

# Proactive Risk Assessments for HPAI

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Presented by

Lee Myers, DVM, MPH, Dipl. ACVPM  
National Veterinary Stockpile  
USDA APHIS VS EM&D

Morgan Hennessey DVM, MPH  
Center For Animal Health and Food Safety  
University of Minnesota

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Director, Preparedness & Incident Coordination  
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Risk Analysis Team  
USDA, APHIS, VS, CEAH

# Topics

- What is a Proactive Risk Assessment?
- How will we use them?
- Who is developing them?
- What's on the horizon?

# What is a Proactive Risk Assessment?

- A systematic way of:
  - gathering, evaluating, and recording information,
  - objectively evaluating risk and quantifying the probability of a harmful effect to human/or animal populations, and
  - providing recommendations for a position or action to mitigate the identified hazard
- Risk = (probability of event occurring) x (consequences of event occurring)

# Risk Assessment Components

- Release assessment
  - Pathways needed to 'release' (introduce) a pathogen into the environment and the likelihood of release occurring
- Exposure assessment
  - The pathways needed to 'expose' (contact/infect) a population, given release and the likelihood of exposure occurring
- Consequence assessment
  - Consequences, given exposure and release and the likelihood and range of the various potential consequences
- Risk estimation
- A summary of the overall risk/likelihood for the entire pathway

# Assessing Risk

What could happen?

What is the probability of it occurring?

What are the consequences of it occurring?

What measures would reduce the probability or reduce the consequences?



A decision *support* function, *not* a decision function

# How Will We Use Proactive Risk Assessments?

## Paradigm of HPAI control and eradication:

- Place quarantines and movement restrictions to prevent possible spread of virus from infected/exposed animals and potentially contaminated animal products/materials
- Movement restrictions enforced through a permitting system administered by Incident Command
- Quarantines and movement restrictions adjusted as the incident unfolds
- Quarantines and movement restrictions lifted after virus is eradicated

***New Approach: Use risk assessments to help support movement restriction decisions***

# How Will We Use Proactive Risk Assessments?

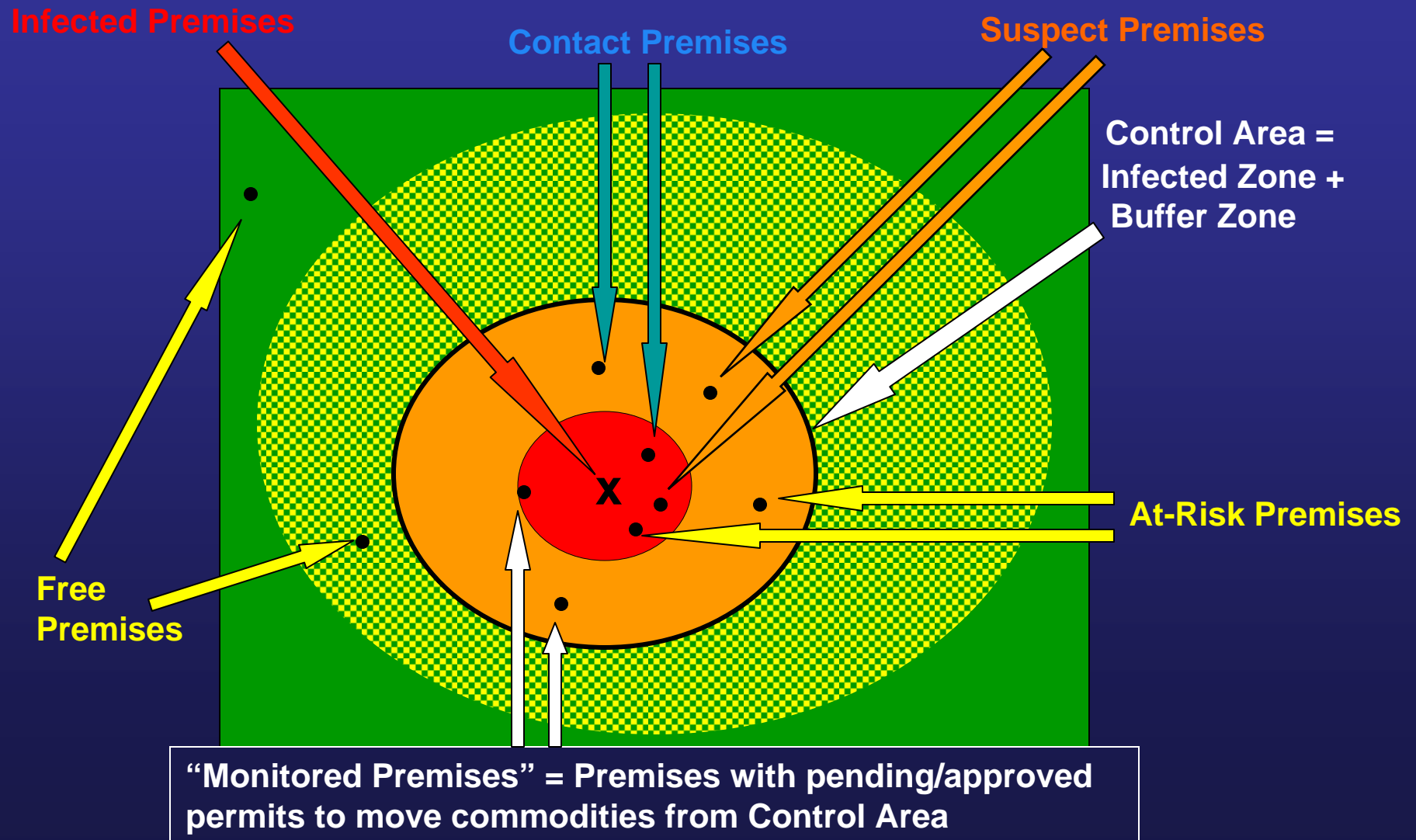
- To complete in advance of an actual outbreak or incident
- To assess specific disease/commodity
- To gain common understanding and acceptance by industry and government agencies
- To quickly assess the effectiveness of preventive measures and analyze the risk of moving specific animal products

