OCHIN

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OCHIN Cohort Discovery Tool

User Guide

Updated 10/4/2024

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Introduction

This document is intended as a quick start guide to OCHIN's Cohort Discovery tool, an easy-to-use web-based program for exploring OCHIN and ADVANCE data for preparatory to research purposes. General information about the ADVANCE CRN and its contents is available on our website, advancecollaborative.org. For issues related to access and troubleshooting, please contact i2b2Admin@ochin.org.

Background

The Accelerating Data Value Across a National Community Health Center Network (ADVANCE) Clinical Research Network (CRN), funded by the Patient-Centered Outcomes Research Institute (PCORI), integrates outpatient electronic health record (EHR) data for Community Health Center (CHC) patients across the United States and integrates community data for these patients. The ADVANCE CRN serves as a 'community laboratory' for engaging vulnerable patients in people-centered research. As the nation's largest safety-net community laboratory, consisting of researchers, patients and clinicians, ADVANCE works to improve health outcomes, policy, and primary care research among vulnerable and underserved populations utilizing rigorous scientific methods.

OCHIN's Cohort Discovery tool (based on i2b2 - Informatics for Integrating Biology and the Bedside; https://www.i2b2.org) is an open-source software platform designed primarily for preparatory to research uses such as building cohorts and hypothesis generation. Using the user-friendly drag and drop feature of the query tool, researchers can build and run queries OCHIN's EHR data and the ADVANCE Collaborative's dataset. Cohort Discovery contains data on over 13.5 million patients from across the US.

Data Sources

The data source for Cohort Discovery is the OCHIN Research Data Warehouse (RDW) and the ADVANCE Data Warehouse (DW). ADVANCE is led by OCHIN in partnership with three other CHC networks: Health Choice Network (HCN), Fenway Health, and Oregon Health and Science University (OHSU).

The ADVANCE DW is a superset of the PCORnet Common Data Model (CDM), containing additional data specifically oriented to safety-net patients. The ADVANCE DW contains all tables and fields defined for the PCORnet CDM, plus additional tables and fields that the ADVANCE CRN includes to support health equity research. These fields are elements unique to CHCs that collect data for HRSA Uniform Data System (UDS) and other CHC-related reporting purposes, which are typically not collected by non-CHC clinics. These fields include the Federal Poverty Level (FPL), patient primary language, migrant/seasonal worker status, homeless status, veteran status, and others. As part of PCORnet, the ADVANCE dataset is highly curated and continually monitored and assessed for data quality. Data are cleaned, validated, and research ready.

RDW Patient Inclusion Criteria

Data are included from the ADVANCE ambulatory data partners (OCHIN, Fenway, HCN, and OHSU) on any patient seen in their respective systems who was defined as "active" at the time of a data extract. Patients are active if they have had a primary care, behavioral health, or dental visit in one of the networks' clinics within the past three years as of the date of the data extract. For each active patient, all available historic data are then included in the RDW as far back in time as available.

ADVANCE started loading patient on 1/1/2015, so the RDW includes patients deemed as "active" starting on 1/1/2012. Any patients that become inactive over time (i.e., were included in the RDW as "active" after

1/1/2012 but not seen in the past three years as of any given extract date) are not removed from the RDW but are flagged as "inactive". Incarcerated patients and their encounters are excluded from the RDW.

Despite data being available back to 2012, the number of patients and encounters in the ADVANCE dataset has increased greatly over time (Fig 1). Many health centers have joined ADVANCE partner networks over time (while fewer have left); and many have added clinics and expanded, reduced, or changed their services over time. Consequently, the ADVANCE DW contains an open cohort based on patient utilization and should not be considered a consistent longitudinal cohort of a fixed set of clinics or patients over time.

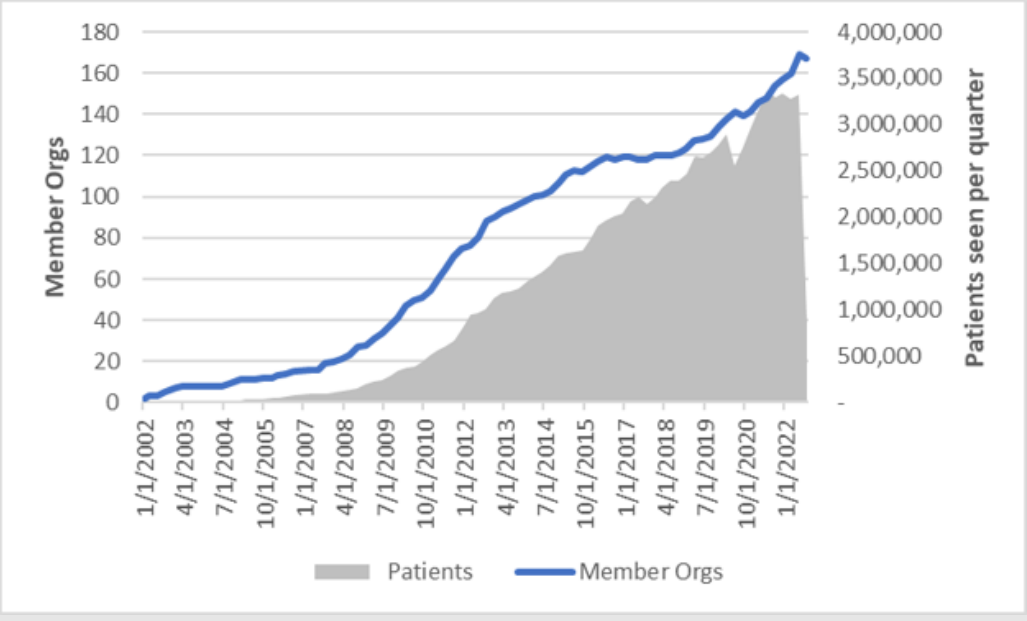

Figure 1. Increase in member organizations and patient counts in ADVANCE RDW, as of 7/25/22.

Cohort Discovery contains most – but not all – of the data elements available in the ADVANCE DW.

Exceptions include Community Vital Signs (i.e., geographically linked community-level data), family linkage information, and some other elements that are not well populated across the entire ADVANCE network at this time. In addition, note that some standard PCORnet fields reference inpatient care delivery, which are not populated in in Cohort Discovery because ADVANCE DW is restricted to outpatient care. See the Cohort Discovery Ontology section (p.7) for additional detail on available data.

