

Exploratory Analysis Subgroup

Arizona BioSense Workgroup

June 20, 2019



ARIZONA DEPARTMENT
OF HEALTH SERVICES

Health and Wellness for all Arizonans

Objectives

- Welcome and Attendance
- Annual NSSP Server Upgrades
- ESSENCE Q & A v5.0
 - Theme focused on Data Quality in ESSENCE
 - Preview of Text Analysis
 - Discuss more on future calls
- Discussion
- Upcoming Meetings

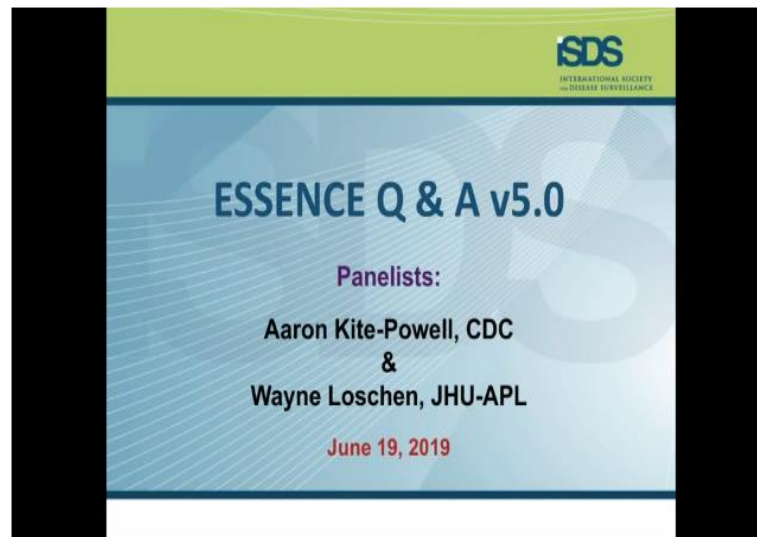
Annual NSSP Server Updates

- June 2019 NSSP has been working on annual server updates
- What does this mean for you?
 - Greater Functionality and Features coming to the BioSense Platform including NSSP ESSENCE

ESSENCE Q & A v5.0

- Theme focused on Data Quality in ESSENCE
- Preview of Text Analysis
- Discuss more on future calls

ESSENCE Q & A v5.0 ★



Description:

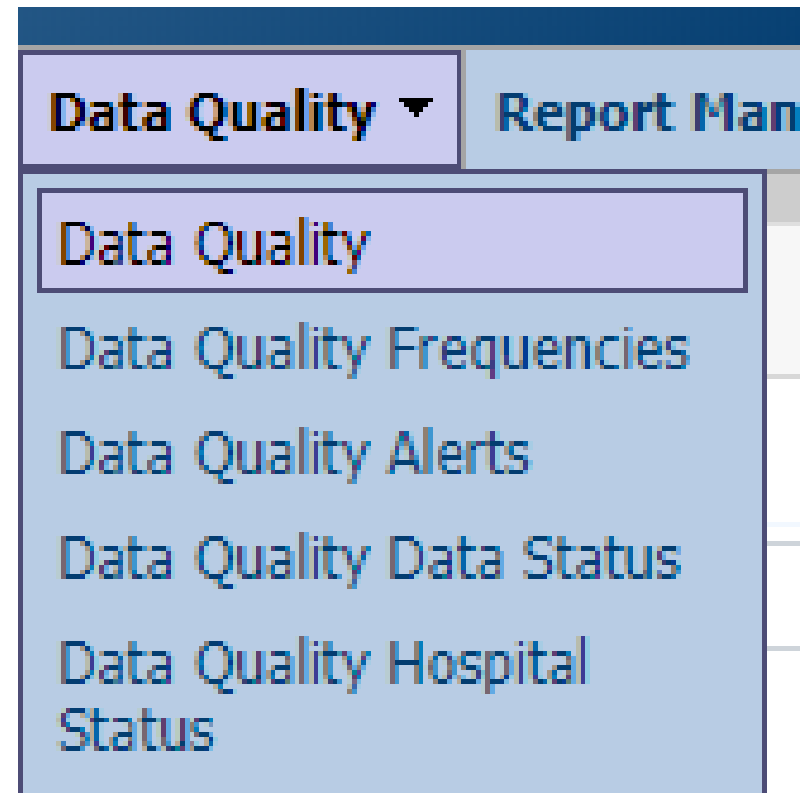
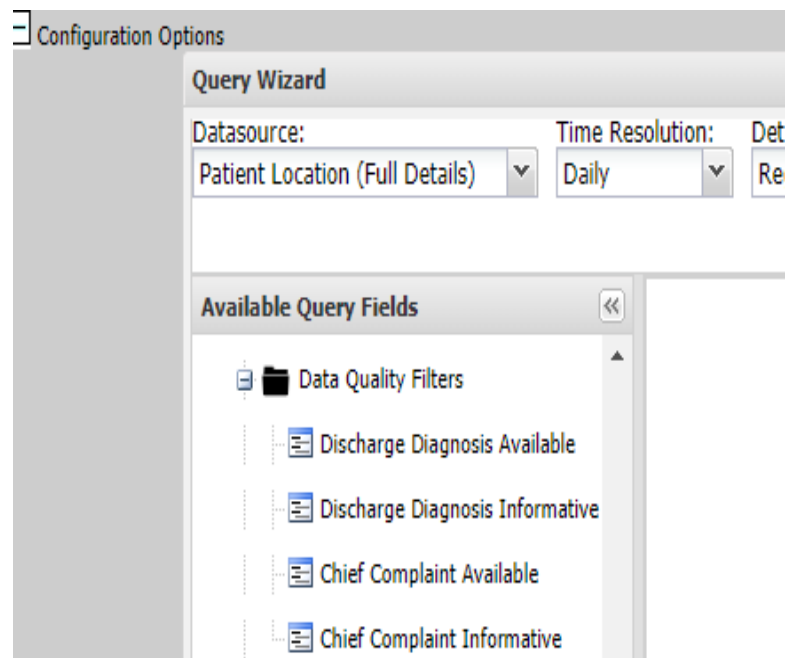
Held on June 19, 2019.

During this 90-minute session, Aaron Kite-Powell, M.S., from CDC and Wayne Loschen, M.S., from JHU-APL provided updates on the NSSP ESSENCE platform and answered the community's questions on ESSENCE functions and features.

Non-informative chief complaint(NICC)

NICC ID	NICC Term	NICC ID	NICC Term	NICC ID	NICC Term	NICC ID	NICC Term
1	""	12	other	23	Ambulance	34	Sick
2	null	13	xxx	24	EMS/Arrive by	35	Evaluation
3	unknown	14	Evaluation	25	EMS/Ambulance	36	Injury
4	unknown	15	Follow up	26	;	37	ill
5	n/a	16	medical	27	::	38	Eval
6	na	17	illness	28	Triage	39	squad
7	Chief complaint not present	18	General	29	Triage peds	40	Referral
8	ed visit	19	General Symptom	30	Triage-	41	Code 1
9	ed visit	20	EMS	31	Triage peds-	42	Code 3
10	er	21	AMR	32	See chief complaint quote		
11	Advice only	22	medical	33	See CC quote		

Data Quality Updates in ESSENCE



Data Quality Filters

Configuration Options

Query Wizard

Datasource: Patient Location (Full Details) Time Resolution: Daily

Available Query Fields

- Data Quality Filters
 - Discharge Diagnosis Available
 - Discharge Diagnosis Informative
 - Chief Complaint Available
 - Chief Complaint Informative

Data Quality Filters

The screenshot displays the ESSENCE - NS web application interface, specifically the Query Wizard. The browser address bar shows the URL: https://stage-essence.syndromicsurveillance.org/nssp_essence/servlet/DataDetailsServlet?endDate=20Jun2019&medicalGrouping=fever&dddAvailable=1&percentParam=no...

