

Arizona BioSense Workgroup

Exploratory Analysis Subgroup Meeting

July 30, 2015



Health and Wellness for all Arizonans

Agenda

- Welcome/roll – 5 min
- Syndromic Surveillance Use Case – Arboviral
 - Intro
 - Arboviral enhanced surveillance strategies
 - Narrow search terms/syndromes
 - Review of data so far
 - Draft Protocol
 - Project timelines
 - Questions on the project
 - Call for participants
 - Next steps
- Next Meetings

ENHANCED SURVEILLANCE FOR ARBOVIRAL DISEASES



Health and Wellness for all Arizonans

Number of Dengue and Chikungunya Cases Reported in 2014



December 2013–July 2015:
>1.5 million cases





CHIKUNGUNYA: What is local transmission?

HOW?

A person with no recent history of travel to an area with the virus who gets bitten by a mosquito infected with chikungunya virus where they live, work or play.



A mosquito bites a person who is sick with chikungunya and picks up the virus from the infected person's blood.

Infected mosquitoes can then spread the virus to other people through bites.



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Health and Human Services
Centers for Disease
Control and Prevention

1. Education to Suspect Cases



Sick with CHIKUNGUNYA virus?

Protect yourself and others from mosquito bites during the first week of illness.



• During the first week of illness, chikungunya virus can be found in the blood.

• The virus can be passed from an infected person to a mosquito through mosquito bites.

• An infected mosquito can then transmit the virus to other people.



7 days



- Keep mosquitoes out of your house
- If possible, use the air-conditioner
- Repair window and door screens

For more information: www.cdc.gov/chikungunya



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2. Vector control in area



3. Additional case finding



Questions

- When are people viremic/infectious?
 - First week of illness

Questions

- When does public health usually find out about positive lab results?
 - 2+ weeks after symptom onset

Improving Public Health Notification of Dengue/Chikungunya Cases

- 1) Physician education
- 2) Earlier notification of laboratory tests
- 3) Syndromic surveillance



0–7 days



1–7 days



2–14 days



0–8 days



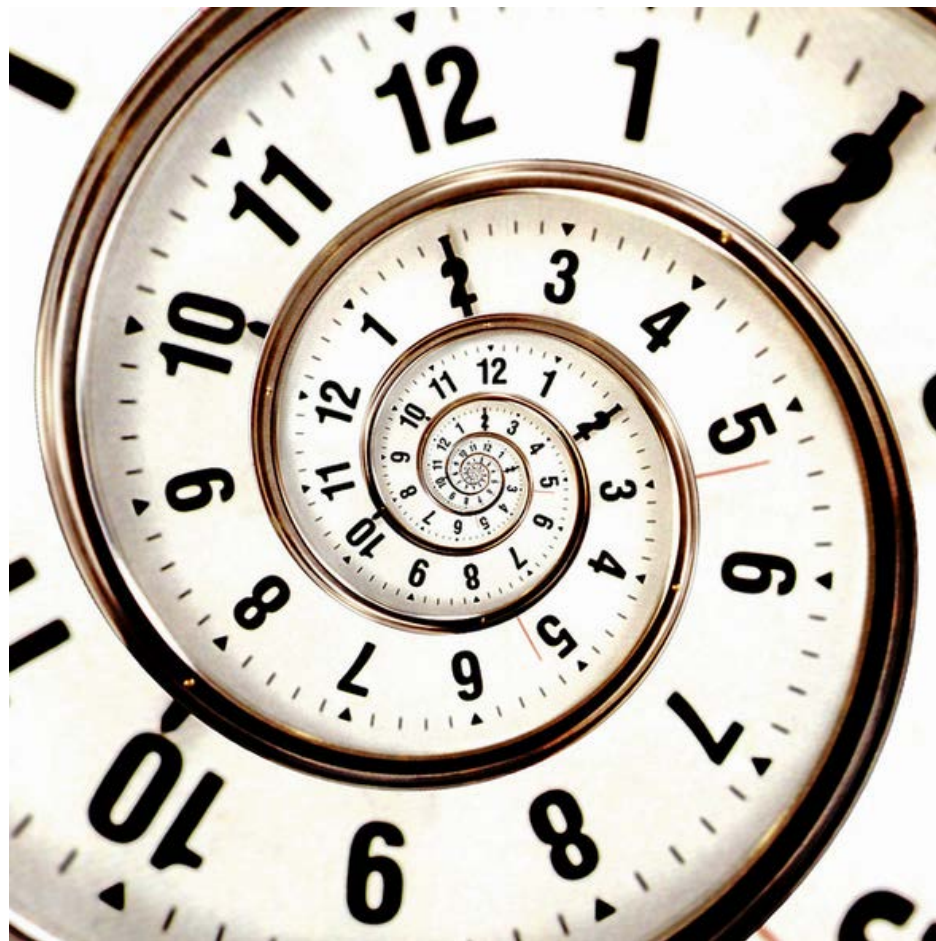
Arizona
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Health Services



