

# INFLUENZA SURVEILLANCE STRATEGY FOR SWINE

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# SURVEILLANCE STRATEGIES

Surveillance of swine linked to human cases

Surveillance of swine observed with ILI on farms

Surveillance of swine with ILI at comingling events

Impediments



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# INTRODUCTION

Endemic SIV circulating in US swine >75 years

SIV surveillance in commercial swine for decades

Endemic SIV not listed as notifiable disease – OIE

nH1N1 reportable to OIE as an emerging disease

nH1N1 notifiable through public health channels  
based on pandemic potential



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# ANIMAL HEALTH & PUBLIC HEALTH

Need for more integrated & coordinated surveillance strategies

Common concerns related to pandemic influenza

Pilot SIV surveillance program, July 2008, CDC and APHIS/VS – expedited, May 2009!



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# PURPOSE OF SURVEILLANCE

Determine if nH1N1 currently exists in US swine

Detect any new influenza strains in swine in timely manner

Determine distribution of new viruses

Determine genetic characteristics of new viruses



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# SHORT-TERM OBJECTIVES

Detect presence & distribution of viruses that are of public health concern & threaten swine markets

ID genomic sequences of viruses relevant for vaccine and diagnostic reagent development

Collect geographical & temporal data related to SIV in US swine



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# BROADER OBJECTIVES

Detect changes in SIV genome of isolates from sick pigs – isolates shared with CDC per IAA

Provide geographical & temporal data related to genomic sequences to animal health & public health officials



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# IMMEDIATE OUTCOMES

Knowledge of presence & distribution of new swine influenza viruses – disease control measures, diagnostics, health implications, trade

Establish baseline for emerging SIV genomics

Aggregate & share isolate information

Develop standardized SIV surveillance plan



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# LONG-TERM OUTCOMES

Build “One Health” protocols for emerging zoonotic SIV viruses & other emerging pathogens

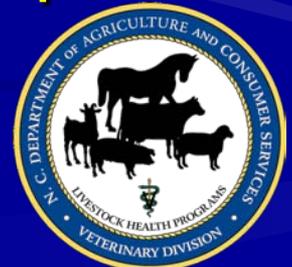
Aggregate & share isolate information

Facilitate understanding of ecology & epidemiology

Understand factors that limit or enhance spread



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# STAKEHOLDERS

National Pork Board (NPB)

Swine Practitioners (AASV)

National Pork Producers  
Council (NPPC)

Commercial Companies

State Pork Associations

Centers for Disease Control  
and Prevention (CDC)

State Health Officials –  
Animal Health/Public Health

USDA-APHIS-VS-Wildlife



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# RESPONSIBLE PARTIES

## USDA-APHIS-VS

NCAHP, ERO/WRO DIRECTORS, AVICs,  
CEAH, NSU, CAHIA, OCIO, NVSL, NAHLN,  
CVB

National Animal Disease Center - ARS

SAHOs, SPHO's

Centers for Disease Control and Prevention



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# SURVEILLANCE OF SWINE LINKED TO HUMAN CASES

Public health epi determines there is both opportunity and likelihood of exposure of pigs

No ILI in pigs – observe & report any signs

ILI in pigs – collect & submit samples



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# SURVEILLANCE OF SWINE WITH ILI ON FARMS

Identified on-farm – swine workers, service personnel, private practitioners

Collection and submission of samples as part of routine disease monitoring & diagnostics

Aimed primarily at commercial operations



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# SURVEILLANCE OF SWINE W/ ILI AT COMMINGLING EVENT

Includes auctions, markets, fairs, exhibition events

Increased potential for disease spread &/or human exposure

Targets primarily small farms & backyard herds



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Sampling of swine at slaughter or processing facilities is not a component of SIV surveillance.

Swine with ILI that arrive at federally inspected facilities are handled according to standard FSIS protocols and procedures.