The interface includes a top navigation bar with tabs: Home, Alert List, myAlerts, myESSENCE, Investigation, Event List, Overview Portal, Query Portal, Stat Table, Map Portal, Bookmarks, Query Manager, Data Quality, Report Manager, and More. The left sidebar contains links for Description, Query Options, and Configuration Options.

The main content area is the Query Wizard, which includes the following sections:

- Query Wizard**
 - Datasource: Facility Location (Full Details)
 - Time Resolution: Daily
 - Detector: Regression/EWMA 1.2
 - As Percent Query: No Percentage Query
 - Start Date: 03Jun19
 - End Date: 20Jun19
- Available Query Fields**
 - Ten Year Age Group
 - Distribute Age Group
 - Age Range
 - Sex
 - Race
 - Ethnicity
 - Patient Class
 - Calculated Patient Class
 - Disposition Category
 - Discharge Diagnosis
 - Data Quality Filters
 - Discharge Diagnosis Available
 - Discharge Diagnosis Informative
 - Chief Complaint Available
 - Chief Complaint Informative
- Discharge Diagnosis Available**
 - Select values for Discharge Diagnosis Available:
 - Yes
 - No
- Selected Query Fields**
 - Geography System
 - Hospital
 - Site
 - Arizona
 - Medical Grouping System
 - ESSENCE Syndromes
 - Syndrome
 - Fever
 - Discharge Diagnosis Available
 - No
- MyFilter:** [] [Create]

At the bottom, there are two sections for chart selection:

- Select Pie Chart(s):**
 - Hospital
 - Patient Location
 - Age Group
 - CDC ILI Reporting Age Group
 - NCHS Age Group
- Select Bar Chart(s):**
 - Hospital
 - Patient Location
 - MedicalSubGrouping
 - Age Group
 - CDC ILI Reporting Age Group

The bottom of the screen shows the Windows taskbar with the search bar and various application icons. The system clock indicates 9:29 AM on 6/20/2019.

Discharge Diagnosis-Available-No

selected Query Fields

Geography System

Hospital

Site

Arizona

Medical Grouping System

ESSENCESyndromes

Syndrome

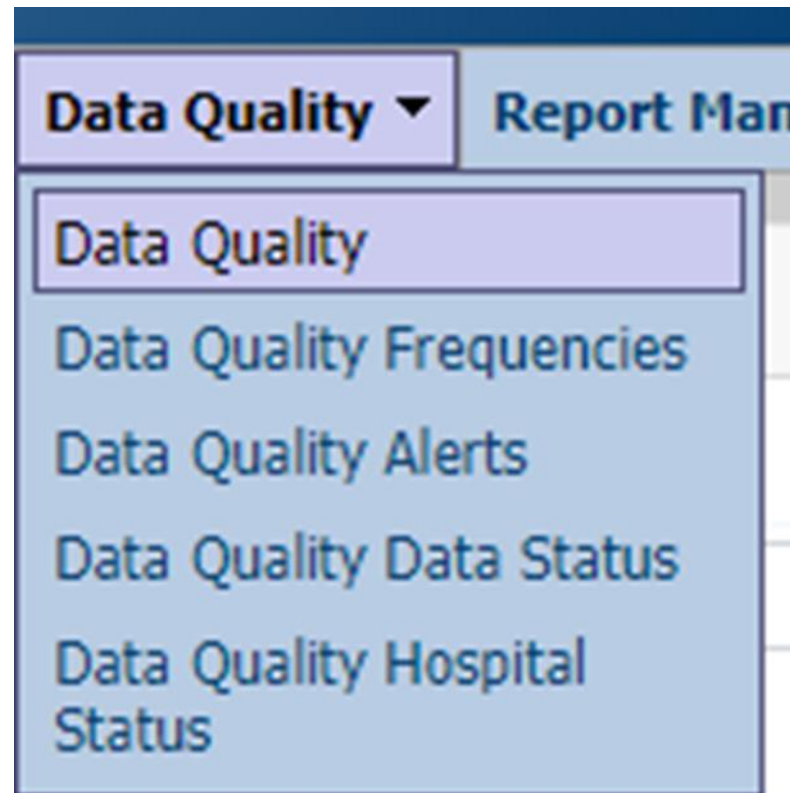
Fever

Discharge Diagnosis Available

No

[illegible]

