# QUERIES IN TRINETX

QUERIES: THE MEAT OF A STUDY

A TNX study's meat in is the queries. Your study can have just one, or multiple queries. Your queries can be almost identical to one another, but run on differing data networks, age groups, or time periods. They may also be wholly different from one another in the same study.

Once your query is built, you will enjoy the analytics features in TNX to gain insights. Your insights might encourage you to move ahead with a research project, to edit your query, or to take a new direction with your research.
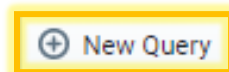
WHAT IS A QUERY IN TNX?

A query asks the details for your specified patient population. You define your patient population by Must Have and Cannot Have criteria, just like Inclusion and Exclusion Criteria in a written study protocol.
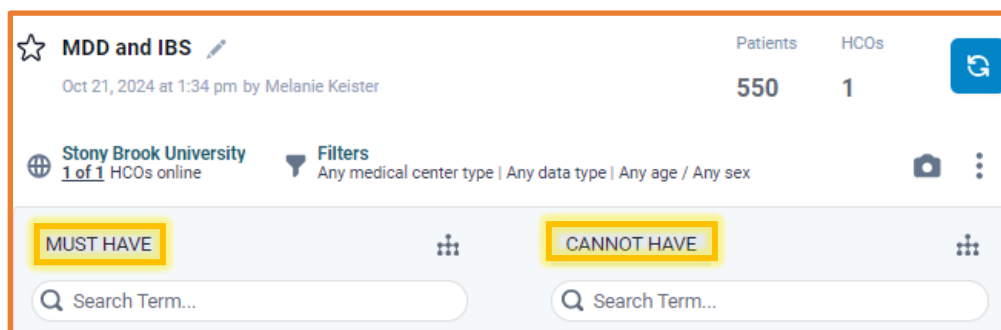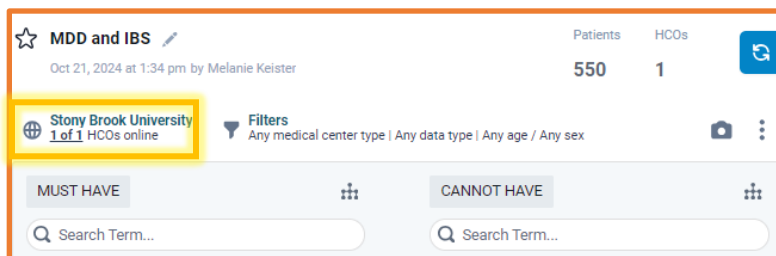

BUILD A BASIC QUERY

Click New Query in the upper right of the Query Builder to add a brand new query to the study.


Choose a Network

At the top of your query in Query Builder, you select a network of data. Click on the network name to see your other choices.

All networks permit running analytics on your query-defined cohorts, but not all will allow downloads of datasets. Each of your study's queries can have different network associations, and you can easily edit your query to be run on a different network if you change your mind.
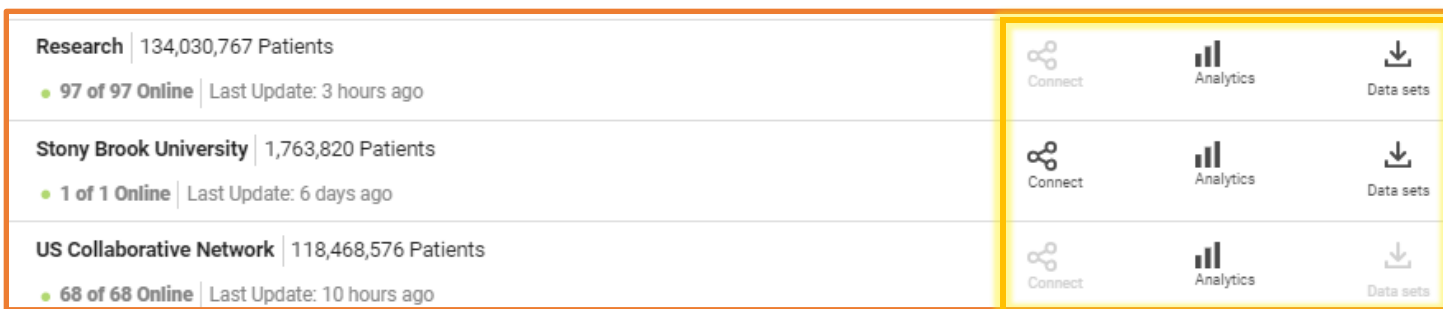
Choose Filters

Query results can be filtered by Medical Center Type, Data Types, and Age and Sex.

Medical Center Type

HCOs sharing data could be Academic, Non-Academic or Unknown.

Data Types

HCOs sharing data must have the data types that you select, such as Demographics, Diagnoses, Genomics, Labs, Meds, or Procedures.

Age and Sex

Select for sex of patients or current age. The age of the patient will reflect their age on the day you count the patients in your query.

