

# Exploratory Analysis

June 21st, 2023

# Agenda

- ❑ Introduction
- ❑ Updates
  - ❑ NSSP
  - ❑ Arizona
- ❑ Large Event Surveillance
- ❑ Overdose Surveillance
- ❑ Open Mic/Questions?

# ESSENCE

## **Announcement!**

**Production ESSENCE  
Dataflow  
to be Suspended!**

**Saturday, June 24, 2023,  
5:00 AM ET to 1:00 PM ET**



# Updates:CSTE

- ❑ CSTE Conference Happening on June 25th - 29th
- ❑ Salt Lake City
- ❑ Syndromic Surveillance Specific Presentations
  - ❑ Monday, June 26:
    - ❑ 2:00 – 3:15pm – The Bee’s Knees of Disease Detection: Swarming the Data with Syndromic Surveillance (breakout)
    - ❑ 5:15 – 6:00pm – Using Near Real-Time Emergency Department Visit Data for Action (roundtable)
  - ❑ Tuesday, June 27:
    - ❑ 7:30 – 8:15am – National Syndromic Surveillance Program Community of Practice Networking Roundtable
    - ❑ 12:45 – 1:30pm – Project EMRge: Connecting Public Health and Emergency Medicine (roundtable)
    - ❑ 5:15 – 6:00pm – Status and Development Horizon of Analytic Tools in Syndromic Surveillance (roundtable)

# Updates: Training

- ❑ Introduction to Syndromic Surveillance
- ❑ New hands on training available on [CSTE website](#)

## CSTE/CDC NSSP model SyS training series



### On-Demand Training Content Now Available!

### Foundational Syndromic Surveillance Training Series

#### SyS State of Mind

Explore the common data sources and methods that define SyS practice. Learn how analyst query data and craft syndromes for many public health problems. Apply new knowledge to interactive exercises and simulated experiences, preparing learners to look at public health surveillance through a SyS lens.

**Learning Objectives:**

1. Describe the general process to categorize records into syndromes
2. Apply characteristics of SyS data (sources, variables, quality) when describing SyS results
3. Distinguish between which public health issues are and are not well suited for SyS

**Expected Outcomes:**

1. Reliably and confidently define a syndrome using typical syndromic surveillance data elements
2. Reliably and confidently describe representativeness and limitations of SyS results
3. Accurately frame and/or develop hypotheses for SyS applications

#### Expanding SySystems

Identify different SyS analysis methods to support different surveillance and response needs. Learn how to apply a near real-time data source to a diverse set of public health problems, broadening SyS utility. Content for all types of learners, with active engagement, didactic presentations and action-led micro-learning.

**Learning Objectives:**

1. Select and apply the analysis method as appropriate for the context and health condition of interest.
2. Identify how to utilize SyS data and methods for multiple public health domains

**Expected Outcomes:**

1. Accurately describe appropriate analytic methods to characterize processed SyS data.
2. Expand SyS application to additional health conditions of interest and public health domains.

#### AnalySys and Communication

Translate data into recommendations and public health actions. Learn how to tell a story through SyS analysis interpretation. Simulated learning experiences are coupled with integrated support tools to maximize best practices.

**Learning Objectives:**

1. Select appropriate public health actions based on SyS analysis.
2. Describe key messages for various target audiences, including data providers, decision makers, and the public

**Expected Outcomes:**

1. Determine appropriate response/public health action based on SyS finding
2. Craft and/or make recommendations for tailored communication per audience profile.

**Designed for new SyS analysts and data consumers to...**

- a. establish foundational concepts of SyS methodology
- b. conceptualize new SyS public health applications
- c. confidently act on SyS analyses

# Update: ACE Dashboard Guide

- ❑ ACEs [dashboard guide](#) now available for ACEs dashboard on ESSENCE
- ❑ Includes explanation of each definition and best use for dashboard

NSSP  
ADVERSE  
CHILDHOOD  
EXPERIENCES  
DASHBOARD

# Updates: Arizona Onboarding

- ❑ Benson Hospital onboarding has been completed and added to the MFT
- ❑ Dignity Health test files
- ❑ Sage Memorial: we are waiting on internal SSH key

# Updates: Data Quality

- ❑ Have connected with someone who has contacts at Banner Health to address the drop in Chief Complaint length from Banner Facilities that has been happening since 2021.
- ❑ Drop in CC length amongst most Banner Facilities since 2019 and major drops observed in May 2021 and May 2022.

