GLOBAL BIOSECURITY

Research Article

From Reedley to Las Vegas: Illegal Biolabs as a Persistent Community Biosecurity Threat

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Abstract

The emergence of illegal do-it-yourself biological laboratories operating in residential and commercial settings represents a growing, under-recognised biosecurity and public health threat. Recent discoveries of suspected clandestine laboratories in Las Vegas (2025) and Reedley, California (2022–2023) highlight major regulatory gaps that allow unlicensed facilities handling biological materials to operate undetected. These cases involved the storage of unknown biological substances, specialised laboratory equipment, and reports of human illness following exposure, raising concerns about accidental release, environmental contamination, and potential deliberate misuse. This editorial examines the public health and biosecurity implications of such laboratories and explores the role of open-source epidemic intelligence in detecting downstream signals of risk. Use of EPIWATCH allowed infectious disease in Nevada to be analysed in the context of the Las Vegas incident. Integrating open-source intelligence with regulatory and law-enforcement frameworks may strengthen early detection and mitigation of clandestine biological threats.

Keywords: Laboratory leak; Biological Warfare; Open-Source Epidemic Surveillance

Introduction

The presence of illegal do-it-yourself biolaboratories operating within residential and commercial settings represents a growing biosecurity and public health concern due to the potential risk of disease outbreaks within the community. With online purchase of equipment and at a modest cost, do-it-yourself labs can be set up in a garage or home.[1] Such facilities pose risks of accidental exposure, environmental contamination, and community outbreaks, yet there is limited recognition of this problem and no systematic mechanism for detecting illegal labs. Furthermore, the ability to set up clandestine labs enables attacks by State or non-State actors.[2] In the United States, there are no federal or state laws that require approval to open or operate a biolab, nor to obtain most pathogens, including those of pandemic potential.[3]

Recent media reports from the United States describing the discovery of suspected illegal laboratories in residential properties highlight significant gaps in existing regulatory and public health frameworks. These incidents raise urgent questions about how biosecurity threats originating outside formal laboratory and healthcare systems can be detected, assessed, and mitigated before outbreaks occur.

Recent Detection of an Illegal Laboratory in Las Vegas

On 3 February, media reports revealed that a residential property in Las Vegas that was also being used as an Airbnb, where three residents were living, was suspected of operating as an illegal laboratory[4]. Concerningly, the Las Vegas illegal lab is four miles from the Nellis Air Force Base (Nellis AFB), the US Air Force combat training centre.[5] Following a tip-off regarding the presence of medical waste and laboratory equipment, investigators reportedly conducted their search and used high-tech equipment to inspect the property safely. Upon arrival, a robotic dog was used to enter the home, which sampled the air and assessed conditions before local police and the Federal Bureau of Investigation (FBI) searched the property and identified five suspects,[6] including a Chinese national currently in custody over an illegal lab identified in Reedley, California in 2023. The property manager was also arrested on gun charges but reportedly had no knowledge of the biolab within the garage. His second home was subsequently searched, where guns and several passports were found.

The investigation found a locked garage that tenants reportedly had no access to, which was found to contain vials with unknown liquids stored in refrigerators and freezers, plus equipment with labelled biological substances, raising concerns that the house was being used as a "possible biological laboratory."[7] At least 1,000 pieces of evidence were recovered from the premises during the investigation, including biosafety hoods, biosafety stickers, a centrifuge, multiple refrigerators, unknown red-brown liquid in a gallon-sized container, and refrigerated vials with unknown fluids.[8] It was further reported that several individuals became ill,[4] and in some cases severely ill, after exposure to

material in the garage. Reportedly, the house cleaner entered the garage in April 2025, finding freezers, biosafety cabinets and other materials [9] and a strong, foul odour. The cleaner who reported the laboratory [6] to the authorities became unwell five days after entering the premises. Based on this, the incubation period of the illness may about five days. The reported symptoms included muscle ache, fatigue and breathing difficulty. The incubation period of five days suggests an infectious aetiology, as chemical exposures would likely result in more immediate symptoms. At least one person was hospitalised with a severe respiratory illness. To date no diagnostic information about this case, or the hospitalised case, has been revealed.[10]

Links to the Reedley, California Biolab

County property records indicated that the house was linked to the same company that operated an illegal biological laboratory discovered in Reedley, California in 2022.[11] That warehouse, which was searched in 2023, was found to contain blood, tissue, and other biological samples, as well as vials labelled "SARS-CoV-2", "HIV" and a range of other pathogens. A freezer labelled "Ebola" was also found at Reedley. Investigators also discovered humanised mice, many of which were severely ill or deceased. This illegal lab was also in proximity to Fresno Air National Guard Base.[12]

In that case, samples were destroyed and never tested.[13] The warehouse was operated without a licence by Prestige Biotech, and the owner was subsequently charged with allegedly manufacturing and distributing misbranded medical devices.[11] A detailed report[13] of this incident was made by the United States House Select Committee on the Chinese Communist Party in 2023, highlighting regulatory failures and jurisdictional challenges that allowed the facility to operate undetected for an extended period.