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# IMPEDIMENTS

Consequences of finding nH1N1 in swine

Client confidentiality – lab results

“Stove-pipe” mentality

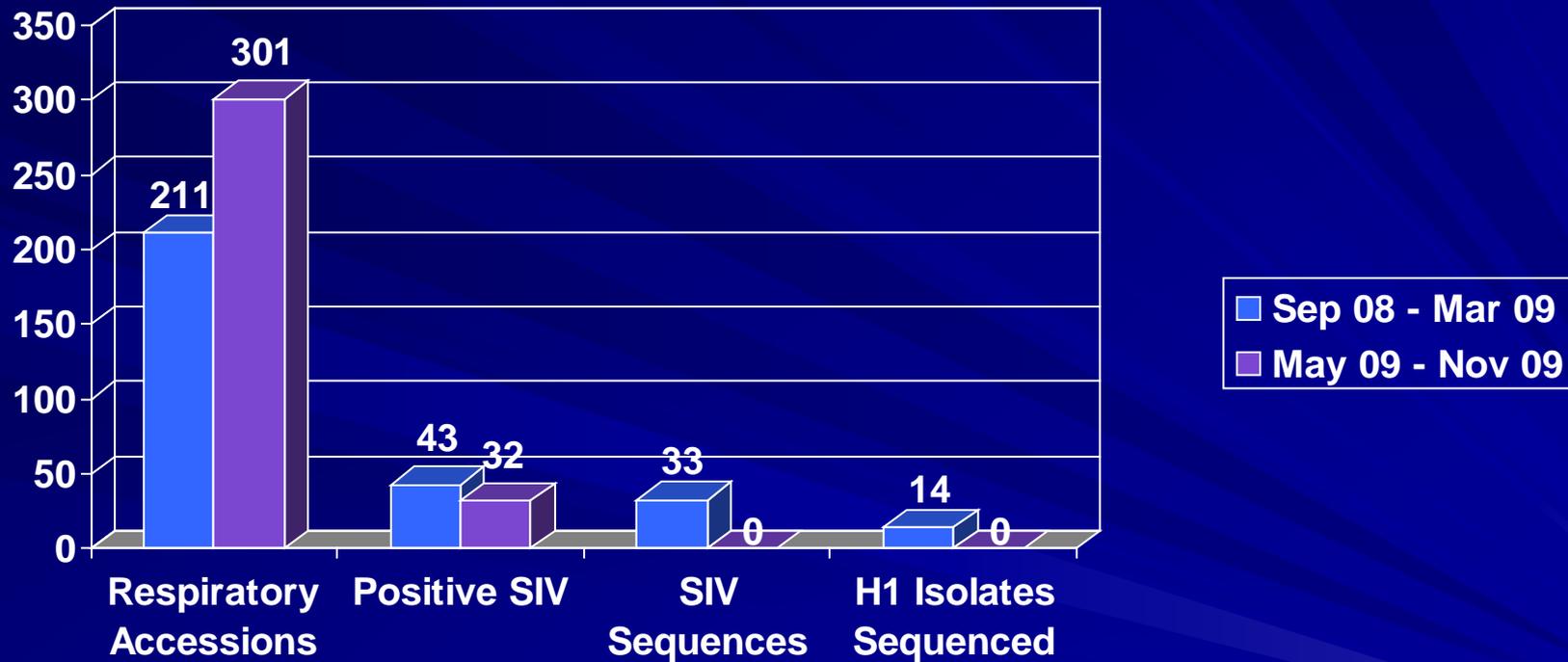
Funding



