



Bureau of Public Health Laboratories (BPHL)

The Florida LABLINK



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Meet Marissa Pattison, BS

Jacksonville Biological Threat (BT) Defense Coordinator

Marissa was born and raised here in Jacksonville, FL. She graduated with a B.S. in Biomedical Science from the University of North Florida in 2021. She also worked in Veterinary Medicine before starting her career in infectious diseases in 2022. She is a mom of four geckos and a puppy named Radar.

Her career with the FDOH initially began in May 2022 in the Tuberculosis Section, where she gained experience and leadership skills. In September 2023 she joined the BT Section where she serves as one of three BPHL BT Coordinators here in Jacksonville.

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CDC

This photomicrograph reveals some of the ultrastructural morphology of numerous rod-shaped, *Bacillus anthracis* bacteria, many of which had formed long chain configurations.

BIOLOGICAL THREATS ASSETS

Some Resources the United States Has in Place to Protect You from Biothreats

Marissa Pattison, BS

National Bio-surveillance Integration Center (NBIC)

Housed under the Countering Weapons of Mass Destruction Office (CWMD) under the Department of Homeland Security (DHS), the NBIC is a critical component of the United States' public health and national security infrastructure. The purpose of NBIC is to integrate, analyze, and share key information about emerging biothreats to ensure that US responses cause as minimal impact as possible. (2) NBIC gathers information from thousands of qualified sources about biological events impacting human, animal, plant, and environmental health. This communication system enables early warning to operators and responders at all levels of government, increases shared situational awareness of acute biological events, and supports better decision-making through rapid identification, characterization, localization, and tracking. (2) Developing a strong foundation for communication infrastructure for reporting biological events ensures that the correct and most efficient response is provided to resolve the biological event. In this article we will be discussing examples of sources that can be used to form a response to a biothreat and examples of resources used when an emergency event arises. Early detection and response are key to protecting the public health and safety of the United States and its citizens.

BioWatch

The BioWatch program consists of a network of field air sampling equipment that continuously tests for the presence of airborne DNA from certain pathogens that are known to cause harm in many of the major US metropolitan areas. (4) This DNA is collected in specialized filters that are tested everyday to check for the detection of these target pathogens. The early detection of this DNA during an aerosolized bioterrorist attack could allow for the mass distribution of prophylactic medications and other medical countermeasures in time to prevent a major widespread illness or death. (4) The communication system they use to notify the government includes Department of Homeland Security, Centers for Disease Control, and local emergency services to evaluate the severity of the threat, naturally occurring or intentional release, and whether it requires government intervention. Systems like BioWatch are crucial for the early detection and effective response to biothreats in our nation. This proactive approach to bioterrorism prevention is a vital component of the nation's overall biosecurity strategy, helping to protect public health and national security by enabling a rapid response in the event of a biothreat incident.

Biohazard Detection System (BDS)

The Biohazard Detection System (BDS) is a technology used to monitor and detect potential biological threats in critical infrastructures and public spaces. The BDS operates through a network of sensors and detectors strategically placed in high-traffic areas, transportation hubs, and other locations vulnerable to bioterrorism. This machine continuously collects air samples from mail cancelling equipment while it operates. These air sample particles are then absorbed into sterile water that then get tested for *Bacillus anthracis* DNA through Real-Time PCR. Each run of PCR represents thousands of pieces of mail in each batch. (1) If detected, there are emergency response plans in place to cease that exact batch and to quarantine the entire facility and mail carriers involved if that batch makes it out of the facility.



These cartridges that contain the presumptive positive sample are then sent to a reference laboratory to confirm if *B. anthracis* is present so a decision on how to proceed with the detection event can be made. (1) This system plays a critical role in enhancing the security of the postal service and preventing the spread of biohazards through the mail, ultimately contributing to the overall biosecurity of the United States.

National Strategic Stockpile

The National Strategic Stockpile is a short-term, stopgap buffer for when immediate supplies for certain material are not readily available during national or local emergencies. (3) The goal of the National Strategic Stockpile is to always be available to respond to any health threat that can occur at any time. These items can include vaccines, therapeutics, Personal Protective Equipment, medical stations, and treatments depending on the type of outbreak. (4) When an outbreak occurs, items will be sent to the most affected communities first to help mitigate the spread and minimize the impact of the outbreak. Early intervention is the best way to protect citizens from major infections.

These critical assets, from bio-surveillance programs and early warning systems to advanced detection technologies and well-prepared response strategies are an essential pillar of our national security and public health infrastructure to protect us from bioterrorism. Together, these and additional resources form a comprehensive defense against the ever-evolving threats posed by bioterrorism. As the global landscape continues to shift, it is imperative that we maintain and strengthen these resources to adapt to new challenges and emerging biosecurity threats. By investing in research, technology, and collaboration among government agencies, public health organizations, and international partners, we can continue to enhance our readiness and resilience in the face of bioterrorism, ultimately safeguarding the well-being and security of our nation and its citizens.

References:

1. "FAQ: What Is the USPS® Biohazard Detection System?" *United States Postal Service*, about.usps.com/news/state-releases/sc/2013/FAQ-BDS.pdf. Accessed 7 Nov. 2023.
2. "National Biosurveillance Integration Center." *National Biosurveillance Integration Center | Homeland Security*, 9 Aug. 2023, www.dhs.gov/nbic.
3. "Strategic National Stockpile." *Strategic National Stockpile | SNS | HHS/ASPR*, aspr.hhs.gov/SNS/Pages/default.aspx. Accessed 7 Nov. 2023.
4. "The BioWatch System - Biowatch and Public Health Surveillance - NCBI ..." *National Library of Medicine*, National Academy of Sciences, 2011, www.ncbi.nlm.nih.gov/books/NBK219704/.

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Unless otherwise indicated, all photography is for illustrative purposes only and all persons depicted are models.

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