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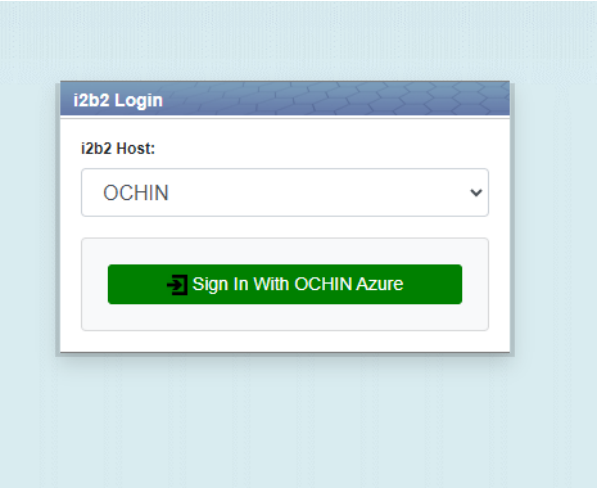
Accessing and navigating the OCHIN's Cohort Discovery tool

Logging into OCHIN Cohort Discovery Via Multi Factor Authentication

To ensure access to the OCHIN Cohort Discovery is easier and more secure, OCHIN have implemented Multi-Factor Authentication (MFA). To access the Cohort Discovery tool, point your browser to https://i2b2.ochin.org and click on '**Sign in With OCHIN Azure**'.



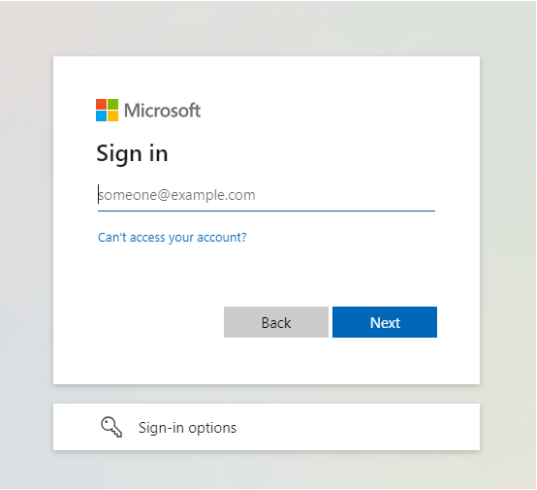


Figure 2 and 3. Logging into the Cohort Discovery tool.
**i2b2 Host name is subject to change. Notification will be provided via email and an updated User Guide.*

Internal Users (OCHIN employees only):

After clicking on 'Sign in With OCHIN Azure' a new screen will pop up asking the user to pick an account.

If available, select the account that ends with '@community-health.org'. If this account is not showing, then select '**Use another account**' and enter your datacenter username follow by **'@community-health.org**' and click on '**Next**' (for OCHIN employees, this is usually your last name and first letter of your first name with a "**dc-"** prefix for non-analyst research staff).

For example, Jane Smith would be '**smithj';** smithj@community-health.org or dc-smithj@community-health.org, if you are unsure about datacenter username please contact the i2b2 admin team: i2b2Admin@ochin.org.

A new screen will prompt you to 'Enter password'. This will be your data center (dc) password. If you do not remember your data center password, please submit a Jira to IT with a request to reset your dc password.

After inputting your dc password, a new screen will pop up prompting you to open your authenticator app and enter the random number shown to sign in.

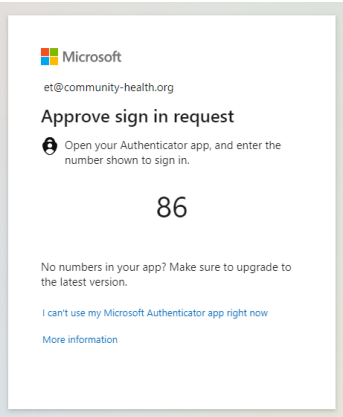


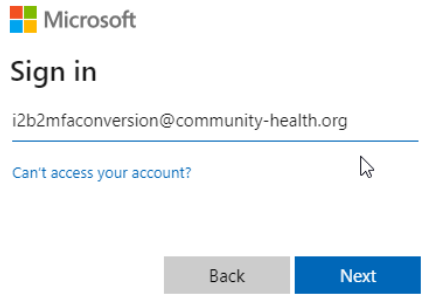
Figure 4. Screen showing number to enter into the Authenticator app.

***Note: Generated number will timed-out after a few minutes, and 'Request denied' message will appear, if that occurs, just click on the back arrow to go back to the previous page and start again.*

After entering the number shown in your authenticator app, you should be able to successfully land on the OCHIN Cohort Discovery page and will see the 'Choose a Project' option.

External Users (all others):

After clicking on 'Sign in With OCHIN Azure' a new screen will pop up asking you to sign in. Enter the username and temporary password that were provided by the OCHIN i2b2 admin via secure email. If you do not have one or need additional assistance, please reach out to i2b2Admin@ochin.org.



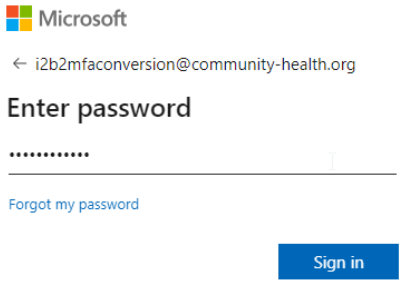
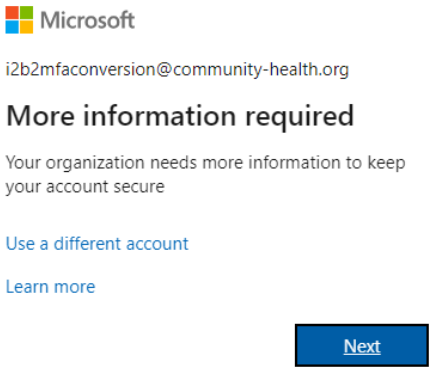


Figure 5 and 6. Screenshots of login in screens.

After entering the temporary password, you will be prompted to set a new password. Set your new password.

