Olympics open.

'Safety will always be prioritised for this torch relay,' said Yang Haibin, a Games organising committee official responsible for the torch relay.

'Given epidemic control considerations... the torch relay and ceremonial activities will be arranged in safe and controllable closed venues.'

China earlier this week cancelled plans to sell tickets to the public for the Winter Olympics in Beijing and said only 'selected' spectators will be permitted to attend.

Beijing had already announced that no fans from outside China would be permitted at the events - partly due to the country's weeks-long quarantine requirements - but they had promised to allow domestic audiences.

However, those plans were scrapped on Monday by the organisers as China reported 127 new local infections just two weeks before the Winter Olympics are set to begin.

Monday's announcement posted on the organizing committee's website confirmed expectations that the Winter Games would have few onlookers at the venues, under even more strict conditions than imposed during last year's Summer Olympics in Tokyo.

Travel restrictions into Beijing have been tightened, with all visitors needing to provide recent negative test results, as China battles multiple nationwide outbreaks.

Outside of Beijing, several million people remain under lockdown as part of China's 'zero-tolerance' approach to dealing with the pandemic that has been credited with preventing outbreaks on the scale of the U.S. and other countries.

Numbers of new cases have dropped substantially in recent days amid strict adherence to masking, travel restrictions and school closures, along with a vaccination rate that now tops 85 per cent.

Some medical experts worry a lack of exposure to the virus could harm the Chinese population's ability to deal with future waves of infection.

The Winter Games have been beset by similar political controversies, alongside medical considerations.

Six weeks ago, the U.S., UK and several allies said they would not send dignitaries to attend the Games as a protest against human rights abuses by the Communist Party regime.

Athletes have been threatened by the organising committee with 'certain punishments' for saying or doing anything that would offend their Chinese hosts, while several delegations urged anyone headed to Beijing to take 'burner' phones instead of their personal devices because of concerns their personal information could be compromised.

The National Hockey League cited uncertainty caused by the pandemic to hold back all of its players from the Olympic tournament. And earlier this week, U.S. broadcaster NBC said it won't be sending announcing teams to China, citing the same virus concerns raised when the network pulled most of its broadcasters from the Tokyo Games.

Lockdowns During Early Pandemic Saved Lives, but Not a Go-To Strategy Moving Forward: Study

Source: <https://www.homelandsecuritynewswire.com/dr20220122-lockdowns-during-early-pandemic-saved-lives-but-not-a-goto-strategy-moving-forward-study>

Jan 22 – **The U.S. pandemic lockdown in 2020 caused a \$2.3 trillion economic downturn** and split the nation politically, and now some European nations are locking down again as Omicron surges through the global population.

But do these drastic measures save lives? Are they worth massive job and income losses?

A new [University of Michigan](#)-led [study](#) shows the early lockdowns implemented in the first six months of the COVID-19 pandemic saved lives—but the decision to use lockdowns is much more nuanced and the research shouldn't be used to justify lockdowns now or to retroactively endorse that approach, said health economist Olga Yakusheva, associate professor at the U-M School of Nursing. The study found that from March through August 2020, implementing widespread lockdowns and other mitigation in the United States potentially saved more lives (866,350 to 1,711,150) than the number of lives potentially lost (57,922 to 245,055) that were attributable to the economic downturn.

However, the results are more ambiguous when looking at the quality-adjusted life expectancy added by lockdown (4,886,214 to 9,650,886) vs. quality-adjusted life years lost (2,093,811 to 8,858,444) due to the economic downturn.



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This is because many of the people saved were high-risk older adults with multiple illnesses and fewer healthy years left to live, while those most impacted by the economy were younger people in service jobs and other lower-paying occupations who found themselves without employer-provided health insurance and, in many cases, unable to pay for health care or even life-saving medications. A quality adjusted life year is one year of life in perfect health.

The study, published in PLOS One, should not be used to justify more lockdown measures, Yakusheva said. Nor is it a retroactive endorsement of the strict economic lockdown approach the U.S. imposed during the first six months of the pandemic.

“We evaluated the full packet of public health measures as it was implemented in the beginning of the pandemic, but lesser mitigation measures may have worked just as well to reduce lives lost,” Yakusheva said. “The fact is, we just will never know. At the time, we had to work with the information that we had. We knew the pandemic was deadly, and we did not have therapeutics or a vaccine.”

The situation has changed dramatically since the pandemic began, and we have more tools to battle the virus, Yakusheva said. Vaccines and therapeutics are available, as are other mitigation measures.

This is the first known paper to measure the effect of pandemic lockdown mitigation measures on lives saved and lost, as opposed to typical economic evaluations, which examine the cost per life saved, she said.

“This is tough for people to agree upon. Typically, people are in one of two camps—pragmatics who worry about the economy and ethicists who say any amount of money is worth saving a life,” Yakusheva said. “Some value loved ones more, or their own lives. It’s very subjective.

“What we did was look at empirical correlations between loss of income and mortality, and created a range of estimates on how many people could be expected to die as a result of the downturn, which is essentially the estimated collateral damage of the public health measures. What our analysis did was to allow us an apples-to-apples comparison of lives saved vs. lives lost.”

There are important study limitations. Chief among them are that some answers to major questions were unobserved—for instance, how many lives would have been lost had COVID-19 been unmitigated. In other words, if it had just run its course with no public health measures in place.

“We know how many people died with public health measures in place, but we can’t know how many people would have died without those measures in place,” Yakusheva said.

The team estimated that number based on published literature, and the accuracy of that literature, or the public’s behavior, could lead to an over or underestimate. Also, all of the human toll of the lockdown won’t be seen immediately. For example, the health toll could manifest later as disease progression because someone who was unemployed couldn’t buy medications.

“We tried to be very careful and produced a range of numbers of lives potentially saved and lost, and we hope the true numbers lie within those ranges,” Yakusheva said.

