

CSTE Wildfire SyS Workgroup Query Validation Guide

Results Due Friday March 5, 2021

Process Outline

Step 1: Time Series Visualization [1]

- Document: Wildfire Season/Year
 - Brief description
 - Time period (can be a whole calendar year, a fire season, or other time period)
 - Geography (jurisdiction-wide and region(s) impacted)
- Query: **wildfire/smoke** (in CC/DD field, if other, specify)
 - Time series visualization (review data details, **save data table**)
 - Summary statistics (reporting facilities, top words)
 - *Optional*: Stratify by age group (explore interactive view)
 - *Optional*: Stratify by syndrome (explore interactive view)
 - Document observations (from data details, summary statistics, review of stratification results, etc.)
- Query: **respiratory** (in CC/DD field, if other, specify)
 - Time series visualization (review data details, **save data table**)
 - Summary statistics (reporting facilities, top words)
 - *Optional*: Stratify by age group (explore interactive view)
 - *Optional*: Stratify by syndrome (explore)
 - Document observations (from data details, summary statistics, review of stratification results, etc.)

Step 2: Compare to AQ [2]

- Document: Wildfire Season/Year/Event
 - Brief description
 - Time period (can be a whole calendar year, a fire season, a specific event, or other time period)
 - Geography (limit to region(s) impacted and nearest AQ monitor)
- Query: **wildfire/smoke**
 - Time series visualization with PM2.5 overlay (**save data tables for query and AQ**)
 - Document observations, include correlation
- Query: **respiratory**
 - Time series visualization with PM2.5 overlay (**save data tables for query and AQ**)
 - Document observations, include correlation

Step 3: Compare Queries to Each Other

- Document: Wildfire Season/Year (probably the same as Step 1)
- Query: **wildfire/smoke AND respiratory together**
 - Time series visualization (**save data tables for queries**)
 - Document observations, include correlation

Step 4: Document Final Thoughts

- **Wildfire/smoke**
 - Recommended changes to proposed query
 - Overall opinion of utility
 - Questions or concerns for workgroup
- **Respiratory**
 - Recommended changes to proposed query
 - Overall opinion of utility
 - Questions or concerns for workgroup

Step 5: Submit Findings

- Document validation using this template and guide.
- Note: If you inserted images into this word document, you may need to PDF the file to make it small enough to email back.
- If allowed, save data tables with observed and expected counts for two proposed queries and AQ data for time period and geographies tested - please label intuitively.
- Submit validation template and data tables to Meredith (mph.jagger@use.startmail.com) by **Friday March 5, 2021**.

Validation References

1. [Developing, Evaluating, and Dissemination Definitions for Syndromic Surveillance in Public Health Practice: A Guidance Document, January 2019](#)
2. [Heat-related Illness Syndrome Query: A Guidance Document for Implementing Heat-Related Illness Syndromic Surveillance in Public Health Practice](#)

Proposed Queries

Wildfire and Smoke Definition - ESSENCE Syntax CC/DD

```
(,[; / ]J70.5^,or,[; / ]J705^,or,[; / ]X08.8^,or,[; /  
]X088^,or,[; / ]X01.1^,or,[; / ]X011^,or,[; / ]T59.81^,or,[; /  
]T5981^,or,[; / ]423123007^,or,^wild fire^,or,^wildfire^,or,(,  
ash ^,andnot,(,^dr ash^,or,^pcp ash^,or,^ash wed^,or,^ash  
cath^,),),or,(,^smoke ^,andnot,(,^ a smoke^,or,^ to  
smoke^,or,^alarm^,or,^can smoke^,or,^denies  
smoke^,or,^detector^,or,^did smoke^,or,^does not smoke^,or,^does  
smoke^,or,^go and smoke^,or,^go smoke^,or,^he smoke^,or,^husband  
smoke^,or,^n_t smoke^,or,^never smoke^,or,^no smoke^,or,^or  
smoke^,or,^out and smoke^,or,^outside and smoke^,or,^smoke  
bomb^,or,^smoke shop^,or,^smoke  
week^,or,^smoke[drs]^,or,^smoke^a lot^,or,^they  
smoke^,or,^upstairs and smoke^,or,^was smoking^,or,^wife  
smoke^,or,^without  
smoke^,or,^blunt^,or,^joint^,),),andnot,(,^canab^,or,^cannab^,  
or,^cig^,or,^crack^,or,^her[io][oi]n^,or,^ k2  
^,or,^marij^,or,!meth!,or,!pot!,or,^spice^,or,^tobac^,or,^weed^,  
or,^normal saline^,or,^ on  
fire^,or,^cooking^,or,^kitchen^,or,^motor  
[bc]^,or,^motor[bc]^,or,(,^motor  
vehicle^,and,(,^collision^,or,^accident^,or,^crash^,),),)
```