Data Quality Tab



▼ Data Quality Configuration

Datasource

Facility Location (Full Details)

Quality Factor

Percent Completeness

Time Resolution

Daily

Start Date

13Jun19

End Date

20Jun19

Hospital

Search Values:

AZ

Filtered

AZ-Banner Gateway Medical Center
AZ-Banner Goldfield Medical Center
AZ-Banner Heart Hospital
AZ-Banner Ironwood Medical Center
AZ-Banner Payson Medical Center
AZ-Banner Thunderbird Medical Center

Selected

AZ-
AZ-
AZ-
AZ-
AZ-
AZ-
AZ-

Select Parameters

Zipcode
Discharge Diagnosis
Discharge Disposition
Mode of Arrival
Chief Complaint
Chief Complaint Parsed
Race

Submit

[Download to Excel](#)[illegible]

Text Analysis Coming Soon!

The screenshot displays the ESSENCE - Demo Text Analysis web application. The browser's address bar shows the URL: `https://foshwa1-wl4.dom1.jhuapl.edu/local_demo/servlet/TextAnalysis?endDate=10Oct2006&medicalGrouping=^substance/`. The application header includes the ESSENCE logo and the text "ESSENCE - Demo Text Analysis". A navigation menu at the top lists various sections: Home, Alert List, myAlerts, myESSENCE, Investigation, Event List, Overview Portal, Query Portal, Stat Table, P&I Mortality, Map Portal, Remote Data, Bookmarks, Query Manager, Data Quality, Report Manager, Dynamic Data, Admin Portal, and More. On the right side of the header, there are input fields for "Patient ID" and "Bookmark Name", along with buttons for "View Patient" and "Bookmark Page".

The main content area is titled "Text Analysis" and contains the following text:

This tool provides trend, correlation, and association analytics for terms in the Chief Complaint Parsed field of the ER datasource. Users can use this tool to build better free-text queries by identifying terms frequently used together, discovering terms with increasing usage, and finding semantically similar terms.

Below this text, there are five data sections, each with a title and a "Loading ..." status:

- Total Records Matching Parameters
- Median Number of Characters in Chief Complaint Parsed
- Top 50 Unigram Frequencies - Chief Complaint Parsed
- Top 50 Bigram Frequencies - Chief Complaint Parsed
- Top 50 Unigrams with Highest Variance in Percentage of Records - Chief Complaint Parsed

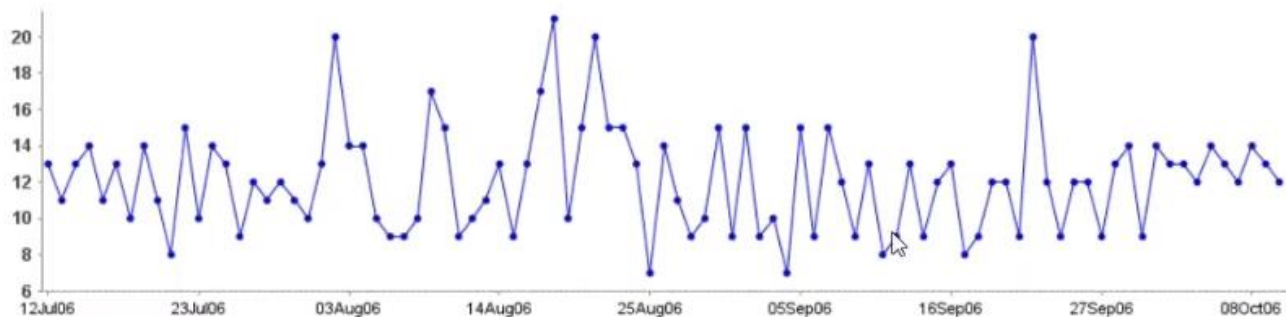
The bottom of the image shows a Windows taskbar with various application icons and a system clock indicating 4:25 PM on 6/19/2019. A video player interface is overlaid at the bottom, showing a play button, a progress bar at 1:24/26, and the Vimeo logo.

