March 2022 NSSP Community of Practice Data Quality Subcommittee Call

March 11, 2022 – 12:00pm EST

National Syndromic Surveillance Program

Community of Practice

Resources that Advance the Science and Practice of Syndromic Surveillance

The NSSP CoP is supported by Cooperative Agreement # 6NU38OT000297-02-01 between the Centers for Disease Control and Prevention (CDC) and the Council of State and Territorial Epidemiologists. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

Agenda

- **CSTE and NSSP Announcements**
- **ESSENCE Demo**
- **Chief Complaint One Pager**
- **Open Mic**
- **Wrap-up**

****Please note all NSSP CoP calls are recorded and posted onto the NSSP CoP Knowledge Repository****

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CSTE Announcements

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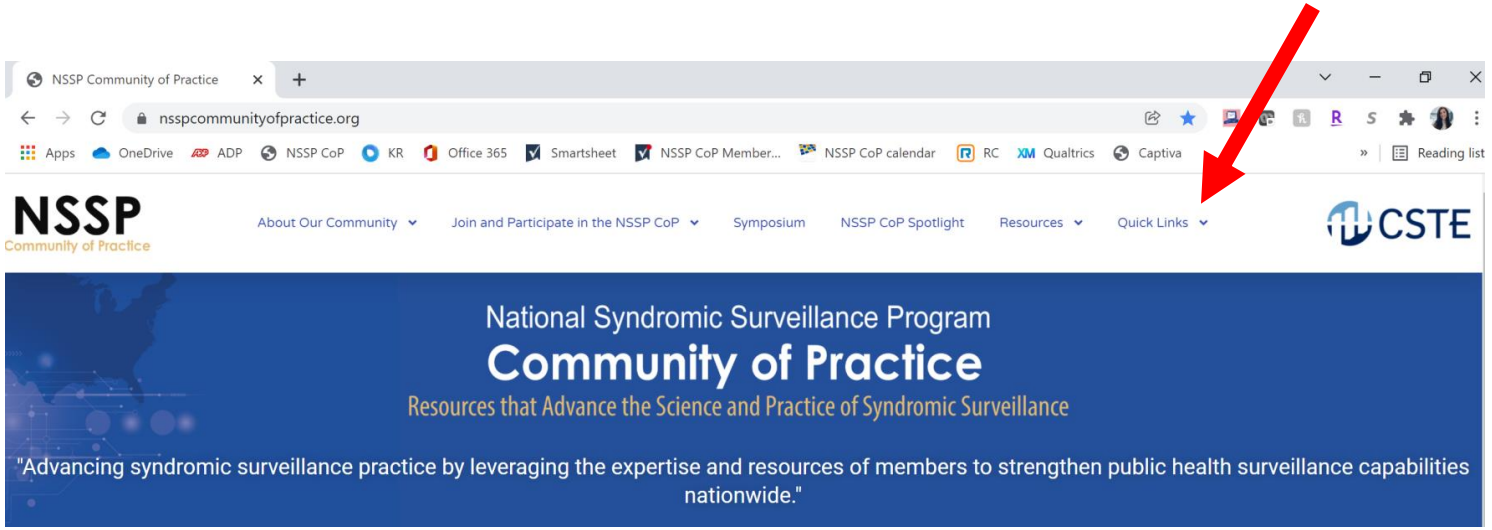
Joining NSSP CoP or Updating Membership

Membership is voluntary, free of charge, independent of CSTE membership, and open at any person or organization interested in advancing SyS

To join the CoP or update your membership:

1) Visit nsspcommunityofpractice.org
2) Click on **Quick Links**
3) Click **Join NSSP CoP**



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NSSP CoP Slack Workspace

Participation in and access to the NSSP Community of Practice Slack Workspace is limited to staff (FTE or contractor) from federal agencies and state, territorial, local, or tribal (STLT) health departments.

<u>To request access to Slack:</u>

1) Visit nsspcommunityofpractice.org
2) Click on **Quick Links**
3) Click **Request to Join Slack**

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Open Call for Data Quality Subcommittee Co-Chair

Position Eligibility

- Any active NSSP CoP member working at STLT health department is eligible to serve

Position Responsibilities

- Plan and facilitate monthly subcommittee calls
- Represent the DQ subcommittee on the NSSP CoP Core Committee as a SME and community representative
- Dedicate ~3-4 hours per month to related activities

If interested, please email syndromic@cste.org.

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CSTE 2022 Annual Conference

Registration for the CSTE 2022 Annual Conference is now open!

https://www.csteconference.org/

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New Date & Time!: NSSP CoP Monthly Call

Moving forward, the monthly NSSP Community of Practice call will be held **4th Wednesday of the month from 12-1:30pm EST** (no longer 3rd Tuesday at 3-4pm)

An NSSP-CoP wide email announcement was shared yesterday with the updated information.

