

Exploratory Analysis Subgroup

of the Arizona BioSense Work Group

October 22nd, 2015



Health and Wellness for all Arizonans

Objectives

- ICD 9-10 Testing
- Analysis Projects
- ISDS Community Forum
- Next Meetings

ICD-9 to ICD-10

- Hospitals transitioned to using ICD-10 on Oct 1
- Cerner facilities are not set up to send ICD-10 diagnoses, so we are not receiving new diagnoses from those facilities
 - They plan to have an update by the end of this week
 - It appears some ICD-10 codes are making it in the coded chief complaints (when present)
- Use both ICD-9 and 10 in analysis – they are not converted in BioSense



BioSense ICD-10 Testing with Banner University Medical Center and CDC



Health and Wellness for all Arizonans

ICD-9 to ICD-10 Testing with BioSense/CDC

- Banner UMC shared real patient data in ICD-9 and the same set of patients with the codes translated to ICD-10
- Overall, syndromes in the 2 sets match well

There are some areas for further investigation:

- The translation the hospital used didn't always have a good ICD-10 equivalent, so some were systematically missing in the syndromes
 - coma, *E. coli* – no good equivalent to a general code since the new ones are much more specific
- Some issues in BioSense processing
 - codes that begin with “S” are not processed properly – (injury codes)
- CDC is still analyzing the data

"The best way to
have a good idea
is to have **a lot of
ideas.**"

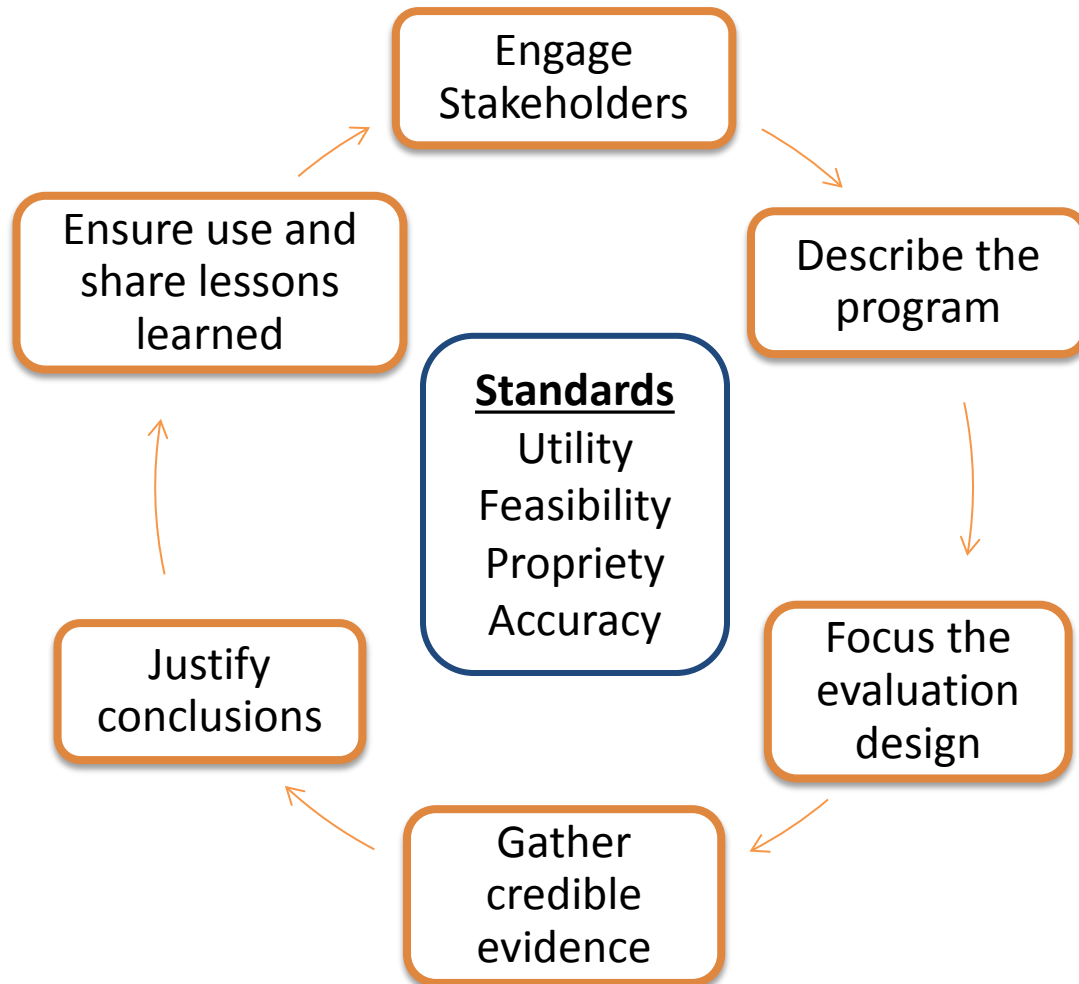
~ Linus Pauling



Discussion: Potential collaborations

AZ Syndromic Surveillance Exploratory Analysis Subgroup

CDC Framework for Program Evaluation



The CDC Framework for Program Evaluation was used to systematically improve MCDPH's existing syndromic surveillance program. [1]