Text Analysis Coming Soon!

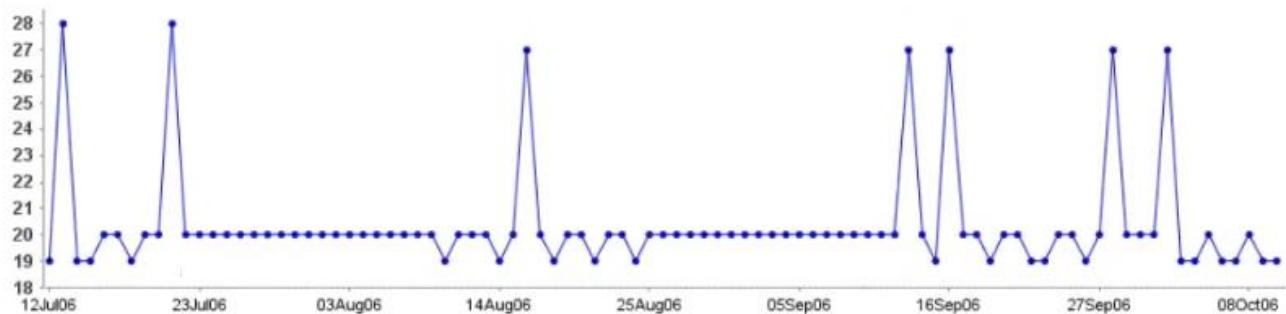
Text Analysis

This tool provides trend, correlation, and association analytics for terms in the Chief Complaint Parsed field of the ER datasource. Users can use this tool to build better free-text queries by identifying terms frequently used together, discovering terms with increasing usage, and finding semantically similar terms.