After setting your new password you will be prompted to set up MFA, figures 7-12 are specific to setting up MFA with the Microsoft Authenticator phone app, but other authenticators such as text message (SMS/phone), Duo Mobile, Google Authenticator, etc., are also supported.



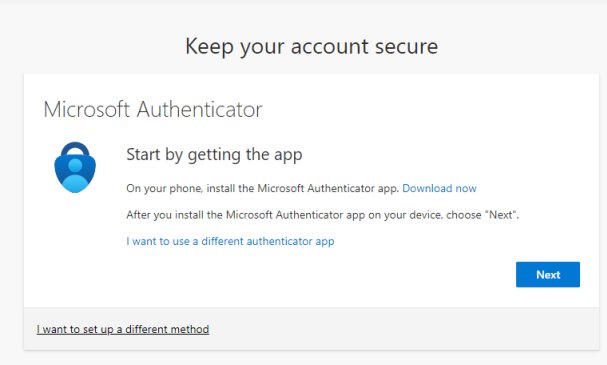
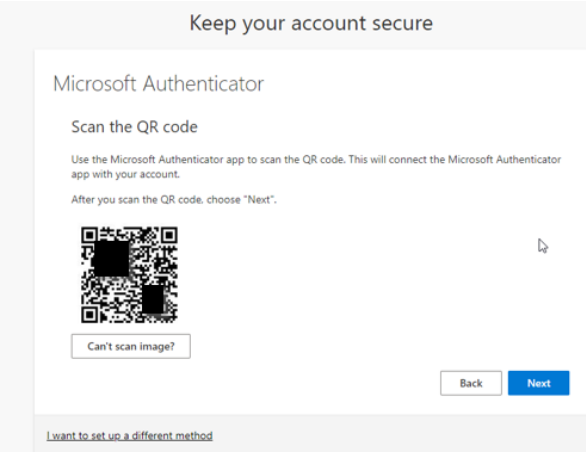


Figure 7 and 8. Screens prompting users to set up MFA.



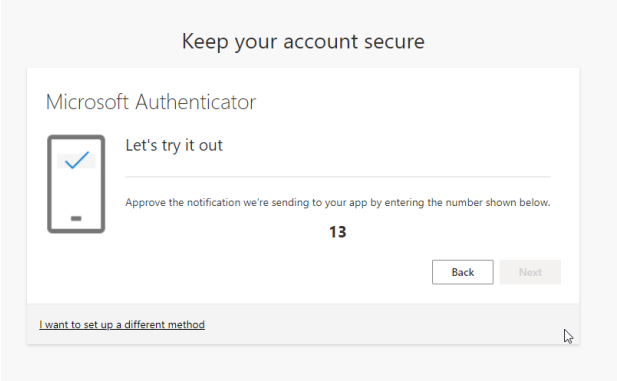
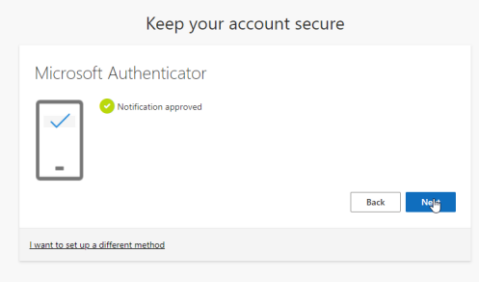


Figure 9 and 10. Additional screenshots of steps on setting up MFA.



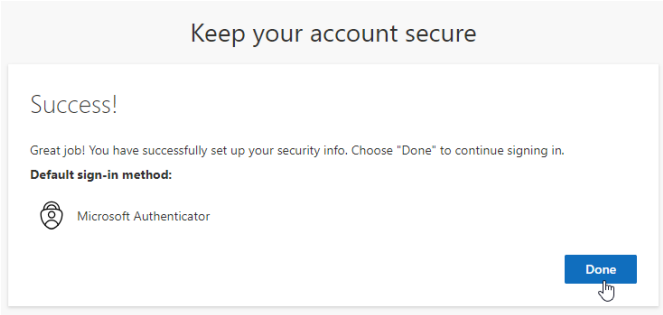


Figure 11 and 12. Screens indicating you have successfully set-up MFA.

After setting up your authenticator app, you should be able to successfully land on the OCHIN Cohort Discovery page and will see a list of project your account has been granted access to.

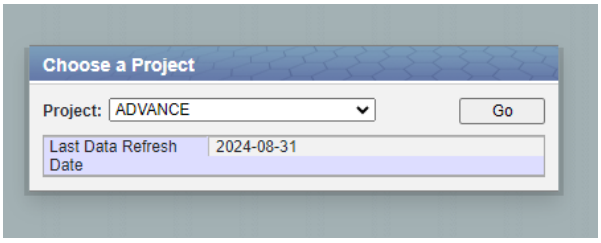


Figure 13. Screenshot of the 'Choose a Project' screen.

Navigating the Cohort Discovery tool

After selecting your project and clicking **Go**, you will be taken to the **home** screen. There are five main sections identified in the screenshot below:

1. **Navigate Terms/Find:** This is where you can search for concepts/terms using the hierarchical folder structure, or you can use the 'Find' tab to search for specific term(s).
2. **Workplace:** This is a place for saving and storing your queries (e.g., personal folder or shared).
3. **Previous Queries/Find:** This is where you can find your previous queries.
4. **Query Tool:** This is where you can define your inclusion/exclusion criteria for your query.
5. **Show Query Status/Graph Results/Query Report:** This is where you can track your progress and view your query results.

