



# **War in Ukraine: Chemical and Biological Security**

Gregory D. Koblentz, PhD, MPP

Associate Professor

Director, Biodefense Graduate Program

Schar School of Policy and Government

George Mason University

National Security Forum

March 30, 2022

# Outline

- What are Chemical and Biological Weapons
- Russia's BW Allegations Involving United States and Ukraine
- Prospects for False Flag Incident
- History of Russia's Chemical and Biological Weapons Programs
- Russian Disinformation

# What are Chemical and Biological Weapons

- **Chemical Weapons:** Toxic chemical substances, whether gaseous, liquid, or solid, which “through its chemical action on life processes can cause death, temporary incapacitation, or permanent harm to humans or animals.”
- **Biological Weapons:** Pathogenic microorganisms used to cause death or disease in humans, plants, or animals.
- **Toxins:** Toxic chemicals produced by living organisms or through synthesis.

# Similarities Between Chemical and Biological Weapons

- Produced with dual-use equipment, materials, and technology
- Non-kinetic weapons that affect only living things
- Range of effects from lethal to incapacitating and varying levels of persistence
- Effects dependent on atmospheric and environmental conditions in target area
- Multiple means of delivery
- Treatments available for some agents
- Non-use norm due to taboo, “dread,” and prohibited by CWC and BWC treaties

# Differences Between Chemical and Biological Weapons

	Chemical Weapons	Biological Weapons
<b>Nature of Agent</b>	Non-living	Living
<b>Form of Hazard</b>	Liquid, vapor	Aerosol
<b>Area Coverage</b>	1-10s sq. km.	1-1,000s sq. km.
<b>Speed of Action</b>	Rapid (seconds-hours)	Incubation Period (days-weeks)
<b>Protection</b>	Full body barrier	Respiratory protection
<b>Detection</b>	Fast, reliable, in the field	Trade-off between sensitivity, specificity, speed, and portability
<b>Vaccines &amp; Treatments</b>	Some treatments available; no vaccines	Both available for some agents

# Russia's BW Allegations

## Инфраструктура финансируемых США биологических лабораторий на территории Украины

Министерство обороны США  
Управление Министерства обороны США по снижению угрозы (DTRA)

Black&Veatch (Оверленд-Парк, Канзас)  
CH2M HILL (Экстаду, Колорадо)

Объемы финансирования более **200 млн \$**

- научно-исследовательские институты
- санитарно-эпидемиологические лаборатории

Киевский НИИ эпидемиологии и инфекционных болезней им. Л.В.Громашевского, г. Киев (1986 г.)  
Институт ветеринарной медицины, г. Киев (2013 г.)  
Центр общественного здоровья Минздрава Украины, г. Киев (2013 г.)  
Институт микробиологии и иммунологии им. И.И.Мечникова, г. Харьков (1986 г.)  
Украинский научно-исследовательский противочумный институт им. И.И.Мечникова, г. Одесса (2009 г.)  
Львовский НИИ эпидемиологии и гигиены, г. Львов (2013 г.)

## Реализация военно-биологических проектов на территории Украины

Объем финансирования **+31,8 млн \$**

Договор, заключенный между Министерством обороны Украины и Министерством обороны США в рамках «Программы привлечения к совместной биологической деятельности»

Запрос США о предоставлении списка учреждений и лабораторий Министерства обороны Украины, которые будут участвовать в реализации проекта «Программа привлечения к совместной биологической деятельности» под руководством Black & Veatch Special Projects Corp.

Письмо Black & Veatch Special Projects Corp. в адрес Министерства обороны Украины по вопросу продления проекта UP-8



# Potential False Flag Involving Chemical or Biological Agents



Defence Intelligence

UPDATE ON UKRAINE  
14 March 2022

## INTELLIGENCE UPDATE

- Russian accusations that Ukraine intends to use chemical and biological weapons continue. We have seen no evidence to support these accusations.
- Russia could possibly be planning to use chemical or biological weapons in a 'false-flag' operation. Such an operation could take the form of a faked attack, a staged 'discovery' of agents or munitions or fabricated evidence of alleged Ukrainian planning to use such weapons. A 'false-flag' attack would almost certainly be accompanied by extensive disinformation to complicate attribution.
- Intelligence suggests Russia likely intended to use 'false-flag' operations to justify their initial invasion of Ukraine on 24 February.

