

Setting the Medical Theater: Building Interoperable Partner Biosurveillance Networks in the Indo-Pacific

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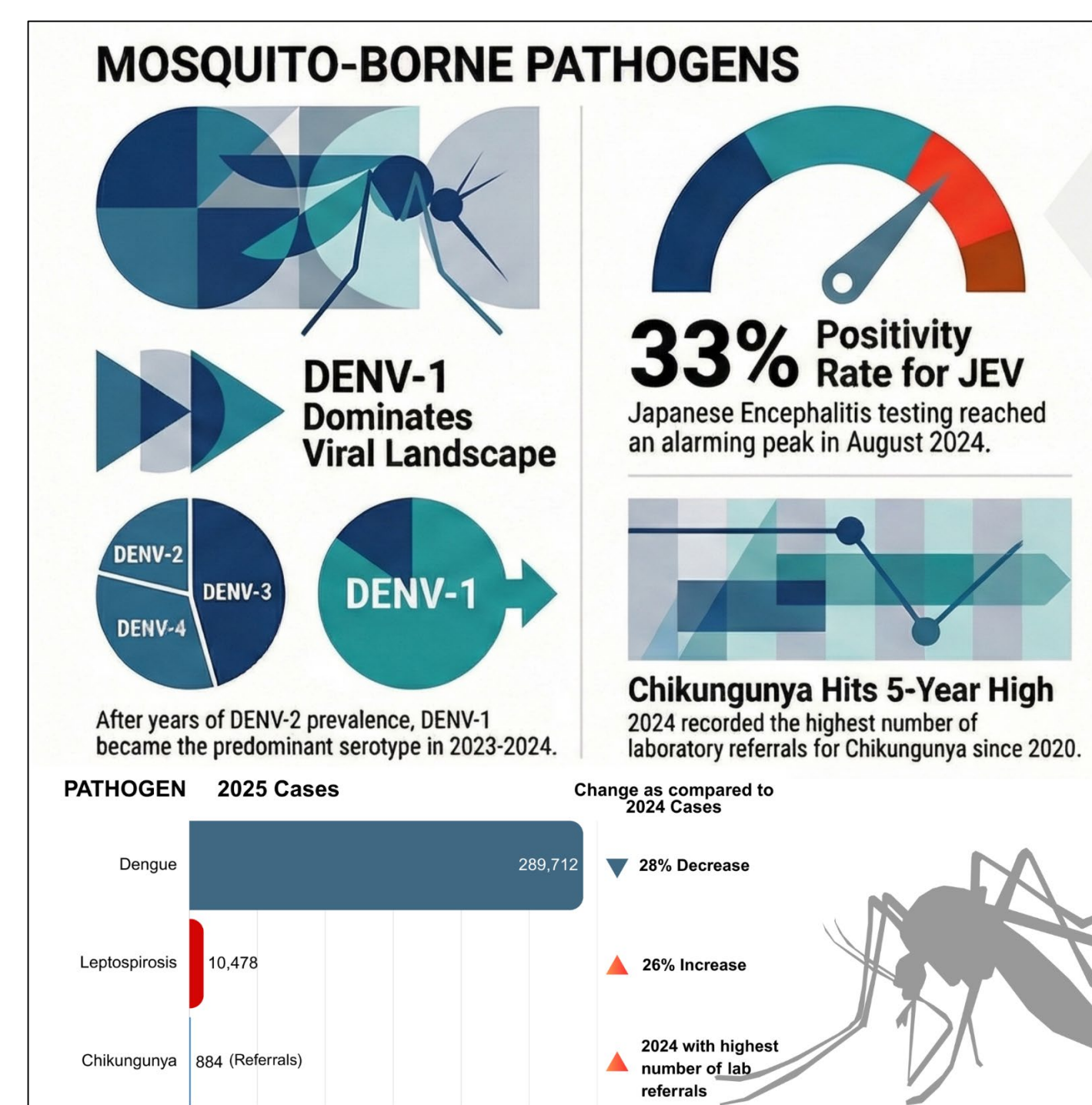
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Background & Introduction

