

Arizona BioSense Workgroup Meeting

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Electronic Disease Surveillance Program
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Health and Wellness for all Arizonans

Electronic Partners Status Update

Hospital Onboarding

Registration of Intent = 67

Hold Queue = 38

Testing = 0

Validation = 5

Production = 24

Data Use Agreements

Hospitals = 66

Local Public Health
Jurisdictions = 14

Onboarding Updates

Production



**24 Facilities
in Production**

Validation



Banner University Medical Center

Banner University Medical Center-South Campus
Banner University Medical Center-Tucson Campus

IASIS Healthcare

Tempe St. Lukes Hospital
St. Luke's Medical Center
Mountain Vista Medical Center

Production Data

Local Public Health Jurisdiction	Number of Facilities Contributing Production Data
Cochise County	1
Coconino County	1
La Paz County	1
Maricopa County	12
Pima County	3
Pinal County	2
Santa Cruz County	1
Yavapai County	2
Yuma County	1 * DoD data only
Total # of LPHJS = 10	Total # of Facilities in Production = 24

- Arizona Data is available on the BioSense Visualization Site.

Charter 2015-2016

Workgroup Year 1 Objectives and Deliverables

Objective: Increase awareness among acute care facilities (hospitals) about how BioSense data is used.

Deliverable: Establish a process to provide outreach to acute care facilities regarding updates, use, onboarding, etc. at a state and/or local level. Report on the use of the decided process(es).

Objective: Share information on the implementation or use of BioSense, knowledge learned at external meetings, protocols and tools developed.

Deliverable: Incorporate sharing of “success stories” and “lessons learned” at the Workgroup meetings and identify opportunities to share with other groups locally and nationally. Report the number of “success stories” or “lessons learned” shared with the group or nationally (through presentations or reports).

Objective: Collaborate with the ADHS BioSense team to determine training needs, conduct trainings, review training and guidance materials, and disseminate training materials to relevant users.

Deliverable: Determine the best methods to train users on BioSense based on the evaluation of needs. Report the number of users trained for use of the BioSense front end and/or back end analysis.

Objective: Determine initial use cases for Arizona and create protocols for participants.

Deliverable: Define initial use cases for Arizona. Report the number of use cases for routine analysis and event/outbreak analysis.

Charter 2015-2016

Objective 1: Increase awareness among acute care facilities (hospitals) about how BioSense data is used.

Deliverable 1: Establish a process to provide outreach to acute care facilities regarding updates, use, onboarding, etc. at a state and/or local level. Report on the use of the decided process(es).

Charter 2015-2016

Discussion

- Ideas about how to do this
- What will be our process and format?

Charter 2015-2016

Discussion



Charter 2015-2016

Discussion

- ICD 10 Data Quality
 - How are things going after the transition?

Charter 2015-2016

Objective 2: Share information on the implementation or use of BioSense, knowledge learned at external meetings, protocols and tools developed.

Deliverable 2: Incorporate sharing of “success stories” and “lessons learned” at the Workgroup meetings and identify opportunities to share with other groups locally and nationally. Report the number of “success stories” or “lessons learned” shared with the group or nationally (through presentations or reports).



International Society for Disease Surveillance Conference

- **2 of the AZ Abstracts Presented:**
 - Using Syndromic Surveillance to Enhance Arboviral Surveillance in Arizona
 - Enhanced Mosquito Surveillance for Aedes spp. In Santa Cruz County, Arizona