Total Records Matching Parameters

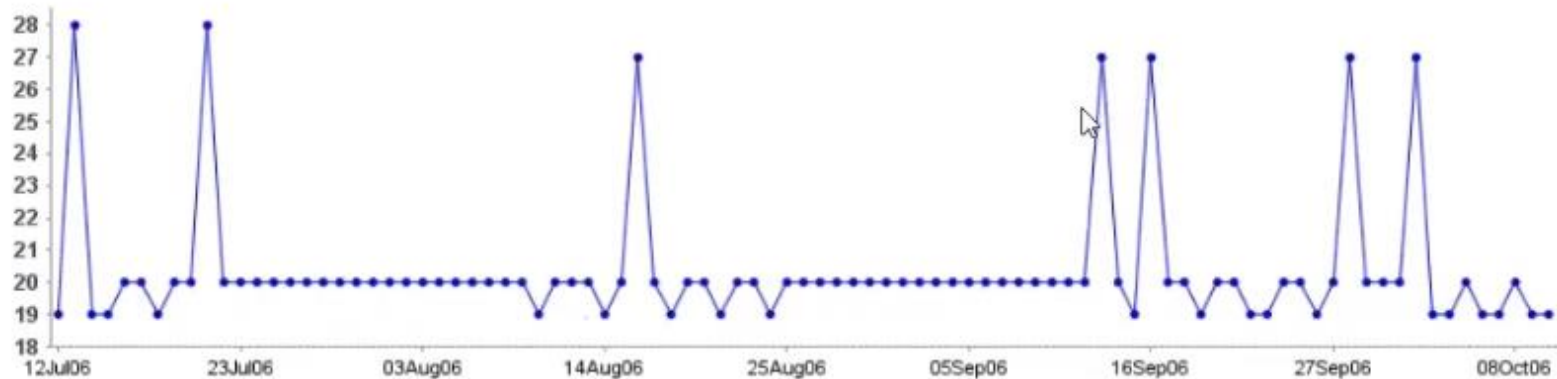


Median Number of Characters in Chief Complaint Parsed

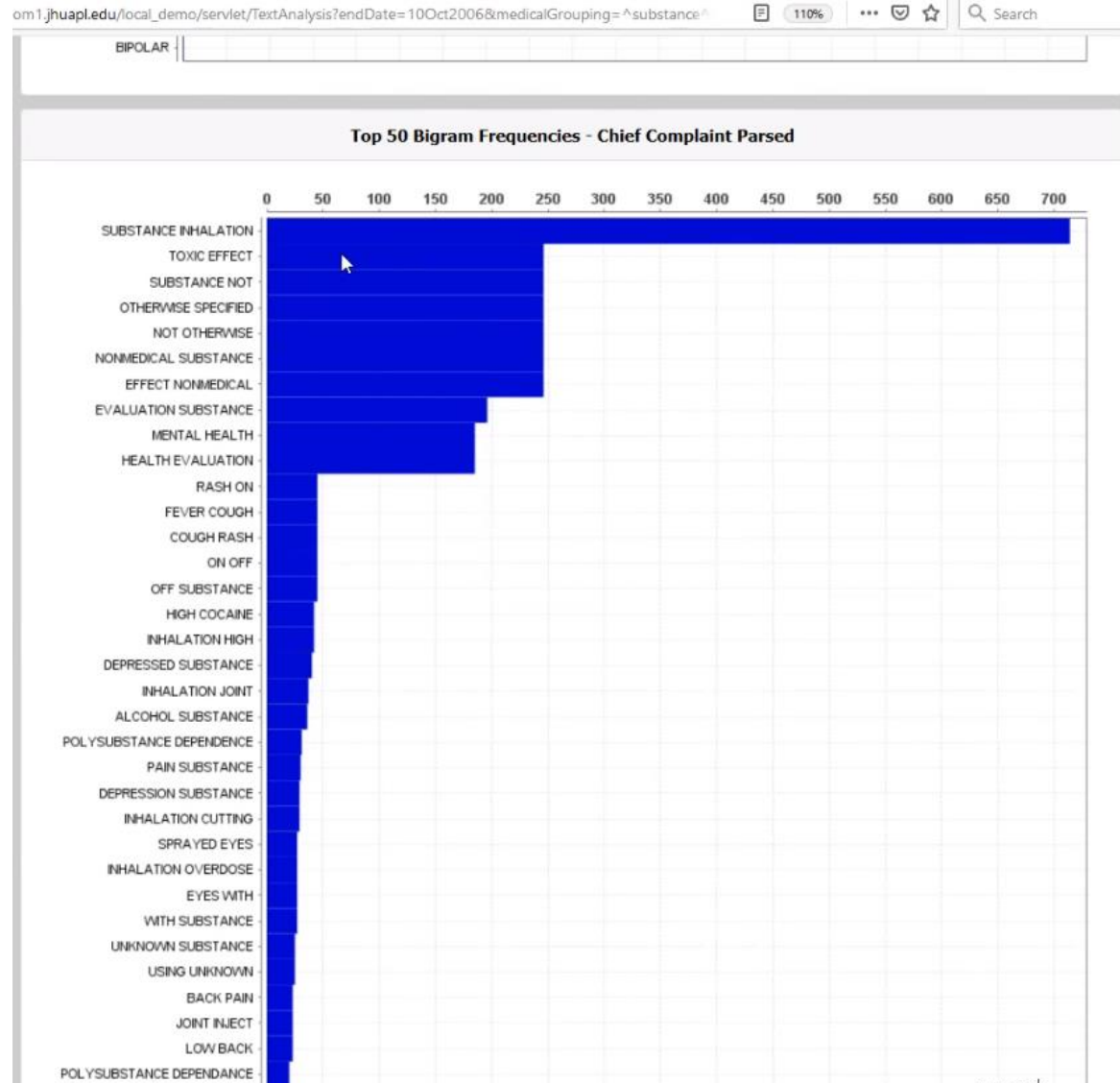


Text Analysis Coming Soon!