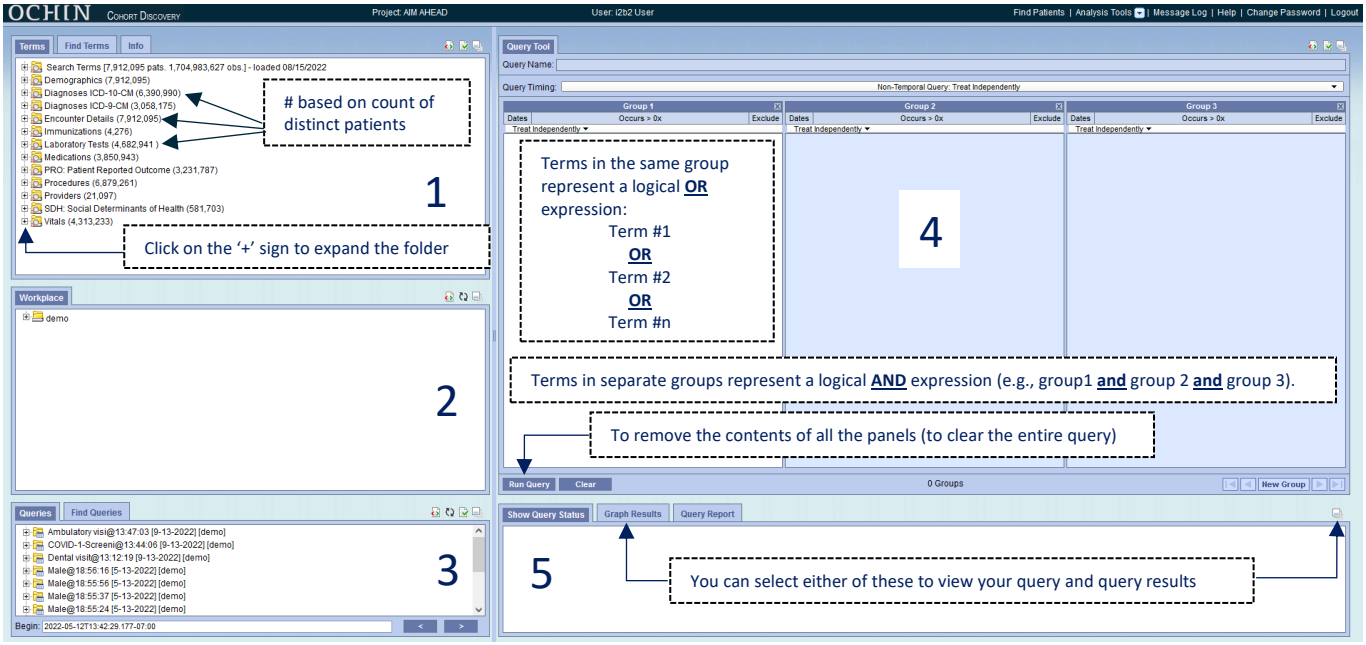


Figure 14. The Cohort Discovery home screen.

Cohort Discovery Ontology

In Cohort Discovery data are organized in a hierarchical folder structure known as the ontology. This hierarchy is an important feature that dramatically simplifies querying data from the ADVANCE DW.

Within the 'Search Terms' root folder, you will find several ontology folders. The hierarchical structure starts with parent folders that represent data domains, such as demographics, encounter details, procedures, laboratory results, etc. As you drill down the hierarchy, subfolders and terms become more specific.

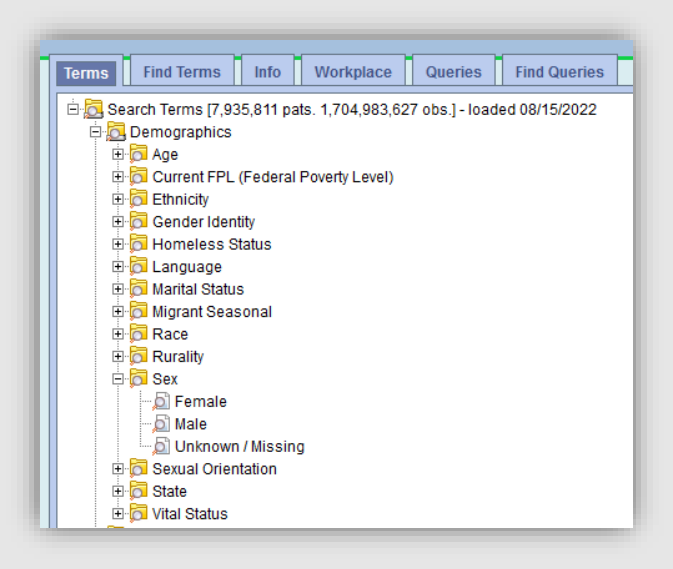


Figure 15. Screenshot of ontology folders.

Demographics folder

This folder contains the most recent demographic information as recorded in the EHR for each patient.

Age: This reflects the patient's age as of today, computed as [(current date – birth date) / 365.25]. Folders for commonly used age ranges are available, with individual ages available as "leaves" in each folder.

Current FPL (Federal Poverty Level): The most recent Federal Poverty Level documented for each patient in the EHR (calculated as a function of annual income and family size). FPL data are grouped into ranges: FPL 100% and below, FPL 101 – 150%, FPL 151 – 200%, FPL Over 200%, FPL Unknown

Ethnicity: Hispanic/Latino, Non-Hispanic/Latino, Refused to Report, Unknown/Missing

Gender Identity: Genderqueer, Man, Other, Transgender, Unknown/Missing, Woman

Homeless Status: No, Unknown/Missing, Yes

Language: Patient reported spoken language of preference

Marital Status: Divorced, Domestic Partner, Married, Other, Separated, Significant Other, Single, Unknown/ Missing, Widowed

Migrant Seasonal: No, Yes, Unknown/Missing

Race: This value set is based on the Office of Management and Budget (OMB) standard: American Indian or Alaskan Native, Asian, Black or African American, Multiple Race, Native Hawaiian or Other Pacific Islander, Other, Refuse to Answer, Unknown/Missing, White

Rurality: Derived from patient's current zip code. Crosswalk of zip codes identifying non-metro counties and rural census tracts that makes up rural areas is defined by the Federal Office of Rural Health Policy (FORHP).

Sex: Legal sex as recorded in the EHR, which may or may not align with sex assigned at birth or current gender identity: Female, Male, Unknown/Missing

Sexual Orientation: Bisexual, Gay, Lesbian, Multiple sexual orientations, Queer, Something else, Straight, Unknown/Missing

State: Patient's current state of residence. Reported values that are outside of the US and US territories are marked as 'Outside of the US'

Vital Status: Known deceased flag

Diagnoses (Encounter, Medical History, and Problem List) folder

Given that accurate conversion of many ICD-9 codes to ICD-10 isn't possible, and to preserve the terminology used when the diagnoses were originally recorded in the EHR, diagnoses in Cohort Discovery are either ICD-9 (if recorded before the ICD-10 implementation date of 10/1/2015) or ICD-10 (if recorded on or after 10/1/2015).

