Washington State Department of Health

DOH 420-258

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Using RHINO Data to Monitor Emergency Department Visits for Sexual Violence

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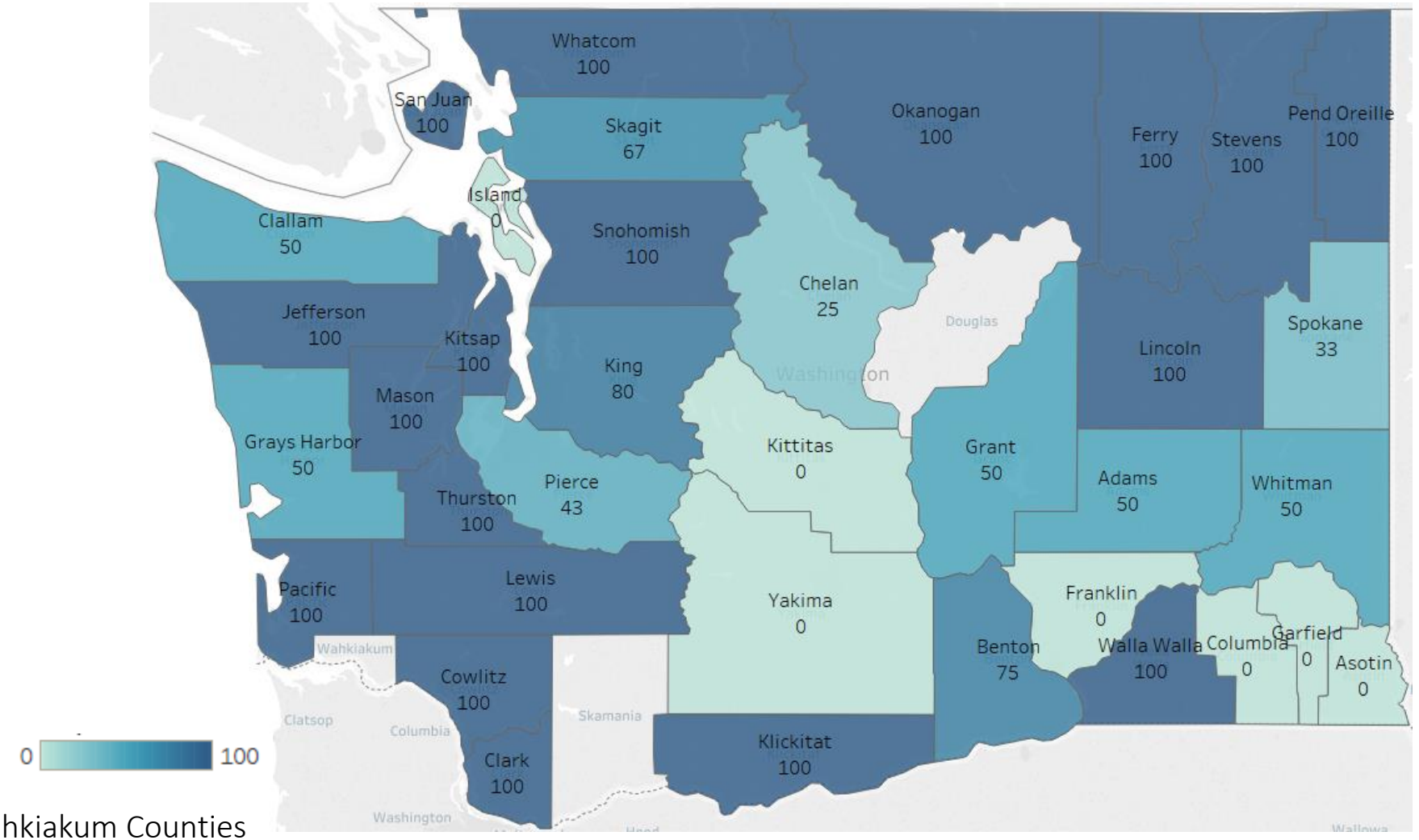
Agenda

- Updates
  - New facilities
  - Data coverage
  - Other updates
- Monitoring emergency department visits for sexual violence
- ESSENCE refresher using influenza-like illness
- Questions

New Facilities

- Valley Medical Center
- MultiCare
  - Allenmore
  - Covington
  - Mary Bridge
  - Deaconess North Emergency Department

Percentage of Emergency Departments Available in NSSP ESSENCE (by County)



*Douglas, Skamania, and Wahkiakum Counties do not have emergency departments

Other Updates of Note

- RHINO is working with partners at DOH to produce automated reports of emergency department visits for opioid overdoses
  - The project is still in its early stages, but we should have more to share in the near future
- Kacey Potis will be staying with RHINO as a surveillance and validation epidemiologist focusing on our opioid surveillance work
- RHINO has two graduate students from the COPHP program at UW helping us with a qualitative analysis project
  - Ayla Ervin will be focusing on firearm injuries
  - Tovah King will be focusing on motor vehicle collision injuries
- RHINO staff will be out of the office the last week of January while we attend ISDS
  - If you have urgent needs, Kacey will be available and you can contact her directly or via the Syndromic Mailbox

Conducting Surveillance

SEXUAL VIOLENCE

Sexual Violence – Background

- Risk for experiencing sexual violence is highest for trans and non-binary people, women, and individuals between 12-34 years[1]
- Not all sexual violence is reported to law enforcement—of 1,000 rapes
  - 310 will be reported to the police[2]
  - 57 reports will lead to an arrest[2]
  - 6 rapists will be incarcerated[2]
- There are many reasons a person may choose not to report *and all of them are valid*
  - Fear of retaliation
  - Expectation law enforcement cannot or will not help
  - Shame from social stigmatization
- Even if an individual does not want to report their assault, they may want or need to seek medical care
  - Using syndromic surveillance data provides a way to better understand sexual violence without burdening patients or healthcare providers

Challenges to Using Syndromic Data

- Original chief complaint may not be the true reason for the patient's visit
  - Patient flow practices may have the original chief complaint gathered in a more public space where the patient does not feel comfortable disclosing
- Difficult to identify trans and non-binary patients
  - Washington now has option to send "X" in lieu of M or F
- Triage notes contain rich context about patient experiences, but may also have highly identifiable information
  - Patient names
  - Patient street addresses and phone numbers
- ICD-10 codes are used less consistently than for communicable diseases and may be indicating a history of sexual assault rather than being treated for one at that visit
  - Particularly common in obstetric and antenatal visits
  - Z56.81 Sexual harassment on the job
  - Z62.810 Personal history of physical and sexual abuse in childhood
  - Z91.410 Personal history of adult physical and sexual abuse