Finding and Adding Terms

Use the search boxes to find your parameters. You can enter known codes or text if you do not know the code. Using general text gives you the chance to further specify based on the results. For example, here is a text search for "Liver".

The returns include the Diagnoses, Labs, Procedures, Medications and Genomics. Tip: You can quickly filter if you only want to see Diagnoses by clicking on the highlighted Diagnoses filtering button.

Drill down to a more specific liver disease diagnosis by clicking on the blue tree for that code.
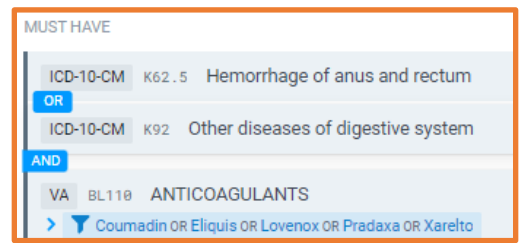

Once you open up a tree, you may also see codes with blue sideways arrows. Click on those, and they will further expand to show subcodes.

Add terms by clicking inside the white box, and then click Add to Query. New terms appear on the side on which you performed the term search (Must Have or Cannot Have). Lab terms allow you to enter values and whether you want the most recent lab result to meet those values, or any value in the history of the patient. Terms can be dragged from one side to another as needed.
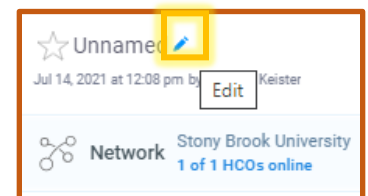
Important: Pay attention to the "AND"s and "OR"s. Inclusions default to AND between each list term, and exclusions default to ORs, but you can click on the word to toggle between them.

MUST HAVE

ICD-10-CM K62.5 Hemorrhage of anus and rectum
OR
ICD-10-CM K92 Other diseases of digestive system
AND
VA BL110 ANTICOAGULANTS
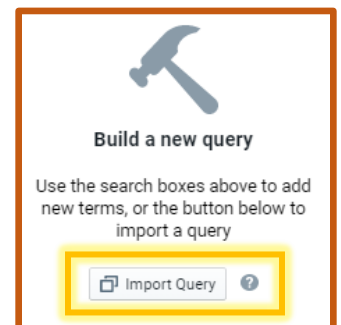> ▼ Coumadin OR Eliquis OR Lovenox OR Pradaxa OR Xarelto

Now, **Count Patients** by clicking the rounded arrows to to see how many in your chosen network fit your query criteria.

Name each query so you can find it again easily among your other queries. Click the pencil to edit at any time.

☆ Unnamed ✏ Edit
Jul 14, 2021 at 12:08 pm by Keister

⤨ Network Stony Brook University
1 of 1 HCOs online

Timesaver tip: Don't waste time rebuilding your query!

You can import a query from any study that you created, was shared with you, or is a template study in the system – even the study you are currently in. In your new blank query, select Import Query. Select the study with the query you want, then choose the specific query to import it as your new query. This saves effort if you just want to edit the original as your new query.

Build a new query

Use the search boxes above to add new terms, or the button below to import a query

⧉ Import Query ❓

Note: *Anytime you edit an existing query, and count* 🔄 *anew, a new unnamed query is generated, and adds to a growing list on the right of your screen. You may find this ever-expanding pile a bit confusing.* <u>Delete</u> *junky queries as you work, and* <u>name</u> *those you want to track. You can also click to highlight the star* ☆ *on favorite queries to find them easily.*
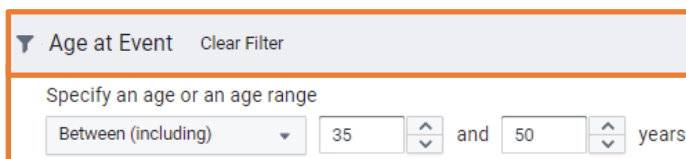
BUILD A COMPLEX QUERY

Real study questions are rarely simple. Some more advanced tricks for fine tuning your queries:

Filter a single term
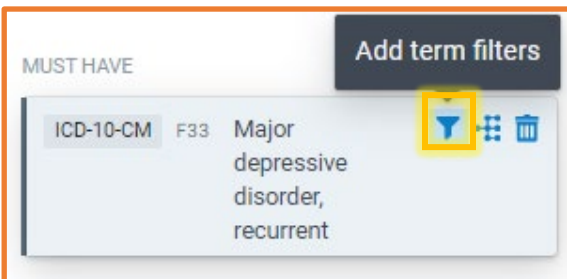
This funnel helps you add filtering to this term, such as Age at Event or details related to cancer, meds, or labs.

The Power of the Group

Creating groups for your terms helps you organize and fine-tune your query. Use groups for setting Time Constraints, defining a Number of or Unique Instances for terms, and creating time dependences between two Related Groups.