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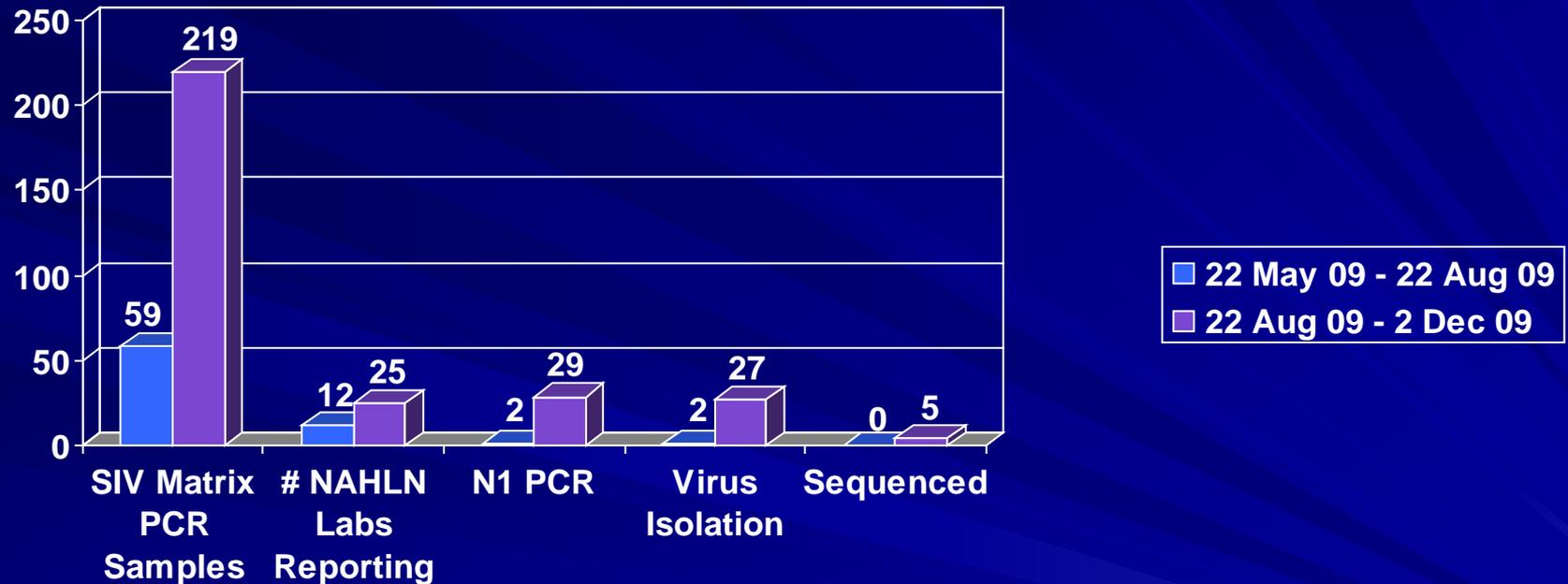
# NC D-LAB RESULTS



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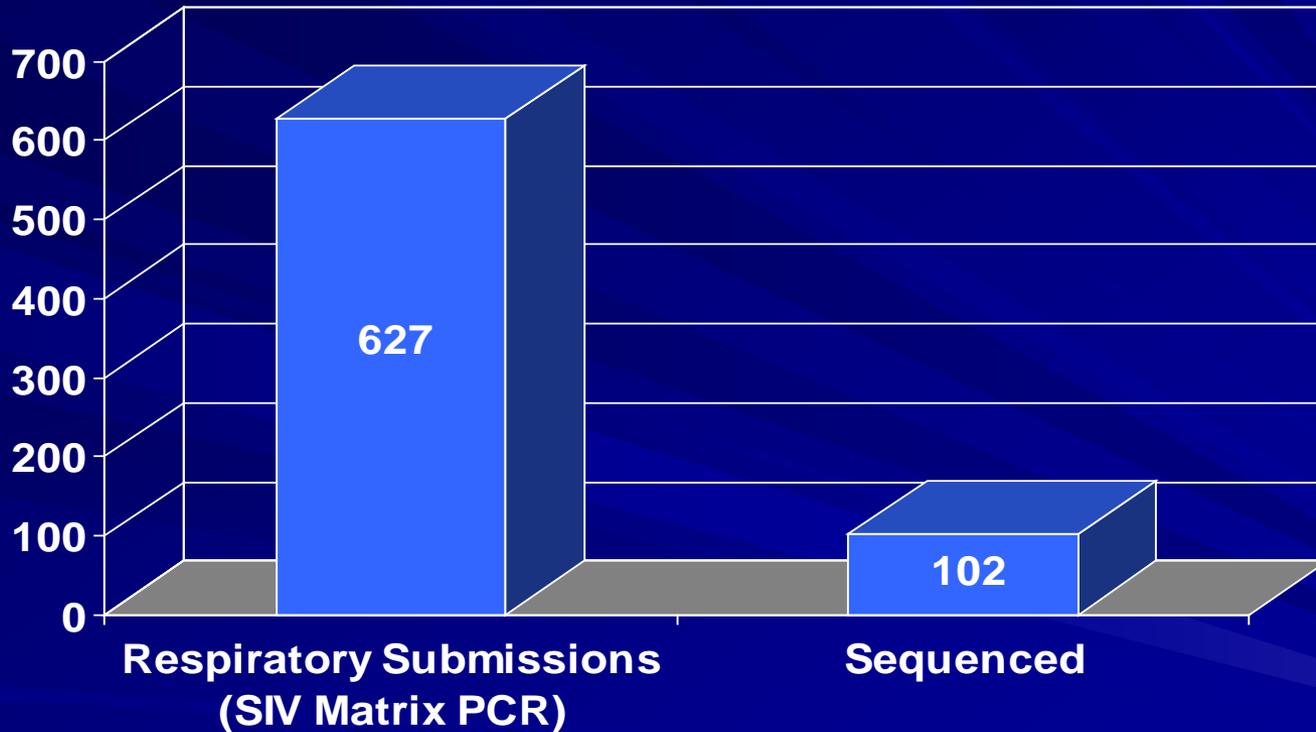
# NVSL/NAHLN RESULTS