Please be sure to delete any previous calendars with outdated meeting information or date/time (i.e., delete anything with RingCentral and/or on the 3rd Tuesday of the month at 3:00-4:00pm)

If you are a member, and did not receive the announcement, email Alyaa (aaltabbaa@cste.org)

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ESSENCE Tools for Analyzing DQ

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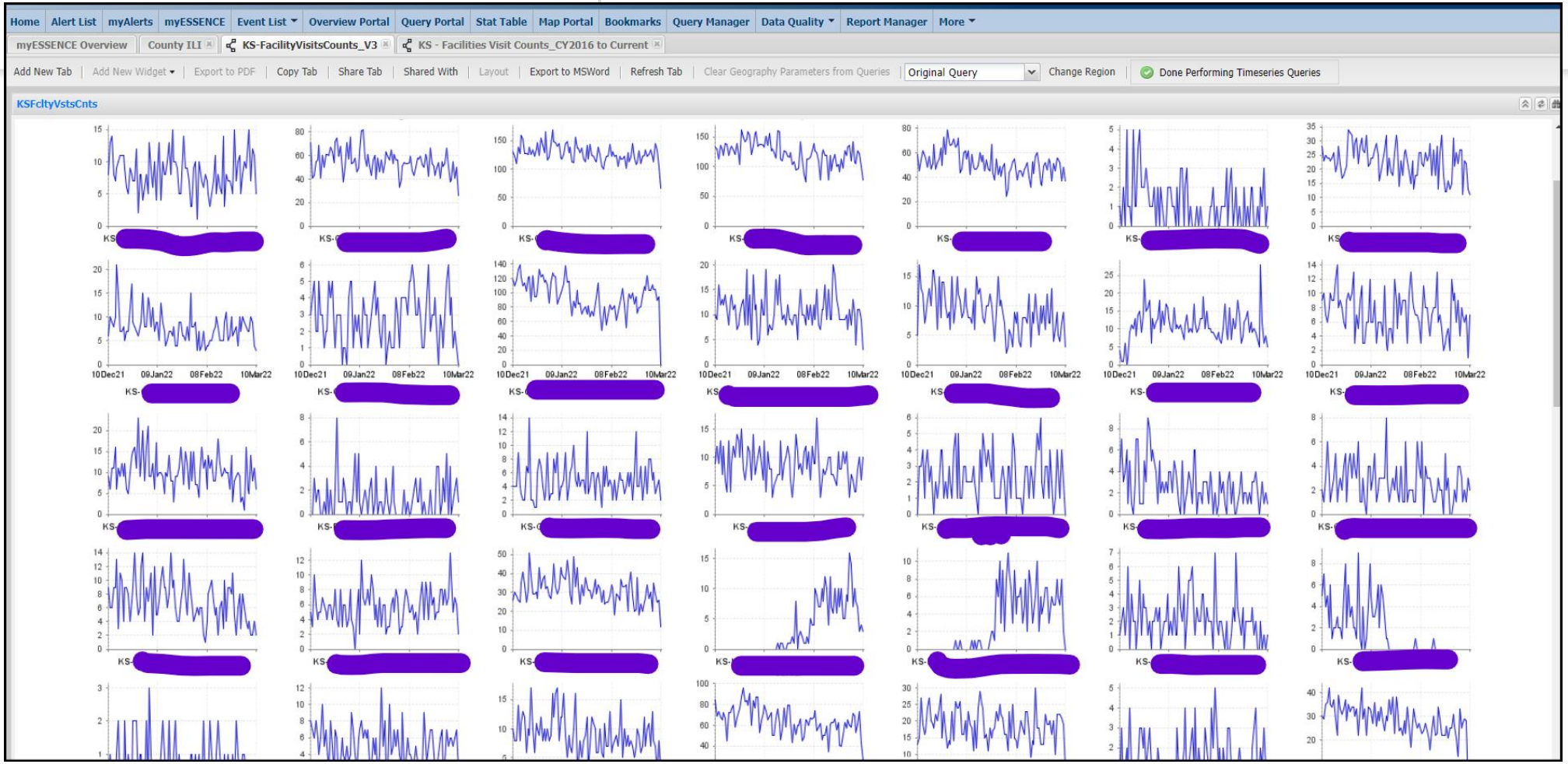
DQ and ESSENCE