Respiratory Definition - ESSENCE Syntax CC/DD

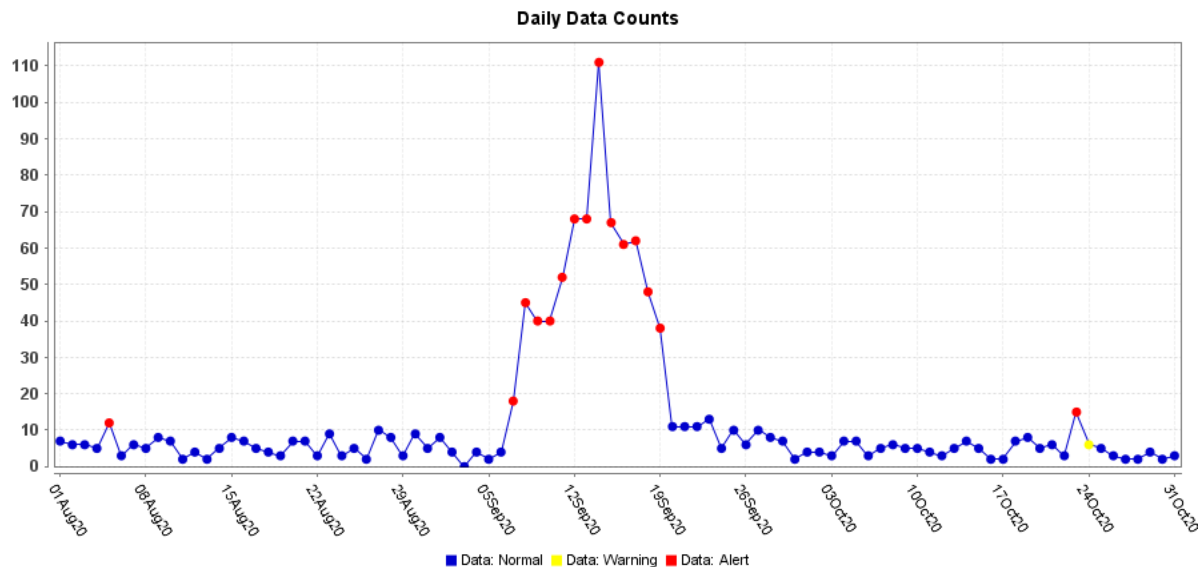
```
(,[; / ]J20^,or,^acute bronchitis^,or,[; /  
]J43^,or,^emphysema^,or,[; / ]J44^,or,^ COPD^,or,^chronic  
obstructive airway disease^,or,^chronic obstructive lung  
disease^,or,^chronic obstructive pulmonary disease^,or,[; /  
]J45^,or,^asthma^,or,^bronchasthma^,or,^ RAD ^,or,^reactive  
airway disease^,or,[; / ]J80^,or,^difficulty  
breath^,or,^breathing problem^,or,^chest tightness^,or,^chronic  
cough^,or,[; / ]R06.0 ^,or,[; / ]R060 ^,or,[; / ]R06.02^,or,[; /  
]R0602^,or,^dyspnea^,or,^shortness of breath^,or,^ SOB  
^,or,(,^wheez^,andnot,(,^cough^,or,^cold^,or,^congestion^,),),an  
dnot,(,[; / ]R50.9^,or,[; /  
]R509^,or,^febrile^,or,^fever^,or,^high temp^,),)
```

Example - Wildfire/Smoke Only

Note: Sections where participating validator will expand on example are highlighted in yellow.