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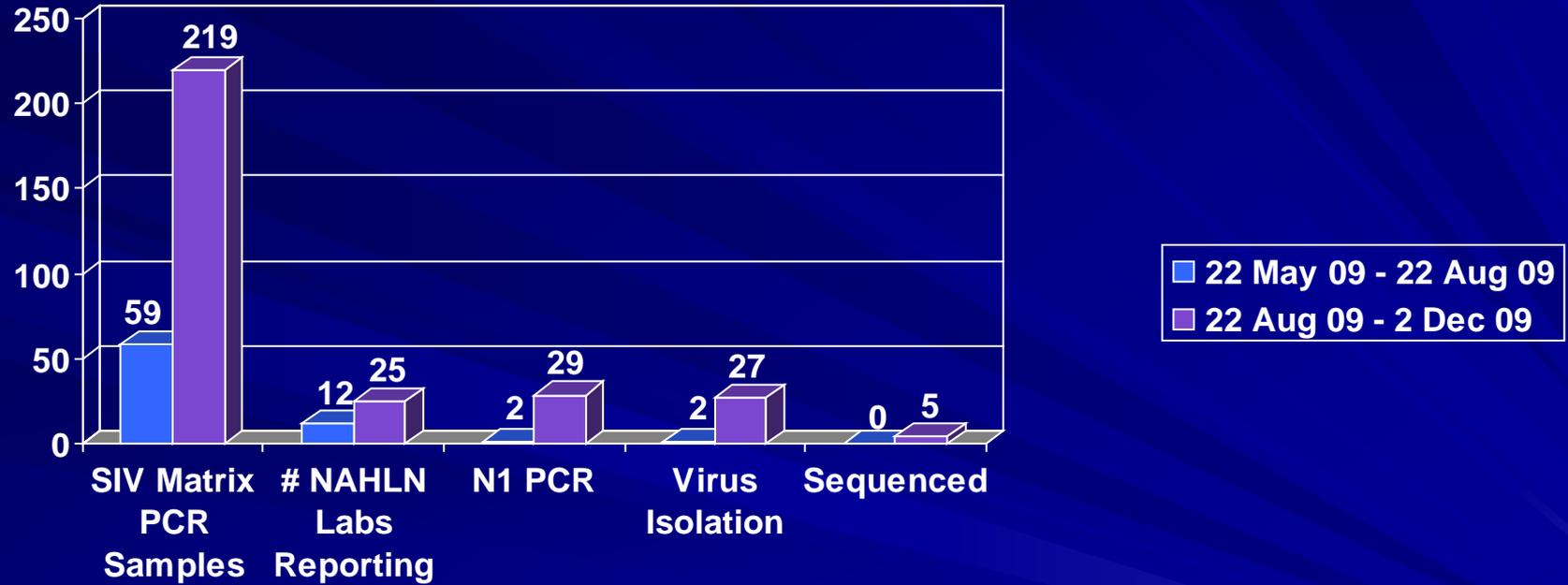
# NC SWINE PRODUCTION GROUP SUBMISSIONS



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# NVSL/NAHLN RESULTS



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# SUMMARY

nH1N1 Surveillance Strategy as Template to  
Establish Procedures & Protocols

One Medicine Approach – 60%+ of all New &  
Emerging Diseases are Zoonotics

Planning, Preparation & Funding:: Proactive



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Barstow, Calif. 2,554



# QUESTIONS?



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# Name that Flu!

CNN Flu – the news organization that made the flu “what it is today” (UC Berkley staffer)

Ponzi Flu – “Starts w/ a few, increases until widespread, & then everyone realizes nothing is there.” (mathematician Peter Neperud)

Y2K Flu – “The same hype & senseless waste of money. Twice” (Foreign Service Officer)

PC Flu – “A name that would not offend, embarrass, anger, insult or financially impact someone on the planet.” (Corporate Trainer)



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# Swine Uuuuuuh!!!



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# THANK YOU!



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