



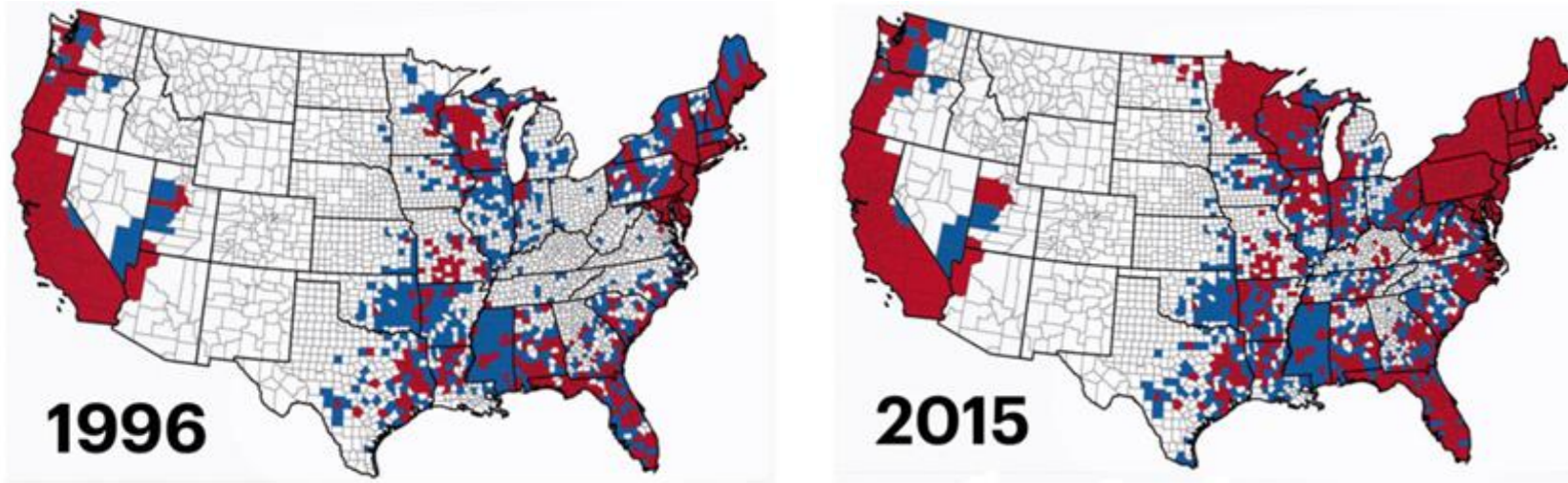
STEM

Lyme Disease Presentation

Goals of this Presentation

- Build partnerships.
- Find mentorship in STEM application.
- Leverage existing resources and avoid replication.
- Discuss program expansion to additional zoonotic diseases and into Europe.

Lyme Disease Epidemic in the U.S.



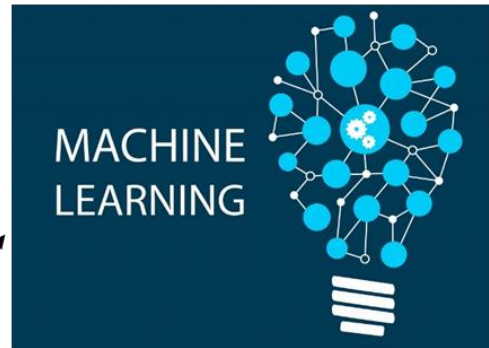
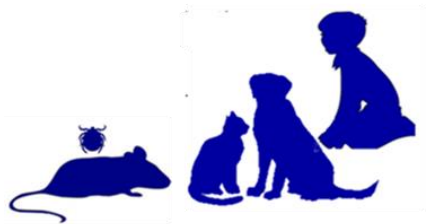
With an Estimated 300,000+ New Cases Each Year, Lyme Disease is the Most Commonly Reported Vector-Borne Infectious Disease in the United States. [CDC](#)

[Lyme disease-carrying ticks are now in half of all U.S. counties.](#)

Predictive Analytics Toolset

- Interventions exist to lower infection prevalence rate; current ecological methods are not sensitive enough to allow optimal application.
- A real-time prediction toolset combining data from ecological, human, and satellite systems with predictive analytics / machine learning algorithms could allow prediction of the emergence of infectious diseases.
- STEM application could prove to be very beneficial to a part of that prediction toolset to model the extent of the spread of the disease spatially as well as the efficacy of intervention methods.
- Current partners include *US BIOLOGIC*, NASA, state of Connecticut, and Upper Midwest Center of Excellence in Vector-Borne Disease Research (University of Wisconsin – Madison)

Model



Outbreak

**No
Outbreak**





“Delivering Disease Prevention”[®]

For More Information:
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