# Chemical Sabotage or Collateral Damage?



**Sumykhimprom, Sumy, Ukraine**

# History of Soviet CW Program

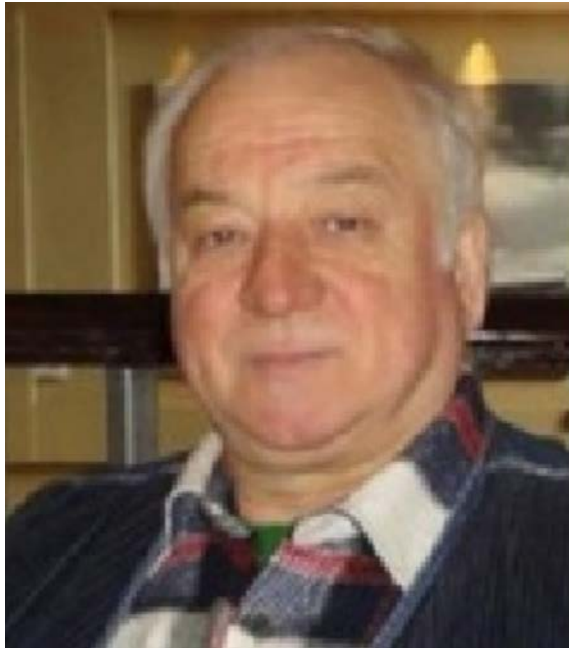
- 1915-1945: First Generation
  - World War 1
    - Chlorine, phosgene, mustard, etc.
- 1945-1970s: Second Generation
  - 1959: sarin production begins
  - 1967: soman production begins
  - 1972: VX production begins
- 1970s-1992: Third Generation
  - FOLIANT program
    - State Scientific Institute of Organic Chemistry and Technology (GosNIIOKhT)
  - 1971-1973: Discovery of new class of nerve agents known as Novichok (newcomer)
  - Tests conducted at Nukus, Uzbekistan
  - 1990-1992: A-230 and A-234 accepted into military service

# The Novichoks

**Table 1.** A list of known Novichok agents attributed to the GosNIIOKhT research program and their status.

Agent	Type	Current status
substance-33	Unitary	Estimated 15,000 tons produced. Designated as chemical weapon
A-230	Unitary	Experimental quantities produced. Designated chemical weapon (1990)
A-232	Unitary	Experimental agent. Not designated, or officially approved
A-234	Unitary analog of A-232	Unknown
Novichok-5	Binary analog of A-232, 8× more effective than VX	Experimental agent. Designated chemical weapon (1989)
Novichok-7	Binary analog of A-234, 10× more effective than soman	Experimental agent. Not designated
Novichok-# (no established designator)	Binary analog of Substance-33	Adopted as chemical weapon (1990)

# Novichok As Assassination Weapon



Attempted assassination  
of Sergei Skripal with  
Novichok A-234,  
Salisbury, UK, March 4,  
2018



Attempted  
assassination of  
Alexie Navalny  
with Novichok A-  
262, Tomsk,  
Russia, August 20,  
2020

# Soviet Biological Warfare Program



# Russian Military Microbiology Facilities



48<sup>th</sup> Central Scientific Research Institute (TsNII)-Sergiev Posad, (aka Scientific Research Institute of Medicine)



48th Central Scientific Research Institute-Kirov (aka Scientific Research Institute of Microbiology)



48th Central Scientific Research Institute-Yetakerburg (aka Center for Military Technical Problems of Biological Defense)

# History of Kremlin Allegations About US Bioweapons

Flashpoints

## Russia claims US is running a secret bio weapons lab in Georgia

By Vladimir Isachenkov, The Associated Press

Oct 5, 2018



## AIDS may invade India

Mystery disease caused by US experiments

NEW YORK:

AIDS, the deadly mysterious disease which has caused havoc in the US, is believed to be the result of the Pentagon's experiments to develop new and dangerous biological weapons.

Now that these menacing experiments seem to have gone out of control, plans are being hatched to hastily transfer them from the US to other countries, primarily developing nations where governments are pliable to Washington's pressures and persuasion.

Some American experts believe that Pakistan may become the next proving ground for these experiments. If this happens, there will be a real danger that AIDS may rapidly spread to India with the grave consequences to the people of the country.

WHO representatives point out that AIDS may soon become problem number one, since so far there are no effective cures to fight it.

The British mass media has pointed to the blood plasma imported from the US as the cause of AIDS, which is spreading in the British Isles where more than 15 patients have been hospitalized, with half of them now dead.

As a result, France and Holland, which use large quantities of American blood donations, have stopped importing such blood. Britain, the Federal Republic of Germany and Denmark are now considering similar measures.