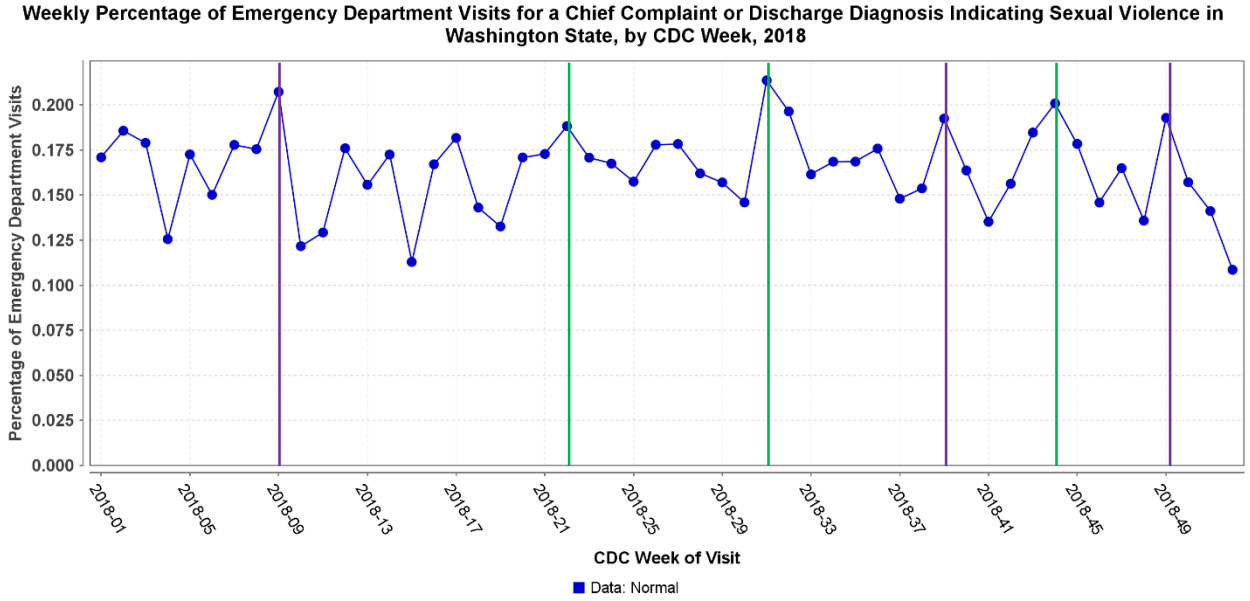
Sexual Violence

- Time frame
  - January – December 2018
- Data source
  - Facility location (full details)
- Facility types
  - Emergency care
  - Inpatient practice setting
- Fields included
  - Chief complaint history
  - Discharge diagnosis
- Triage notes particularly valuable for validating the query
- Submitted for index as Sexual Violence v3
  - v1 and v2 available in NSSP ESSENCE

Query Composition			
Chief Complaint Terms		**ICD-10 Codes**	
Included	**Excluded**	**Included**	**Excluded**
Sexual assault	Grape	T74.2	
Sexual assualt	Scrape	T76.2	
Sexual abuse		Z56.81	
Rape		Z62.810	
Forensic nurse exam		Z04.41	
Sane exam			

Results – Weekly Percentage of Visits (All Ages)

- 2,715 emergency department visits identified*
  - 0.16% of all emergency department visits
  - 0.11%-0.21% of weekly emergency department visits
- Several periods with elevated visits throughout the year
  - Late February (Midwinter Break)
  - Memorial Day
  - Last week of July
  - Late September (Beginning of Autumn Term)
  - Halloween

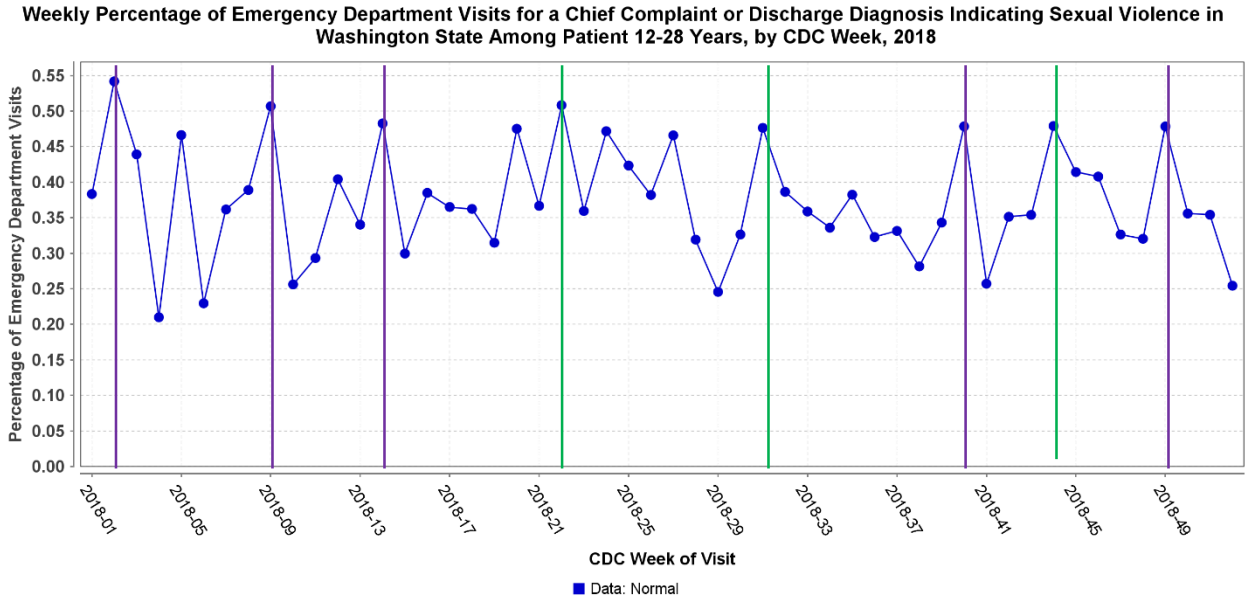


Visit Increase (General)
Visit Increase (Academic Calendar)

* Facility counts changed over data period

Results – Weekly Percentage of Visits (12-28 Years)

- 1,234 emergency department visits identified*
  - 0.37% of all emergency department visits
  - 0.21%-0.60% of weekly emergency department visits
- Some peaks match general population
  - Memorial Day
  - Last week of July
  - Halloween
- Additional (smaller) peaks at some points in the academic calendar
  - Beginning of Winter Term (Week 2)
  - Mid-Winter Break (Week 9)
  - Spring Break (Week 14)
  - Start of Autumn Term (Week 39-40)
  - End of Autumn Term (Week 49)



* Facility counts changed over data period

Results – Triage Notes (2017-2018)

- Triage notes were present for 68.69% of visits
  - Although an optional data element, Washington strongly encourages facilities to submit triage notes
- Triage note content varies widely between facilities
  - Some only bed number and patient chief complaint
  - Others full social determinants of health
- Identifying information present for many visits
  - Special care for protecting patient data
- Many visits contain information about substance use
  - Predominantly stimulants and alcohol

Contextual Information in Triage Notes	Presence in Triage Notes
Time of assault	42.57%
Place of assault	21.43%
Identity of person doing harm	19.71%
"Jail health" or intake	6.57%
Mental health crisis	6.00%
Patient suspects was drugged	3.43%
Homelessness or insufficient housing	3.14%
Power relationship between assailant and patient	2.86%

Results – Sex and Age Group

- Female patients over-represented across all age groups
  - 88.14% of all visits
  - Female patients aged 18-44 years were 52.23% of visits – more than double usual representation
- Age distribution was consistent with other sources of sexual violence data regarding years of highest risk
  - Majority of patients were 18-44 years (58.53%) or 05-17 years (20.55%)
  - Smaller numbers of visits very young (under 5 years) and older (45+ years) patients

Patient Age Group	Sexual Violence Visits		All Visits	
	Female	Male	Female	Male
00-04	6.85%	1.99%	2.57%	3.09%
05-17	18.01%	2.54%	4.16%	4.08%
18-44	52.23%	6.30%	21.54%	16.34%
45+	9.24%	0.81%	12.36%	12.27%
Total	88.14%	11.86%	53.48%	46.51%

* Facility counts changed over data period

Results – Sex and Age Group

- Among female patients, rate per 10,000 visits for sexual violence more than five times rate among male patients
  - Rate is higher across age groups
- Rate per 10,000 visits highest among patients 05-17 years
  - Higher than anticipated based on percentage of total visits

Rate per 10,000 Visits			
Patient Age Group	**Female**	**Male**	**Overall**
00 - 04	43.65	10.52	54.17
05 -17	70.92	10.21	81.13
18 - 44	39.71	6.31	46.02
45+	7.16	0.73	7.89
Overall	26.99	4.17	43.48

