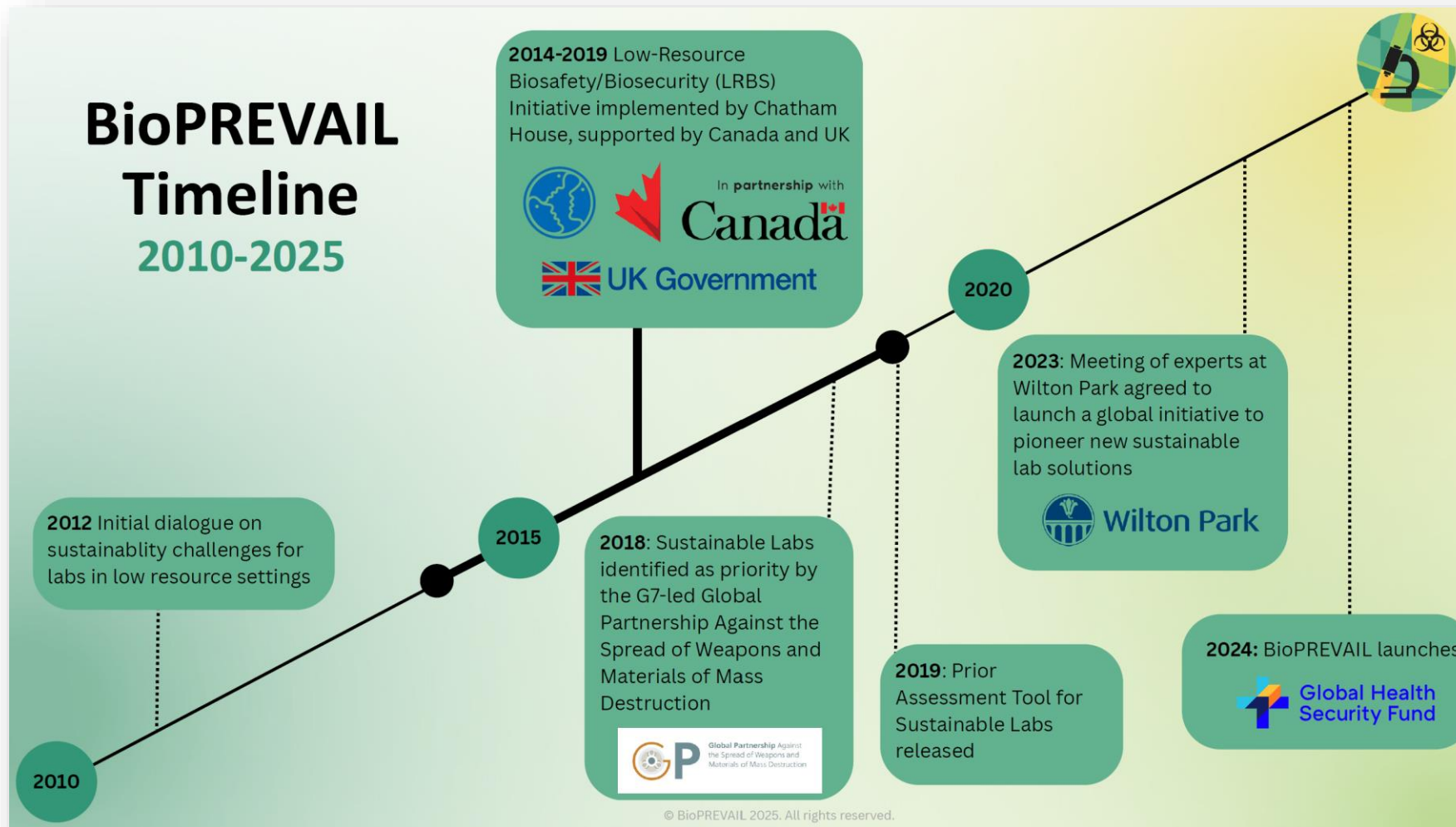


# Regional Training Seminar for WOAH National Focal Points for Veterinary Laboratories (cycle III)

8 - 10 July 2025, Gaborone, Botswana



## Biological Preparedness and Resilience through Evolution and Innovation of Laboratories



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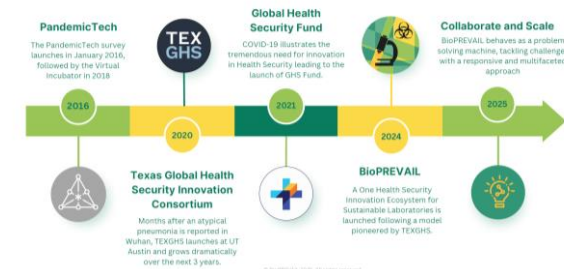
***BioPREVAIL is approaching lab sustainability from a new perspective.***