# How Will We Use Proactive Risk Assessments?

- To help Incident Command make early, well informed decisions regarding movements of eggs and egg products into and out of Control Areas
- To support continuity of business during an outbreak response
- **Not As A Guarantee:** that product movement will be permitted during a HPAI outbreak.

A decision *support* function, *not* a decision function

# Support Continuity of Business During Outbreak Response



# Overall Goals

- Minimize the public health impacts of HPAI
- Minimize the unintended consequences of emergency movement restrictions
- Optimize animal health, public health, environmental health, and economic health while achieving HPAI disease control and eradication goals

*We cannot protect public health if we destroy the very food system we are trying to protect...*

# Who is Developing Proactive Risk Assessments?

- Collaborative effort among experts from:
  - APHIS providing funding, methods, guidance, and issues for consideration
  - Egg products industry providing funding, industry information on current practices, industry response plans, and operational contexts
  - University of Minnesota Center for Animal Health and Food Safety providing facilitation, and scientific advice/expert opinions
- Mutual and interactive drafting and review of products
- Building capacity for analyzing risks

# Our Approach

- Follow standard (OIE/OMB) risk analysis protocols
- Qualitative and quantitative methods used as applicable:
  - Qualitative- Pasteurized Liquid Egg
  - Quantitative- Non-Pasteurized Liquid Egg
- Detection and release model based on the Food Safety and Inspection Service HPAI RA
- Egg shell sanitization model

# Our Approach

Address emergency response operational questions:

- What is the likelihood that NPPE from an infected, but undetected production facility will cause an HPAI outbreak in another production facility?
- What is a “negligible risk”?
- Would a risk assessment address the agency/industry/public/other concerns?

# Valuable Learning Experiences

- A new product and a new production process:
- More contextual sophistication
  - Understanding the APHIS role
  - Understanding industry concerns
  - Understanding on all sides
- More project management skills needed
- More capacity building efforts needed
  - Adding temporary staff
  - More training in risk assessment and risk communication

# Current and Future Egg/Poultry Projects

## Current Projects:

- Phase I: Pasteurized Liquid Egg/Eggs
- Phase II: Non-pasteurized Liquid Egg/Eggs
- Phase III: Shell Eggs/Eggs

## Future Projects:

- Packaging materials, Manure, Chicks, Pullets, Broilers, Other poultry

An Assessment of the Risk Associated with the Movement of Pasteurized Liquid Egg and Its Products Into, Within, and Outside of a Control Area during a Highly Pathogenic Avian Influenza Outbreak

June 11, 2008

Collaboration between the Egg Sector Working Group, the University of Minnesota's Center for Animal Health and Food Safety, and USDA:APHIS:VS:CEAH.



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# On the Horizon

## Areas of expansion/improvement:

- More use of spatial analysis
  - Estimating risk from spatial models used as data layers in an analysis
- Move to compartmentalization
- Testing products during exercises
- Improved format (book?)
- Integration/use of trade data
- Other diseases and industries

# Other Efforts

- Starting a similar process for Foot-and-Mouth Disease planning and response with pork processors
- Collaborating with Iowa State University on a proactive Biological Risk Management tool for poultry
- Efforts beginning within CAHIA to address other diseases/issues

# For More Information

## USDA APHIS VS EM&D

Jonathan Zack, DVM

Preparedness & Incident Coordination

[Jonathan.T.Zack@aphis.usda.gov](mailto:Jonathan.T.Zack@aphis.usda.gov)

301-734-9073

## University of Minnesota

Morgan Hennessey, DVM, MPH

Center for Animal Health and Food Safety

[henne153@umn.edu](mailto:henne153@umn.edu)

612-624-3837