Local Health
Jurisdictions

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Often >2 weeks
before positive
lab results
reported to
public health

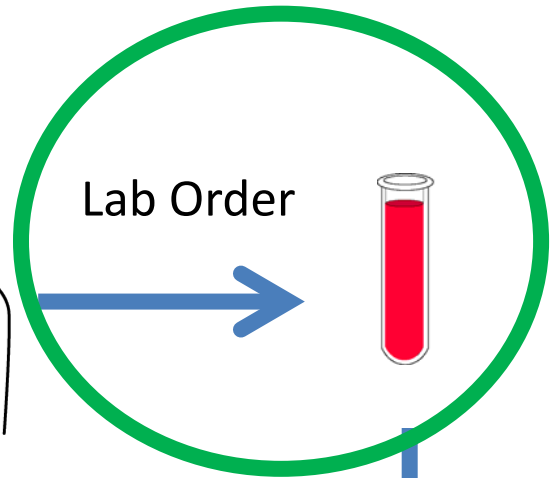




0–7 days



Lab Order



1–7 days



2–14 days



0–8 days



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Local Health
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Lab Order Surveillance

- Identifies SUSPECT cases
- Degree of follow-up dependent on jurisdiction

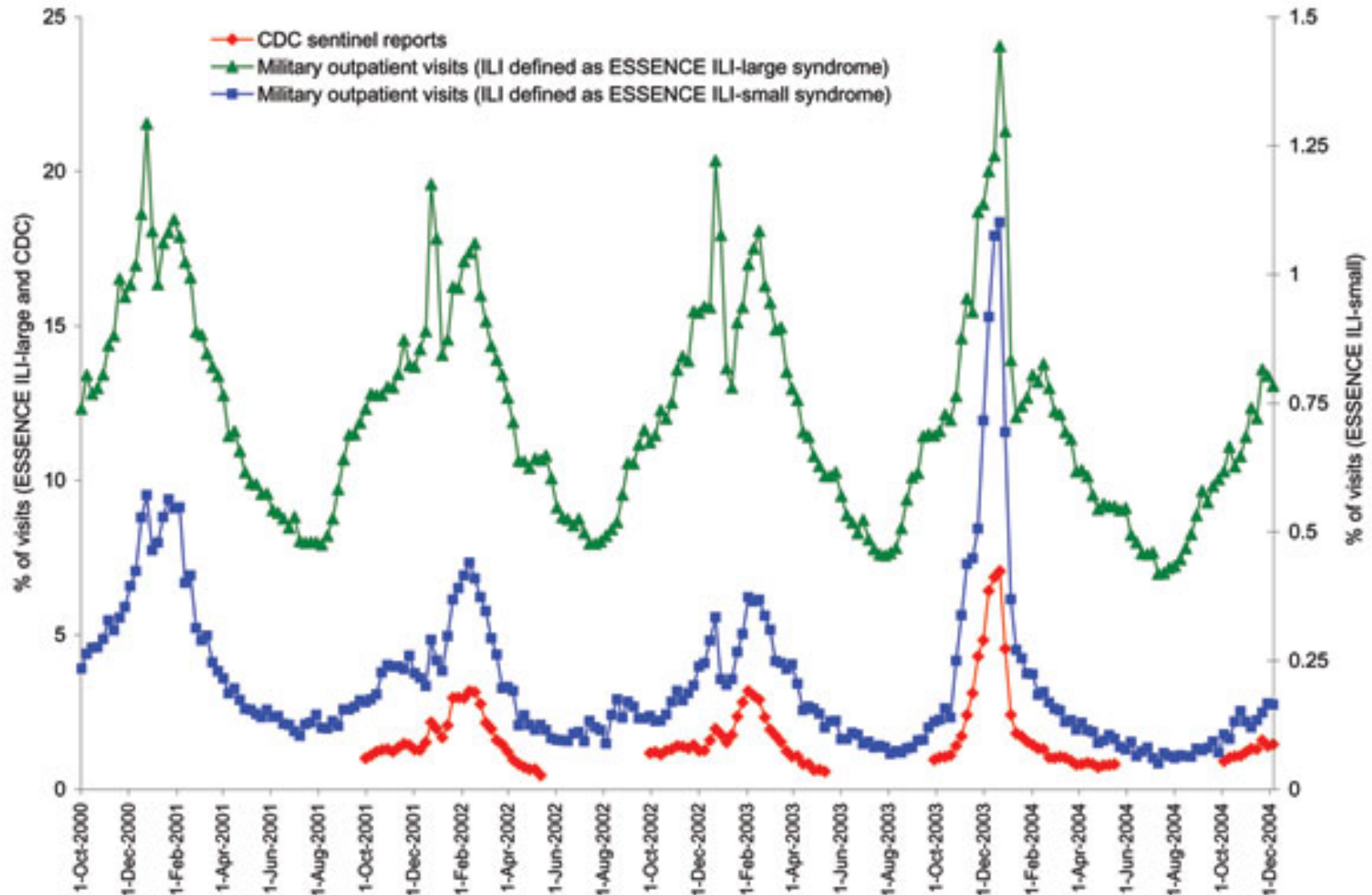


Participating Labs & Hospitals

- Focus Diagnostics
- Sonora Quest Laboratories
- Banner facilities
- Yuma Regional Medical Center



Syndromic Surveillance



Syndromic Surveillance for Arboviral Diseases

- Relatively low number of cases (so far)
- No good syndromic definitions (yet)



Project Goals

- 
- A hand holds a magnifying glass over a landscape. The lens of the magnifying glass is positioned over the right side of the image, and inside the lens, three bullet points are listed. The background of the entire image is a landscape with a green lawn, trees, and a blue sky with clouds. The magnifying glass has a silver rim and a black handle.
- **Develop definitions for arboviral syndromic surveillance**
 - **Early case-finding**
 - **Monitor arboviral disease trends**