Syndromes of interest at MCDPH



**Arboviral
diseases**



**Heat-related
illness**



**Drug overdose
(prescription)**



**Influenza-like
illness**



**Gastrointestinal
illness**



**Cardiovascular
disease (stroke)**



**Pesticide
exposure**



Results: Arboviral disease



Engage stakeholders

- **Arizona Department of Health Services**
- **AZ county health departments**

Describe the program

- **Traditional surveillance – notifiable disease; lab reports**
- **New syndromic surveillance – protocol developed through collaboration**

Focus the evaluation design

- **Narrow query**
- **Evaluate utility, feasibility, accuracy, timeliness**

Gather credible evidence

- **ADHS Arboviral Syndromic Surveillance Use Case Project**
- **August through January**

Justify conclusions

- **Compare syndromic surveillance to traditional surveillance**

Ensure use and share lessons learned

- **International Society for Disease Surveillance conference**
- **Oral presentation (Dec 2015)**



Results: Heat-related illness



Engage stakeholders

- **CSTE Heat Syndrome Workgroup**
- **Other state/local health departments**

Describe the program

- **Identify sources for heat-related illness data**
- **Solidify protocols for using various data**

Focus the evaluation design

- **Evaluate BioSense 2.0 Front End Syndrome**
- **Evaluate new heat syndrome using BioSense Back End data**

Gather credible evidence

- **Use new syndrome during the next heat season**

Justify conclusions

- **Compare to medical records hospital discharge data**

Ensure use and share lessons learned

- **International Society for Disease Surveillance conference**
- **Poster presentation (Dec 2015)**



Results: Drug overdose



Engage stakeholders

- **Forming partnerships:** ADHS, AZ Criminal Justice Commission, Pharmacies, Drug Monitoring Program

Describe the program

- **Identify sources for heat-related illness data**
- **Solidify protocols for using various data**

Focus the evaluation design

- **Evaluate drug overdose query using BioSense Back End, AZ-PIERS, and National Poison Data System data**

Gather credible evidence

- **Use new protocols for BioSense & EMS data**

Justify conclusions

- **Compare to other data sources**

Ensure use and share lessons learned

- **Planning in progress**



Results: Influenza-like illness



Engage stakeholders

- **Flu Near You – local data use initiative**
- **Other state/local health departments**

Describe the program

- **Traditional surveillance – notifiable disease; lab reports; ILI-Net**
- **New syndromic surveillance – participatory surveillance**

Focus the evaluation design

- **Evaluate BioSense 2.0 Front End Syndrome**
- **Evaluate Flu Near You data**

Gather credible evidence

- **Flu Season 2015-16: Data from Flu Near You, BioSense 2.0, and AZ-PIERS**

Justify conclusions

- **Compare to ILI-Net & Arizona notifiable disease data**

Ensure use and share lessons learned

- **Plans: manuscript for multi-site study**



Results: Gastrointestinal illness



Engage stakeholders

- ADHS
- County outbreak investigation teams / GIS specialists

Describe the program

- Identify sources for GI data
- Solidify protocols for using various syndromic data

Focus the evaluation design

- Evaluate BioSense 2.0 Front End Syndrome
- Determine how to incorporate a mapping component

Gather credible evidence

- Use new protocols for syndromic data

Justify conclusions

- Compare to hospital discharge data / outbreak investigations / aberration detection program

Ensure use and share lessons learned

- Plannig in progress



Results: Cardiovascular disease



Engage stakeholders

- **ADHS chronic disease epidemiologists**
- **Mentors in other jurisdictions**

Describe the program

- **Identify sources for stroke data**

Focus the evaluation design

- **Evaluate BioSense 2.0 Front End Syndromes; new stroke syndromes using BioSense Back End & AZ-PIERS data**

Gather credible evidence

- **Use new protocols for BioSense & EMS data**

Justify conclusions

- **Compare to hospital discharge data**

Ensure use and share lessons learned

- **Planning in progress**



Results: Pesticide exposure



Engage stakeholders

- **Forming partnerships**

Describe the program

- **Identify sources for pesticide-related data**
- **Solidify protocols for using various data**

