MEDINA: Machine Learning, Climate Variability and Disease Dynamics

PI: Assaf Anyamba

GEO Health Community of Practice Annual Meeting 2022
Tuesday, December 6, 2022 at 9:00 AM - 12:30 PM

UNCLASSIFIED
Vectorborne Disease Challenge

- Threat US national security and global health security.
- Vectorborne and Zoonotic pathogens ~ 2/3 of the 57 top infectious disease threats to Department of Defense personnel and > than 17% of all global public infections + > 700 000 deaths per year.
- Defense and public health agencies - often behind the curve, responding to disease outbreaks rather than anticipating and controlling diseases before they become more widespread.

NEED
- Where has VBD activity occurred
- Where is it occurring now
- Which regions are currently at risk
- Which regions are at risk in the immediate future

INFORM
- Surveillance
- Prevention, Control and Treatment
- Identification of “unknown” cases
SCIENCE AND IMPLEMENTATION TEAMS

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Inst. PI/Co-I: Co-PI: Seth Kenneth J. Gibson Linthicum

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Heidi Tubbs
Bhaskar Bishnoi

Seth Gibson

Endalkachew Bekele
1. Dengue
2. Zika
3. Chikungunya
4. Rift Valley fever
5. Hantaviruses

Category A or C

Bioterrorism Agents
MEDINA Decision Support System Network (MDSSN) illustrating data and product flows to support various decision-making elements for various project partners as well as science and technology exchange.
VISION : MEDINA

Unified Dashboard
- Persistent VBD Threats
- Current and Forecast Risk Maps
- Baseline Risk Maps
- Case timelines
- Vector Distributions
- Operationally Relevant
- Upgradeable
Thank You!

EARTH SCIENCE
APPLIED SCIENCES

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