Upon adding a group of diagnosis terms to the query tool, a pop-up window is displayed allowing the user to choose a source for the diagnosis records. Users can select one or multiple sources by holding down 'SHIFT' when selecting them.

Encounter Diagnosis source: diagnosis codes associated with a given encounter.

Medical History source: historical, patient-reported diagnoses for past or present medical conditions.

Problem List source: diagnosis codes associated with a patients' problem list records, akin to the "top sheet" of their medical chart. Note this source includes both active and resolved problem list records.

Encounter Details folder

This folder contains the following encounter-level data:

Age at Visit: patient's age in years at the time of the encounter, with folders for commonly used age ranges and individual age values available in each folder.

Encounter Type: Ambulatory Visit (i.e., face-to-face ambulatory visits; includes medical and mental/behavioral health visit types), Dental Visit, Other Ambulatory (i.e., ancillary, or non-face-to-face visits, such as Rx refills, telephone encounter calls, lab, and imaging only visits, etc.), Telehealth, and Other visits (purely administrative or EHR generated dummy encounters that contain clinical data). Note that very few Telehealth visits were recorded in the system prior to 2020.

Payer type: The type of insurance payer that was listed as primary for the encounter: Medicaid, Medicare, Private Insurance, Uninsured, and No Information. Payer information is not available for all visit types (e.g., often not applicable for Other Ambulatory type visits as they are commonly not billable).

Immunizations folder

This folder contains immunizations ordered and administered by the health centers. It also contains patient-reported, historical, and externally-administered immunization records, generally obtained through immunization exchanges where the data are reconciled in the patients' CHC EHR record.

Vaccine group folders are based on CVX (Vaccine Administered) codes. The CVX code set was developed and is maintained by The CDC's National Center of Immunization and Respiratory Diseases (NCIRD).

Laboratory Results folder

The ontology categories for lab results are based on LOINC, the Logical Observation Identifiers Names and Codes standard for laboratory observations. About 85% of all lab records in the ADVANCE DW are mapped to LOINC, including many commonly used labs. Labs mapped to LOINC are all are available in Cohort Discovery. Unfortunately, due to the considerable amount of effort to manually map lab results by name to the appropriate LOINC, those not mapped are not included in Cohort Discovery.

Medications folder

This folder combines medications prescribed by providers at the health centers, and medication dispensing records provided by the pharmacy data vendor SureScripts. Historical, externally-ordered, and patient-

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reported medications are not included. The ontology hierarchy for medication is based on the RxNorm terminology produced by the National Library of Medicine (NLM).

Upon adding a group of medications (i.e., an entire medication folder) or any individual medications to the query tool, a pop-up window is displayed, allowing the user to specify the source of the medication record as Prescribing and/or Dispensing.

Dispensing records are currently only available for a subset of privately and publicly insured patients who return to an ADVANCE clinic for a future visit following dispense (46% of all ADVANCE patients have dispensing record(s)). Dispensing records are not available for sites and health systems that don't use the SureScripts vendor, for patients uninsured at the time of the dispense (or who pay out of pocket), and for those who do not return for a future visit. Please use Dispensing data with these limitations in mind.

PRO – Patient Reported Outcome folder

This folder contains standardized scores for commonly used patient reported outcome questionnaires.

Current PRO instruments available in i2b2 include AUDIT, PHQ2 and PHQ-9. Additional PRO instruments may be added in future based on need and availability in the EHR. To request the addition of a PRO instrument, contact the Cohort Discovery team at i2b2Admin@ochin.org.

Procedures folder

The Procedures folder contains procedure codes (CPT, HCPCS, and ICD9/10) that are used to indicate individual medical interventions, diagnostics, and testing such as medical procedures ordered and/or administered during an encounter. Level of Service/Evaluation & Management visit codes (e.g., 99214 – Established patient office visit, 30-39 minutes) are included in this folder as CPT codes. Note that ICD9/10 procedure codes appear infrequently in Cohort Discovery because they are primarily relevant in inpatient settings.

Providers folder

The Providers ontology is based on National Provider Identifier (NPI) taxonomy codes, thus only providers with a valid NPI registered in the National Plan and Provider Enumeration System (NPPES) maintained and published by CMS are included in the ontology.

There are three levels in the Health Care Provider Taxonomy for NPIs: Provider Grouping, Classification, and area of Specialization. See nucc.org for more information on this taxonomy.

Social Determinants of Health

Social determinants of health (SDH) data include patient-reported individual-level social needs screening; these measures are collected via EHR flowsheets within a subset of ADVANCE health systems. The earliest dates of SDH data collection was 4/8/2015.

Across ADVANCE, different health systems and clinic sites use screeners (flowsheets) very differently; for example, some focus on only one question or domain, and many have changed their screening practices and priorities over time. Thus, data are not generalizable across all health systems or clinics in the ADVANCE network and should be interpreted with this understanding.

There are 15 SDH domains: Child and Family Care, Education, Employment, Financial Strain, Food Insecurity, Health Insurance, Health Literacy, Housing Instability, Housing Quality, Physical Activity, Relationship Safety, Social Isolation, Stress, Transportation and Utilities. A 'positive screen' indicates an abnormal value; this may

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indicate a social need or desire for help from the clinic (depending on the item) is present or absent. 'Screened' indicates that a patient was screened for that domain regardless of if a need was identified or not.

Vitals folder

The Vitals folder contains vital signs measurements typically collected during face-to-face encounters.

Ontologies available: Systolic/Diastolic blood pressure (recorded in mmHg), BMI (recorded in kg/m^2), Height in inches, Weight in lbs., Smoking status, Tobacco status and Tobacco type. Categories for smoking and tobacco status are aligned with the stage 1 definitions for the Meaningful Use core measures.

Building and Running a Query

This section will go over in detail the steps involved in building and running a query.

Navigate terms

In the **Navigate Terms** section, you can browse for concepts in the ontology folder to include in your query. The ontology is a hierarchical representation of terms that get more specific as you navigate further through the ontology tree. The "ontology tree" is the list of hierarchical sub-folders contained underneath each given term.