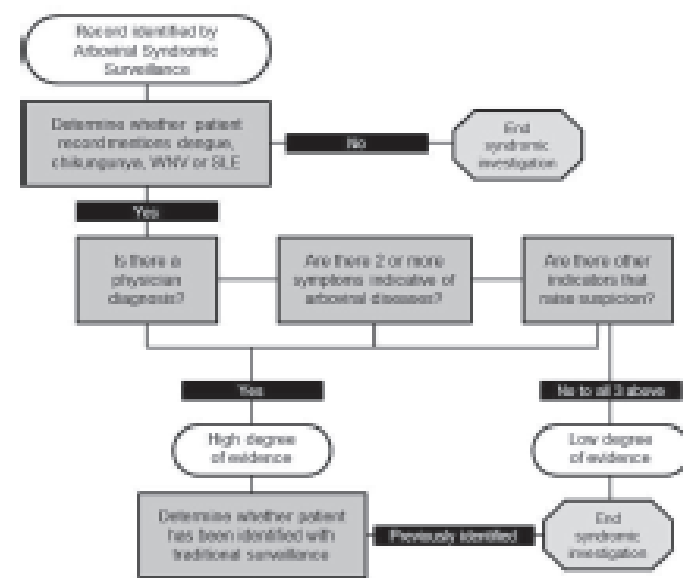
Jessica R. White^{*1}, Sara Imholte² and Krystal Collier²

Objectives

Introduction

Methods

unique patients from 2 counties. Dividing responsibilities between ADHS and county staff has been helpful for managing time and resources for this enhanced surveillance effort. ADHS plans to continue using syndromic surveillance for arboviral surveillance through January 2016. As data are collected, state and county epidemiologists will monitor the protocol's effectiveness and timeliness and implement modifications if necessary. In January, a full evaluation will assess the query's ability to identify true positive cases, the speed at which possible cases are identified compared to traditional surveillance, and the time dedicated by state and county staff for enhanced surveillance. As the evaluation continues, the authors will continue to share the findings.



Enhanced Mosquito Surveillance for *Aedes* spp. in Santa Cruz County, Arizona

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Objective

The objective of this work is to develop an efficient community-based strategy to enhance mosquito surveillance for *Aedes* spp., vector for chikungunya and dengue viruses, in Santa Cruz County on the U.S.-Mexico border. We aim to determine vector presence, distribution, and seasonality by using ovitraps maintained by community members.

Introduction

Since 2003 some Arizona counties have followed mosquito surveillance protocols to trap the West Nile Virus vector, *Culex* spp., using CO₂ traps. Despite low sensitivity of these traps to detect *Aedes* spp., one out of seven CO₂ traps deployed in Santa Cruz County detected *Aedes aegypti* in 2014. Enhancing surveillance for *Aedes* spp. in this region is critical, given that local transmission of dengue has occurred across the border in Nogales, Sonora. Limited resources in Santa Cruz County have previously inhibited efforts to enhance mosquito surveillance¹. To broaden the reach of county surveillance, we implemented a community participatory project by engaging residents to conduct ovitrapping, a non-technical trap that attracts *Aedes* spp.²

Methods

Multiple strategies were employed to recruit community members to conduct the ovitrapping. Key groups approached included high school science clubs, International Baccalaureate programs, and senior citizen groups. During the sessions, program staff reviewed the project and the importance of enhancing *Aedes* spp. surveillance. Volunteers were instructed on the ovitrap use including how to make a hay infusion, put together the ovitrap, identify eggs, and store and transport specimens for identification. Protocols for ovitrapping were developed jointly by the BIDS program, the University of Arizona, and National Center for Atmospheric Research. Recruitment of participants began in March 2015. Traps were placed as individuals were recruited and data was collected on a weekly basis. Tracking of the frequency of reporting from the community participants was conducted. As samples were sent in, the county reported positive traps to the state and eggs were reared and identified to species. All trap locations were mapped and the presence of *Aedes* spp. was noted for each collection period.

Results

As of August 3, 2015 a total of 43 trapping sites were set and maintained by community members. These 43 sites supplemented 11 county-maintained sites, seven of which were housed at fire stations. Participants included community members from senior citizen groups (n=24), local high schools (n=12), and other local residents (n=7). The geographic trap distribution included 17 sites in the Nogales area closest to the border, two in the central Patagonia area, and 24 in the

72% (n=31) collected data systematically and according to the protocol. Participation rates varied among community members. While senior citizen groups had regular participation rates, a barrier to retaining high school participation was the overlap of summer vacation with the surveillance season.