In recent months, there has been a marked increase in the incidence of this hitherto unknown disease, the so-called Acquired Immune Deficiency Syndrome (AIDS). It is caused, or so scientists suspect, by a new highly pathogenic virus which ravages the immune system of a human being, making him practically defenceless against any infection. Once the AIDS virus penetrates the human organism, it does not become the "killer" but rather acts like a time bomb. The immune system destroyed by it can no longer resist diseases even such as the virus flu. As a result, any disease later grows

A well-known American scientist and anthropologist, in a letter to Editor, Patriot, analyzes the history and background of the deadly AIDS which started in the US and has now spread to Europe. The writer, who wants to remain anonymous, has expressed the fear that India may face a danger from this disease in the near future.

forms and in most cases leads to death.

AIDS has recently been registered in as many as 16 countries, primarily in those which import American blood donations. For some of the countries the disease has already become extremely dangerous.

The first signs of AIDS appeared in 1978 with an outbreak of this disease, in New York

among immigrants from Haiti. At that time, however, no one seemed to bother to pay any serious attention both on the part of the local authorities and the US public at large. In 1980 there was another sign of AIDS and again in New York. This time in addition to Haitian immigrants the disease struck local Americans, primarily drug addicts and homosexuals. By February 1983, AIDS had affected large sections of the American population and had been registered in 33 states. New York accounted for 49 per cent of all the cases that had been officially registered in the US by that time.

Concerned American citizens and organizations began to wonder why does AIDS, just like some other previously unknown diseases such as bizarre pneumonia or the so-called Legionnaires disease, appear in New York

continued on page 7 col. 2



SUNDAY, JULY 17

### Guerillas And Gorillas

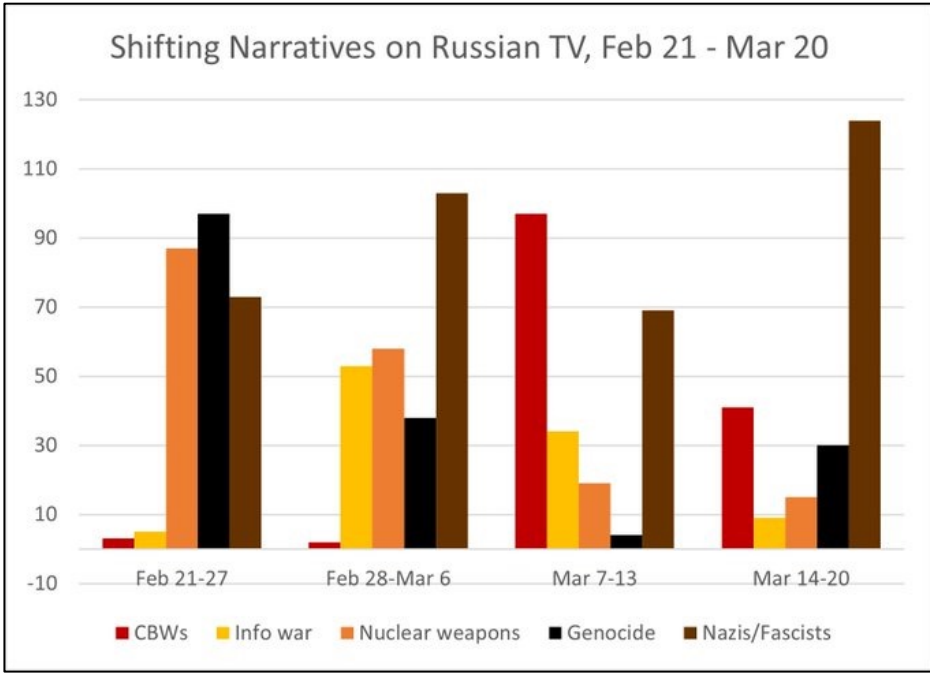
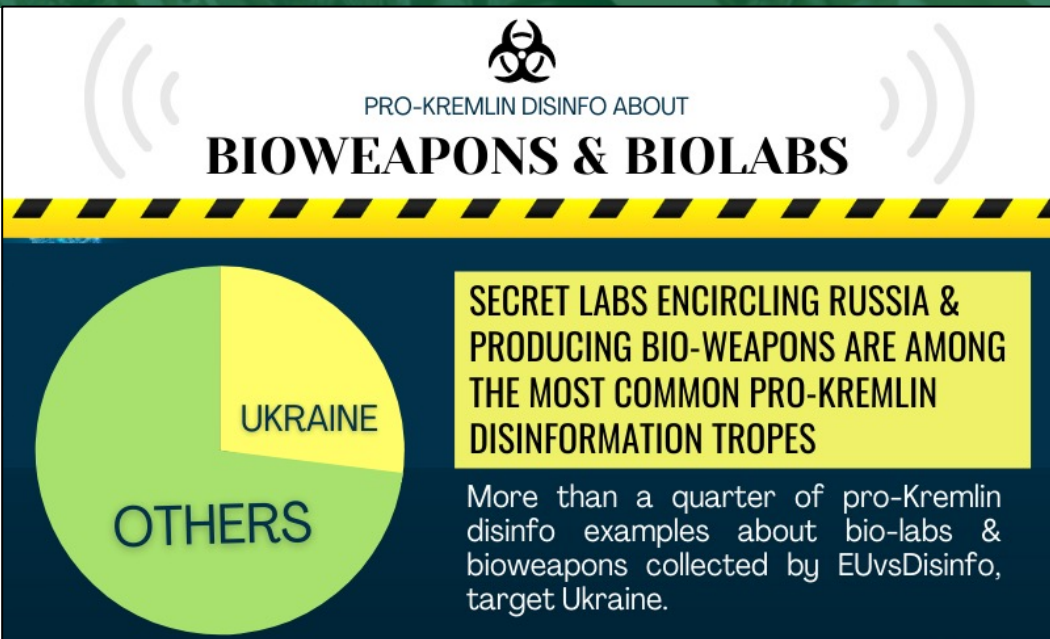
Understanding the reasons why even after a century of political independence the Latin American countries have both their politics deformed and their economy distorted will help to have a better idea of the problems which any post-colonial society faces, writes M. P. Kavalam.