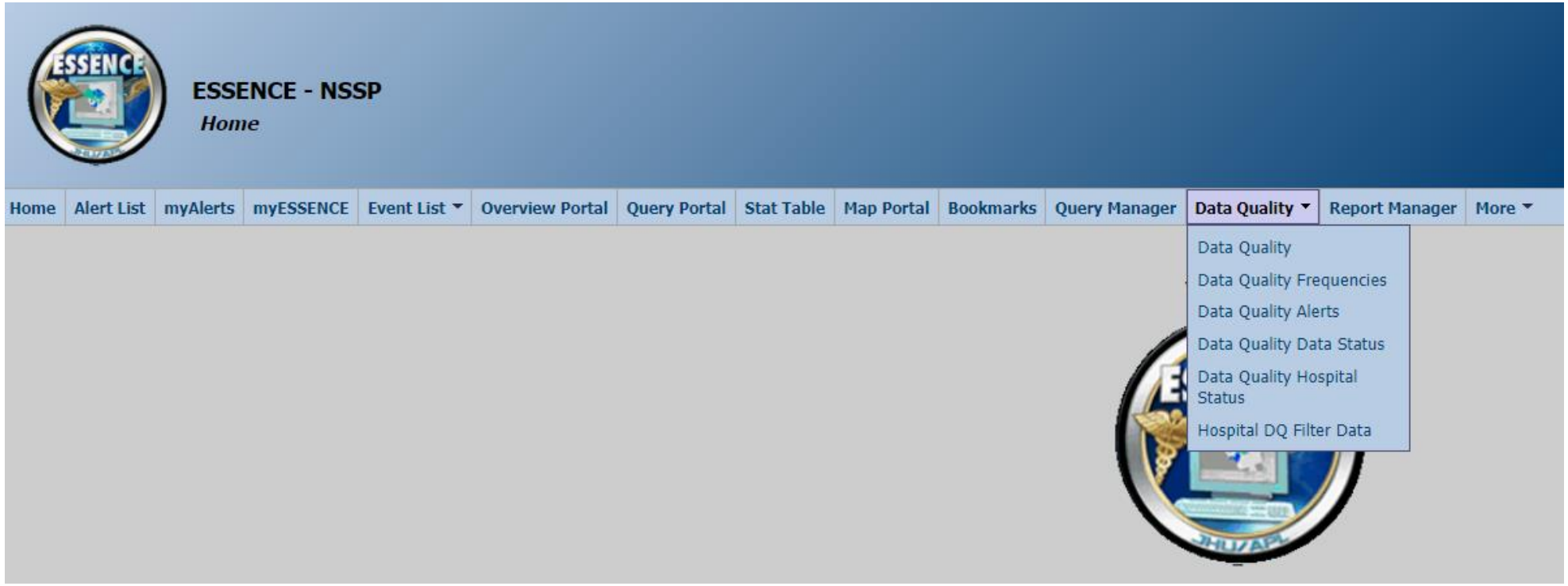
How I use ESSENCE daily

- Checking daily site level trend lines - https://www.cdc.gov/nssp/dqc/articles/are-the-lights-on.html
- Look for facilities with no new visits or fewer/more visits than normal