# Updates: Arizona

- ❑ Working on creating a public facing Tableau Dashboard based on the Direct ACEs that can be measured using ED data. Including syndromes definitions for suspected visits of Childhood Abuse and Neglect, Sexual Violence, Firearm Injury and Homelessness.
- ❑ Alexis Griffin recently created a 5-year retrospective report of sexual violence in Arizona using the v3 sexual violence syndrome definition.
- ❑ Working on measuring and improving our Timeliness Metrics
- ❑ Still continuing to work on the possibility of onboarding Mortality Data.
- ❑ Recording of a new overview of Syndromic Surveillance video, from Business Intelligence meeting available.

# Presentation



# Enhanced Syndromic Surveillance – Mass Gathering

- ❑ Syndromic Surveillance can be utilized in Enhanced Surveillance efforts for Mass Gatherings in the following ways.
  - ❑ Early Detection
  - ❑ Data Collection
  - ❑ Symptom Monitoring
  - ❑ Timely Alerts
  - ❑ Collaborative Efforts

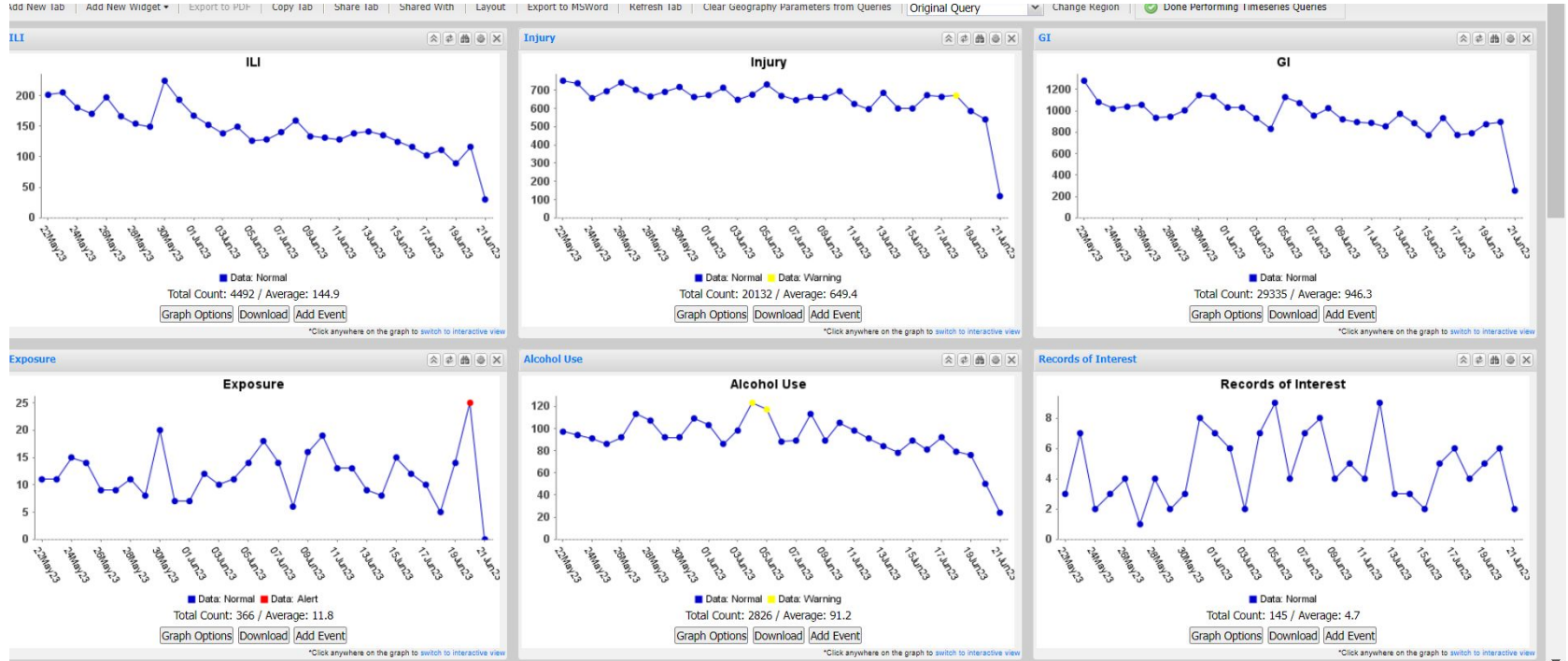
# Collaboration with Maricopa County

- Met with Maricopa County to have frequent work group meetings to update protocols, dashboards and flowchart for Analysis and Response
- Events included
  - Superbowl, Waste Management, and Superbowl associated events
- Dashboard

Table 1. Syndrome with source within Essence for the 2023 Super Bowl dashboards.