Each folder in the **Terms** tab represents an ontology folder for that specific category. Navigating through the ontology folder is easy: simply right click on the '**+**' icon next to a folder to expand the category. Below is an example of what it looks like when navigating the Medication ontology folder for the class of '*Antidotes, deterrents and poison control (AD000)*'.

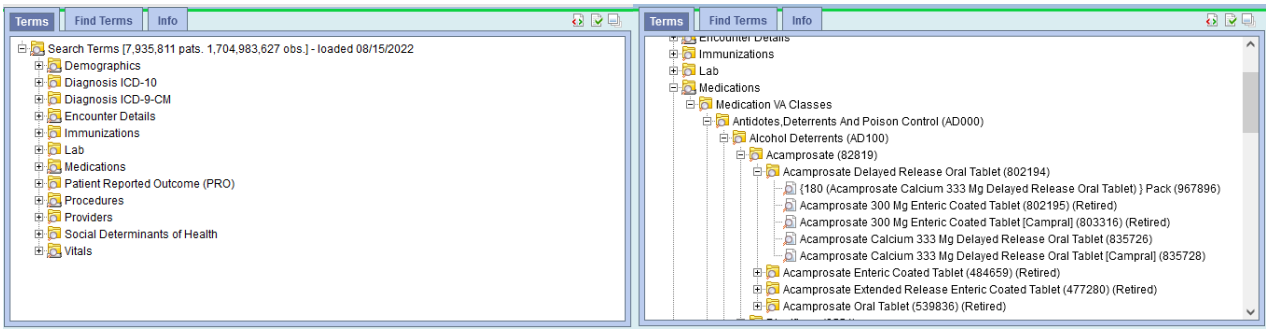


Figure 16 and 17. Screen shot of the ontology folders (left) and screen shot of the ontology folder and sub folders for the class of 'Antidotes, deterrents and poison control' (right).

Finding terms (Search by Names/Search by Codes)

Searching through the ontology tree may be challenging and time consuming if you are uncertain as to how a particular concept or term has been organized. Another way to search for a particular term or concept would be to use the **Find** tab. This tab contains two search options; you can perform either **Search by Names** (e.g. colonoscopy) or **Search by Codes** (e.g. G0120; coding system: HCPCPS).

To **Search by Names**, click on the **Find** tab and then select the **Search by Names** tab. Type in the term(s) that you want to search on and select what you want to search by (e.g., name containing, exact name, name

starting with, or name ending with). Next, you can filter on which category (or ontology folder) the term is associated with (e.g., Procedures), or you can also simply leave it as is. The default is set to **Any Category**.

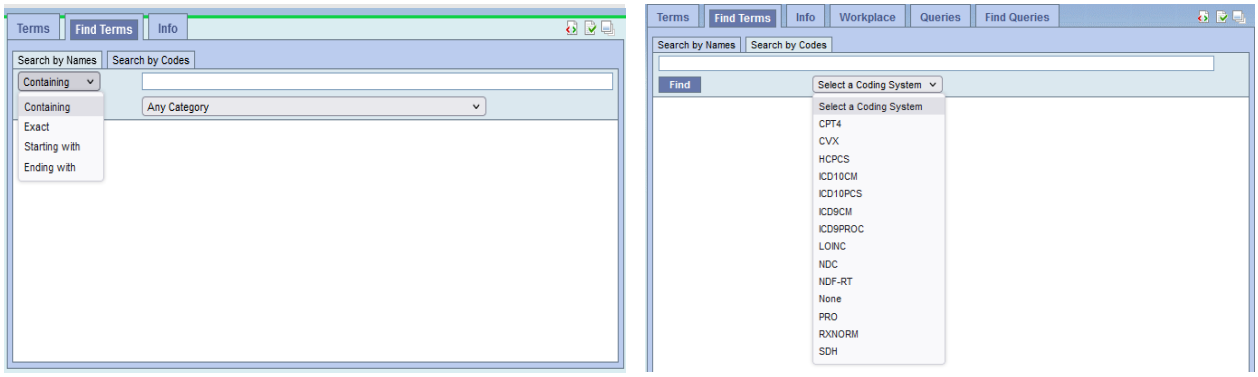


Figure 18 and 19. Searching a term or concept by names and a drop-down list of the category options.

To **Search by Codes,** click on the **Find** tab and select the **Search by Codes** tab. Type in the code that you want to search by and select the coding system associated with that code. Click on the down arrow next to the **Select a Coding System** category to view and select a category from the list of the coding system.

Additional information on performing searches in each ontology folder will be provided in later sections.

Selecting terms

Most folders and individual items in folders (referred to as "terms") in the **Navigate/Find** section can be added to the **Query Tool** section. Select the term by clicking on it and dragging it to one of the group panels.

In the example below, the ***Encounter at ages 10-17 years*** folder and the Female term have been added to the first group panel, which effectively includes patients ages 10-17 **OR** Female:

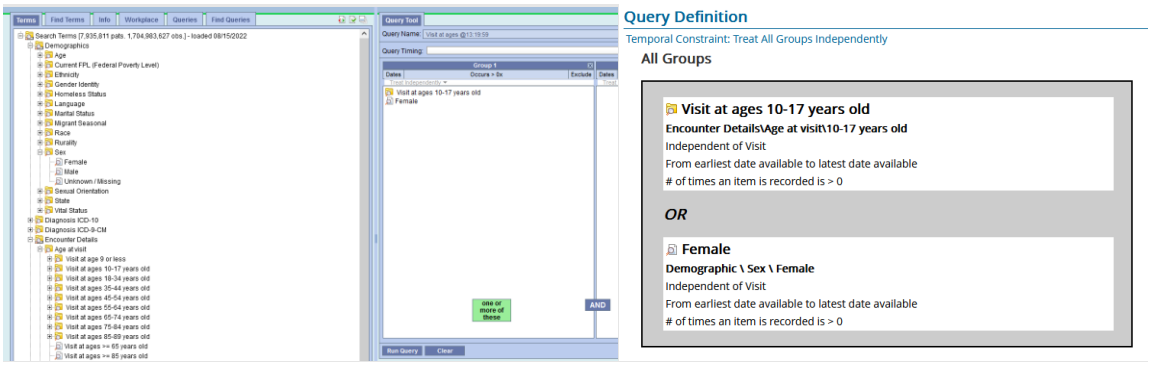


Figure 20 and 21. Selecting a term and adding it to one of the group panels.