* Facility counts changed over data period

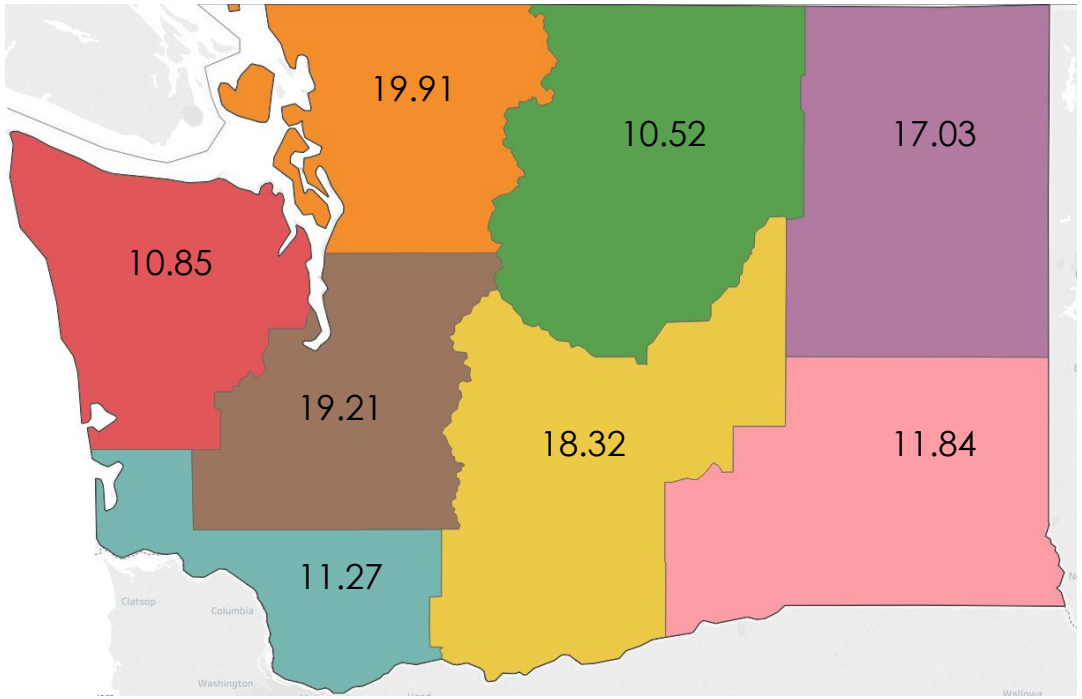
Results – Race and Ethnicity

- Female patients were over-represented across all racial and ethnic groups
- Sexual violence disproportionately affects some communities
  - AIAN and Black or African American patients seen at higher rate than other racial groups
    - Consistent with data from Urban Indian Health Institute → 94% of AIAN women in Seattle area experience sexual violence[4]
- White and Native Hawaiian or Other Pacific Islander patients had lowest rates of visits for sexual violence
- Fewer than 10% of visits did not report race or ethnicity

Patient Demographic	Rate per 10,000 Visits
Patient Race	
American Indian or Alaska Native (AIAN)	27.52
Asian	17.53
Black or African American	23.32
Native Hawaiian or Other Pacific Islander	13.75
Not Reported	18.82
Other Race	18.64
White	15.41
Patient Ethnicity	
Hispanic or Latinx	18.87
Not Hispanic or Latinx	16.21
Not Reported	13.66

Results – Patient Location

County Grouping	Rate per 10,000 Visits
Clallam, Grays Harbor, Jefferson, Kitsap, Mason,	10.85
Island, San Juan, Skagit, Snohomish, Whatcom	19.91
King, Lewis, Pierce, Thurston	19.21
Clark, Cowlitz, Pacific, Skamania, Wahkiakum	11.27
Chelan, Douglas, Okanogan	10.52
Grant, Kittitas, Klickitat, Yakima	18.32
Ferry, Lincoln, Pend Oreille, Spokane, Stevens	17.03
Adams, Asotin, Benton, Columbia, Franklin, Garfield, Walla Walla, Whitman	11.84



Average Home to Facility Distance (in Miles)
29.69

What's Next?

Making Data Actionable

- Syndromic data are most useful when they are actionable
  - What do we do when we find something?
- Cross-discipline partnerships are key to translating syndromic data into health promotion
  - Your organization's injury and violence staff are best placed to connect your data with community partners who can use it
- Possible applications for sexual violence data
  - Inform conversations with academic institutions about campus and teen dating violence
  - Identifying recurring events coinciding with increased visit volume
  - Monitor trends in communities where consent curricula are taught
  - Designing more effective communication campaigns

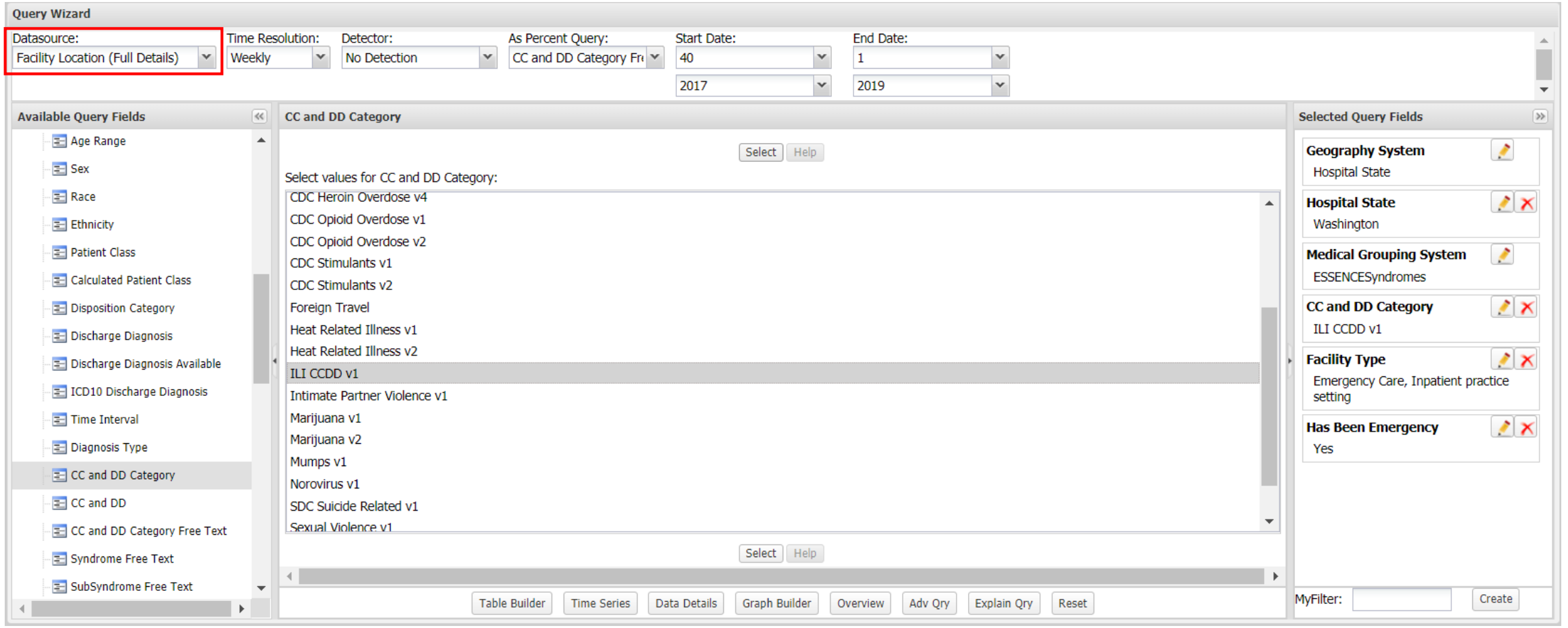
References

1. Victims of Sexual Violence: Statistics. RAINN | The nation's largest anti-sexual violence organization. https://www.rainn.org/statistics/victims-sexual-violence. Accessed October 9, 2018.
2. The Criminal Justice System: Statistics. RAINN | The nation's largest anti-sexual violence organization. https://www.rainn.org/statistics/criminal-justice-system. Accessed October 9, 2018.
3. US Census Quick Facts: Washington. United States Census Bureau. https://www.census.gov/quickfacts/wa. Accessed October 9, 2018
4. Our Bodies, Our Stories: Sexual Violence Among Native Women in Seattle, WA. Urban Indian Health Institute. http://www.uihi.org/wp-content/uploads/2018/08/UIHI_sexual-violence_r601_pagesFINAL.pdf. Accessed October 9, 2018.