Step 1: Time Series Visualization

- **Document:** Wildfire Season/Year
 - Brief description: Here you will write 1-3 sentences about the time period you are using for this validation exercise. You can choose a whole year (calendar or otherwise), a fire season, or other period.
 - Time period: Aug 1 - Oct 31, 2020
 - Geography (jurisdiction-wide and region(s) impacted): DHHS region 10, limited details
- Query: **wildfire/smoke**
 - Time series visualization



Additional actions:

- Review data details
- Save data table, label intuitively

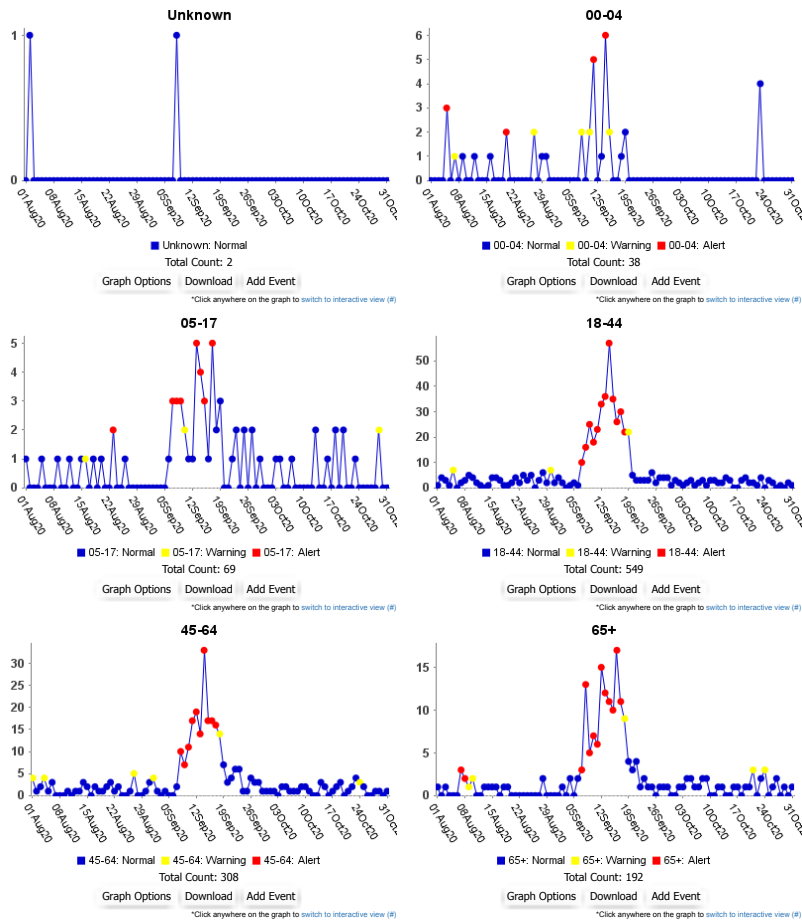
- Summary statistics
 - Check number of facilities reporting for anomalies
 - Review top 50 words

Top 50 Words in ChiefComplaintParsed

Analyzed 1158 rows.