Conclusions

By recruiting community members to maintain ovitraps, we tripled the county's surveillance capacity for *Aedes* spp. Citizen science projects are challenging, but strong protocols and an engaging educational component can harness community labor and gather baseline vector data within a county. Data acquired through this project will allow epidemiologists to anticipate and prevent possible outbreaks at the border.



Ovitrap distribution in Santa Cruz County

Keywords

aedes spp. surveillance; ovitraps; citizen science; mosquito

References

- Kampen H, Medlock JM, Vaux AG, et al. Approaches to passive mosquito surveillance in the EU. (9). DOI: 10.1186/s13071-014-0604-5.
- Polson KA, Curtis C, Seng CM, et al. The use of ovitraps baited with hay infusion as a surveillance tool for *Aedes aegypti* mosquitoes in Cambodia. *Dengue Bulletin* 2002; 26:178-184.

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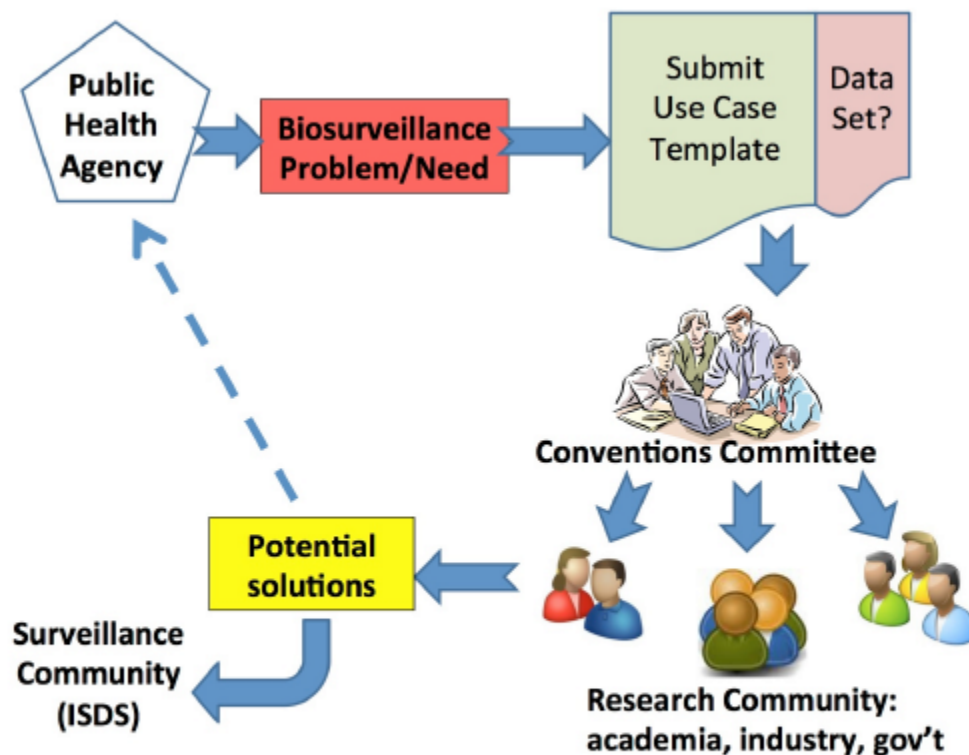
**What happened after AZ
Presentations at ISDS
Conference 2015?**



Consultancies

- ISDS will be hosting consultancies based on use cases which have been submitted through the ISDS Technical Conventions Committee. Each use case will be defined by one or more public health practitioners (problem owners) using a standard template (MS Word). The use cases will be hosted on a webpage so that solution developers may post clarifying questions if they wish.