Conducting Surveillance

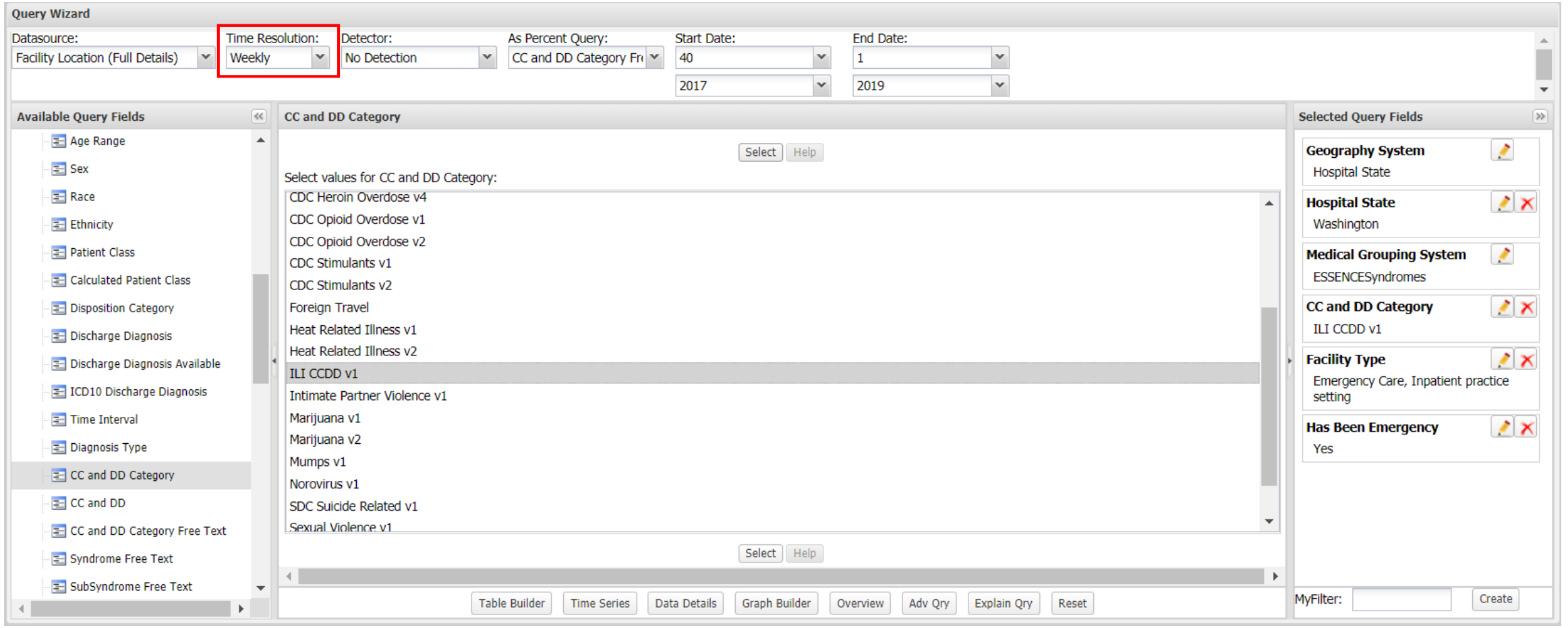
INFLUENZA-LIKE ILLNESS

ILI Surveillance – Data Source



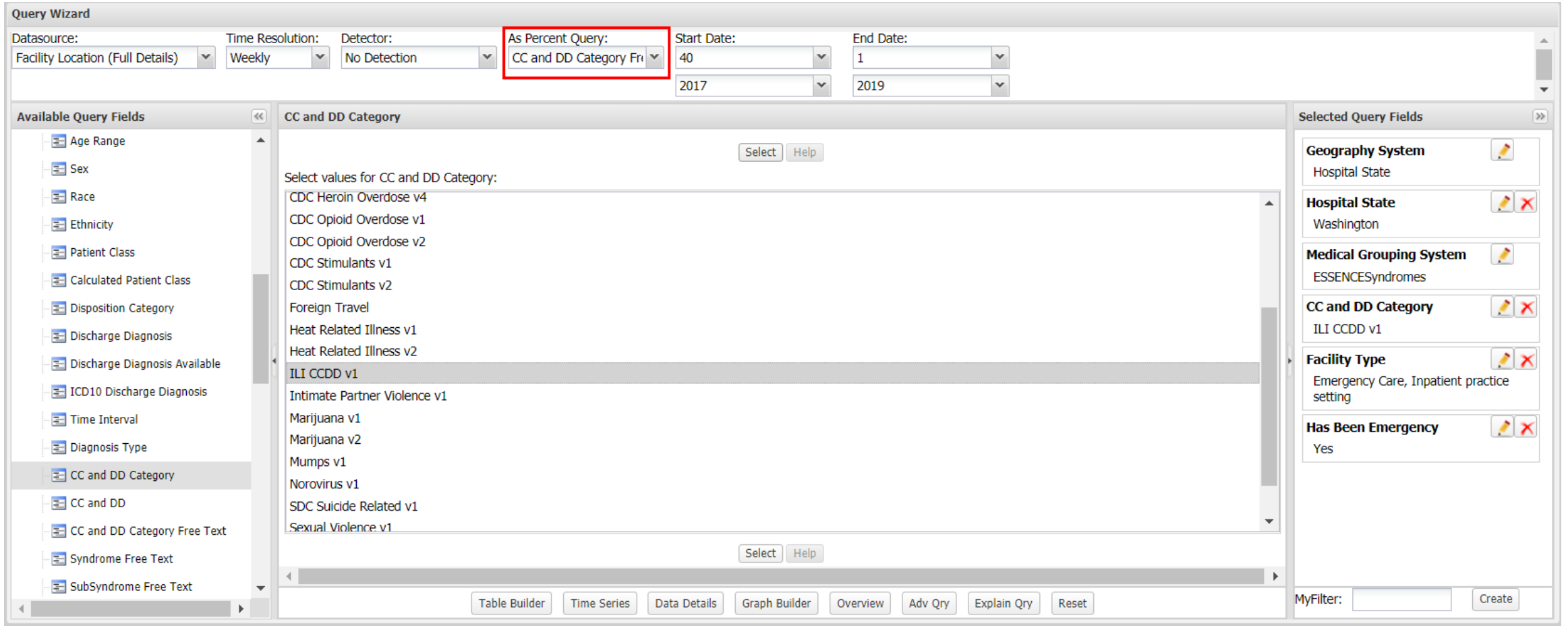
- Always begin by selecting your Datasource. For ILI surveillance, we typically use Facility Location (full details)