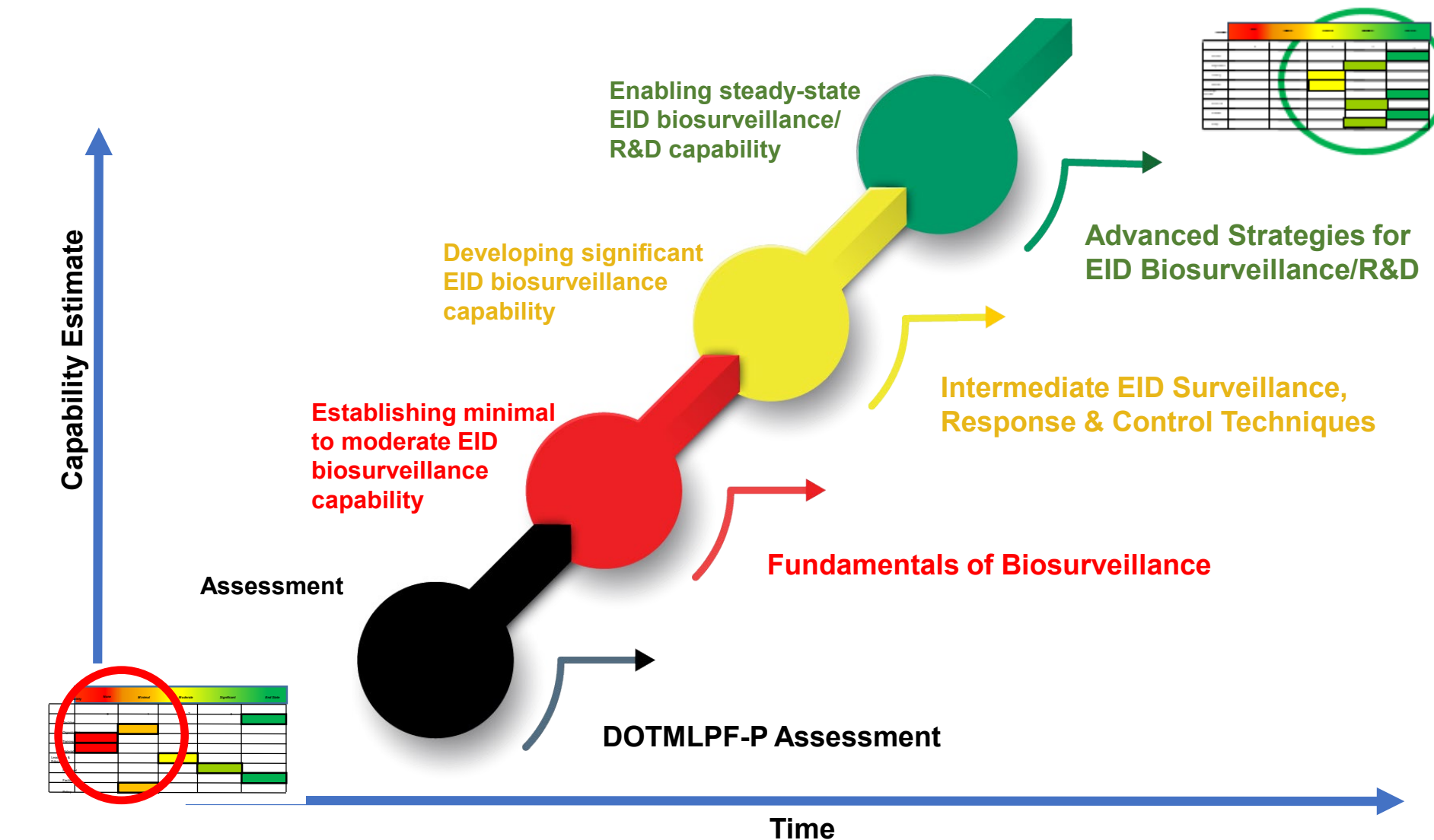
In 2023, the Walter Reed Army Institute of Research-Armed Forces Research Institute of Medical Sciences (WRAIR-AFRIMS) and the Armed Forces of the Philippines Veterinary Corps (AFP VC) launched a One Health partnership to strengthen bilateral zoonotic disease surveillance capabilities.

AFP Vision 2028: A World-class Armed Forces, A Source of National Pride

AFP Veterinary Corps is mandated to provide comprehensive veterinary service support essential to Force Health Protection (FHP), zoonotic disease prevention, vector-borne disease (VBD) surveillance, pest management, and safeguarding food and water supplies.



Capability: Standardized Engagement Package (SEP) - Emerging Infectious Disease (EID) Training Playbook



Approach

- EID Training Playbook engagement strategy:
 - DOTMLPF-P • Training modules
 - Longitudinal “crawl, walk, run” training model
 - 2023: VPHRSE (crawl)
- Objective: Independent, year-round AFP VBD surveillance program
 - Reach back support from WRAIR-AFRIMS and/or civilian counterparts (i.e., Research Institute for Tropical Medicine or RITM)
 - Data-sharing for comprehensive risk mapping and actionable FHP products



2023 (“Crawl”): Joint AFRIMS-AFP Veterinary & Public Health Research Skills Engagement (VPHRSE)



Didactic, Practical & VBD Field Training at VPHRSE



VBD Field Training at VPHRSE: Mosquito Trapping & Identification



Mosquito Identification

Vector-Borne Pathogens of Military concern in the Philippines

- ArBoviruses (Arthropod-Borne)**
 - Mosquito-borne
 - Flaviviruses: **Dengue** (DENV) & **Japanese encephalitis** (JEV) viruses
 - Alphavirus: **Chikungunya** (CHIKV)
 - Tick-borne: **Rickettsia** spp.
 - Dabie bandavirus (SFTS virus)?
- Mite-borne (chiggers):
 - Scrub typhus (*Orientia tsutsugamushi*)

Rodent-borne

- Leptospira*: urine- contaminated water (rodents, monsoon season)



Endemic and emerging vector-borne pathogens also threaten the U.S. **Warfighter**.

