

# Equine Disease Surveillance and Response: Successes and Challenges

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## TEXAS HPAI 2004

How to “clean up” an outbreak

**USDA** U.S. Department of  
Agriculture

Veterinary Services Animal and Plant Health Inspection Service

## Major Equine Disease Events the Past 15 Years

- **Since 2007: 826 EIA cases**
- **2008 Florida EP**
- **2009 Missouri/Kansas EP**
- **2009 EP Texas Ranch Outbreak**
- **Since 2009: 495 EP cases**
- **2006 WI CEM**
- **2008-2010 Multi-State CEM**
- **2010 CA CEM**
- **2011 AZ CEM**
- **2013 CA CEM**
- **2013 FL/PR CEM**
- **2006 NM EVA**
- **2011 Multi-State EHM**
- **Since EDCC, hundreds of EHM outbreaks**
- **2004-2006 VSV**
- **2009 VSV**
- **2010 VSV**
- **2012 VSV**
- **2014-2015 VSV**
- **2019 VSV**
- **2,616 EEE cases**
- **5,897 WNV cases**

# Equine Infectious Anemia (EIA)

- **Successes**

- 0.004% prevalence in the U.S.
- VS Guidance 15201 “Approval of Laboratories to Conduct Tests for EIA”
  - Monthly summary reporting of tests
  - Forwarding of non-negative samples
  - Higher standards for maintenance of lab approval
  - More contact with laboratories
- AAEP and EDCC assistance in education and outreach
- More states experienced with iatrogenic transmission cases, better tracebacks, more complete cohort testing

- **Challenges**

- Shift in epidemiology to predominantly iatrogenic transmission
- Involvement of unsanctioned racing
- Education and outreach to bushtrack participants
- Limited disposition options for EIA-positive horses
- Illegal movement of horses from endemic regions with no control programs
- Lack of EIA researchers in the U.S.

## Equine Piroplasmosis (EP)

- **Successes**

- Identification of high-risk population
- Establishment of significant active surveillance
- Activation of NAHLN labs and availability of diagnostic testing
- High-dose imidocarb treatment program
- Eradication of disease from the Texas ranch outbreak

- **Challenges**

- Maintaining surveillance in the high-risk population
- Illegal activity associated with bush track racing
- Illegal movement of horses from endemic regions with no control program
- Education and outreach

# Contagious Equine Metritis (CEM)

## • **Successes**

- No outbreaks identified since 2013
- Last major outbreaks had an identified source
- New work at NVSL using whole genome sequencing
- Better outreach avenues available to communicate when an outbreak occurs (EDCC)

## • **Challenges**

- Lack of surveillance for the disease
- Expensive to diagnose and contain an outbreak
- Circumvention of import requirements
- Variability in oversight at CEM import quarantine centers
- CEM status of trading partners
- Biosecurity in equine semen collection and breeding operations

## Equine Viral Arteritis (EVA)

- **Successes**

- Gathering of information by EVA subcommittee – SAHO and lab questionnaire
- Reviewing and taking comments on EVA UM&R for revision
- New research indicating stallions' genetic predisposition to shed virus

- **Challenges**

- Lack of awareness among practitioners, owners, SAHOs
- Under-reporting of cases and/or absence of inclusion in differentials
- Laboratory reporting of positive EVA diagnostics
- Absence of DIVA strategy in diagnostics (serology)
- Preparation for next outbreak

# EHV-1/EHM

- **Successes**

- EHM Response Guidelines for SAHOs
- Biosecurity Toolkit for Equine Events
- Timely communication of cases/outbreaks through the EDCC
- Better awareness throughout the equine industry
- Industry-driven improvements to biosecurity and preparedness at events

- **Challenges**

- Widespread and frequent movement of horses in the U.S.
- Individual owners/trainers implementing responsible biosecurity
- Continued misunderstanding of wild-type vs. neuropathogenic strain
- Appropriate isolation and control during a response
- Variability in diagnostic assays and interpretation
- Lack of needed research



## EEE and WNV

- **Successes**

- Outreach to equine owners and the industry
  - SAHO press releases, biweekly reporting of cases on APHIS website, EDCC alerts
- More consistent ArboNET reporting with better SAHO and state public health communication
- Efficacy of vaccination in equids

- **Challenges**

- Misinformation on how equine cases relate to human cases
- Under-reporting of equine cases
- Data collection from confirmed cases
- Unvaccinated and under-vaccinated equine populations

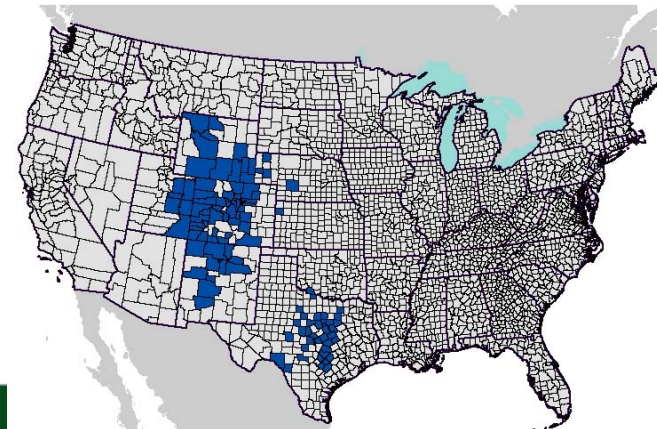
# Vesicular Stomatitis (VSV)

- **Successes**

- Changes to VSV response in 2015 – significant reduction in state/fed resource strain while maintaining disease control
  - Reduction in quarantine period
  - Use of accredited veterinarians
  - Activation of NAHLN labs
- VSV Research Improvements
  - VSV Grand Challenge Project (ARS/APHIS)

- **Challenges**

- Broad variability in interstate movement restrictions
- International movement restrictions
- Vector mitigation strategies available at premises level only and with variable efficacy
- Illegal interstate movements



## Other Foreign and Emerging Diseases

- **Successes**

- Better communication/interaction with the equine industry on infectious diseases
- More in-depth discussion on improvement of import protocols
- Network of collaboration with laboratories and animal health officials in other countries
- Working to improve diagnostic capabilities for certain transboundary diseases

- **Challenges**

- Absence of tools for control of vector-borne diseases (arboviral and tick-borne)
- Unauthorized FAD testing at unapproved laboratories
- Limited research capabilities in-house and limited research interest in the private sector and academia
- The Unknown

Thank you

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