ILI Surveillance – Time Resolution



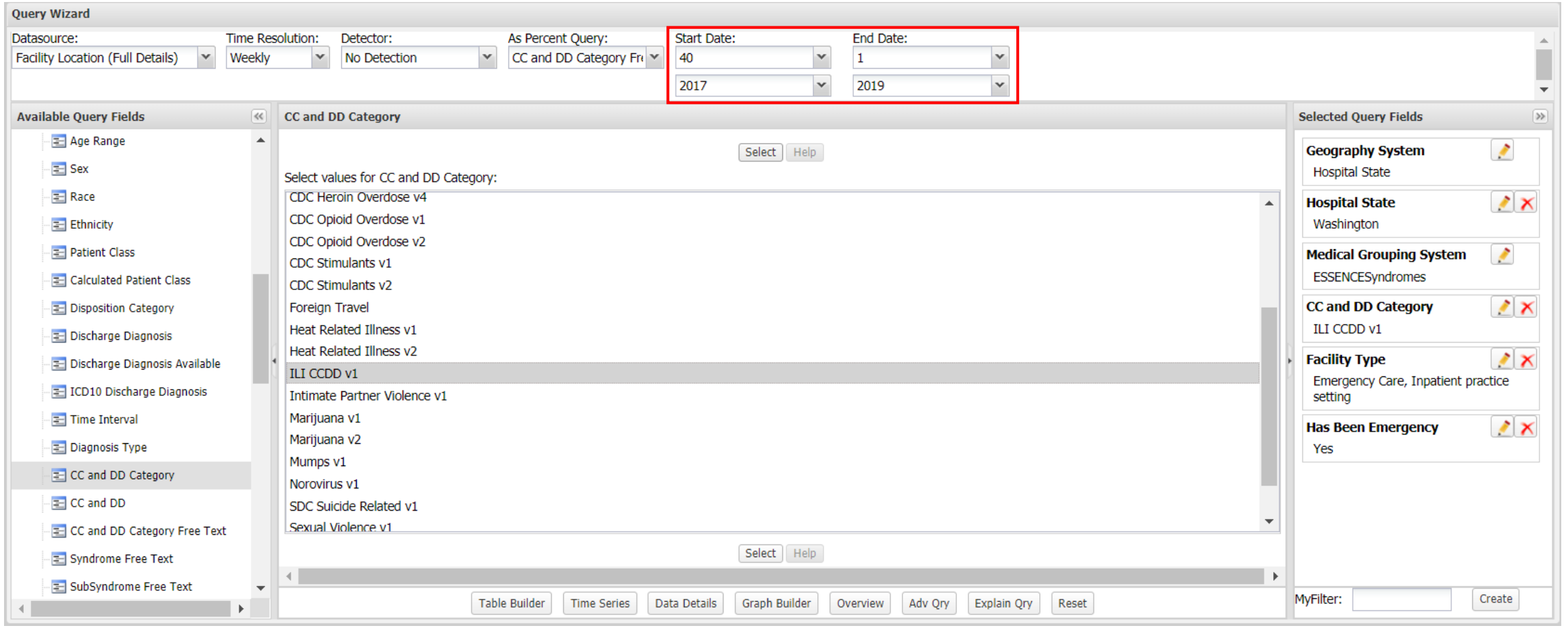
- Consider your time resolution. You may choose daily, weekly, monthly, quarterly, and yearly outputs
- For ILI, weekly visits is the most common resolution choice.

ILI Surveillance – As Percent Query



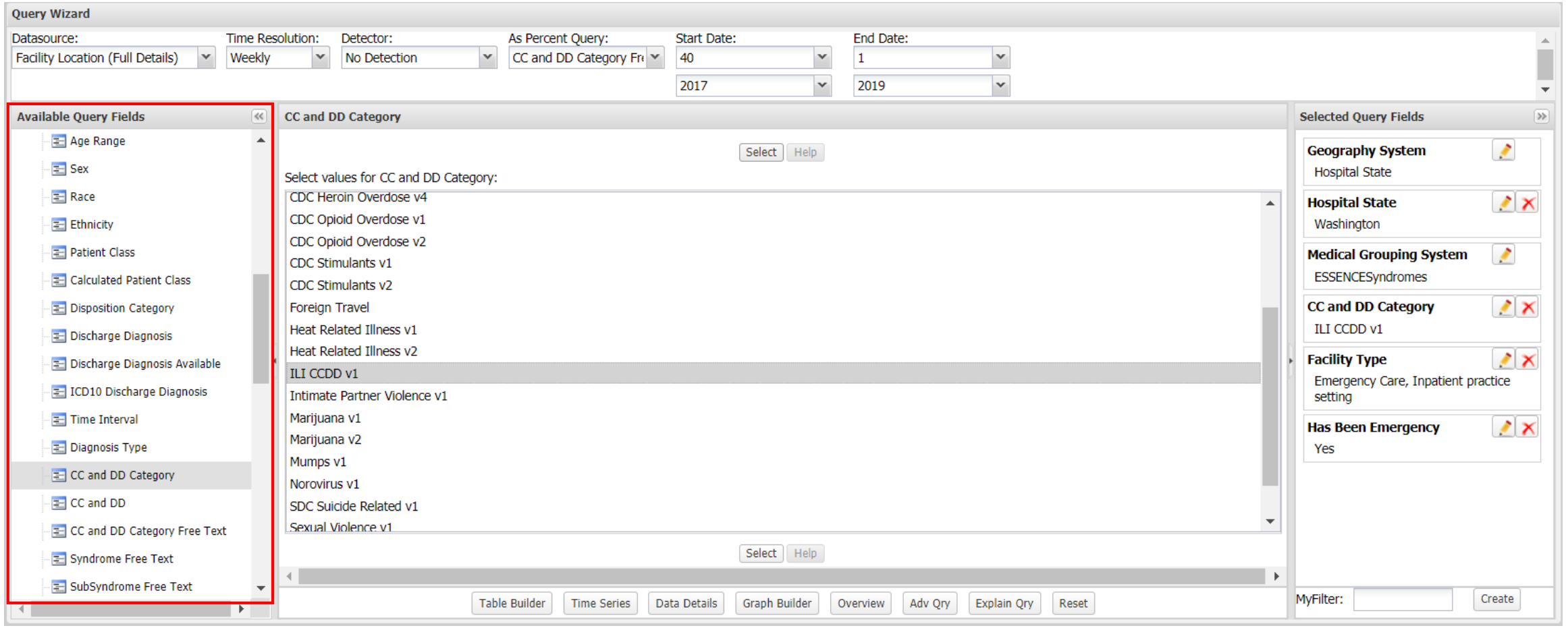
- ILI is conventionally monitored looking at visits for ILI as a percentage of total visits.

ILI Surveillance – Start and End Points



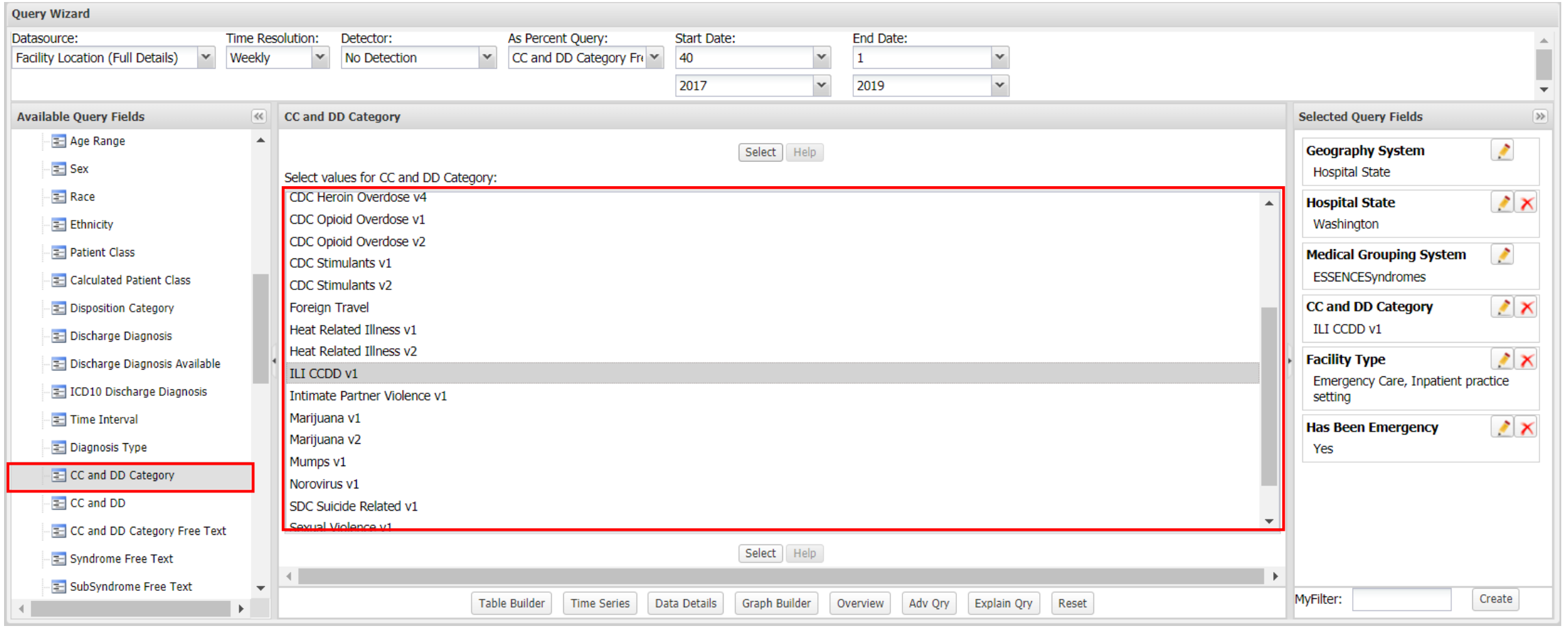
- Influenza season is generally CDC Week 40 to CDC Week 20
- By setting your time frame back to a previous year, you can compare flu seasons