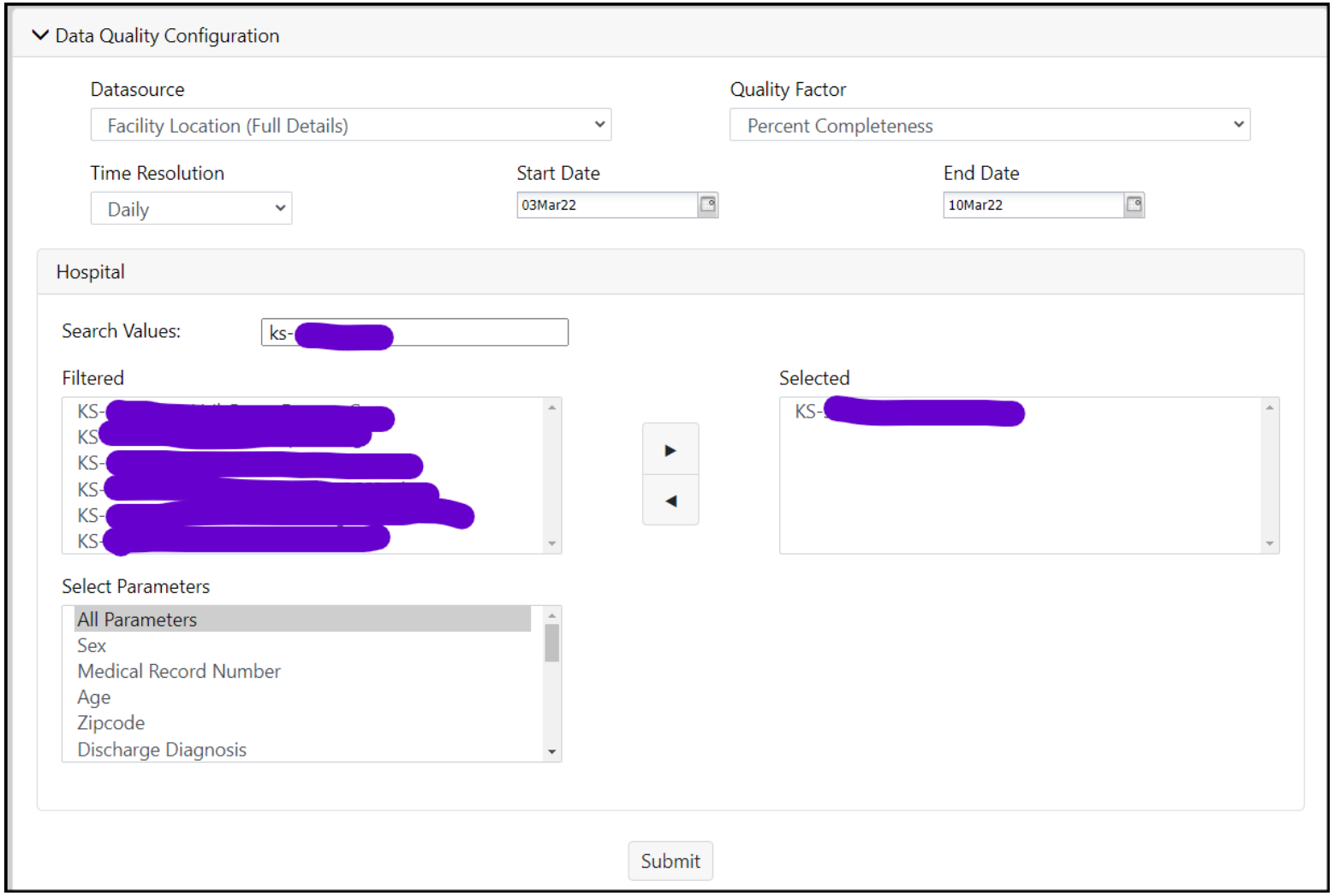
ESSENCE DQ Tab

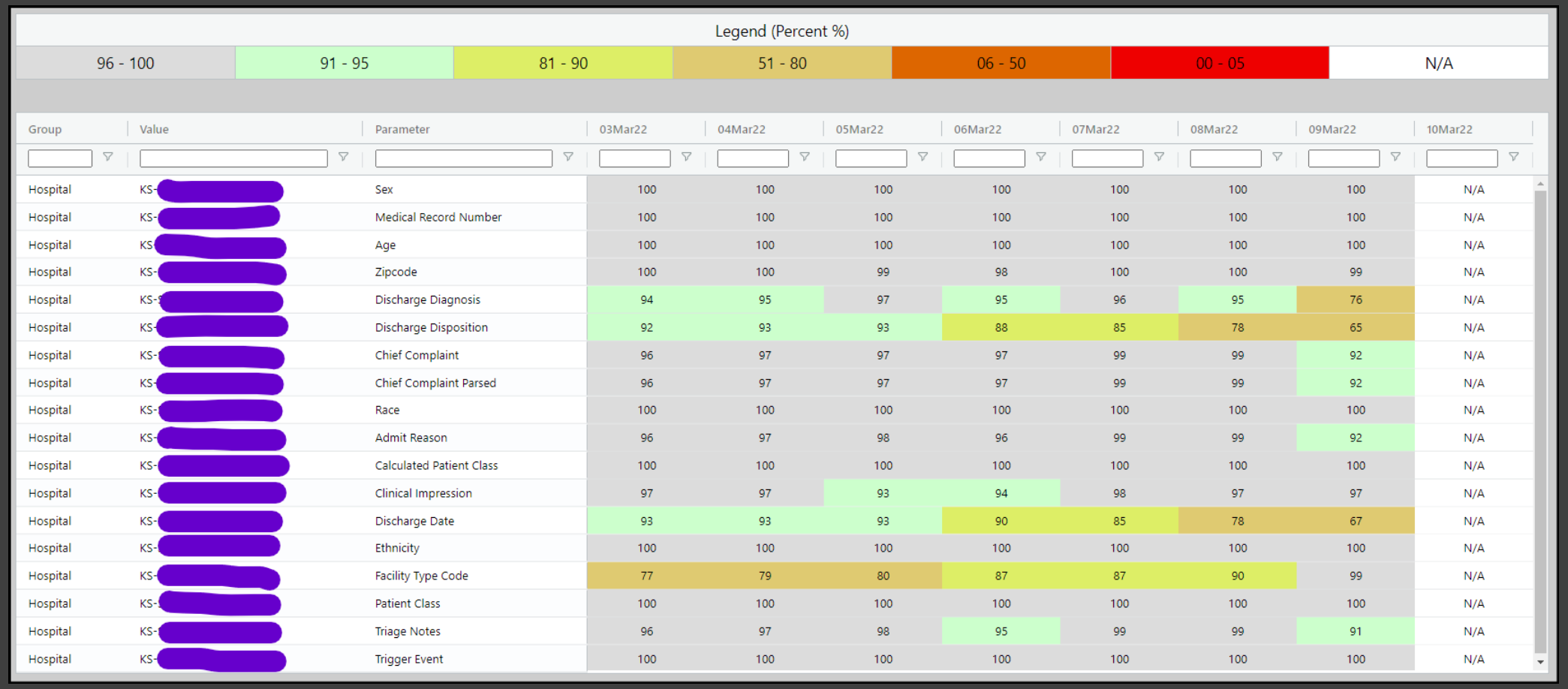
- Description: https://essence.syndromicsurveillance.org/nssp_essence/usersguide/systemcomponents/DataQuality.jsp
- Useful items include Data Quality, Data Quality Frequencies, and Data Quality Alerts



Data Quality Tab: Data Quality

- The Data Quality Portal looks at Completeness, Timeliness, and Validity for several parameters
- For DQ by facility choose Facility Location (Full Details)
- Quality Factor choices are completeness, timeliness, and validity
- Time resolution looks at DQ percentages by day, week, month, quarter, and year
- Adjust start and end date





Legend (Percent %)