Focus the evaluation design

- **Evaluate pesticide-related illness syndrome using BioSense Back End and National Poison Data System data**

Gather credible evidence

- **Use new protocols for BioSense & Poison Control data**

Justify conclusions

- **Compare to hospital discharge data**

Ensure use and share lessons learned

- **Plans: Submit abstract to National Environmental Health Association conference**





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BioSense Analysis Ideas

- Acute Flaccid Myelitis (AFM)
- Varicella hospitalizations
- Flu hospitalizations – situational awareness, hospital load and response, what is the burden? (validate against HDD for real-time use)

More ideas

- Heroin and drug overdose – help with target populations for Hep B or C and HIV
- Asthma and air quality, seasonality
- Injuries



Share ideas through a private forum

- Hosted by ISDS (International Society for Disease Surveillance)
- Members approved by ADHS
- Place to continue discussions or ask questions of other members
- Can create a discussion on a specific topic
- Emails are sent when someone comments in a discussion – email gives discussion name so you know when to pay attention

Welcome to the ISDS Community Forum

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Arizona BioSense Workgroup and Exploratory Analysis Subgroup

Created by [Brooke Evans](#) [Send Message](#) [View Groups](#)

Information



Location: [Arizona](#)

Members: 3

Latest Activity: [yesterday](#)

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Hi everyone and welcome to the Arizona BioSense Workgroup and Exploratory Analysis Subgroup forum!

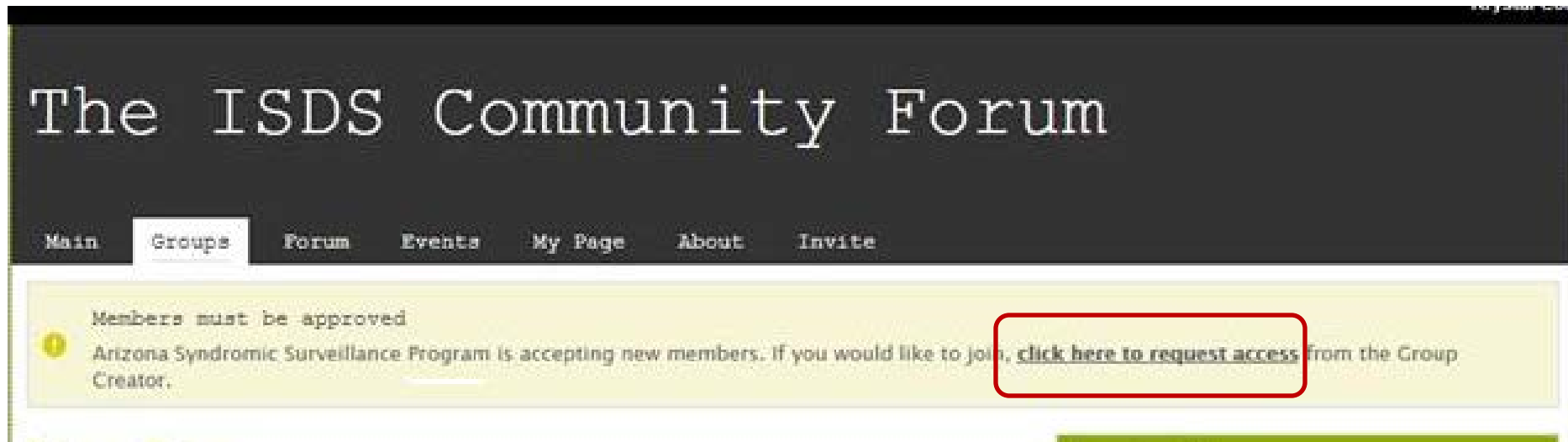
[message/newFromProfile?screenName=2lhgfvy0kmk41&target=http%3A%2F%2Fcommunityforu...](#)

Locate the Forum with this Link:



<http://communityforum.syndromic.org/group/arizona-syndromic-surveillance-program>

Step 1: Select “click here to request access”



Step 2: Enter a message in the text box
and click the “Send Request” button.

The ISDS Community Forum

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Members must be approved

Arizona BioSense Workgroup is accepting new members. If you would like to join, [click here to request access](#) from the Group Creator.

Message (Optional)

!

Send Request

Step 3: ADHS will approve you as a member and you will receive an automated confirmation email.



Upcoming Meetings

Exploratory Analysis Subgroup

- Tues. Nov. 24
from 1:00 – 2:00



Arizona BioSense Workgroup

- Tues. Dec. 1 from
1:00 – 2:00



SyndromicSurveillance@azdhs.gov



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