A logical **OR** relationship exists between terms added to the same group, whereas a logical **AND** relationship exists between different groups.

For example, the following criteria

- Female patients

  AND

- Whose primary language is English **OR** Spanish **OR** Somali

  AND
- Have Medicaid insurance

This can be represented in the Query Tool as:

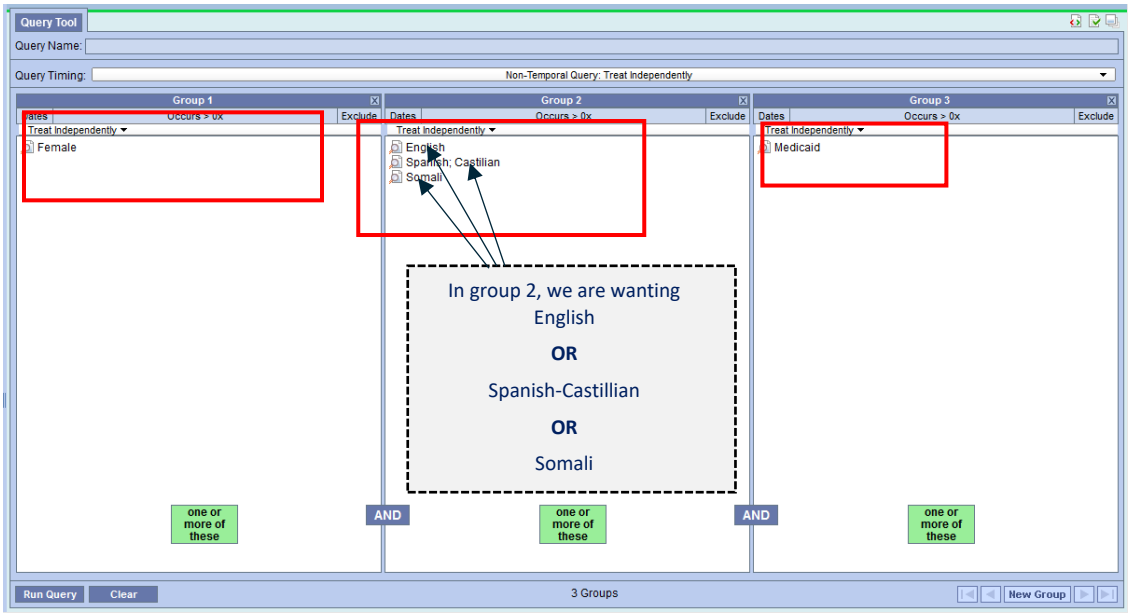


Figure 22. Looking at the '**OR**' and '**AND**' relationship in the Query Tool.

Adding new groups

By default, three groups are available in the query tool. If needed, additional groups can be added by clicking on **New Group**. Use the arrow buttons to navigate between groups for queries with more than three groups.

Applying Date filters

Dates filters can be applied to a single term in a group panel or all terms in a group panel. The following filters can be applied to terms and/or groups:

Date constraint filter for individual terms and groups

Right click on a term and select **Set Date Constraint**:

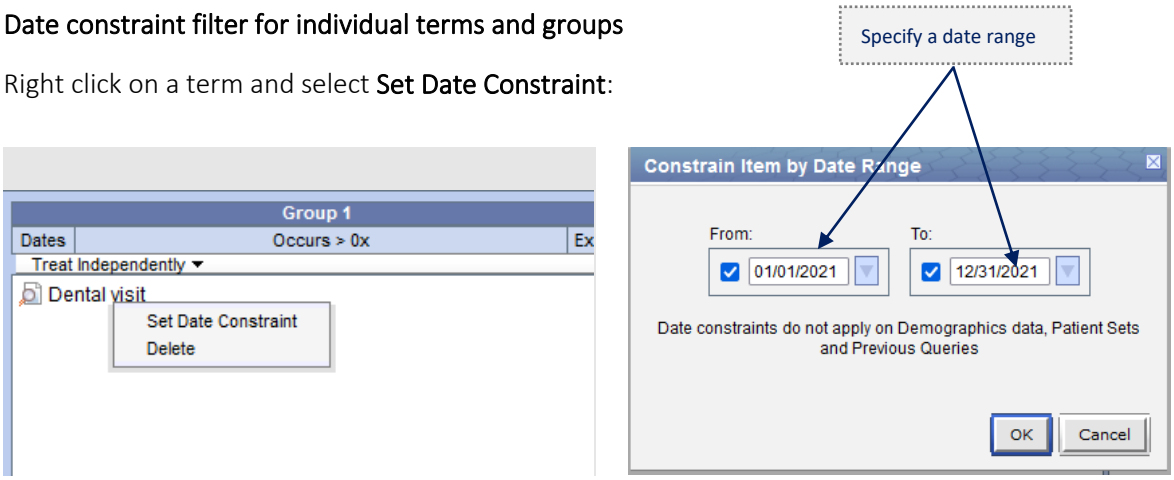


Figure 23 and 24. Applying a date filter to a single term in a group panel.

The date range constraint is applied to the term: i.e., Dental visits that took place in 2021

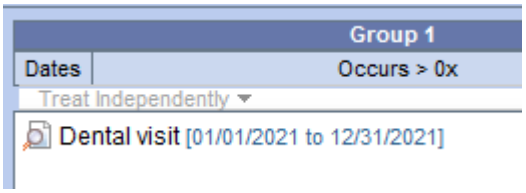


Figure 25. In the query tool, the date range constraint of 1/1/2021 to 12/31/2021 is applied to the dental visit records.

Date constraint filter for multiple terms in a group

The **Dates** button at the top of each group can be used to apply the same date constraint to all items in the group at once:

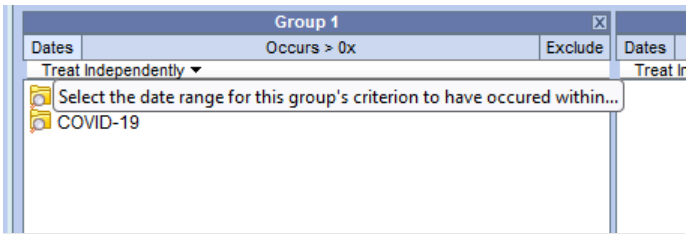


Figure 26. Screenshot of the **Dates** button.

