

Emerging Diseases

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USDA VS Definition

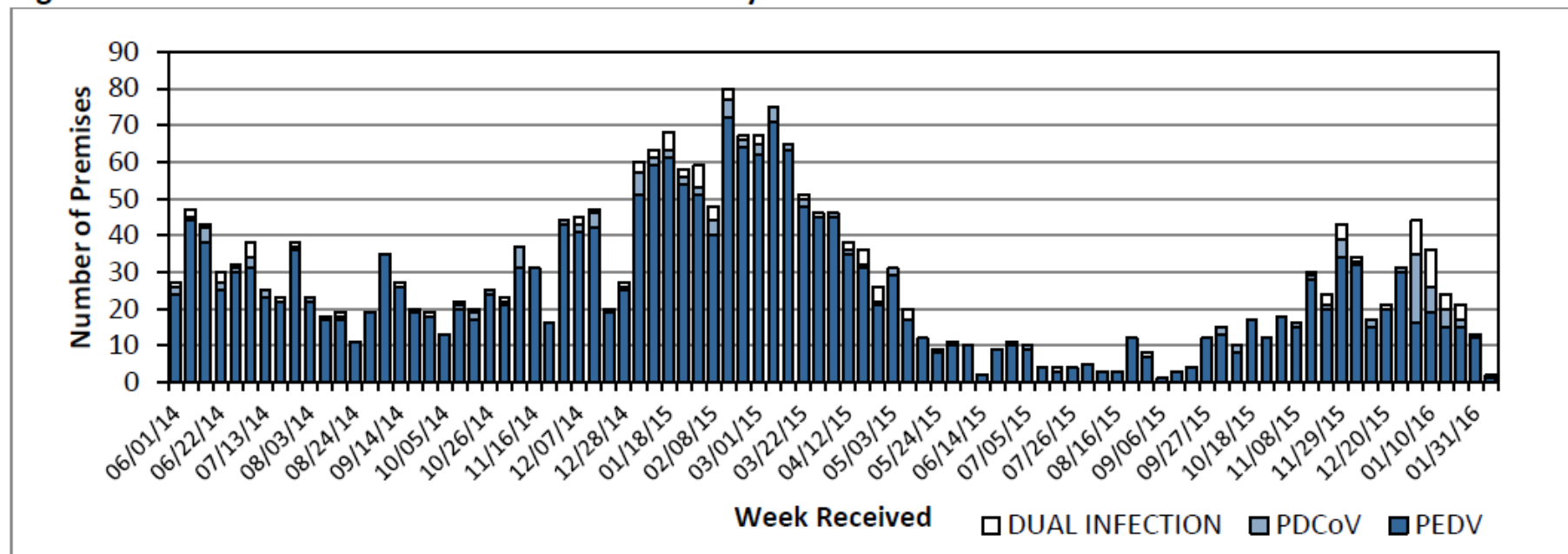


- Any animal disease or infection not known to exist in the United States, including a new strain of a known disease occurring in any animal species, including wildlife;
- Evidence of a change in the epidemiology of a known animal disease such as increased pathogenicity, expanded host range, or clinical signs that do not fit the classical picture.

Examples

- Porcine Epidemic Diarrhea Virus (Swine Enteric Corona Virus Disease)

Figure 1. Number of Confirmed Positive Premises by Week ^a



^aWeek the sample was received at the laboratory for testing.