Example of ISDS Consultancy



(Courtesy of Jeff Johnson, San Diego Health Dept.)



Partner Input

- Here are the basic ideas at this point:
- We are talking about keeping a focus on dengue, Chikungunya and Zika and surveillance needs for the emerging diseases:
- determining risk areas *before* we see cases
- determining *if/when* there is local transmission
- if there is additional local transmission, where to focus interventions



Partner Input

- Our focus is pulling different data sources together to look at geographic areas for risk.
- Data sources could include:
 - lab/provider reports
 - lab orders
 - syndromic surveillance (BioSense)
 - mosquito surveillance (presence of vector species and presence of disease in mosquito)
 - weather data
 - census data – population demographics
 - others...



Partner Input

- What are your thoughts?

Charter 2015-2016

Objective 4: Determine initial use cases for Arizona and create protocols for participants.

Deliverable 4: Define initial use cases for Arizona. Report the number of use cases for routine analysis and event/outbreak analysis.

Exploratory Analysis Subgroup



Health and Wellness for all Arizonans

Arboviral Syndromic Surveillance Project

- Arbovirus case finding
 - Still underway

Heat-Related Illness

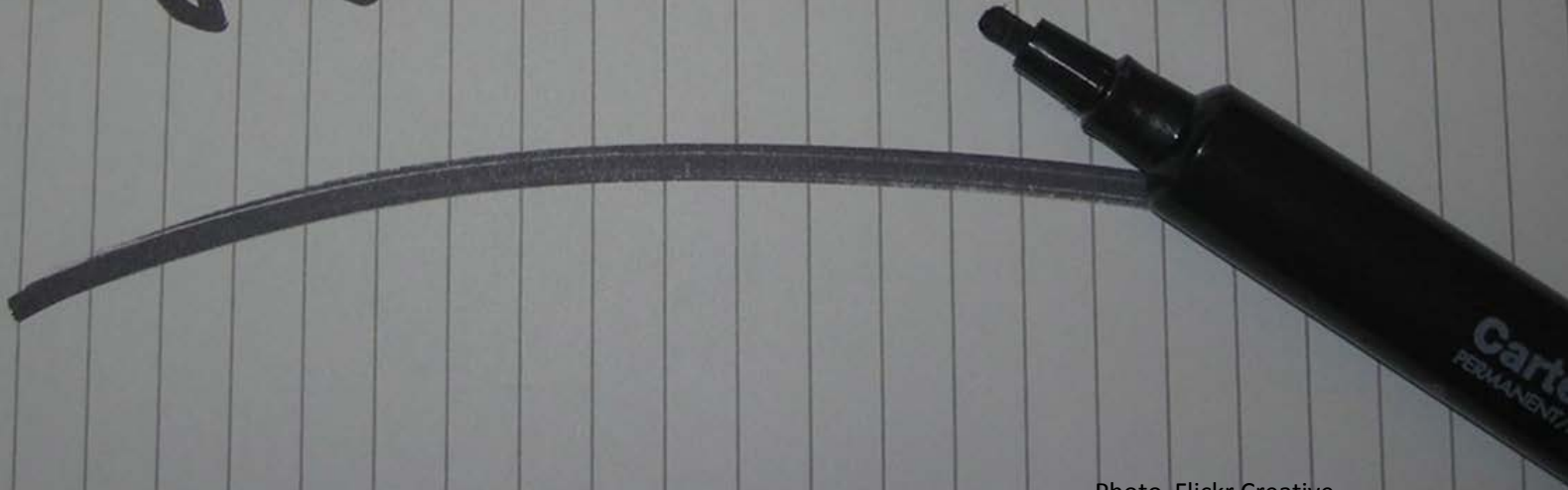


Next Project

–Planning and Participants

- ISDS Community Forum Discussion
- Call for participants
 - (Email 02/01/2016)

Questions?



Upcoming Meetings