96 - 100	91 - 95	81 - 90	51 - 80	06 - 50	00 - 05	N/A

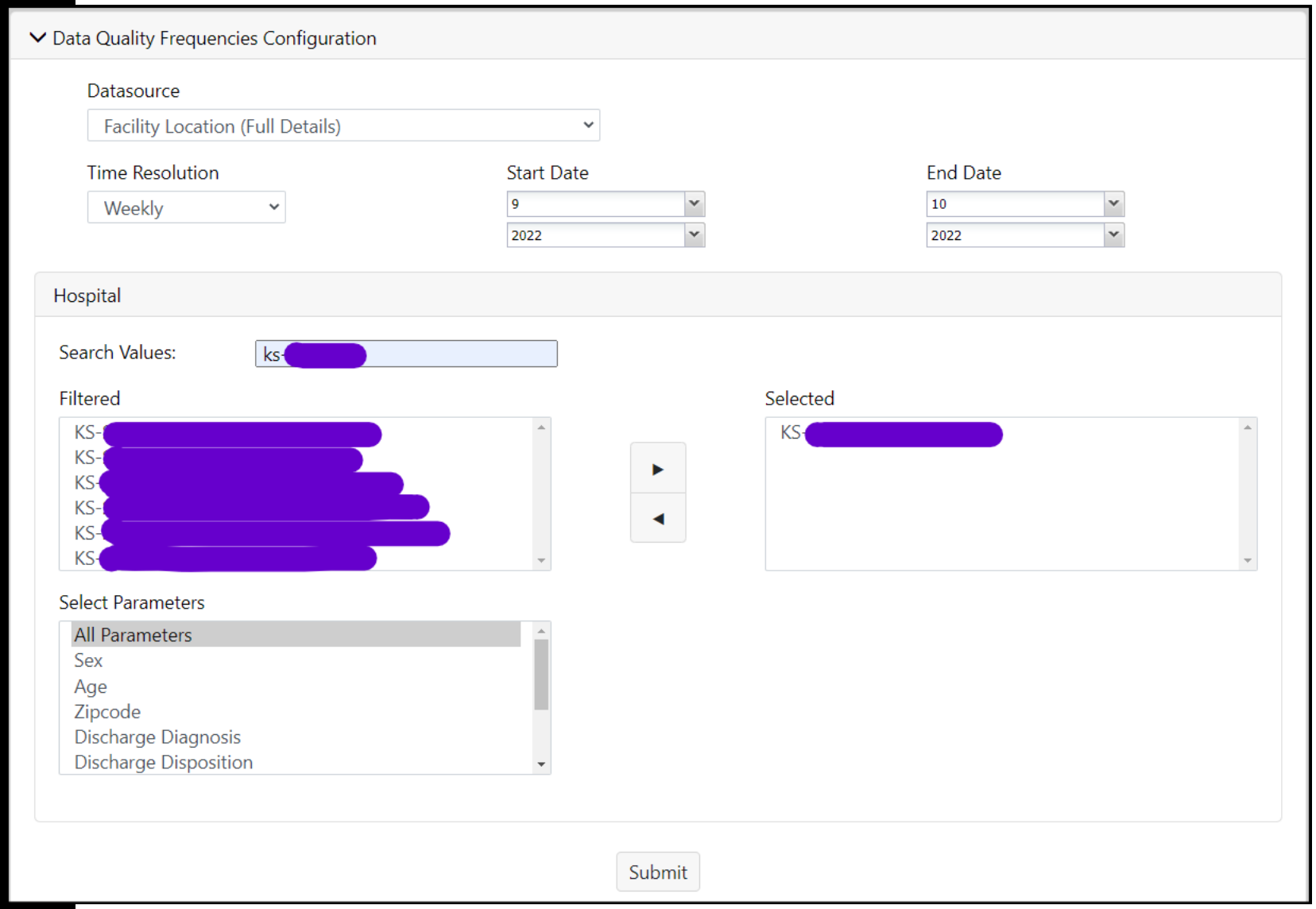
Group	Value	Parameter	03Mar22	04Mar22	05Mar22	06Mar22	07Mar22	08Mar22	09Mar22	10Mar22
Hospital	KS-[redacted]	Sex	100	100	100	100	100	100	100	N/A
Hospital	KS-[redacted]	Medical Record Number	100	100	100	100	100	100	100	N/A
Hospital	KS[redacted]	Age	100	100	100	100	100	100	100	N/A
Hospital	KS-[redacted]	Zipcode	100	100	99	98	100	100	99	N/A
Hospital	KS-[redacted]	Discharge Diagnosis	94	95	97	95	96	95	76	N/A
Hospital	KS-[redacted]	Discharge Disposition	92	93	93	88	85	78	65	N/A
Hospital	KS-[redacted]	Chief Complaint	96	97	97	97	99	99	92	N/A
Hospital	KS-[redacted]	Chief Complaint Parsed	96	97	97	97	99	99	92	N/A
Hospital	KS-[redacted]	Race	100	100	100	100	100	100	100	N/A
Hospital	KS-[redacted]	Admit Reason	96	97	98	96	99	99	92	N/A
Hospital	KS-[redacted]	Calculated Patient Class	100	100	100	100	100	100	100	N/A
Hospital	KS-[redacted]	Clinical Impression	97	97	93	94	98	97	97	N/A
Hospital	KS-[redacted]	Discharge Date	93	93	93	90	85	78	67	N/A
Hospital	KS-[redacted]	Ethnicity	100	100	100	100	100	100	100	N/A
Hospital	KS-[redacted]	Facility Type Code	77	79	80	87	87	90	99	N/A
Hospital	KS-[redacted]	Patient Class	100	100	100	100	100	100	100	N/A
Hospital	KS-[redacted]	Triage Notes	96	97	98	95	99	99	91	N/A
Hospital	KS-[redacted]	Trigger Event	100	100	100	100	100	100	100	N/A

Data Quality Tab – Data Quality

- Example of Completeness for one KS facility
- Several Priority 1 fields included
- You can download API for these queries

Data Quality Tab: Data Quality Frequencies

- The Data Quality Frequency looks at the number of times a value is received in ESSENCE for a certain parameter
- For Frequency by facility choose Facility Location (Full Details)
- Time resolution looks at DQ percentages by day, week, month, quarter, and year
- Adjust start and end date



Data Quality Tab: Data Quality Frequencies

- The Data Quality Frequency looks at the number of unique values received in ESSENCE for a certain parameter

