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'Rebranded' Military Lab in Maryland Handles Some of World's Most Dangerous Pathogens

By Emily Kopp

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The Army's premier biolab changed its mission statement after a 2014 report

by high-ranking officials concluded its work has become less useful since its Cold War heyday and no longer delivers medical products for service members.

The report, which had not been previously released, was obtained through a state public records request by U.S. Right to Know.

The challenges at the U.S. Army
Medical Research Institute of Infectious
Diseases, or USAMRIID, come to light
at a time of fierce debate about the
degree to which research on novel
pathogens contributes tangible
benefits.

Scientists with different theories about

the COVID-19 pandemic's origins have been tangled in arguments over whether certain work on dangerous pathogens can help predict pandemics or poses unacceptable risks.

Located 50 miles outside of Washington at Fort Detrick, USAMRIID was once charged with responding to the Soviet Union's biological weapons program but stopped developing bioweapons in 1969.

It now conducts research on biological threats including Ebola, Zika, anthrax and plague, and conducts research for universities and private companies. It employs about 900 military, civilian and contract researchers.

The global biological threat landscape has changed due to gain-of-function technology, the limited capacity of the intelligence community to identify biological threats and the proliferation of "dual-use" research programs that generate pathogens that could be harmful in the wrong hands, the report states.

USAMRIID has in recent years suffered many troubles, including biosafety breaches, a shut down of its high-security work and accusations from Department of Defense leadership of wasting taxpayer funds.

The report by government experts, including former USAMRIID

Commander David Franz, describes an agency adrift as America's first biodefense research facility struggled to deliver on the promises in its mission statement.

The report concludes that the lab's work may not always generate medical advances, and should not be expected to in the eyes of its funders in Washington.

"The emphasis on products to the warfighter has become less relevant," the report reads. "Because prophylaxis for 'biological agents' (traditional vaccines) requires great specificity and a period of at least weeks before protection is achieved, the era of

vaccines for the force, one of USARMIID's greatest historic strengths, is essentially over."

The experts behind the report recommended changing the mission of the military lab away from generating vaccines and drugs.

It appears USAMRIID's leaders listened.

By Jan. 2015 — several months after the study's authors had convened in June 2014 — the vision of the lab had changed on its website from "right product, right time for the Warfighter" to a more general statement about leadership in medical biological defense, according to changes

accessed via the Wayback Machine.

"To be the leader in the advancement of medical biological defense with world-renowned experts dedicated to protecting our military forces and the nation," USAMRIID's vision statement now reads.

In the years since USAMRIID's 2014 consultants fought to prove its importance to the Pentagon, the lab has faced allegations of "financial mismanagement," according to a Defense Department letter reported by CQ Roll Call.

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Other problems

USAMRIID is one of two facilities at Fort Detrick with laboratories designed to handle the most dangerous pathogens in the world, so-called BSL-4 labs. There are 14 BSL-4 labs in North America.

These labs have come under greater scrutiny amid concerns by Republicans and some independent biosecurity experts that the COVID-19 pandemic may have arisen from a lab accident in China.

USAMRIID has not developed a COVID-19 vaccine candidate, though the lab has tested COVID-19 vaccines in the pre-clinical trial stage, according

to Caree Vander Linden, public affairs officer at USAMRIID.

Vander Linden also provided U.S. Right to Know with a spreadsheet of 43 scientific papers produced by the lab about COVID-19.

For example, the lab recently announced engineering hamsters to increase their expression of the human ACE2 receptor — a key protein used by SARS-CoV-2 to enter airway cells — to enable the study of more severe disease.

Remdesivir, the first therapeutic with approval from the U.S. Food and Drug Administration to treat COVID-19, was also developed with the help of

USAMRIID.

Vander Linden did not respond to questions about the report and the change of the USAMRIID mission statement. Franz did not respond to requests for comment.

Morale has plummeted since the deadly release of anthrax from the lab in 2001, the 2014 report suggests. That has been worsened by the expansion of work on biorisks at other labs.

Now USAMRIID struggles to retain talent. Much of the work at USAMRIID is that of a contract research organization performing tasks for the private sector.

"The concept that USAMRIID is more

of an 'insurance policy' to deal with the unknown and unexpected than a 'factory' to produce medical 'things' for the soldier should be understood by all," it states.

The report criticizes the <u>biosafety</u> regulations at the Fort Detrick lab, saying the routine presence of inspectors is a distraction.

"The heavy regulatory burden ... and oversight following the 9-11 attacks and the anthrax letters has diverted both funding and human resources from the research mission," the report states.

Yet in the years since, <u>serious safety</u> breaches have occurred at USAMRIID.

The Centers for Disease Control and

Prevention flagged failures to "implement and maintain containment procedures sufficient to contain select agents or toxins" in biosafety level 3 and 4 laboratories, the Frederick News-Post reported, culminating in a shutdown of USAMRIID's two top security labs and a suspension of its registration with the Federal Select Agent Program.

Though work resumed in November 2019, the lab's Defense Department funding remained frozen until April 2020.

Both the Biden and Trump administrations have sought cuts to USAMRIID. But members of the

Maryland congressional delegation have fought to maintain funding levels.

Congress appropriated \$130 million for the expansion of USAMRIID in fiscal 2021.

Unpredictable threats

While USAMRIID once focused on responding to the Soviet Union, new biological threats are more diverse and harder to nail down, according to the report.

"The intelligence community is limited in its ability to identify specific threats," the report states.

This unpredictability is due in part to so-called "gain-of-function" research, a term used to describe research that

can make pathogens more virulent or transmissible.

"Threat agents ... might include traditional ones to those that blur the line between chemistry and biology or even those modified through 'gain of function' techniques," the report reads.

Potentially dangerous biological research is now characterized by "small footprint, dual-use offensive capabilities that might be found in a few large and medium nation-states," according to the report.

Two of the 2014 report's authors — Franz and former director of the National Science Foundation Rita Colwell — have connections to

EcoHealth Alliance, a nonprofit under investigation for its gain-of-function work on coronaviruses with the Wuhan Institute of Virology.

Colwell is on the board of directors, while Franz was a booster of the organization, according to a 2019 social media post.

Other consultants who coauthored the report include:

- Former secretary of the Navy Richard Danzig.
- Former deputy commander-in-chief of U.S. Strategic Command Robert Hinson.
- Former director of the Biomedical
 Advanced Research and Development

Authority Carol Linden.

- Former chief of staff of the U.S. Army Dennis J. Reimer.
- Executive director of the Maryland Biotechnology Center Judy Britz.
- Distinguished research fellow at National Defense University Seth Carus.
- Harvard professor of biologically inspired engineering David Walt.
- National Institutes of Health researcher Richard Whitley.

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