We are building a **health security innovation ecosystem** to serve as a nimble, low-cost, problem solving tool for laboratories.

**Collectively**, we come together to **identify problems**, **co-develop solutions**, and **scale successful interventions** across the network **eliminating the silos** and **inertia that hinder progress**.

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### Creating Innovation Ecosystems





## What can BioPREVAIL do?



BioPREVAIL



### Create

New context specific solutions to laboratory challenges through problem specific design sprints



### Scale

Existing solutions that are effectively addressing laboratory challenges



### Convene

A global community of thought leaders, scientists, engineers and technicians in support of local efforts

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## Create: The Design Sprint



### Proposed Solutions

Problem Statements are published to the community of practice and proposed solutions are submitted for competitive consideration.

### Pilot

Prototyped solutions are returned to their pilot laboratories for a 3 month pilot period. Teams receive technical mentorship and a development stipend during the 3 month pilot.



### Problem Statement

A Technical Advisory Group sources problem statements from laboratory pilot locations and scopes performance parameters to guide solution development



### Prototype

The TAG selects teams to prototype their solutions. Selected teams receive technical mentorship and a development stipend to develop a pilot-ready solution in 3 months.



### Scale

Based on pilot outcomes, solutions are scaled across the BioPREVAIL network.



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## Create: Ending Equipment Graveyards Design Sprint



**Abstract:** Laboratory equipment that is **poorly suited** to local conditions comes to rest in **equipment graveyards**. These graveyards often hold new, lightly used or serviceable equipment that can't be utilized for a variety of reasons.

**Methods:** Reimagine equipment **maintenance**, **supply chain** and equipment **verification** to minimize waste and increase utilization.

**Results:** **Practical solutions** or **validated approaches** to improving equipment utilization that are derived from **ideation** or from **sharing regional best practices** across the BioPREVAIL network.



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## Create: Diagnostics at the Edge Design Sprint



**Abstract:** Advanced **point-of-care diagnostics** have changed the definition of diagnostic laboratory from a brick-and-mortar facility to a **continuum of activities** that transcends any one facility.

**Methods:** Identify **targets** for innovation and accelerate the development **point-of-care diagnostics** to address **unmet clinical need**.

**Results:** **Low-cost** point-of-care diagnostics **co-developed** with local innovators to address unmet clinical need, alleviate burden on regional diagnostic laboratories, and drive local economic development.



Pictured is BetterWay from Babson Diagnostics, Austin, Texas, USA



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### Background - Framing the Problem<sup>1</sup>

Minimum functions and services include:

- Safe and secure cold storage (at -4°C, -20°C and -80°C) of biological material (diagnostic samples, pathogens, reagents, cell lines);
- Receipt, handling and processing of samples in a timely manner (whole carcasses of varying sizes (livestock to poultry)), serum, blood, tissues, exudates, feces/urine, body fluids, environmental samples) for examination and diagnostic testing;
- Conducting a minimum range of diagnostic and characterization procedures for common endemic and epizootic pathogens (and differentiate new and emerging infectious diseases) then interpreting and reporting results;
- Safe shipment of samples and biological material (compliant with international standards) to Reference Laboratories for further confirmation/characterization;

<sup>1</sup>WOAH REQUEST FOR INFORMATION (RFI): To design and carry out a Grand Challenge to improve the sustainability of diagnostic laboratories

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## Create: The Built Environment Design Sprint



**Abstract:** Biocontainment laboratories are **over-complicated** and **poorly suited** for low-resource settings. This Challenge identifies failing parts of the built environment for **redesign**.