| Syndrome                     | Source within Essence                                            |
|------------------------------|------------------------------------------------------------------|
| ILI                          | Syndrome                                                         |
| COVID                        | CC and DD Category (CDC COVID-Specific DD v1)                    |
| Exposure                     | Syndrome                                                         |
| Fever                        | Syndrome                                                         |
| GI                           | Syndrome                                                         |
| Injury                       | Syndrome                                                         |
| Records of Interest          | Syndrome                                                         |
| Respiratory                  | Syndrome                                                         |
| Alcohol Use                  | CC and DD Category (CDC Alcohol v1)                              |
| Interpersonal Violence       | CC and DD Category (Intimate Partner Violence v1)                |
| Distance Traveled by Patient | Miles from Home to Facility- Greater Than or Equal 0             |
| Pneumonia                    | CC and DD Category (CDC Pneumonia CCDD v1)                       |
| Air Quality                  | CC and DD Category (Air Quality- related Respiratory Illness v1) |
| Foreign Travel               | CC and DD Category (Foreign Travel v2)                           |
| HAZMAT                       | CC and DD Category Free Text                                     |
| Heat Related Illness         | CC and DD Category (Heat Related Illness v2)                     |
| Opioid Overdose              | CC and DD Category (Opioid Overdose v3)                          |

# Dashboard



# Collaboration Cont.

- ❑ Reached out to the GIS at ADHS team to compile a list of facilities within the 10 mile radius
  - ❑ Locations Included State Farm Stadium, Margaret T. Hance and Phoenix Convention Center and TPC Scottsdale/Waste Management
- ❑ Also reached out to NSSP to let them know we would be doing enhanced surveillance, to ensure no updates were scheduled during surveillance period.
- ❑ During enhanced surveillance period, the Syndromic Surveillance Team, specifically Alexis Griffin compiled daily Data Quality reports.
- ❑ The reports were generated using the DQ Dashboard available on AMC and sent out daily to Maricopa County Team.

# Data Quality Reports

- ❑ Reports generated on daily basis to coincide with the release of the Short Report
- ❑ Obviously notated any anomalies or issues with data quality that might affect the dashboard and surveillance
- ❑ Utilized the DQ Dashboard on AMC to look at data quality for facilities in Maricopa County.
- ❑ Reports looked at Timeliness, Validity and Completeness

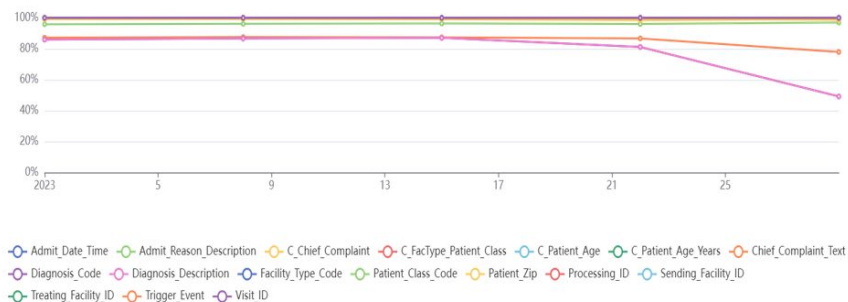
**Table 2. Data quality issues for urgent cares and hospitals within 10 miles of the Super Bowl events**

| <b>Facilities</b>                                      | <b>Zone</b>        | <b>Data Quality Issue</b>                                                                                                                                                                                        |
|--------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Banner Boswell Medical Center                          | State Farm Stadium | <ul style="list-style-type: none"> <li>● Low % recs for chief_complaint_text</li> <li>● Low % recs for diagnosis_code</li> <li>● Low % recs for diagongis_description</li> </ul>                                 |
| Banner Urgent Care- Bell and 43rd                      | State Farm Stadium | <ul style="list-style-type: none"> <li>● Low % visits and % recs for chief_complaint_text</li> <li>● Low % recs for diagnosis_code</li> <li>● Low % recs for diagongis_description</li> </ul>                    |
| Banner Urgent Care – Van Buren and Avondale            | State Farm Stadium | <ul style="list-style-type: none"> <li>● Low % visits and % recs for chief_complaint_text</li> <li>● Low % recs for diagnosis_code</li> <li>● Low % recs for diagongis_description</li> </ul>                    |
| Banner Urgent Care – Glendale and 19 <sup>th</sup> Ave | State Farm Stadium | <ul style="list-style-type: none"> <li>● Low % visits and % recs for chief_complaint_text</li> <li>● Low % recs for diagnosis_code</li> <li>● Low % recs for diagongis_description</li> </ul>                    |
| St Joseph Westgate Medical Center                      | State Farm Stadium | <ul style="list-style-type: none"> <li>● Low % visits and % recs for admit_reason_description</li> <li>● 0 % of visits received within 24 hours</li> <li>● 30.69 % of visits received within 48 hours</li> </ul> |