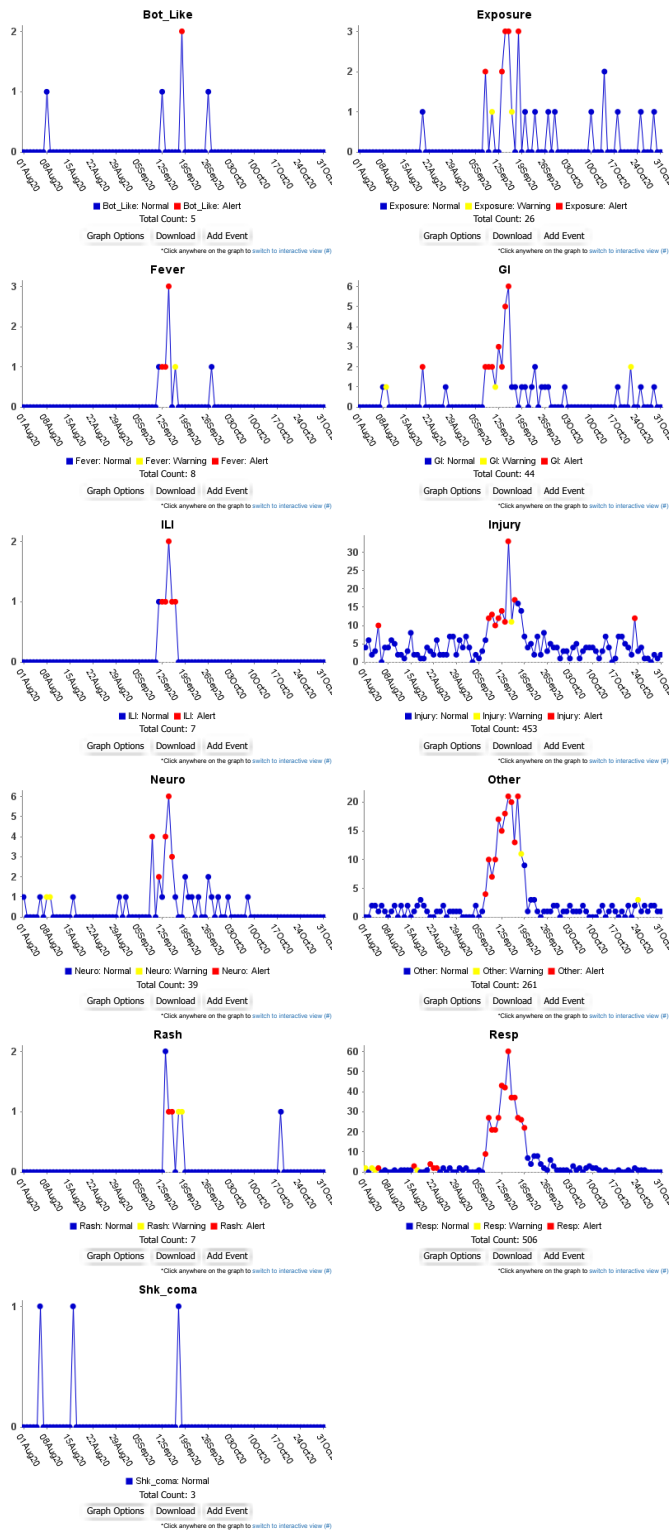
Rank	Word	Count	Rank	Word	Count
1	BREATH	315	26	RIGHT	24
2	SHORTNESS	311	27	STATES	23
3	SMOKE	309	28	EXPOSURE	22
4	INHALATION	169	29	DUE	21
5	PAIN	130	30	ARM	21
6	COUGH	117	31	FOLLOW	20
7	BURN	108	32	PROBLEM	20
8	CHEST	91	33	HAND	19
9	BREATHING	70	34	DISEASE	18
10	ASTHMA	63	35	NAUSEA	18
11	HEADACHE	57	36	PCP	18
12	PATIENT	54	37	EMS	17
13	RESPIRATORY	49	38	DIZZINESS	16
14	THROAT	48	39	TROUBLE	14
15	SORE	39	40	HISTORY	14
16	LEFT	36	41	AMB	14
17	INFECTION	34	42	UNSPECIFIED	13
18	TENT	32	43	ENCOUNTER	13
19	UPPER	32	44	PULMONARY	13
20	BURNS	31	45	SINUS	12
21	INJURY	29	46	CHRONIC	12
22	DIFFICULTY	27	47	MEDICATION	12
23	FIRE	27	48	PRESSURE	12
24	CONGESTION	25	49	OBSTRUCTIVE	11
25	ADULT	25	50	REPORTS	11