ILI Surveillance – Available Query Fields



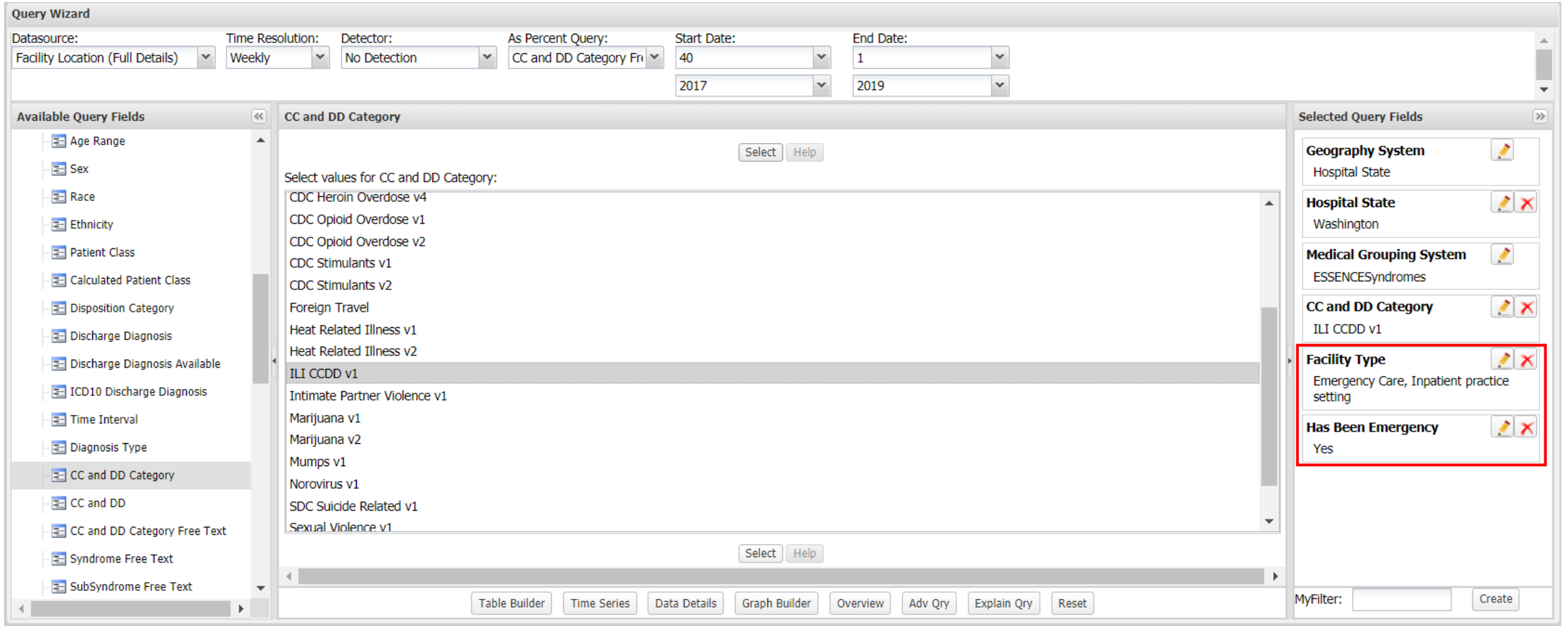
- The available query fields box shows a list of available parameters you may choose for your query

ILI Surveillance – CC and DD Category



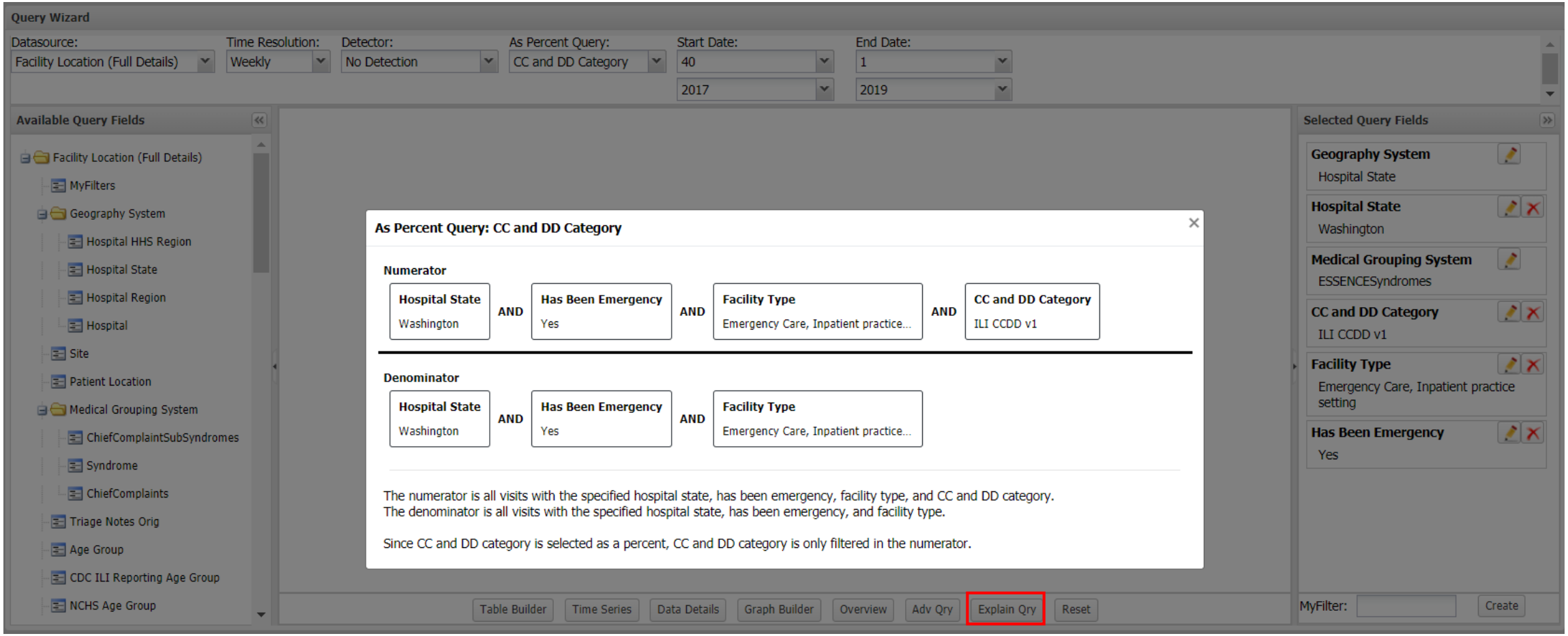
- The CC and DD Category field contains a variety of user-created queries indexed in ESSENCE which typically search multiple data fields simultaneously

