

Man is the warmest place to hide

Sometimes life imitates art, and the explosion at the Russian bio research facility seems to be one of those times... especially if by *art* you mean 'Summer disaster movie'. On 16 September it was reported that a fire had broken out at the large biological research institute in Koltsovo called Vector¹, one of the two institutions licensed to hold smallpox (among other things). Very little other information was released, but that was fine because we have all been prepped for what happens next in films as diverse as 28 Days Later, Resident Evil and The Crazies.

The initial report stated that the blast happened in the fifth floor sanitary inspection room with one worker suffering third-degree burns. The blast also (mis)reportedly blew out all the windows in the building and spread through the ventilation system. The ensuing fire spread over 30sq m (323sq ft) before it was extinguished. Local and central government authorities stated that there had been no threat to the public because ongoing maintenance meant that there had been no work in the lab.

Sadly, belief in official Russian explanations is currently close to zero. Whether it was GRU men visiting Salisbury's 130m spire, a lack of radiation following recent nuclear powered tests or further back in time, (Chernobyl and even Sverdlovsk were referenced) an official explanation reads very much like the Booker Prize list. The chances that it was accurate were rarely mentioned,² instead the stories focussed on re-hashing facts - like what the institution stored and historical cases - and then rushed off into idle speculation.

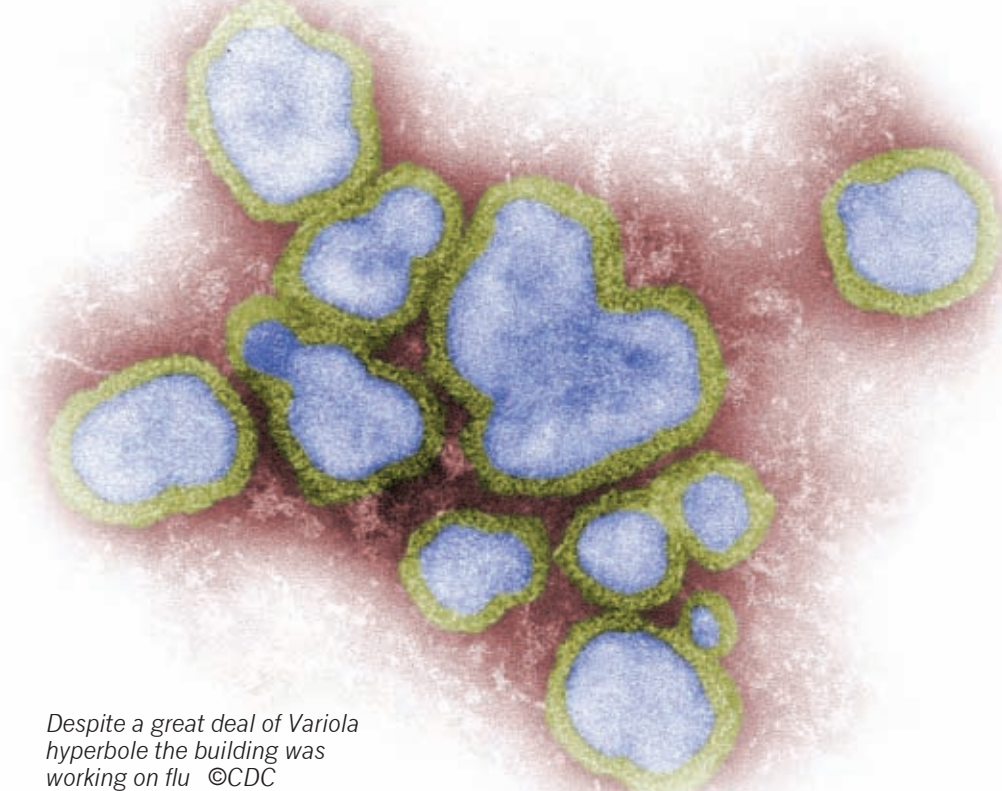
Perhaps the worst for the latter was Dr Raina MacIntyre, head of the biosecurity programme at the University

of New South Wales in its new *Journal of Global Biosecurity*³. It was written a mere four days after the event, but the piece quickly skipped from postulating an accidental release of biological warfare agents, through to theft of the same. Then, despite asserting that anthrax was not in the building, there was speculation over how far that agent may have travelled.