- Stratify by age group



Additional action: Explore anomalies in interactive view

○ Stratify by syndrome

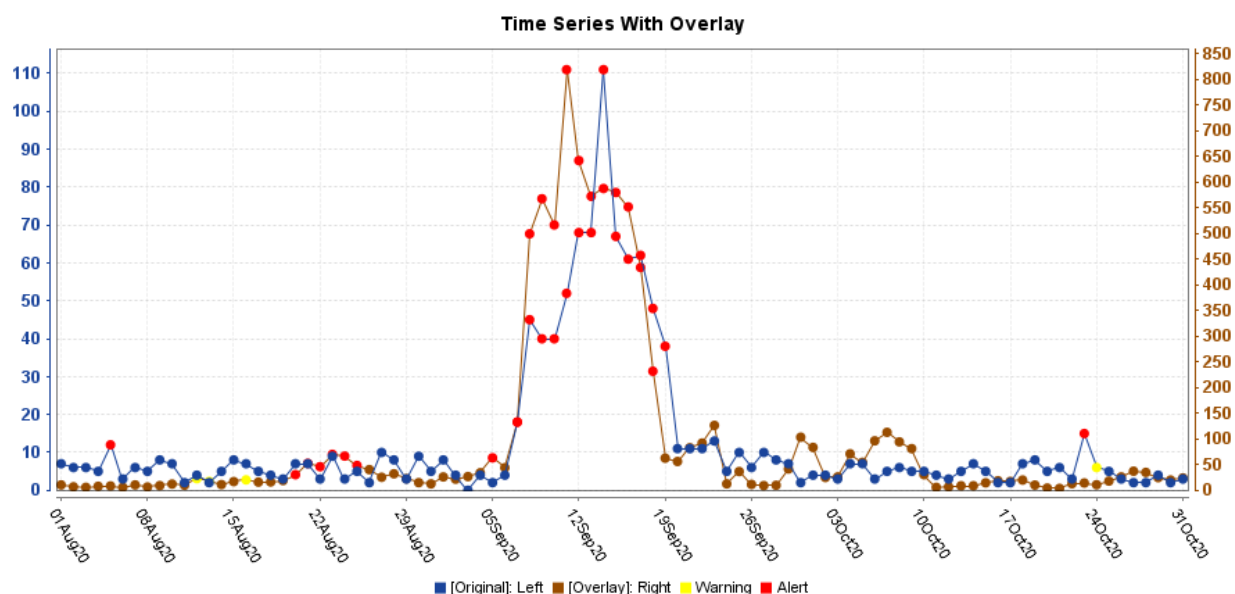


Additional action: Explore anomalies in interactive view

- **Document observations:** Here you will briefly describe findings from data details, summary statistics, review of stratification results, etc.

Step 2: Compare to AQ

- **Document:** Wildfire Season/Year/Event
 - Brief description: Here you will write 1-3 sentences about the fire season, year, or event you are using for this validation exercise.
 - Time period: Aug 1 - Oct 31, 2020
 - Geography limit to region(s) impacted and nearest AQ monitor): DHHS region 10, limited details; Air quality PM2.5 24 hour, time and station MAX from Oregon
- Query: **wildfire/smoke**
 - Time series visualization with PM2.5 overlay



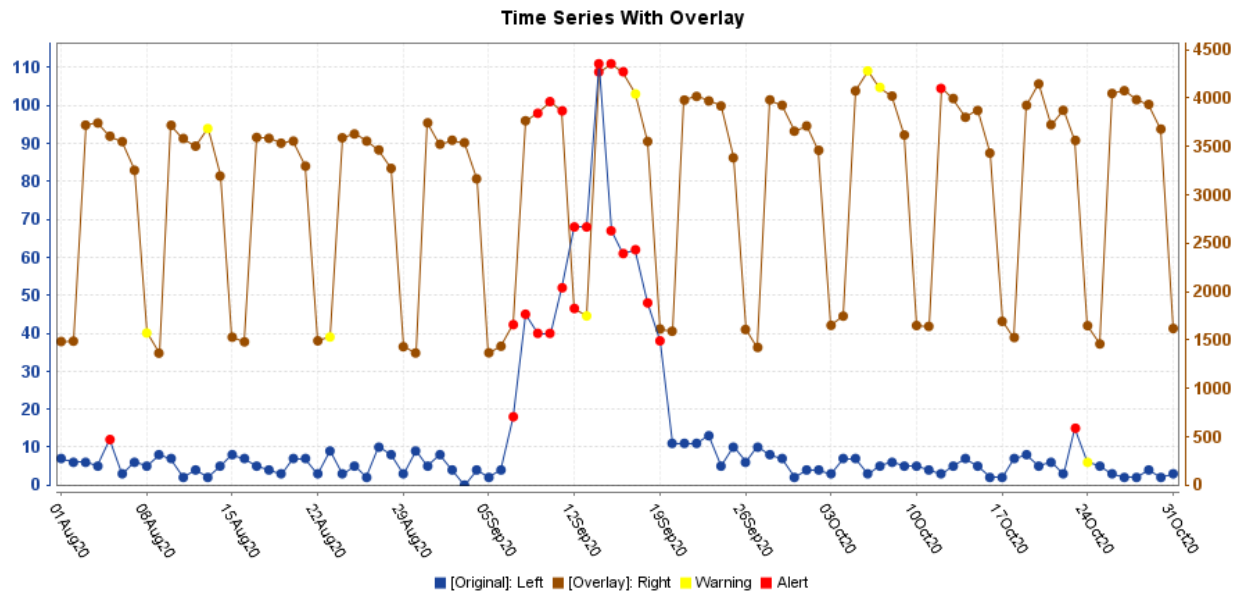
Additional actions:

- Save AQ data table, label intuitively
- Document observations, include correlation

Step 3: Compare Queries to Each Other

- **Document:** Wildfire Season/Year (probably same as Step 1)
 - Brief description: Here you will write 1-3 sentences about the fire season you are using for this validation exercise.
 - Time period: Aug 1 - Oct 31, 2020
 - Geography (jurisdiction-wide and region(s) impacted): DHHS region 10, limited details

- Query: **wildfire/smoke AND respiratory together**
 - Time series visualization