ILI Surveillance – Facility Type and Patient Class



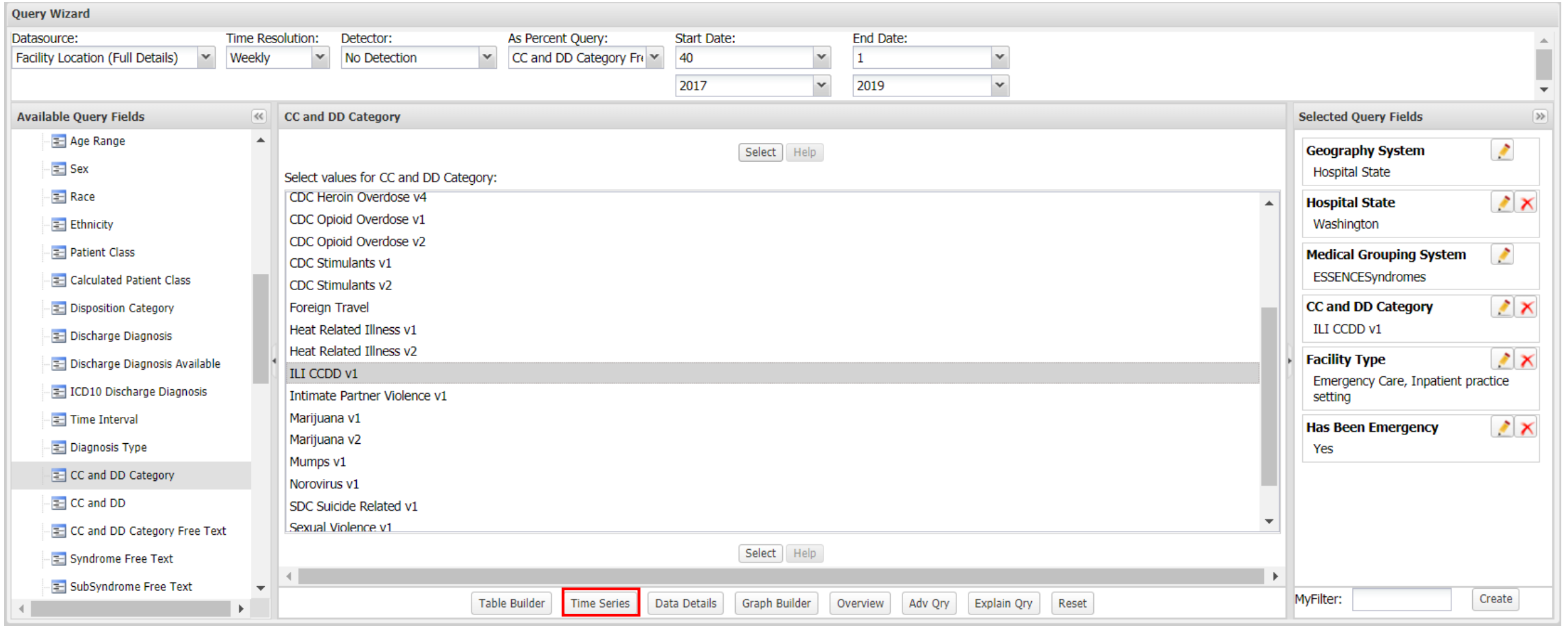
- While building your theory, it is also important to consider the facility types and patient classes relevant for your inquiry

ILI Surveillance – Explain Query



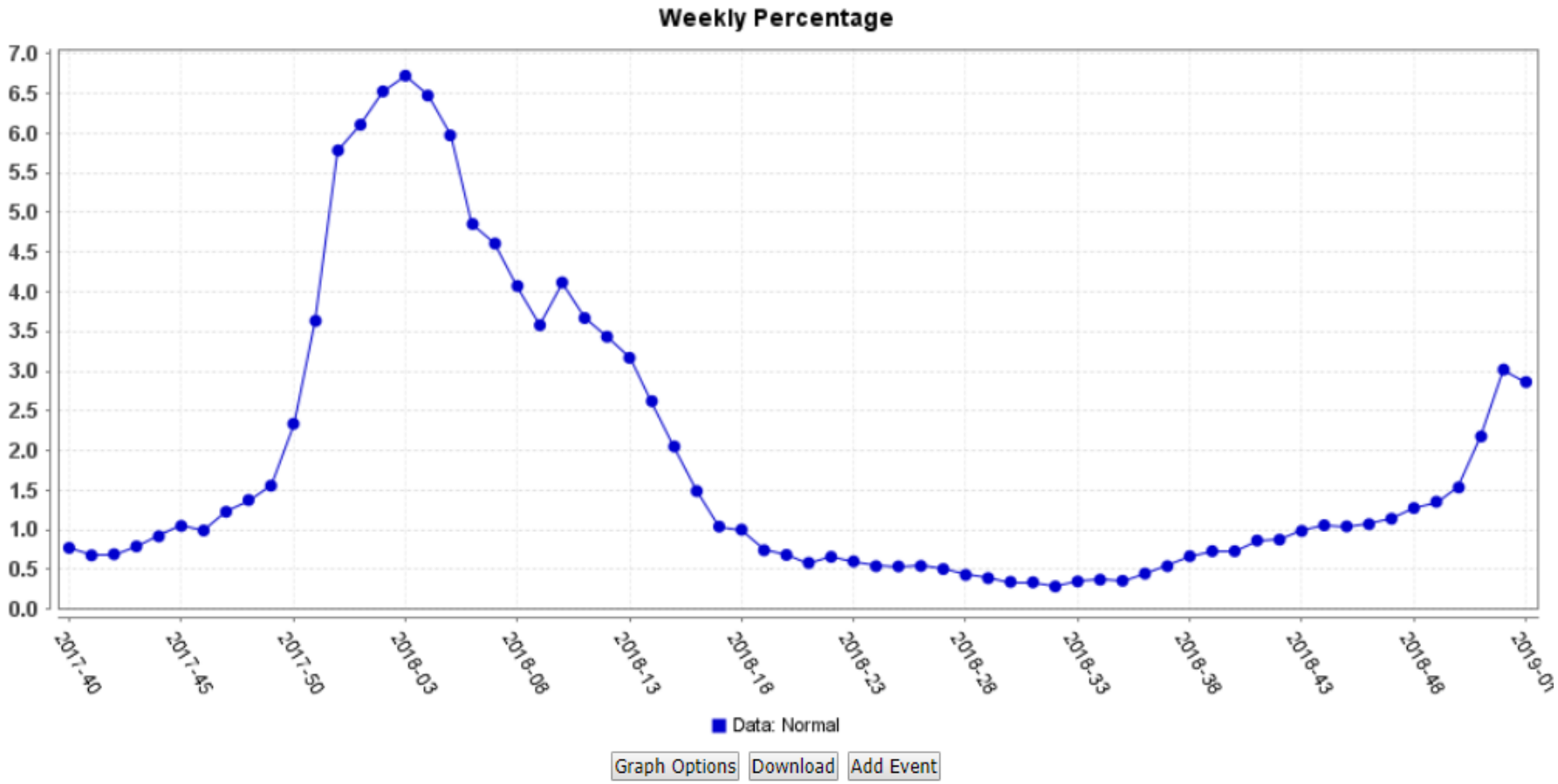
- If you would like to view a depiction of your query's numerator and denominator, click the Explain Qry button

ILI Surveillance – Facility Type and Patient Class



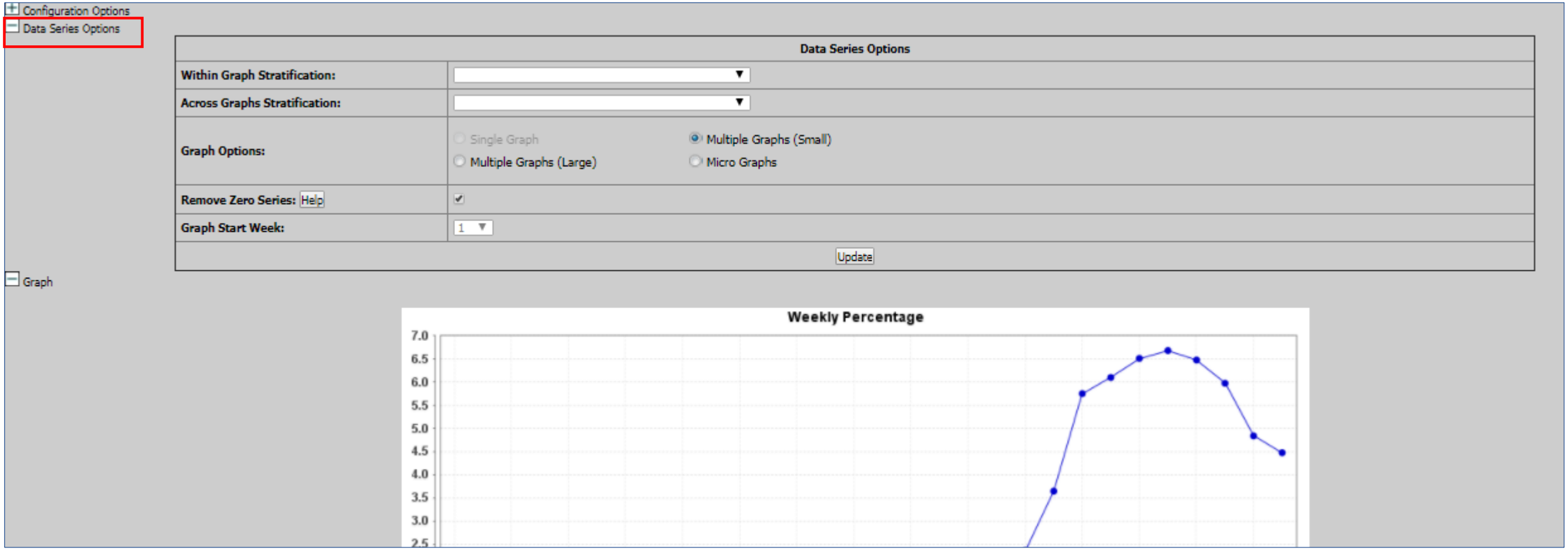
- When your query is complete, click Time Series

