



OFFLU-STAR-IDAZ Consultation

Global animal influenza research agenda



Summary of Pre-Existing Research Agendas

USDA-STAR-IDAZ



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Pandemic Preparedness Plan

NATIONAL STRATEGY FOR
PANDEMIC INFLUENZA

IMPLEMENTATION PLAN



HOMELAND SECURITY COUNCIL
MAY 2006

FOREIGN AFFAIRS
JULY/AUGUST 2005

The Next Pandemic?

Laurie Garrett
Probable Cause

Michael T. Osterholm
Getting Prepared

William B. Karesh and Robert A. Cook
The Human-Animal Link

Laurie Garrett
The Lessons of HIV/AIDS

Regime Change and Its Limits RICHARD N. HAASS
Europe's Angry Muslims ROBERT S. LEIKEN
A Trade War with China? NEIL C. HUGHES
Iraq: Occupational Hazards PENE MARR
A Debate: How Seary Is the Trade Deficit?

\$8.95 IN USA • \$14.95 IN CANADA
WWW.FOREIGNAFFAIRS.ORG

BusinessWeek

Major quake in California. Avian flu in Chicago. Dirty bomb in New York. Are we prepared?

THE NEXT BIG ONE 9.34



The New York Times Magazine



FLU PANDEMIC
A Once and Future Menace

TIME

AVIAN FLU
DEATH THREAT

Special Report Inside the global race to ward off pandemics



28 May 2005 www.nature.com/issue/435

nature

BOVINE TUBERCULOSIS
Cattle movements spread disease

SOLAR SYSTEM EVOLUTION
When the giants held sway

PLANT HORMONES
At last, an auxin receptor

VISUAL SEARCH
Can't see for looking?

AVIAN FLU
Ready for a pandemic?

GENETICS
Gene therapy

TIME



BIRD FLU
Is Asia hatching the next human pandemic?

High-Consequence Foreign Animal Diseases and Pests

Tier 1

- African swine fever
- Classical swine fever
- Foot-and-mouth disease
- Avian influenza (any strain that is highly pathogenic or zoonotic)
- Virulent Newcastle disease

Tier 2

- Heartwater
- New World screwworm
- Rift Valley fever
- Venezuelan equine encephalitis

Tier 3

- African horse sickness
- Contagious bovine pleuropneumonia and contagious caprine pleuropneumonia
- Glanders and melioidosis
- Henipaviruses (Hendra and Nipah)
- Rinderpest and peste des petits ruminants
- Tropical bont tick



National Veterinary Stockpile Completed Gap Analyses



<u>Agricultural Agent</u>	<u>Date Completed</u>	<u>Date Updated</u>
Avian Influenza (Tier 1)	October 2005	April 2013
Foot-and-mouth disease virus (1)	June 2007	December 2010
Rift Valley Fever (2)	September 2006	May 2009
Newcastle disease (1)	November 2007	
Nipah Virus (3)	May 2009	
Classical swine fever virus (1)	May 2008	
African swine fever virus (1)	August 2010	May 2013
Rinderpest virus		
African horse sickness virus		
Venezuelan equine encephalitis virus		
Contagious bovine pleuropneumonia		
<i>Cowdria ruminantium</i> (Heartwater)		

Gap Analysis Workshop

University of Georgia, April 2013



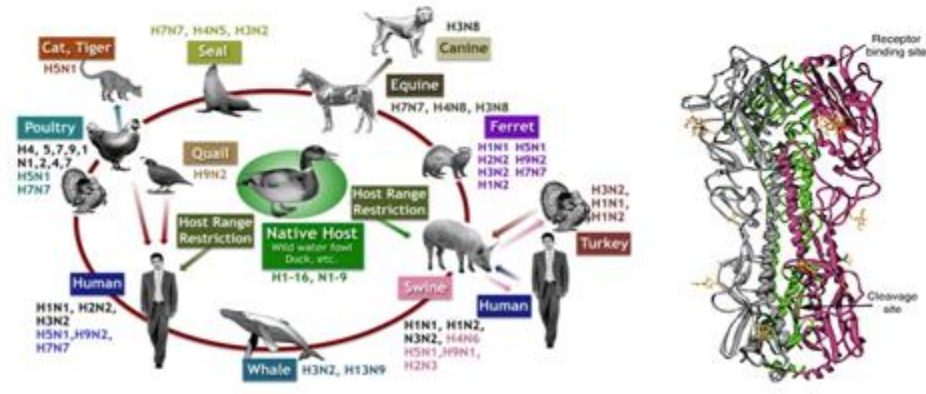
United States Department of Agriculture

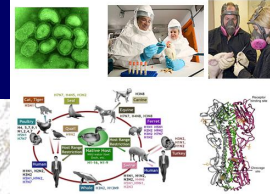
Agricultural Research Service

March 2014

Animal Influenza Viruses Gap Analysis

Workshop Report





AIV Working Group



Gap Analysis

1. Define problem and situation
2. Identify what we know
3. Identify where we have gaps
4. Identify specific obstacles
5. Define priorities
6. Recommendations

Content

Background

- Situation worldwide
- Economic impact
- Public health

Gaps in the Scientific Information

- Virology
- Pathogenesis
- Immunology
- Epidemiology

Gaps in Available Countermeasures

- Vaccines
- Diagnostics
- Surveillance
- Drugs
- Depopulation and Disposal
- Disinfectants
- Personal Protective Equipment

Obstacles to Prevention and Control Countermeasures Assessment

- Vaccines
- Diagnostics
- Surveillance

Recommendations

- Countermeasures Priorities
- Research Recommendations

Results

- Gap
 - The determinants that promote the transmission and adaptation of influenza A viruses between vertebrate hosts are essentially unknown.
- Obstacle
 - We do not have the predictive tools necessary to effectively mitigate the impact of new and emerging strains.
- Countermeasures priorities
 - Reverse genetics technology to rapidly develop a range of vaccine seed strains with hemagglutinin genes matching likely emerging viral threats from around the world with an egg or cell adapted high growth reassortant.
 - Develop a reliable test for the HA and NA subtype specificity of influenza virus antibody in target host serum
- Research priorities
 - Too many priorities to implement based on available resources

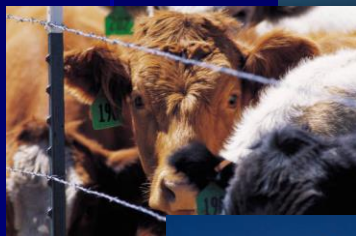
Next Steps

Priorities assessment of research priorities

1. Prediction
2. Forecasting
3. Surveillance systems
4. Countermeasures development
5. National regulatory organizations
6. Veterinary services
7. Public health community



Thank you!



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<http://go.usa.gov/KpGP>