Additional action: Document observations, include correlation

Step 4: Document Final Thoughts

- **Wildfire/smoke**
 - Recommended changes to proposed query
 - Overall opinion of utility
 - Questions or concerns for workgroup
- **Respiratory**
 - Recommended changes to proposed query
 - Overall opinion of utility
 - Questions or concerns for workgroup

Step 5: Submit Findings

- Document validation using this guide as a template
- Save data tables with observed and expected counts for two proposed queries and AQ data for time period and geographies tested - please label intuitively
- Submit validation template and data tables to Meredith (mph.jagger@use.startmail.com) by **Friday March 5, 2021**

“How To” Tips

Step 1: Time Series Visualization

- Query
 - Go to [Query Portal]
 - Select your datasource, resolution, and dates
 - Under Available Query Fields (Left sidebar) -> CC and DD
 - Enter in proposed query text
 - [Select]
 - Check Selected Query Fields (Right sidebar)
 - [Time Series]

List
myAlerts
myESSENCE
Event List
Overview Portal
Query Portal
Stat Table
Map Portal
Bookmarks
Query Manager
Data Quality
Report Manager
More

Query Wizard

Data source:
Patient Location (Limited Details)

Time Resolution:
Daily

Detector:
Regression/EWMA 1.2

As Percent Query:
No Percentage Query

Start Date:
01Aug20

End Date:
31Oct20

Available Query Fields

DDI Percent Std Dev Last Year
DDI Percent Last 2 Years
DDI Percent Std Dev Last 2 Years
CC and DD Category
CC and DD
CC and DD Category Free Text
Syndrome Subsyndrome CCDD Com.
Syndrome Free Text
SubSyndrome Free Text

CC and DD

Select
Help
Query Builder

```
lot^,or,^they smoke^,or,^upstairs and smoke^,or,^was smoking^,or,^wife smoke^,or,^without smoke^,or,^blunt^,or,^joint^,),),and,not,(,^cannab^,or,^cig^,or,^crack^,or,^her[io]n^,or,^k2^,or,^marij^,or,^methl^,or,^potl^,or,^spice^,or,^tobac^,or,^weed^,or,^normal saline^,or,^ on fire^,or,^cooking^,or,^kitchen^,or,^motor [bc]^,or,^motor[bc]^,or,(,^motor vehicle^,and,(,^collision^,or,^accident^,or,^crash^,),),
```

Also apply the search string to:

Discharge Diagnosis
CC and DD Category Free Text
Syndrome Free Text
SubSyndrome Free Text

Selected Query Fields

Geography System

DHS Region
HHS Region
Region 10

Medical Grouping System

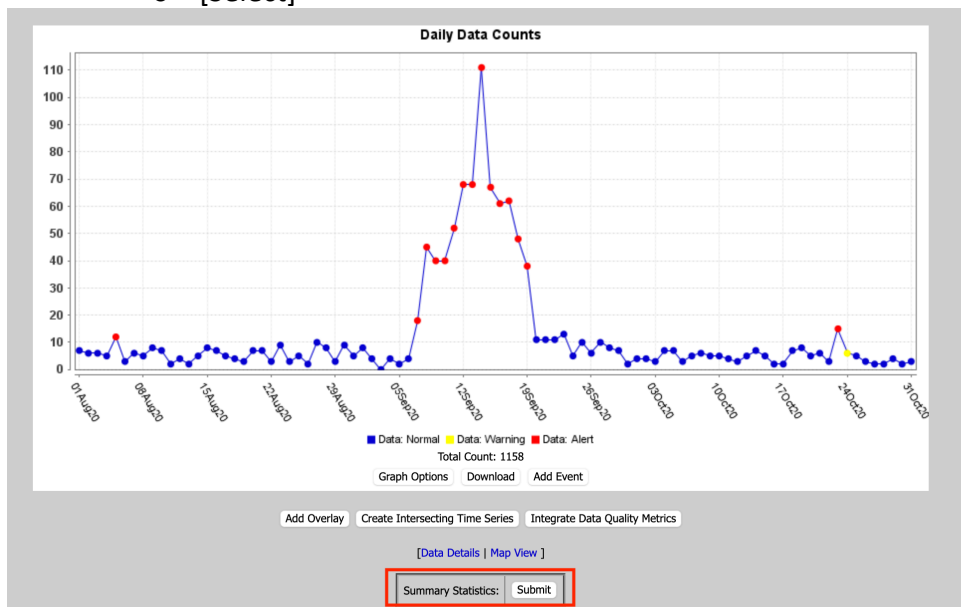
ESSENCE Syndromes

CC and DD

(^[f:]]j70.5^,or,^[f:]]j705^,or,^[f:]]X08.8^,or,^[f:]]X088^,or,^[f:]]X01.1^,or,^[f:]]X011^,or,^[f:]]