Examples

- Seneca Valley Virus



Diagnostic Center for Population and Animal Health



Diagnostic Center for Population and Animal Health

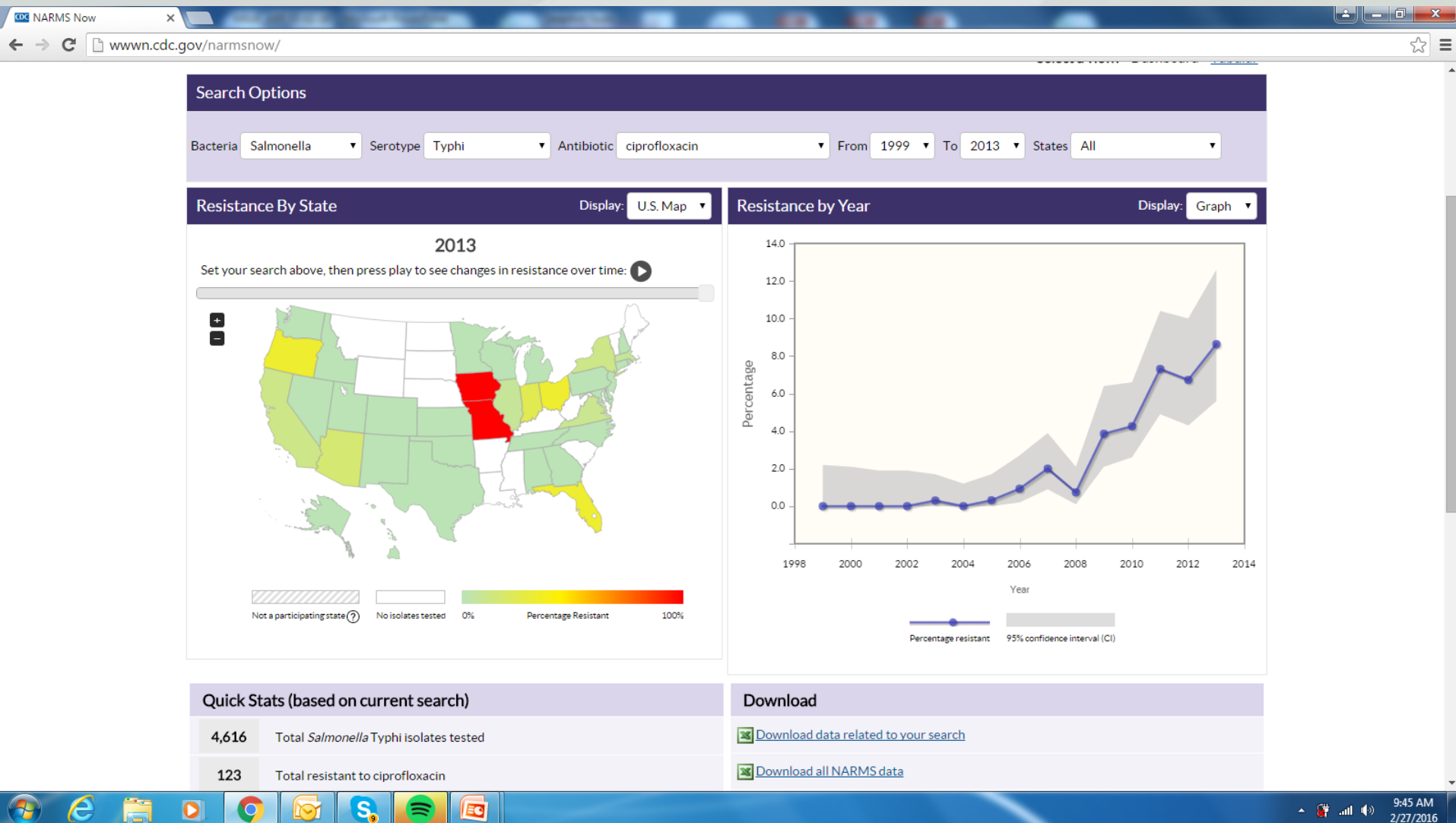
- Regarded as one of the top 3 animal diagnostic labs in the US
- Part of the NAHLN network
- 800 tests in 11 service sections
- 220,000 cases and 1.5 million tests annually
- Readiness for
 - Foreign Animal Disease – FMD or HPAI
 - New disease
 - Toxicological issues PBB and Lead
- Critical to Teaching and Research



Antimicrobial Resistance



Public Health Threat



<http://wwwn.cdc.gov/narmsnow/>

Animal Health Threat

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Introduction of new multidrug-resistant *Salmonella enterica* strains into commercial dairy herds

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An Outbreak of Multidrug-Resistant *Salmonella enterica* Serotype Oranienburg in Michigan Dairy Calves