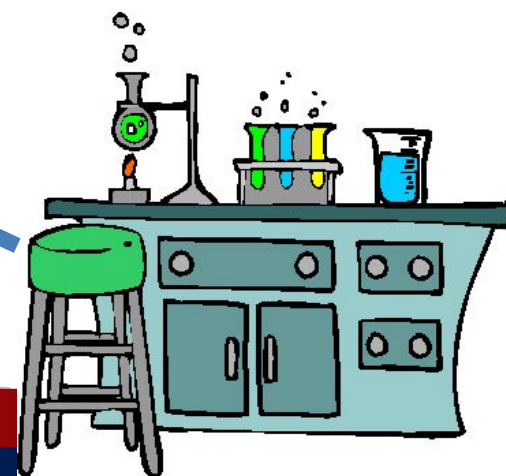
0–7 days



Lab Order



1–7 days



2–14 days



0–8 days



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CHALLENGES



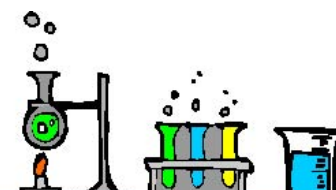
0–7 days



Lab Order



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Tracking and De-duplication

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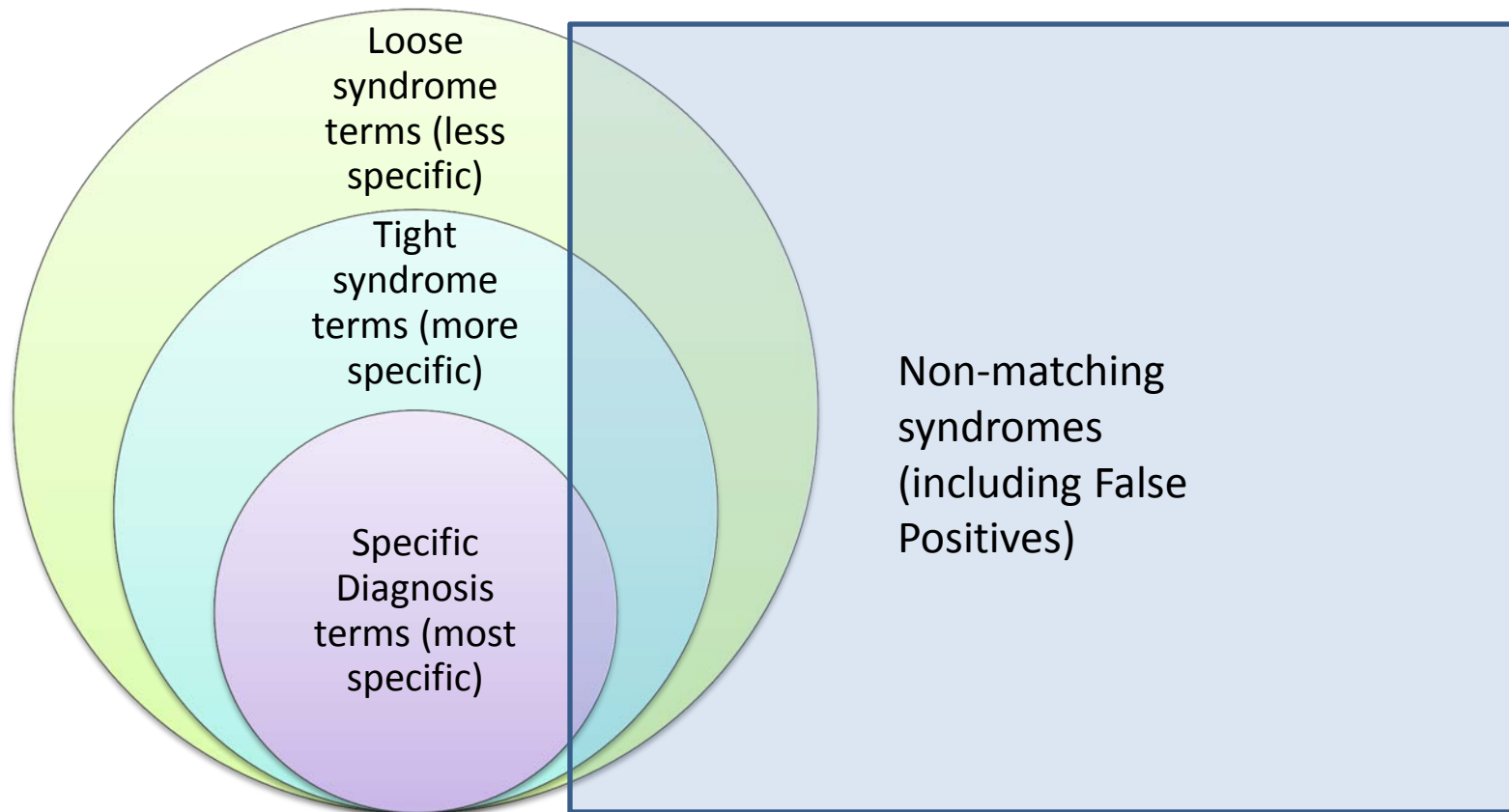
Evaluate Utility and Feasibility



Syndromic Surveillance - BioSense

- Hospitals
- At least daily files
- All patient visits to ED and inpatient
- Somewhat deidentified – no patient name
- Contains chief complaint and diagnosis
- Updates sent as they become available
- Can look for collection of symptoms or diagnosis

Syndrome Definitions- Overview



Syndrome Definitions - Search Terms

- Approach is to start with simple definitions:

Morbidity	Include	Exclude
Chikungunya	CHICKENG	
	CHIKENG	
	CHIKUN	
Dengue	DENG	DENGEN
	DENG	DENGER
	DENG	DENGR
West Nile Virus	WESTNILE	
	WEST NILE	

- Query has been developed and run in BioSense

Data Review

Data

- ED and Inpatient participating facilities
- 9/1/14 – 7/13/15