**Methods:** Using a **virtual built environment sandbox** developed by BioPrevail partners in South Africa, teams are able to redesign lab components at very low cost to trial before prototyping. This approach **democratizes access** and **lowers cost**.

**Results:** **Investment ready, scalable** solutions to real-world challenges posed by the built environment of diagnostic labs in resource constrained environments.



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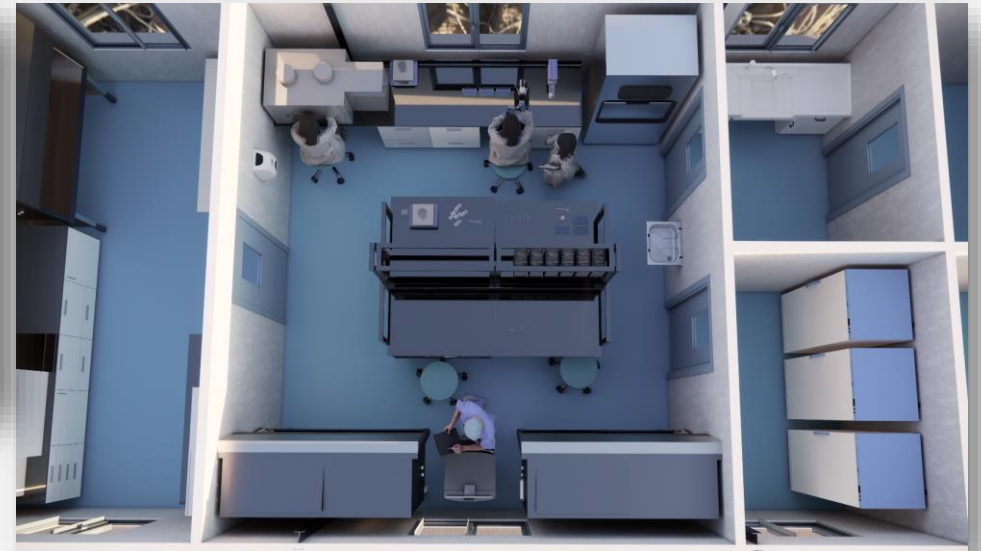
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Elevation 1 - a  
scale 1:50



Elevation 2 - a  
scale 1:50







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## Scale: Existing solutions



### Build a Pipeline

Using TAG developed criteria a pipeline of pilot ready solutions is developed and socialized across the network.

### Pilot

Laboratories across the BioPREVAIL network are eligible to pilot innovations that have been vetted through the BioPrevail Scale program at no cost.



### Innovation Scouting

A continuous innovation scouting process identifies and catalogues existing solutions that support sustainable labs.



### Accelerate

Selected innovations receive mentorship and business acceleration through the BioPREVAIL platform.



### Scale

Based on pilot outcomes, solutions are scaled across the BioPREVAIL network.



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## Convene: A Community of Practice



### Expert consultation

- Expert network includes thought leaders in entrepreneurship, health security, technology commercialization and international regulatory environments.
- Design sprint teams receive technical guidance at no cost.
- Experts receive a small honorarium to recognize their contributions to the program.

### Innovation Didactics

- BioPREVAIL programming is always free.
- Design sprint teams receive a structured innovation curriculum delivered virtually.
- Tailored feedback is available to each team via the expert network
- Innovation programming for the BioPREVAIL community
- Biosafety and Biosecurity continuing education through the BioPREVAIL Journal Club



### Employment Opportunities

- Community job board is automatically updated with the latest career opportunities for lab professionals.
- Partner organizations can advertise an unlimited number of open positions.
- Community members can network directly with a large directory of partner organizations.

### Moderated Discussion Boards

- Community discussion boards are open for commentary.
- 'Hot take Tuesday' regular discussion topics drive community engagement.
- Thematic discussions around topics of interest or concern
- Special interest discussion groups are available upon request.

### Capacity mapping and resource library

- Profiles for users, investors, organizations and special projects create a capacity map for the community.
- Resource library contains useful documents, webpages and resources for the lab community.
- Community members are encouraged to knowledge share and publish to the resource library.

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## Get involved!

- Join the platform
- Partner as an organization
- Sponsor a Design Challenge
- Mentor a team
- Volunteer as a community champion



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Biological  
threat  
reduction







*Ke a leboga!*