### Ramdan In Dubai

Perhaps at no time of the year does Dubai come to the fore as a Muslim city than at Ramdan. For the Arabs, the months of fasting apart from being a deeply religious occasion assumes almost a festive air, writes Rashmi Taneja.

OTHER FEATURES : Public View, Nostalgia, Encounters, Thinking One-dimensionally, Short Story by Bandana Majumdar, Education, Mirros/Windows, Film-focus, Culture Watch, Sports...

# Russian BW Allegations as Disinformation

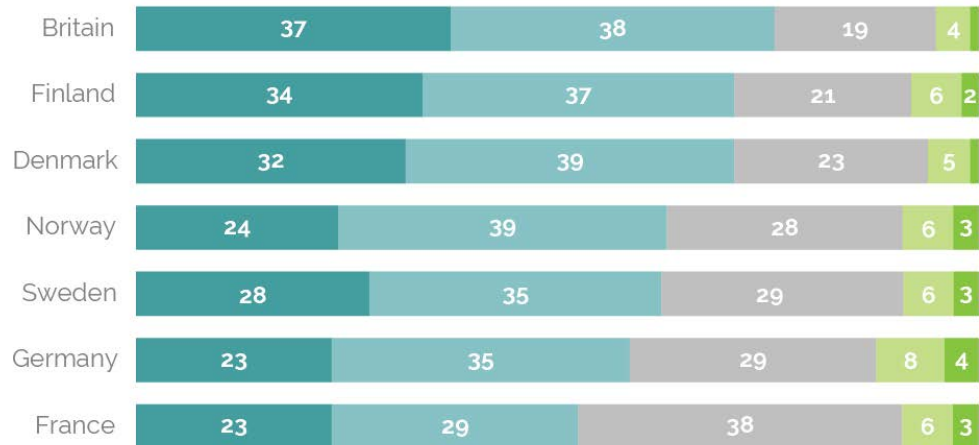


# Effects of Russian Disinformation

## Europeans suspect Russia was behind the Salisbury poisoning

From what you have seen or heard about this event, do you think the Russian state were or were not responsible for the poisoning of Mr Skripal and his daughter? %

The Russian state was...



YouGov | yougov.com

March 23-26, 2018

IN YOUR OPINION, WHO IS RESPONSIBLE FOR POISONING THE SKRIPALS? (in %% of those interviewed who had heard of poisoning; one answer)

	oct.18
Russian special services	3
English intelligence services	28
It could have been anyone	56
Difficult to answer	13

Levada Center, October 25, 2018, <https://www.levada.ru/2018/10/25/delo-skripalej/>

“There is too much absurdity about this whole situation to take anyone’s word on trust, so we are not going to take anyone’s word.” -- Kremlin Spokesman Dmitry Peskov, September 18, 2020, on allegations that Russia poisoned Alexei Navalny with a Novichok nerve agent

# Questions?

Gregory D. Koblentz, PhD, MPP

Associate Professor

Director, Biodefense Graduate Program

Schar School of Policy and Government

George Mason University

Email: [gkoblent@gmu.edu](mailto:gkoblent@gmu.edu)

Twitter: @gregkoblentz