Biosecurity and Public Health Implications

The discovery of the Las Vegas biolab, together with the previous detection in Reedley, California, highlights significant and under-recognised biosecurity risks beyond individual cases of illness. It is not known how many illegal biolabs are operating around the world. Data from shipping manifests suggests there could be over 500 labs of a similar nature across the United States [14] Yet the intent of such facilities remains unknown, but the possibility of a planned Trojan horse attack11 should be considered. Even in the absence of malicious intent, improper handling of biological materials, unsafe storage practices, and improper disposal of biological waste into waterways or soil may also result in environmental contamination with downstream effects on livestock, wildlife, and human health causing long-term unintended consequences. Such contamination may persist undetected for extended periods, particularly where routine environmental monitoring is limited.[15] These risks are magnified by the absence of licensing, inspection, or biosafety oversight, which would ordinarily act as safeguards in regulated laboratory environments.

Signals from Open-Source Epidemic Surveillance

Event-based surveillance systems such as EPIWATCH provide an additional lens through which potential downstream impacts of clandestine laboratory activity may be observed. EPIWATCH, an open-source epidemic intelligence system, analyses media reports using advanced artificial intelligence methods to identify unusual known and unknown disease [16] patterns and emerging outbreaks by geospatial location.

Analysis of EPIWATCH open-source data over the past six months identified an increase in multidrug resistant candida auris [17] infections in Las Vegas, with a reported 33% rise in cases in 2025. EPIWATCH also identified outbreaks of hantavirus [18] and legionella in Nevada in the past six months, none in Las Vegas. The hantavirus outbreaks were in northern Nevada, with one county experiencing its first-ever case of hantavirus.[17] The legionella outbreak [19] was in Southern Nevada but linked to a specific hotel as the exposure. While no causal links can be established, analysis of open-source intelligence (OSINT) can assist in estimating the impact of illegal biological activity and contextualise risk in the absence of formal monitoring of illegal labs, while offering signals to authorities for further investigation to establish causality or attribution.

Conclusion

The operation of illegal laboratories within communities represents a serious and under-addressed biosecurity threat. Recent cases in Las Vegas and Reedley demonstrate how such facilities can operate undetected, exposing individuals to harm and creating risks of environmental contamination and disease emergence. Allegedly, the Las Vegas address was known as linked to the owner of the Reedley lab in 2023, yet no investigation of his other properties appears to have been done.[13] In both the Reedley and Las Vegas incidents, discovery of these labs was fortuitous and the result of concerned individuals who suspected something was amiss. The absence of systematic detection mechanisms leaves communities vulnerable to both accidental releases and deliberate biological attacks. Other incidents, including smuggling of biological materials need to be considered as part of the broader threat landscape.[20] Further, the emergence and convergence of new technologies in other fields vastly enables illegal labs and makes detection more difficult.[21]

The failures highlighted around illegal labs reflects lack of awareness and process around this threat at governmental levels. Recognition of the threat of illegal labs using a whole-of-government approach is needed. Once that is achieved, new systems for detection of such labs are needed. In addition, strengthening regulatory oversight, improving

coordination between public health and law enforcement agencies, and integrating OSINT surveillance into biosecurity frameworks may help close some gaps. As this latest case illustrates, biosecurity threats are not confined to formal laboratories or recognised outbreak settings; they may arise within ordinary neighbourhoods, with consequences that extend far beyond their point of origin.

Authors Contributions

Damian A Honeyman: investigation, writing – original draft, writing – review & editing.
Aye Moa: investigation, writing – original draft, writing – review & editing.
Atalay Goshu Muluneh: investigation.
Chandini Raina Macintyre: investigation, writing – original draft, writing – review & editing.

Ethics and Consent

No Institutional Review Board (IRB) approval was required because the study used only publicly available, aggregate, non-identifiable data sourced from news media.

Availability of data and materials

Data is publicly available.