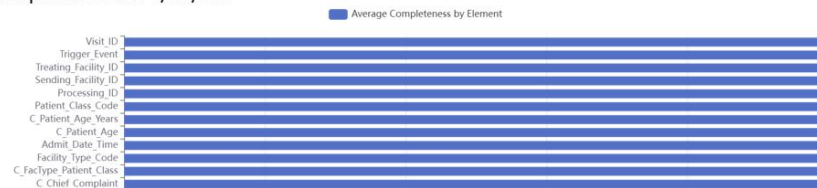
# DQ Reports

## Completeness

Diagnosis Code and Diagnosis Description are less than 40% complete. Chief Complaint Text is around 70% complete. In addition, the completion of Diagnosis Description and Chief Complaint Text are delayed by approximately a week. Completeness from 1/1/2023 to 1/30/2023.



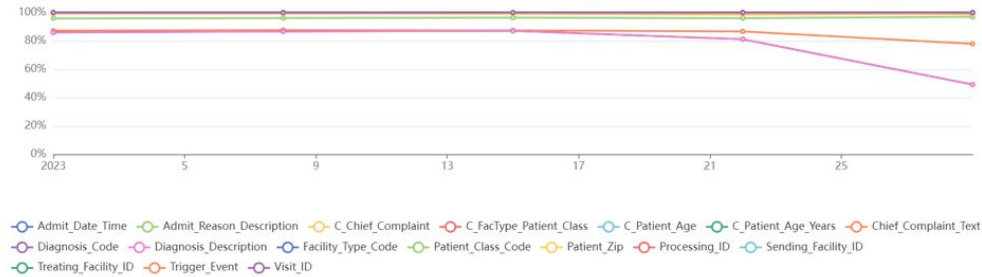
## Completeness for 1/30/23.



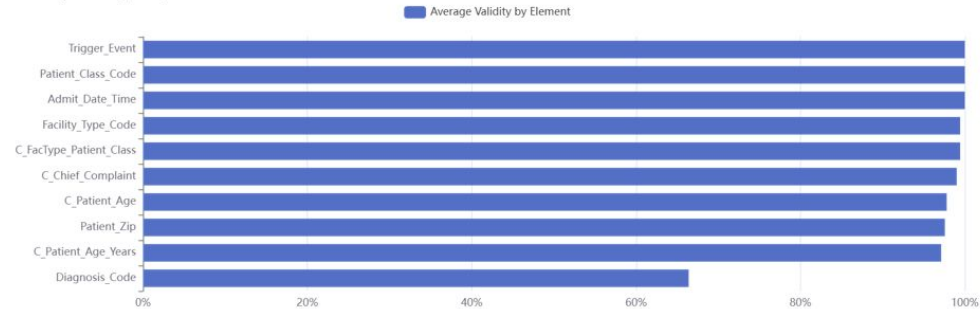
## Validity

No major validity issues for 1/30/23. Low validity for Diagnosis\_Code.

Validity from 1/1/2023 to 1/30/23.



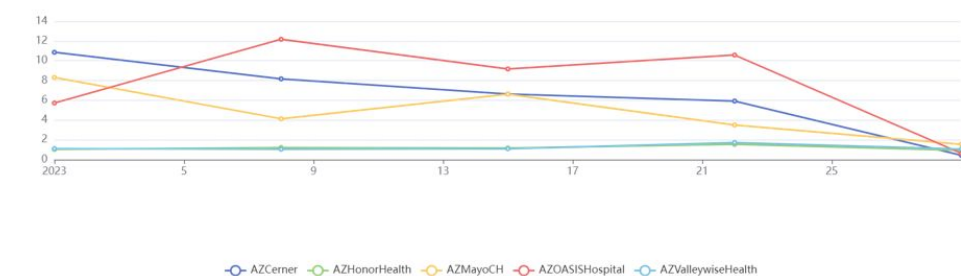
Validity for 1/30/23.