Headquartered in Bangkok, Thailand, **WRAIR-AFRIMS** is a far-forward DoW infectious disease research institute postured to set the Pacific medical theater and support FHP through biosurveillance/ biodeterrence, strategic partnerships, & product development.



Problem Statement

- VBDs remain a persistent and significant threat** to AFP FHP & Military readiness
- Despite the AFP VC mandate to provide early warning of VBD emergence, there is **insufficient infrastructure, equipment, lab capacity, & specialized training to conduct independent, sustained surveillance**.
- Current data rely heavily on WRAIR-AFRIMS pre-Balikatan surveillance:
 - Occurs only once a year, prior to regional monsoon season (March/April)
 - Surveillance gap at peak of mosquito-borne disease and leptospirosis transmission

2024-25 (“Walk”): Leveraging Balikatan pre-exercise surveillance for joint training



Setting mosquito traps

BK24

Field Laboratory

Rodent collection on AFP Naval vessels

BK25

Environmental sampling

Impact: BK25, Targeted rodent surveillance at ports

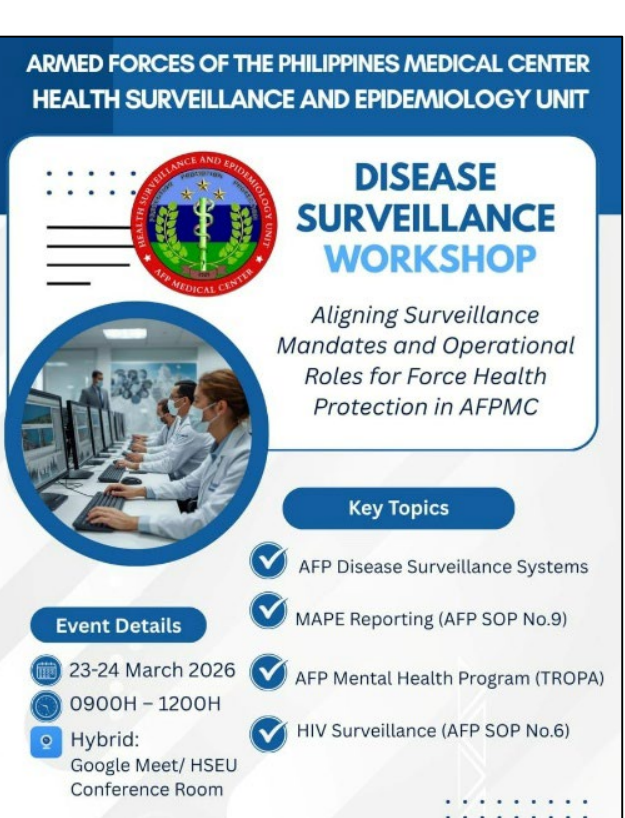


Rodent Surveillance at Naval Operating Base Subic

- AFRIMS-trained AFP veterinarian placed **rodent traps**
 - Trapped 4 rats over 3 days
- Leptospira interrogans* & *Bartonella* spp. were detected
- Critical milestone toward AFP self-sufficiency

Additional Training:

- Balikatan (BK) 2023- Public Health Workshop
- Overview of Epidemiology & Surveillance Monitoring: “Sentinels of Health: Military Epidemiology and Surveillance in Action” (2025)
- AFP Medical Center Health Surveillance & Epidemiology Unit (2026)



Results & Status

- Overcame Budget Gaps:** Used 2024-25 Balikatan pre-exercise surveillance for hands-on VBD training during funding shortfalls.
 - Achieved “Walk” Phase:** Advanced AFP training from theory to real-world field surveillance.
- Launched Oversight Process:** Partnered with Department of Health Research Institute for Tropical Medicine (RITM) in 2026 to initiate IACUC submission process.
- Improved Autonomy:** Progressively increased AFP Veterinary Corps independent biosurveillance capacity via longitudinal training.

Significance

- Shapes Joint Operations:** Supports a sustained, high-readiness biosurveillance network of trained regional partners across the Indo-Pacific.
- Acts as Force Multiplier:** Delivers early VBD outbreak warnings through decentralized, partner-led biosurveillance and risk assessments.
- Optimizes Force Protection:** Enhances long-term theater resilience, mission readiness, and comprehensive force health protection.
- Drives True Interoperability:** Bridges military and civilian health sectors to create a unified, sustainable biosurveillance architecture.

Way-Forward

- Transition to “Run” Phase:** Invite AFP and RITM veterinarians to participate in upcoming 2026 routine rodent surveillance activities
- Secure OHDACA Funding:** Invite AFP VC to advanced field/laboratory rodent surveillance training alongside CIV public health counterparts
- Complete Regulatory Requirements & Launch:** Upon IACUC approval, establish independent AFP VBD surveillance program by 2028.

Acknowledgements

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- Philippines Department of Health, Research Institute of Tropical Medicine (RITM)

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