John B. Kaneene,¹ RoseAnn Miller,¹ Katherine May,¹ and Joseph A. Hattey²



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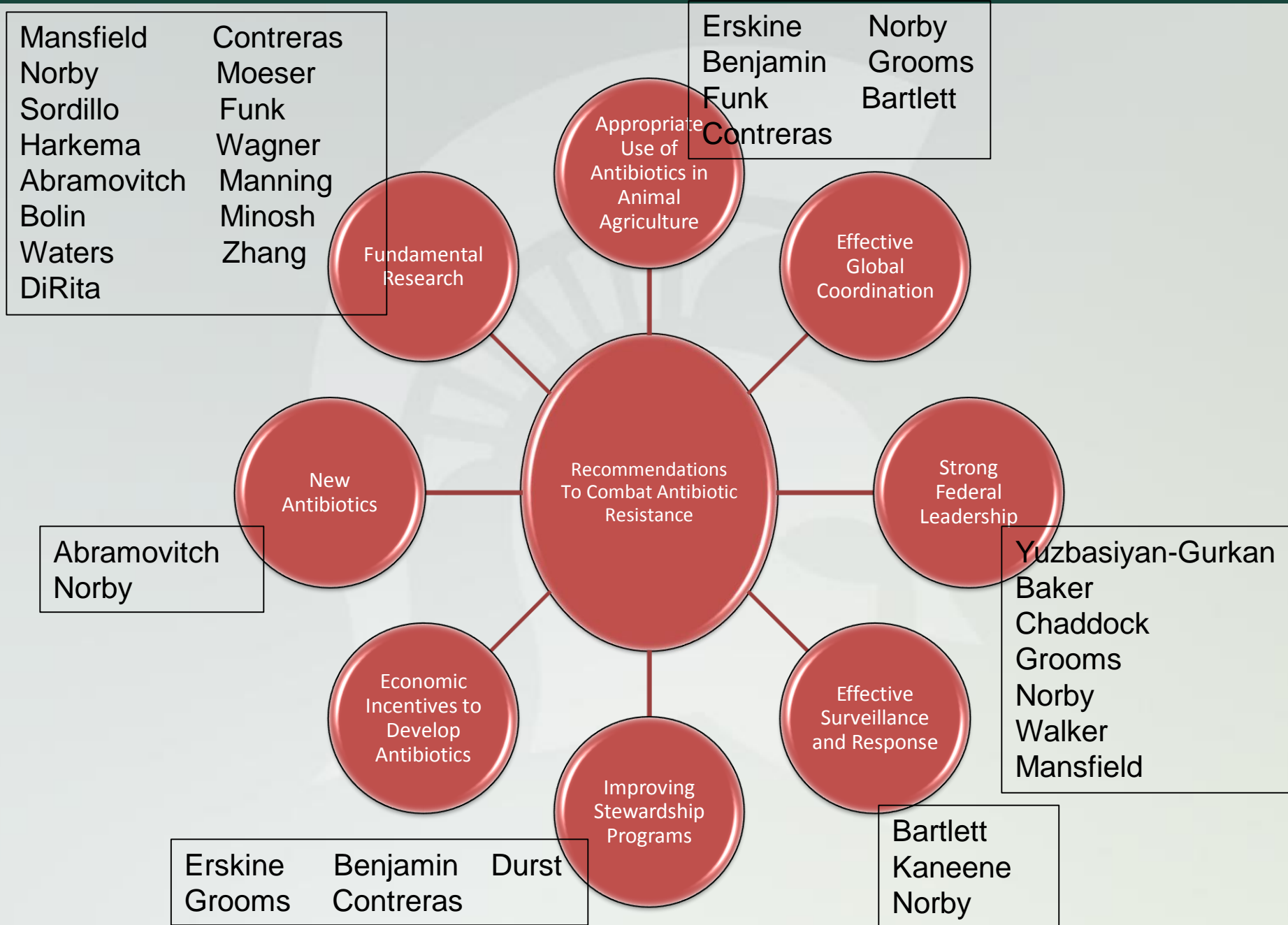
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DOI: 10.1177/1040638713485227

jvdi.sagepub.com

Antimicrobial multidrug resistance and coresistance patterns of *Mannheimia haemolytica* isolated from bovine respiratory disease cases—a three-year (2009–2011) retrospective analysis

Brian V. Lubbers,¹ Gregg A. Hanzlicek



Other Examples in Michigan

- *Mycoplasma wenyonii* in cattle
- CWD
- bTB in wild white tail deer
- Equine Herpes Virus 1 and 5
- Colony collapse disorder in honey bees
- White nose syndrome in bats
 - *Pseudogymnoascus destructans*
- Foot Rot in sheep
 - *Dichelobacter nodosus*
- Bovine Leukosis Virus

Bovine Leukosis Virus

- Retro virus affecting cattle
- Integrates into DNA of lymphocytes
- Sub-clinical to tumor formation
- In Dairy cows
 - Decreased milk production
 - Impaired immune response
 - Decreased longevity
- 80+% dairy and 20+ beef cow-calf herds affected

RESEARCH ARTICLE

Exposure to Bovine Leukemia Virus Is Associated with Breast Cancer: A Case-Control Study

Gertrude Case Buehring^{1*}, Hua Min Shen¹, Hanne M. Jensen², Diana L. Jin¹, Mark Hudes³, Gladys Block⁴

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Integrated BLV Research and Extension

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Production Affects

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