ILI Surveillance – Time Series Graph



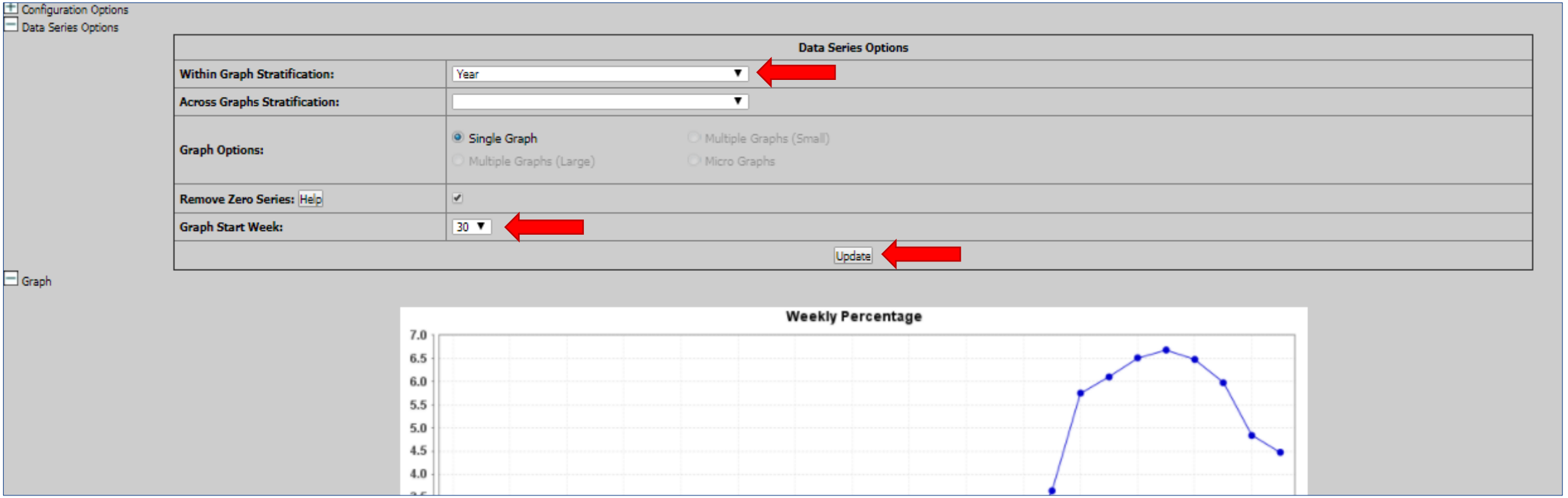
- You have a graph! It looks pretty great!
- Now let's compare this respiratory season to last year

ILI Surveillance – Data Series Options



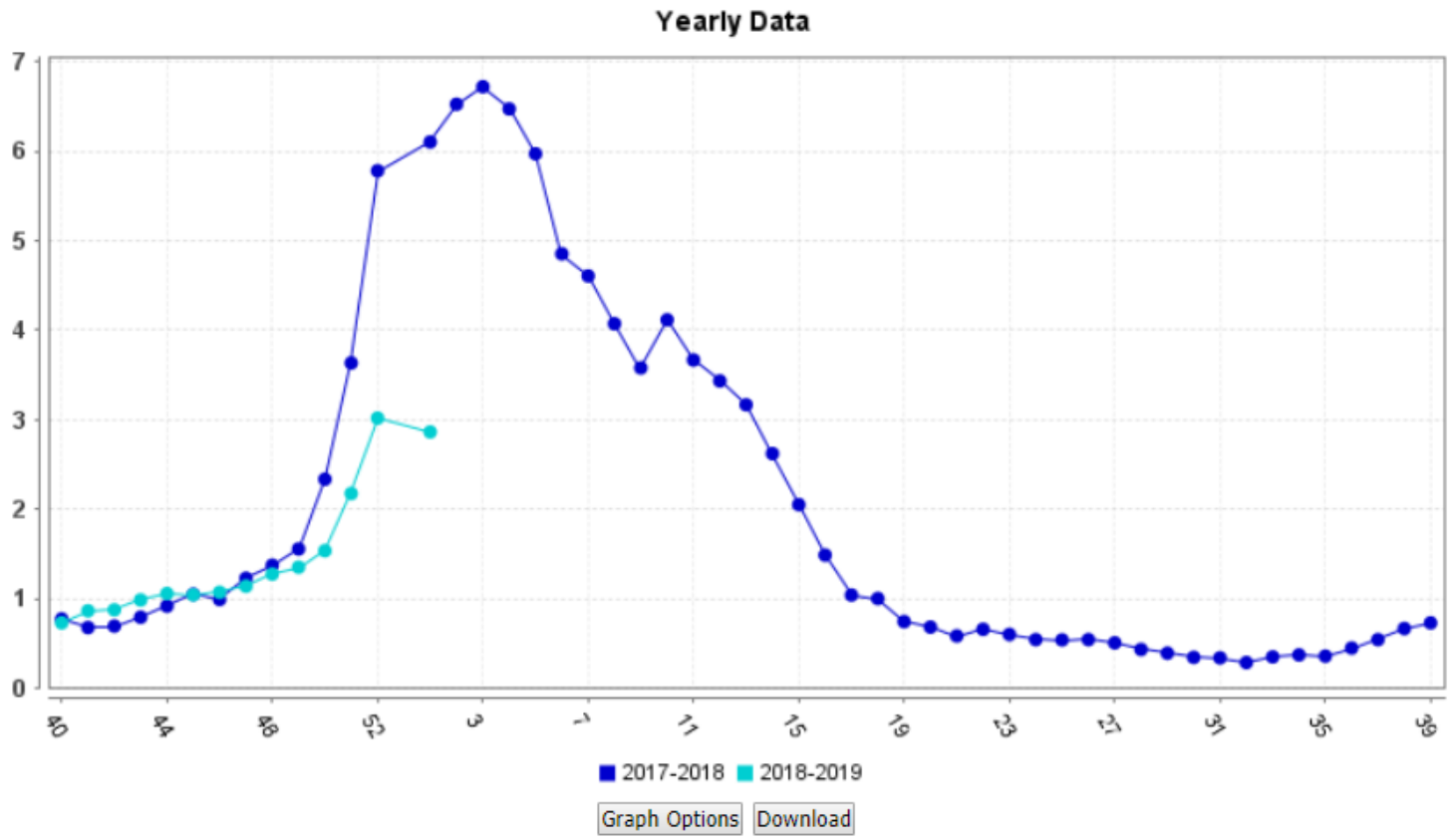
- Start by opening up the "Data Series Options" drop down

ILI Surveillance – Selecting Your Stratifications



- Select "Year" from the bottom of the "Within Graph Stratification" dropdown
- Select 30 (or your week of choice) from the "Graph Start Week" dropdown
- Click update

ILI Surveillance – Year-Over-Year Stratification



- Edit your title and axes using the "Graph Options" button
- Download your graph using the "Download" button (I don't recommend choosing to zoom in)

Contact us!

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