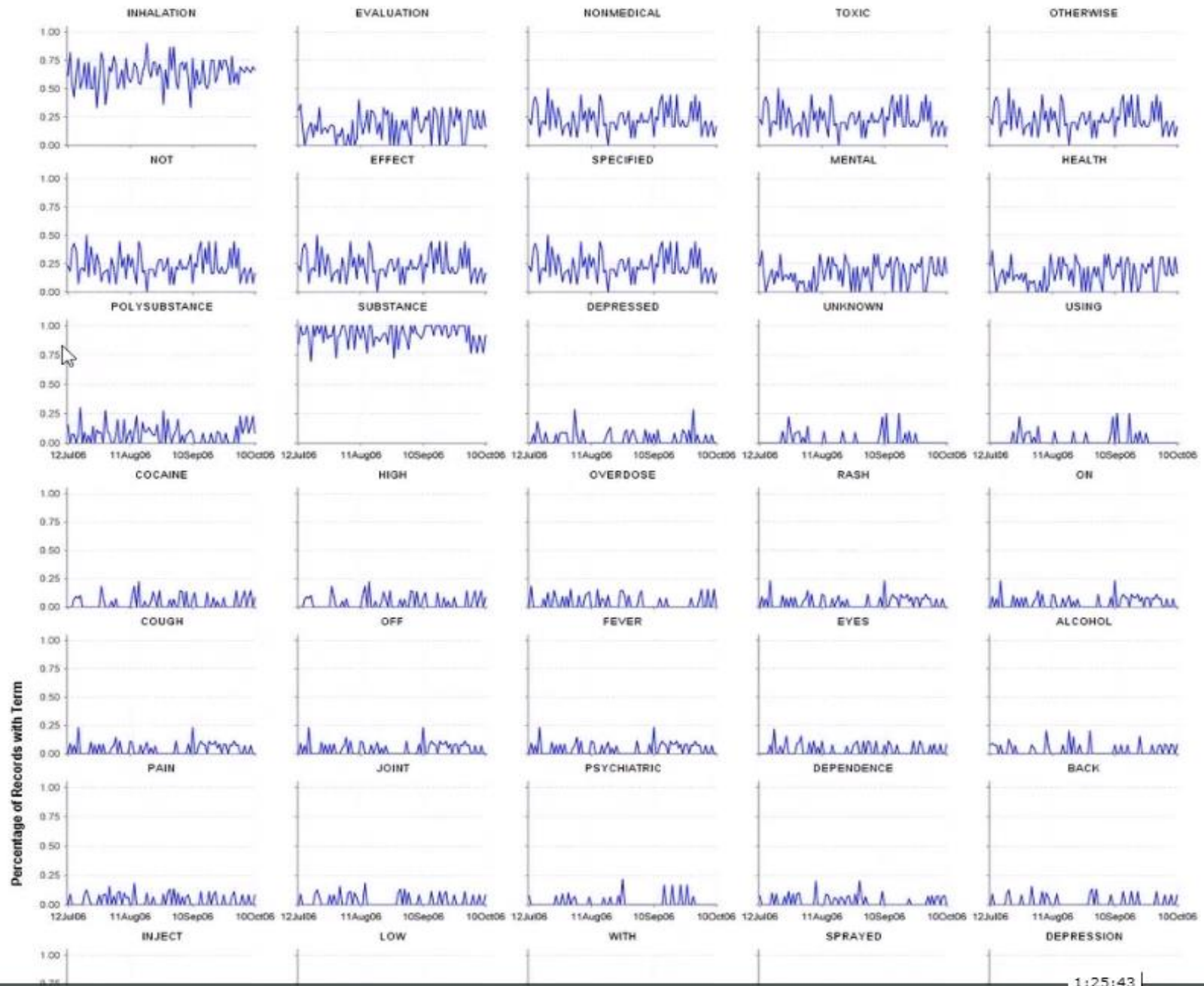
Median Number of Characters in Chief Complaint Parsed