Click the button at the bottom of your query builder page to create a New Group. Terms need to be searched and added from the main search box to your main query. Then, use the Add Terms button to fill from an easy checklist of your query's ungrouped terms.
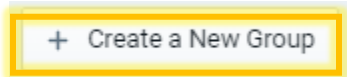
Group Rules

Click Group Rules in your group box to set any of these parameters.
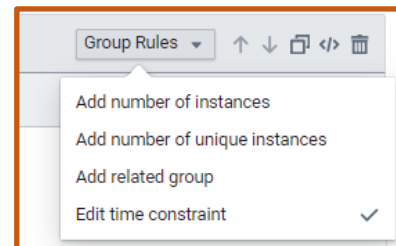
Add a Time Constraint

Let's see how you can filter for WHEN these terms occurred.

Click Time Constraint and set Relative Time (say, within the last 3 months), or set Specific Dates (maybe 01Mar2020 – 01Mar2021). You can have multiple groups, each with different constraints.
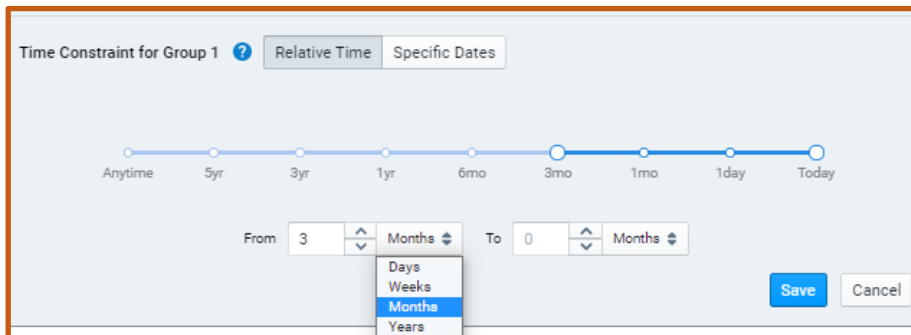
Any terms captured within that group will have this filter applied. Any terms not moved into this group will not be affected by this time constraint.

Create a Related Group

You may ask for patients who had an occurrence of your term(s) in a time relationship to another term(s). Create a group for your first terms, then click Add Related Group in Rules. Now you have Groups A and B. Add the terms you would like to relate to Group A into Group B. Click to set the relationship.

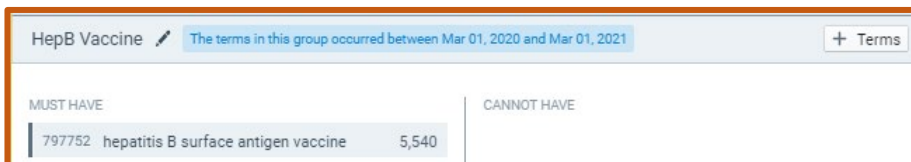Set a relationship between groups before running the query   Set Relationship

Set a Relationship between 1A and 1B
Any instance of Group 1B occurred within 3 years on or before any instance of Group 1A

Group 1A: Any instance | Most recent instance | First instance

1A

Anytime Before | 5yr | 3yr | 1yr | 6mo | 3mo | 1mo | 1day | Same Day | 1day | 1mo | 3mo | 6mo | 1yr | 3yr | 5yr | Anytime After

From 3 Years Before   To 0 Days After

Group 1B: Any instance | Most recent instance | First instance

Save   Cancel

Imagine Group A stays firmly in place. Group B can move either ahead or behind Group A by the time period you define.

You can also define the instance type of each group. For example, if your term was a Myocardial Infarction, you might want to specify the Most Recent Instance, or perhaps First Instance.

Group 1

1A cellulitis 2016-2019 ✏ The terms in this group occurred between Jan 01, 2016 and Dec 31, 2019

MUST HAVE		CANNOT HAVE
ICD-10-CM L03 Cellulitis and acute lymphangitis	71,880	

Relationship Any instance of T2D Hx prior to cellulitis dx occurred at least 1 day before any instance of cellulitis 2016-2019

1B T2D Hx prior to cellulitis dx ✏

MUST HAVE		CANNOT HAVE
ICD-10-CM E11 Type 2 diabetes mellitus	128,760	

AND

Group 2

2A Inpatient encounter 2016-2019 ✏ The terms in this group occurred between Jan 01, 2016 and Dec 31, 2019

MUST HAVE		CANNOT HAVE
Visit: Inpatient Encounter	392,330	

Relationship Any instance of Cellulitis dx: 3 d before thru... occurred within 3 days before or up to 1 week after any instance of Inpatient encounter 2016-2019

2B Cellulitis dx: 3 d before thru 1 wk post inpatient 2016-2019 ✏

MUST HAVE		CANNOT HAVE
ICD-10-CM L03 Cellulitis and acute lymphangitis	71,880	

Hot Tip!
You can add the same term more than once to a query to capture all the relationships between terms. In this example, Cellulitis is related to a history of diabetes and to an inpatient admission.