Group	Value	Parameter	Rank	2022-09	2022-10
Hospital	KS-[redacted]	Sex	1	F (585)	F (368)
Hospital	KS-[redacted]	Sex	2	M (469)	M (317)
Hospital	KS-[redacted]	Sex	3	N/A	N/A
Hospital	KS-[redacted]	Sex	4	N/A	N/A
Hospital	KS-[redacted]	Sex	5	N/A	N/A
Hospital	KS-[redacted]	Sex	6	N/A	N/A
Hospital	KS-[redacted]	Sex	7	N/A	N/A
Hospital	KS-[redacted]	Sex	8	N/A	N/A
Hospital	KS-[redacted]	Sex	9	N/A	N/A
Hospital	KS-[redacted]	Sex	10	N/A	N/A
Hospital	KS-[redacted]	Age	1	64 (21)	66 (18)
Hospital	KS-[redacted]	Age	2	32 (20)	52 (17)
Hospital	KS-[redacted]	Age	3	74 (20)	33 (15)
Hospital	KS-[redacted]	Age	4	20 (19)	30 (14)
Hospital	KS-[redacted]	Age	5	65 (18)	73 (14)
Hospital	KS-[redacted]	Age	6	0 (17)	2 (13)
Hospital	KS-[redacted]	Age	7	1 (17)	23 (13)
Hospital	KS-[redacted]	Age	8	19 (17)	41 (12)
Hospital	KS-[redacted]	Age	9	37 (17)	49 (12)
Hospital	KS-[redacted]	Age	10	52 (17)	53 (12)
Hospital	KS-[redacted]	Zipcode	1	66[redacted](138)	66[redacted](96)
Hospital	KS-[redacted]	Zipcode	2	66[redacted](129)	66[redacted](79)

Data Quality Tab: Data Quality Alerts

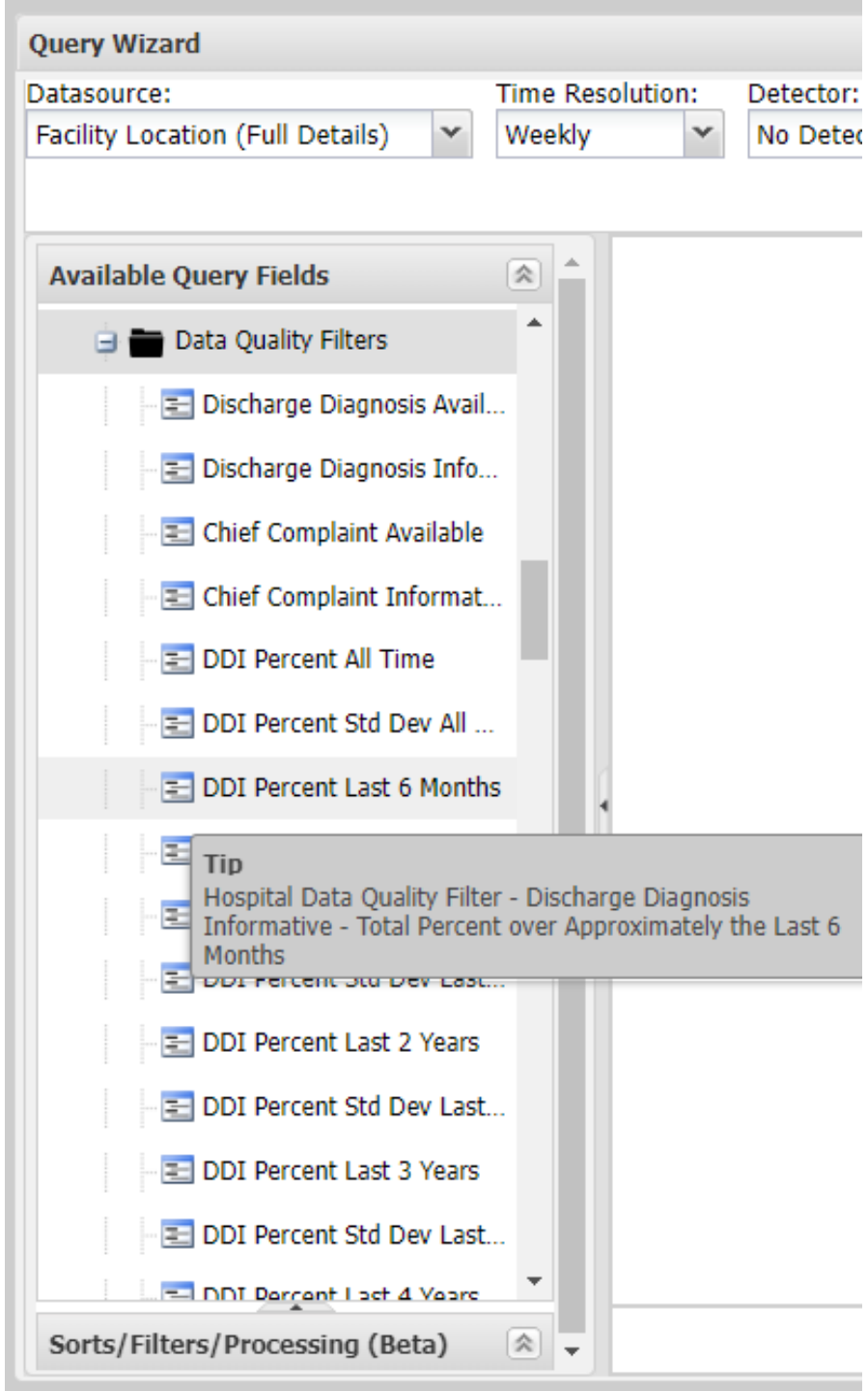
- The Data Quality Alerts table shows any factor that has changed +/- 10 percent or more between days
- NOT split up by facility