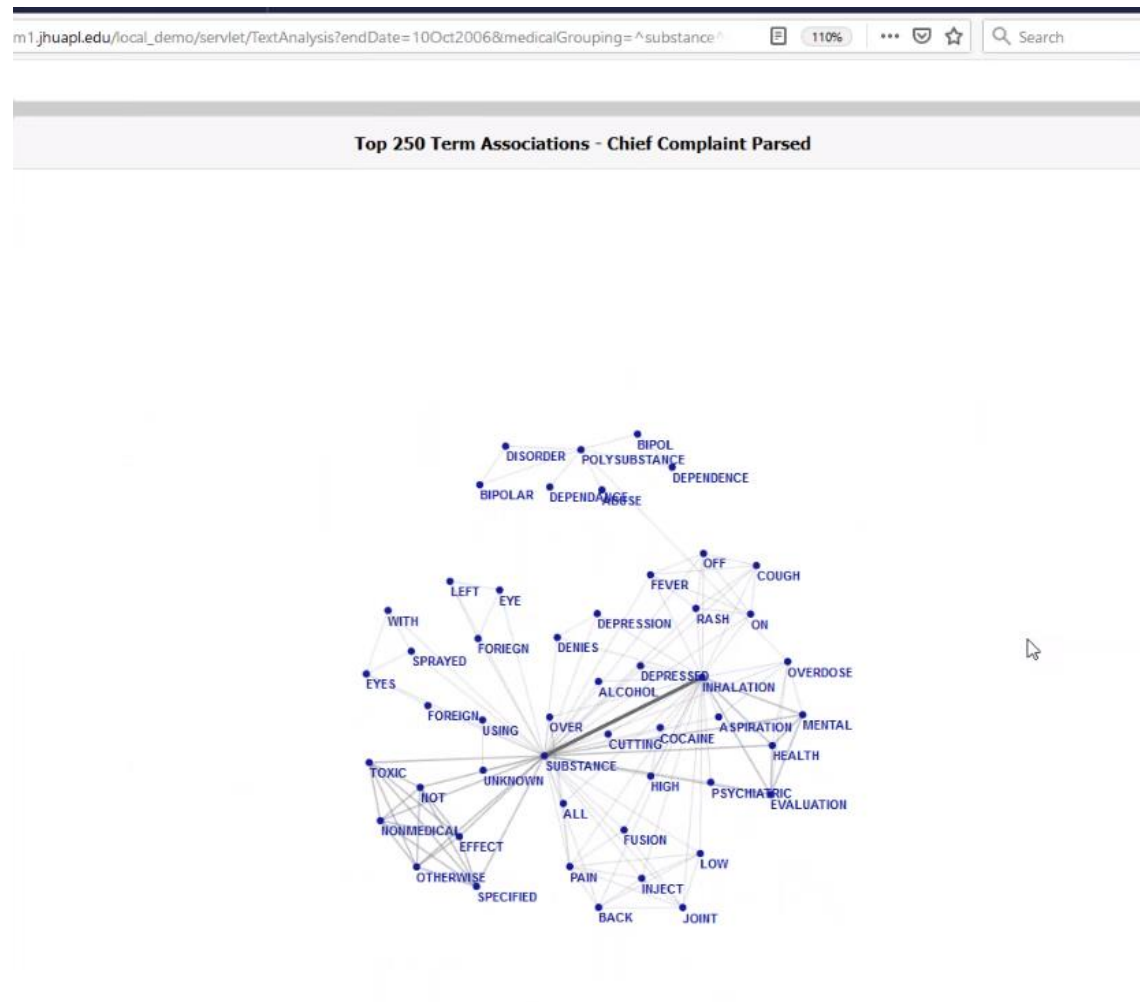
Text Analysis Coming Soon!



Top 50 Unigrams with Highest Variance in Percentage of Records - Chief Complaint Parsed



Text Analysis Coming Soon!



Discussion

- What questions do you have about current projects?
- What ideas do you have for future projects?
- What ESSENCE questions or issues have you come across?
- **What other resources can we work on putting together?**

Upcoming AZ Syndromic Meetings

AZ BioSense
Opioid
Workgroup

Thursday,
July 18 from
2:00 – 3:00

Exploratory
Analysis
Subgroup

Thursday,
July 25 from
1:00 – 2:00

THANK YOU

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azhealth.gov

 @azdhs

 facebook.com/azdhs



ARIZONA DEPARTMENT
OF HEALTH SERVICES

Health and Wellness for all Arizonans