MyFilter:
Create

- View Summary Statistics
 - Under Time Series visualization, Summary Statistics
 - [Select]



- View Data Details
 - Under Time Series visualization
 - [Data Details]

Graph Options Download Add Event

Add Overlay Create Intersecting Time Series Integrate Data Quality Metrics

[Data Details | Map View]

Summary Statistics: Submit

Show Weekly Time Series Viewer: Submit

Select options for creating stacked graph:

Facility HHS Region
Syndrome
MedicalSubGrouping

Submit

Select detectors to compare:

Regression/EWMA 1.2
No Detection
Regression 1.2
EWMA 1.2
CDC-C1

Submit

Download to Excel

Data Data Table

Data Link	Map Link	Date	Data	Expected	Detection
Data Details	Map View	31Oct2020	3	4.964	0.782
Data Details	Map View	30Oct2020	2	4.964	0.854
Data Details	Map View	29Oct2020	4	5.143	0.698
Data Details	Map View	28Oct2020	2	5.321	0.896
Data Details	Map View	27Oct2020	2	5.5	0.853

- Save Data Table
 - Under Time Series visualization
 - [Download to Excel]

Graph Options Download Add Event

Add Overlay Create Intersecting Time Series Integrate Data Quality Metrics

[Data Details | Map View]

Summary Statistics: Submit

Show Weekly Time Series Viewer: Submit

Select options for creating stacked graph:

Facility HHS Region
Syndrome
MedicalSubGrouping

Submit

Select detectors to compare:

Regression/EWMA 1.2
No Detection
Regression 1.2
EWMA 1.2
CDC-C1

Submit

Download to Excel

Data Data Table

Data Link	Map Link	Date	Data	Expected	Detection
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Data Details	Map View	28Oct2020	2	5.321	0.896
Data Details	Map View	27Oct2020	2	5.5	0.853

- Stratify by age group
 - From Time Series visualization
 - [+] Data Series Options
 - Across Graph Stratification = Age Group
 - [Update]

The screenshot shows the 'Data Series Options' configuration panel. The 'Across Graphs Stratification' dropdown is set to 'Age Group'. The 'Graph Options' section shows 'Multiple Graphs (Small)' selected. The 'Remove Zero Series' checkbox is checked. The 'Update' button is highlighted with a red box.

Data Series Options	
Within Graph Stratification:	
Across Graphs Stratification:	Age Group
Graph Options:	☐ Single Graph ☒ Multiple Graphs (Small) ☐ Multiple Graphs (Large) ☐ Micro Graphs
Remove Zero Series: Help	☒
Update	

- Stratify by syndrome
 - From Time Series visualization
 - [+] Data Series Options
 - Across Graph Stratification = Syndrome
 - [Update]

The screenshot shows the 'Data Series Options' configuration panel. The 'Across Graphs Stratification' dropdown is set to 'Syndrome'. The 'Graph Options' section shows 'Multiple Graphs (Small)' selected. The 'Remove Zero Series' checkbox is checked. The 'Update' button is highlighted with a red box.

Data Series Options	
Within Graph Stratification:	
Across Graphs Stratification:	Syndrome
Graph Options:	☐ Single Graph ☒ Multiple Graphs (Small) ☐ Multiple Graphs (Large) ☐ Micro Graphs
Remove Zero Series: Help	☒
Update	

Step 2: Compare to AQ

- Time series visualization with PM2.5 overlay
 - From Time Series visualization of **proposed query**
 - [Add Overlay]
 - Query Portal for Overlay is displayed
 - Select Datasource = Air Quality
 - -> Air Quality Station (pick closest to fire event)
 - Use PM 2.5-24hr Max
 - Select the SAME resolution and dates as query 1
 - [Add Overlay]
 - Use default configurations
 - [Display Overlay]

Note: For the example, I used statewide Oregon data since health data were from DHHS region 10.