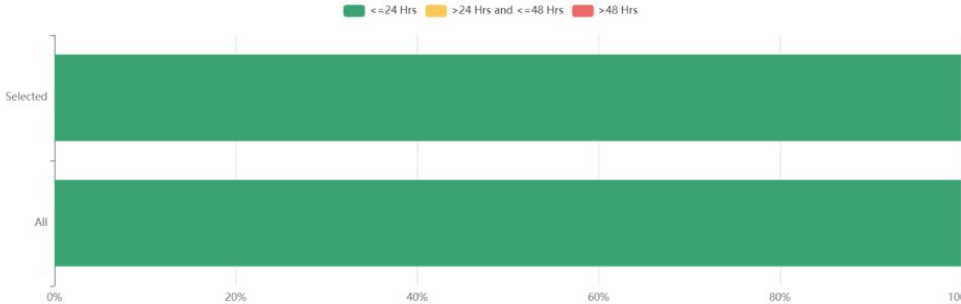
- No filtered/ exception messages.

**Timeliness**

Banner and OASIS sent data after 24 hours of the visit from 1/1/23 to 1/30/23.  
Timeliness for 1/1/23 to 1/30/23.



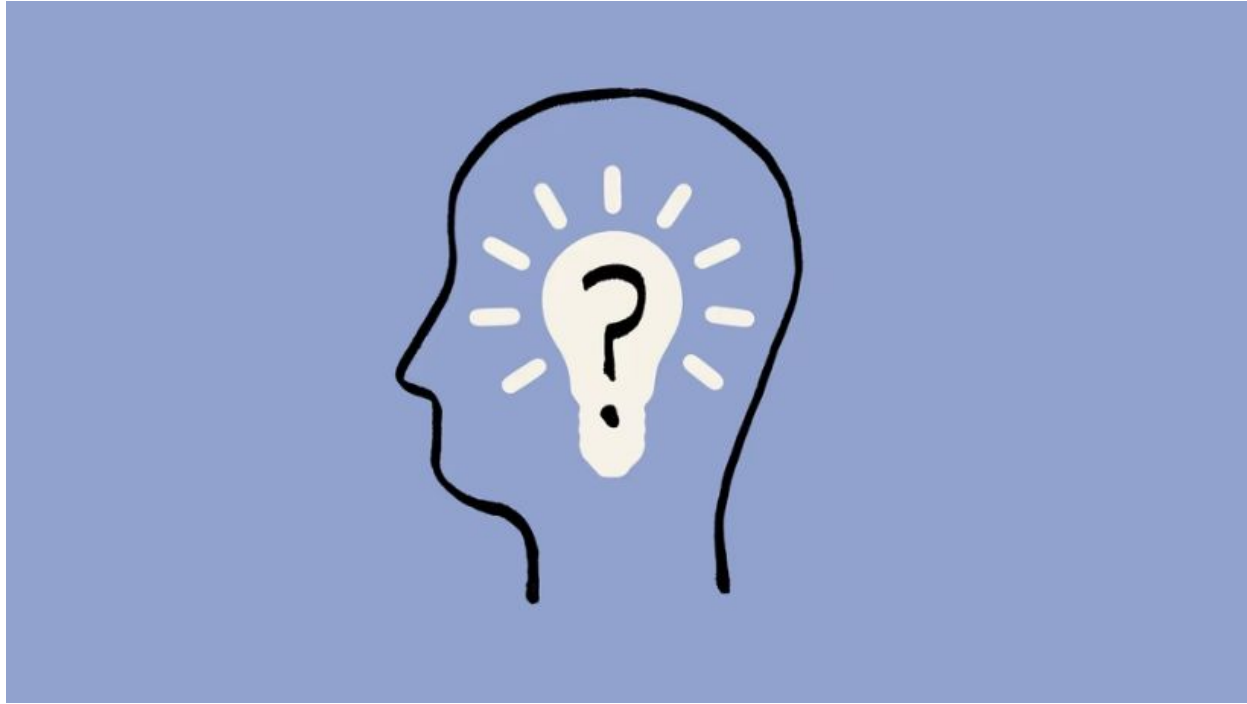
**Timeliness for 1/30/23.**



# Overdose Surveillance

- ❑ The CDC's Overdose and Surveillance and Epidemiology provides information on non-fatal drug overdoses.
- ❑ Jurisdictions share aggregate data on ED visits for suspected nonfatal all drug, heroin-, all opioid-, and all stimulant-involved overdoses with CDC with a one-month delay.
- ❑ By integrating NSSP data, DOSE can capture near-real time information on drug overdose incidents, helping to identify emerging trends and patterns.

# Questions/Open Mic



# Next Meeting

- ❑ The June NSSP Community of Practice has been cancelled because of CSTE Conference
- ❑ SPHERR meeting July 7th at 11 AM
- ❑ Next Exploratory Analysis meeting August 16th 2023

Thank you!

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ARIZONA DEPARTMENT  
OF HEALTH SERVICES