- Chief complaint and diagnosis

Results

- No Chikungunya cases
- 16 Dengue cases
- 26 West Nile cases
- 2 false hits (~5%)

Draft Protocol

Step 1

- ADHS pulls data
- Appends to County file in Secure Portal

Step 2

- County reviews file for suspect cases
- Determine if suspects are in MEDSIS

Step 3

- Initial review of Medical Records
- Enter in MEDSIS and investigate if needed

Timelines (Proposed)

7/29

- Send out draft to groups

8/13

- Discuss at Arboviral Workgroup

8/18

- Protocol feedback due to ADHS

8/24

- Finalize Protocol and send to participants

8/27

- Discuss at Exploratory Analysis Subgroup Meeting

8/24

- ADHS Run query and send data to participants

9/24

- One month check in – Summarize

8/24 – 1/15?

- Gather feedback – ongoing

1/15??

- Finish Phase 1 and evaluate findings

Discussions



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- Gather feedback – ongoing

1/15??

- Finish Phase 1 and evaluate findings

Next Meetings

AZ BioSense Workgroup

- August 4, 1:00 – 2:00

Arboviral Workgroup

- August 13, 10:00 – 12:00 (discussion in 2nd hour)

Exploratory Analysis Subgroup

- August 27, 1:00 – 2:00