Step 3: Compare Queries to Each Other

- Time series visualization with second query overlay
 - From Time Series visualization of **wildfire/smoke**
 - [Add Overlay]
 - Query Portal for Overlay is displayed
 - Select the SAME datasource, resolution, and dates as query 1
 - Under Available Query Fields (Left sidebar) -> CC and DD
 - Enter in proposed query text for **respiratory**
 - [Select]

- Check Selected Query Fields (Right sidebar)
- [Add Overlay]
- Use default configurations
- [Display Overlay]

Add Overlay

Datasource: Patient Location (Limited Details) Time Resolution: Daily Detector: Regression/EWMA 1.2 As Percent Query: No Percentage Query Start Date: 01Aug20 End Date: 31Oct20

Available Query Fields

- Discharge Diagnosis
 - Data Quality Filters
 - Discharge Diagnosis Available
 - Discharge Diagnosis Informative
 - Chief Complaint Available
 - Chief Complaint Informative
 - DDI Percent All Time
 - DDI Percent Std Dev All Time
 - DDI Percent Last 6 Months
 - DDI Percent Std Dev Last 6 Month
 - DDI Percent Last Year
 - DDI Percent Std Dev Last Year
 - DDI Percent Last 2 Years
 - DDI Percent Std Dev Last 2 Years
 - CC and DD Category
 - CC and DD
 - CC and DD Category Free Text
 - Syndrome Subsyndrome CCDD Comb
 - Syndrome Free Text
 - SubSyndrome Free Text

CC and DD

Select Help Query Builder

(^[/]J20^,or^acute bronchitis^,or^[/]J43^,or^emphysema^,or^[/]J44^,or^ COPD^,or^chronic obstructive airway disease^,or^chronic obstructive lung disease^,or^chronic obstructive pulmonary disease^,or^[/]J45^,or^asthma^,or^bronchasthma^,or^ RAD ^,or^reactive airway disease^,or^[/]J80^,or^difficulty breath^,or^breathing problem^,or^chest tightness^,or^chronic cough^,or^[/]R06.0 ^,or^[/]R060 ^,or^[/]R06.02^,or^[/]R0602^,or^dyspnea^,or^shortness of breath^,or^ SOB ^,or^(^wheeze^,andnot,(^cough^,or^cold^,or^congestion^,)),andnot,(^[/]R50.9^,or^[/]R509^,or^febrile^,or^fever^,or^high temp^,))

Also apply the search string to:

- Discharge Diagnosis
- CC and DD Category Free Text
- Syndrome Free Text
- SubSyndrome Free Text
- Chief Complaint Orig Free Text
- Chief Complaint Combo Free Text
- Admit Reason Code
- Admit Reason Combo
- Discharge Diagnosis Combo Free Text

Add Overlay Cancel

Selected Query Fields

Geography System

DHHS Region

HHS Region

Region 10

Medical Grouping System

ESSENCESyndromes

CC and DD

(^[/]J20^,or^acute bronchitis^,or^[/]J43^,or^emphysema^,or^[/]J44^,or^ COPD^,or^chronic obstructive airway disease^,or^chronic obstructive lung disease^,or^chronic obstructive pulmonary disease^,or^[/]J45^,or^asthma^,or^bronchasthma^,or^ RAD ^,or^reactive airway disease^,or^[/]J80^,or^difficulty breath^,or^breathing problem^,or^chest tightness^,or^chronic cough^,or^[/]R06.0 ^,or^[/]R060 ^,or^[/]R06.02^,or^[/]R0602^,or^dyspnea^,or^shortness of breath^,or^ SOB ^,or^(^wheeze^,andnot,(^cough^,or^cold^,or^congestion^,)),andnot,(^[/]R50.9^,or^[/]R509^,or^febrile^,or^fever^,or^high temp^,))

MyFilter: Create

Configure Overlay

Basic Parameters

Style: Single Date Alignment: Actual Dates Days from Today: Start Date: End Date:

Denominator Parameters

Use Denominator: Denominator: Show Axis Left Axis Right Line Graph Bar Graph Series Title

Show	Axis Left	Axis Right	Line Graph	Bar Graph	Series Title
☒ Original	☒	☐	☒	☐	Original
☒ Overlay	☐	☒	☒	☐	Overlay
☐ Percent	☐	☐	☐	☐	Percent

Graph Title: Time Series With Overlay Left Axis Label: Right Axis Label:

Legend

Style

Single: Plots all queries on the same graph.

Multiple Large: Plots each query on its own large graph.

Multiple Small: Plots each query on its own small graph.

Date Alignment

Actual Dates: Uses the dates saved with each individual query.

Global Dates: Uses the dates provided on the form for all selected queries.

Start Together: Uses the dates saved with each individual query, but aligns them so that they all start at the leftmost side of the graph.

End Together: Uses the dates saved with each individual query, but aligns them so that they all start at the rightmost side of the graph.

Display Overlay Cancel