Data Quality Alerts

Date	Data Source	Group	Value	Variable	Quality Factor	Percent	Previous Day Percent	Percent Difference	Variable Count	Total Count
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Diagnosis	Percent Completeness	45.28	79.01	-33.73	24	53
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Chief Complaint	Percent Completeness	89.47	100	-10.53	17	19
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Chief Complaint Parsed	Percent Completeness	89.47	100	-10.53	17	19
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Date	Percent Completeness	73.68	95.24	-21.55	14	19
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Completeness	73.68	95.24	-21.55	14	19
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Mapped to Known Values	73.68	95.24	-21.55	14	19
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Race	Percent Mapped to Known Values	100	85.71	14.29	19	19
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Clinical Impression	Percent Completeness	77.78	100	-22.22	7	9
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Date	Percent Completeness	77.78	88.89	-11.11	7	9
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Diagnosis	Percent Completeness	66.67	100	-33.33	6	9
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Completeness	55.56	88.89	-33.33	5	9
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Mapped to Known Values	77.78	88.89	-11.11	7	9
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Date	Percent Completeness	88.89	75	13.89	16	18
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Completeness	94.12	75	19.12	16	17
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Mapped to Known Values	88.89	75	13.89	16	18
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Date	Percent Completeness	70.59	86.67	-16.08	12	17
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Diagnosis	Percent Completeness	64.71	86.67	-21.96	11	17
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Completeness	64.71	86.67	-21.96	11	17
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Disposition	Percent Mapped to Known Values	64.71	86.67	-21.96	11	17
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Triage Notes	Percent Completeness	76	34.88	41.12	19	25
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Date	Percent Completeness	81.82	95	-13.18	18	22
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Discharge Diagnosis	Percent Completeness	72.73	90	-17.27	16	22
09Mar20...	Facility Location (Full Det...	Hospital	KS-	Race	Percent Mapped to Known Values	97.14	87.1	10.05	34	35

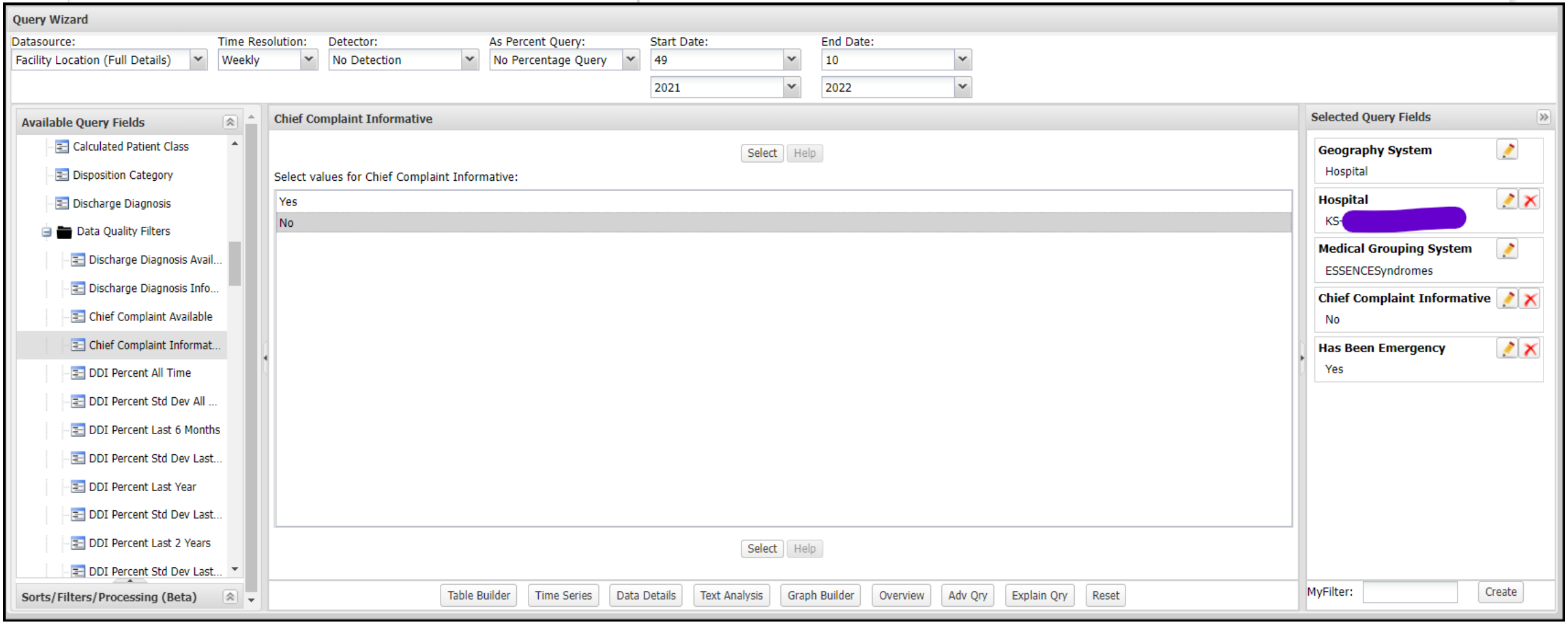
ESSENCE DQ Filter

- ESSENCE DQ Filter
  Description: https://www.cdc.gov/nssp/dqc/articles/essence-data-quality-filter.html
- DQ filter for Chief Complaint (CC) and Discharge Diagnosis (DD)
  - Available
  - Informative: https://www.cdc.gov/nssp/dqc/articles/whats-a-nicc.html
- Analysis Considerations: https://www.cdc.gov/nssp/news/images/_archive-images/dqc1.html