Conflicts of Interest

The authors have no conflicts of interest to declare

References

1. Kolodziejczyk B. Commentary: Do-it-yourself biology shows safety risks of an open innovation movement. Available at: https://www.brookings.edu/articles/do-it-yourself-biology-shows-safety-risks-of-an-open-innovation-movement/. Accessed 10 Feb, 2026.
2. Turner MD, Marinconz K, Shimp G. The 1984 Rajneeshee Bioterrorism Attack: An Example of Biological Warfare by Violent Non-state Actors. Cureus.2025;17(7):e88514. https://doi.org/10.7759/cureus.88514
3. Ridley M. Why doesn't the CDC care about Chinese biolabs in America?;Available at: https://spectator.com/article/the-cdc-doesnt-care-about-chinese-biolabs-in-america/?edition=us. Accessed 10 Feb, 2026.
4. Charns D. Several fall 'deathly ill' from Las Vegas bio lab; tip leads FBI, police to garage that smelled like 'hospital'. Available at: https://www.8newsnow.com/investigators/several-fall-deathly-ill-from-las-vegas-bio-lab-tip-leads-fbi-police-to-garage-that-smelled-like-hospital/.
5. Jingxin T. FBI Raid Reveals Unregulated Labs with Ebola, COVID, and Genetically Modified Mice. 2026; https://www.visiontimes.com/2026/02/07/fbi-raid-reveals-unregulated-labs-with-ebola-covid-and-genetically-modified-mice.html#:~:text=A%20Neighborhood%20Watch%20sign%20is,is%20even%20more%20strategically%20sensitive.
6. Defran B. REPORT: Multiple people sick after exposure to 'lab equipment' inside Las Vegas home Available at: https://www.fox5vegas.com/2026/02/04/report-multiple-people-sick-after-exposure-lab-equipment-inside-las-vegas-home/.
7. Charns D. Las Vegas bio lab raid possibly tied to California case, federal Chinese investigation. Available at: https://www.8newsnow.com/investigators/las-vegas-bio-lab-raid-possibly-tied-to-california-case-federal-chinese-investigation/.
8. Nguyen T. Suspected biolab in Las Vegas tied to 2023 California case, police say. 2026; https://www.usatoday.com/story/news/nation/2026/02/03/las-vegas-biological-laboratory-california-investigation/88485163007/. Accessed 11 February 2026.
9. Pezenik S. Housecleaner said multiple illnesses tied to Las Vegas house with possible bio lab: Police.report.2026; https://abcnews.com/US/housecleaner-multiple-illnesses-tied-las-vegas-house-bio/story?id=129865238. Accessed 11 February 2026.
10. 1,000 samples sent for testing after possible biological lab found inside Las Vegas home: FBI serious alarm Available: https://www.vetromebel.com/16-179816-1000-samples-sent-for-testing-after-possible-biological-lab-found-inside-las-vegas-home-fbi-serious-alarm/.
11. MacIntyre C Raina. Illegal biolabs in the community –is Reedley a one-off? Global Biosecurity.2023;5(1). https://doi.org/10.31646/gbio.237
12. @jenniferzeng97. Inconvenient Truths — Jennifer Zeng Reports. 2026.; https://x.com/jenniferzeng97/status/2022440770012135817.
13. Investigation into the Reedley Biolab: Findings. 2023, Available at: https://chinaselectcommittee.house.gov/media/investigations/investigation-reedley-biolab-findings.
14. @TonySeruga. Post. 2026.; https://x.com/TonySeruga/status/2018676047542423832.
15. Sinclair R, Boone SA, Greenberg D, Keim P, Gerba CP. Persistence of category A select agents in the environment. Applied and environmental microbiology.2008;74(3):555-563. https://doi.org/10.1128/AEM.02167-07

16. Honeyman D, Gurdasani D, Notaras A, et al. Global Epidemiology of Outbreaks of Unknown Cause Identified by Open-Source Intelligence, 2020–2022. Emerg Infect Dis. 2025;31(2):298-308. https://doi.org/10.3201/eid3102.240533
17. @Globalbiosec. Here is our alert about the #LasVegas bio lab. We can analyse @EPIWATCH_bsp data in real time and apply our analytic skills to such events. We don't normally make our epialerts public. 2026.; https://x.com/Globalbiosec/status/2019615657122476307.
18. Haas G. Hantavirus exposure confirmed at Grand Canyon; 4 cases in Nevada in 2025. Availableat: https://www.8newsnow.com/news/local-news/hantavirus-exposure-confirmed-at-grand-canyon-4-cases-in-nevada-in-2025/.
19. Haas G. 3 cases of Legionnaires' disease tied to resort in Southern Nevada, health officials say. Available at: https://www.8newsnow.com/news/local-news/3-cases-of-legionnaires-disease-tied-to-resort-in-southern-nevada-health-officials-say/.
20. Bari N, MacIntyre C Raina. Smuggling biological materials and illegal laboratories – implications for biosecurity and potential biological attacks. GlobalBiosecurity.2025;7(1). https://doi.org/10.31646/gbio.325
21. MacIntyre C Raina, Engells TE, Scotch M, et al. Converging and emerging threats to health security. Environ Syst Decis. 2018;38(2):198-207.https://doi.org/10.1007/s10669-017-9667-0.

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