In fairness Vector is not an easy organisation to get an answer from, especially if you don't speak Russian, and finding out additional information takes time that many media just don't have. What we ascertained is that the blast damage was strictly limited to the fifth floor of building one and that only the windows in a couple of rooms were

blown out. The floor had been under repair since July, and since there was no research in progress there, and the area was not secure, there were no pathogens on that floor to be released. The floor in question was involved in work on influenza and not other agents, and the room in which the explosion happened was not involved in pathogen research. Building #1 was not involved in smallpox research and as a generalisation, each floor works on one pathogen and those closely related to it. The explosion involved a pressurised welding-gas tank and was so small that it didn't damage any of the freezers.

The information is sufficiently bland that it could, and perhaps should, have been released by Vector administration right away, cutting out idle speculation and banishing the news to specialist



Despite a great deal of Variola hyperbole the building was working on flu ©CDC

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research sites. Instead, paucity of knowledge and the Russian government's frequent resort to disinformation, left us waiting for the next in a series of 'clarifications' each of which would get worse than the last.

The role of any individual involved in CBRN defence should be to give informed opinion to decision makers, whether that is within a first responder or military chain of command, or potentially to media operatives who are looking for a story. It is too easy to fly into speculation that will guarantee you column inches and boost your profile in mainstream media. Past Russian mistakes make suppressing the desire to speculate even more difficult. If you know there will be a clarification in a day or two, why not try and get ahead of it?

Much of the concern was focussed around a smallpox release, even though the site of the explosion was not involved with it, and this exposes some of the reasons why many experts ran amok with the story. Since smallpox has now been eradicated in the wild, and humanity is

its reservoir, there has been a movement to destroy the reference samples held in Atlanta and Koltsovo. There are deep reservations within the scientific community that it is too dangerous to be held and should be destroyed, yet equally there are concerns in the intelligence and military community about trusting any declaration of destruction: missile silos are far harder to hide than petri dishes. Any news story that pre-supposes a Smallpox release is going to hit lots of buttons.

Learning any lessons out of this is difficult. Obviously explosions in laboratories, whether they hold smallpox or not, are bad, and Vector will go through its own processes to minimise the risk of this happening again. Russian media management will just shrug and do whatever it's told. Faced with a shortage of information, and likely Russian disinformation, knowledgeable individuals will be asked to speculate on 'what is really happening' and they will offer a SWAG (scientific wild-assed guess) based on

whatever information is available.

Arguably the individuals that need to take the most lessons from this are exercise planners, globally but especially in Russia. With the increase in synthetic biology meaning a greater diversity in research, and potentially the ability for less protected labs to hold novel pathogens, there is an increased chance that accidents will happen in places less prepared than Vector. Biological exercises tend to be public health and environmental clean-up affairs, based on the assumption that the release won't have an explosive element as that would adversely damage most pathogens, and therefore won't immediately need fire and police involvement. Modelling incidents based on an accidental limited discharge of viable agent, and the sampling and detection mission (do you have the throughput and the detection, identification and monitoring systems to deal with a large amount of non-bioweapon agent samples?) rather than the typical attack methodology might be worth studying.



Welcome to Vector! ©Pixabay

¹ <https://www.theguardian.com/world/2019/sep/17/blast-sparks-fire-at-russian-laboratory-housing-smallpox-virus>

² <https://www.sciencealert.com/explosion-at-russian-lab-that-houses-smallpox-sends-internet-into-panic>

³ <https://jglobalbiosecurity.com/articles/10.31646/gbio.41/>