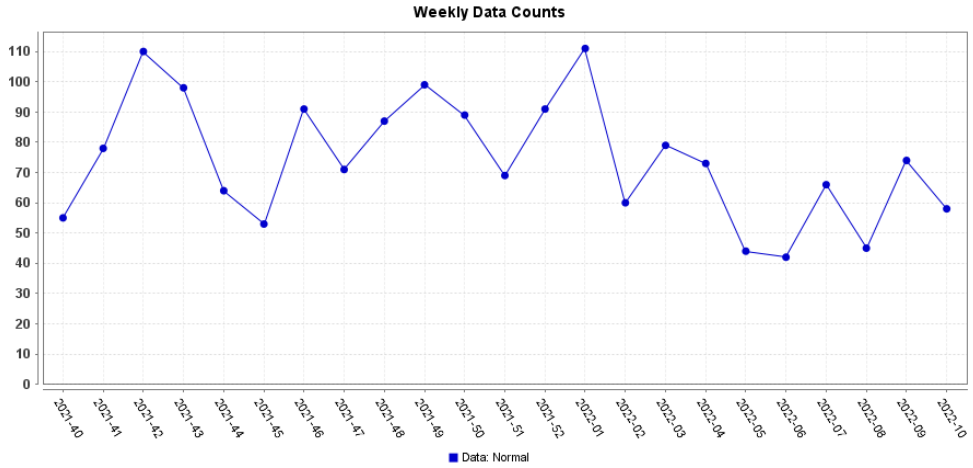
Data Quality Filter

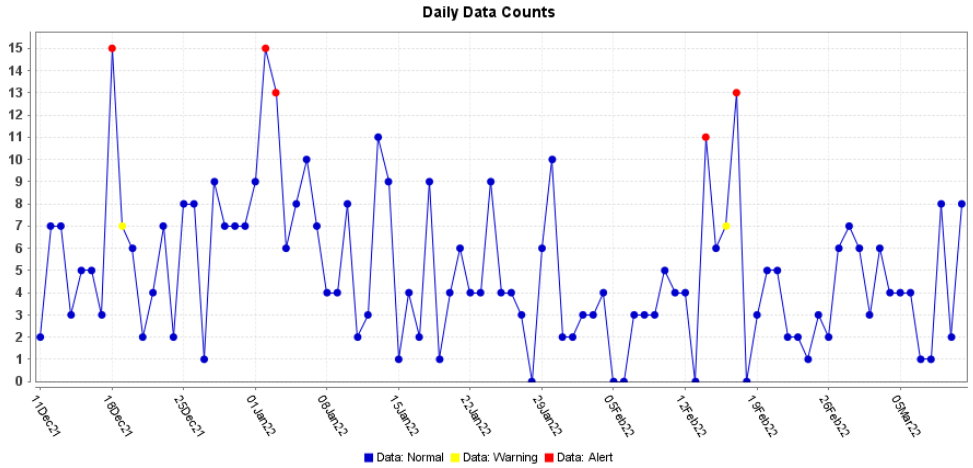
- To filter by facility, choose Facility Location (Full Details)
- Available Query Fields >> Data Quality Filters



Data Quality Filter

- Available Query Fields >> Data Quality Filters
- Time Series shows number of records filtered
- Data Details pulls all the records according to the Filter used
- For example, the first graph is the weekly counts of DD noninformative
- Second graph is the daily counts of CC not available





ESSENCE Resources for DQ

- Helpful tabs and queries explanation
- ESSENCE Training Course in KR: https://knowledgerepository.syndromicsurveillance.org/essence-online-training-course
- Parameters added to DQ Tab: https://www.cdc.gov/nssp/dqc/articles/parameters.html

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Chief Complaint One-Pager

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Chief Complaint One-Pager

- Small group had a meeting on 3/2 to focus the Group's thoughts on CC
  - Created a working document
  - Transferred Muralboard ideas
  - Thought of good questions:
    - Focus Calculated CC or CC?
    - Who is our audience?
- I've added the working CC document to Slack: https://cste-my.sharepoint.com/:w:/g/personal/kparks_cste_org/ETa6bxQfaSlOtSR2P3PTIDQB9DI8elVrz5O04jnYfQLi0g?e=33qU57

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Chief Complaint Details

Example: OBX|3|TX|8661-1^CHIEF COMPLAINT – REPORTED^LN||STOMACHACHE THAT HAS LASTED 2 DAYS; NAUSEA AND VOMITING; MAYBE A FEVER||||||F|||201102171531

- Chief Complaint: Patient's self-reported chief complaint or reason for visit
  - Chief_Complaint_Text
  - Distinct from the Admit Reason field which is the **provider's** reason for admitting the patient
  - Providers may send multiple CC to ensure the most complete description
- Calculated Chief Complaint (ESSENCE): Calculated field that stores the patient's reported chief complaint as well as the admit reason from the physician
  - C_Chief_Complaint

Hierarchically defined (select first non-null):
*** Chief_Complaint_Text**
*** Admit_Reason_Description**

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Open Mic

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