Specify a date range for the group

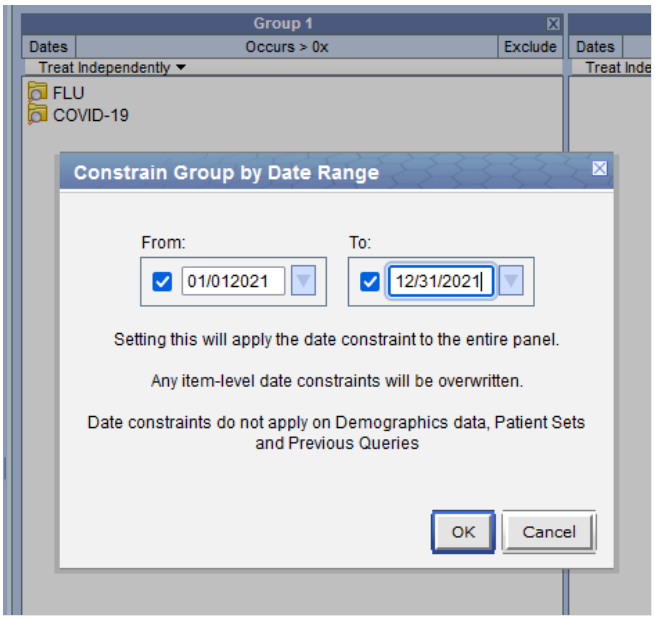


Figure 27. Applying the same date filter to multiple terms in a group panel.

The date constraint is applied to both terms in the group:

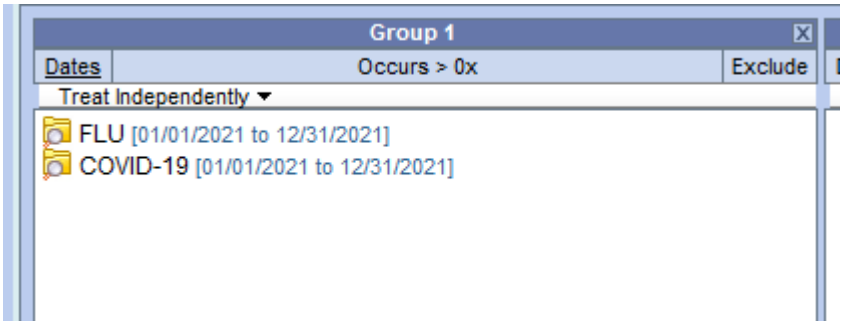


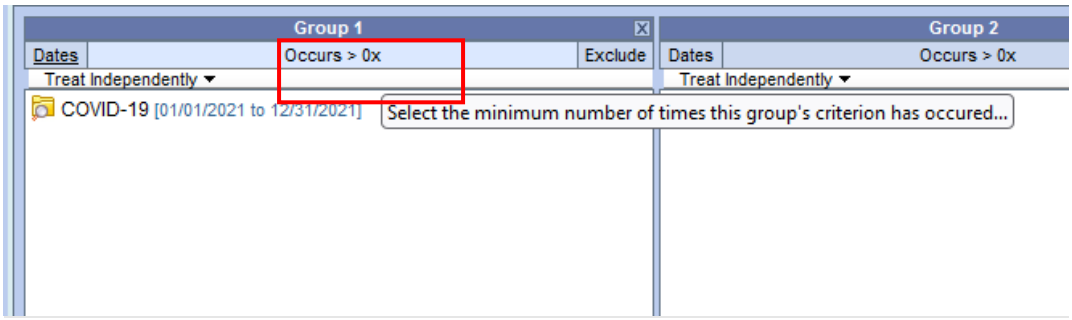
Figure 28. The date range constraint of 1/1/2021 to 12/31/2021 is applied to the dental visit records.

The dates represent different events specific to the type of term. Please refer to Appendix A for a list of terms and their associated date descriptions.

Frequency of occurrence group filter

The **Occurs > 0x** button at the top of each group allows users to specify the minimum number of times the terms in a group must occur. To set a filter on the number of occurrences, click on the 'Occurs >0x button. A screen of **Constrain Group by Number of Occurrences** will appear allowing you to enter in the number of times you want an event within the group to occur.

In the example below, we want to get a count of all patients with 1 or more COVID-19 immunizations.



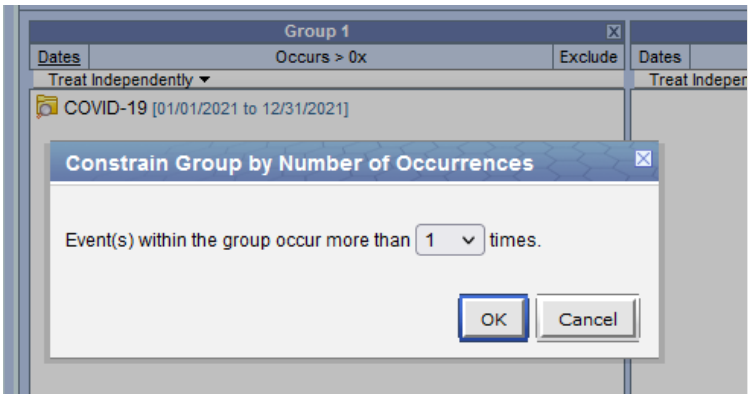


Figure 29 and 30. Screenshot of the **Occurs > 0x** button (top) and filtering on the number of occurrences (bottom).

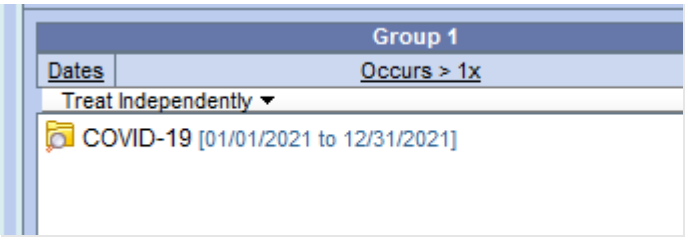


Figure 31. Screenshot of the group panel after applying three or more occurrences of the COVID-19 immunizations.

"Exclude" group filter:

The **Exclude** button at the top of each group allows users to exclude all records that meet the group's criteria:

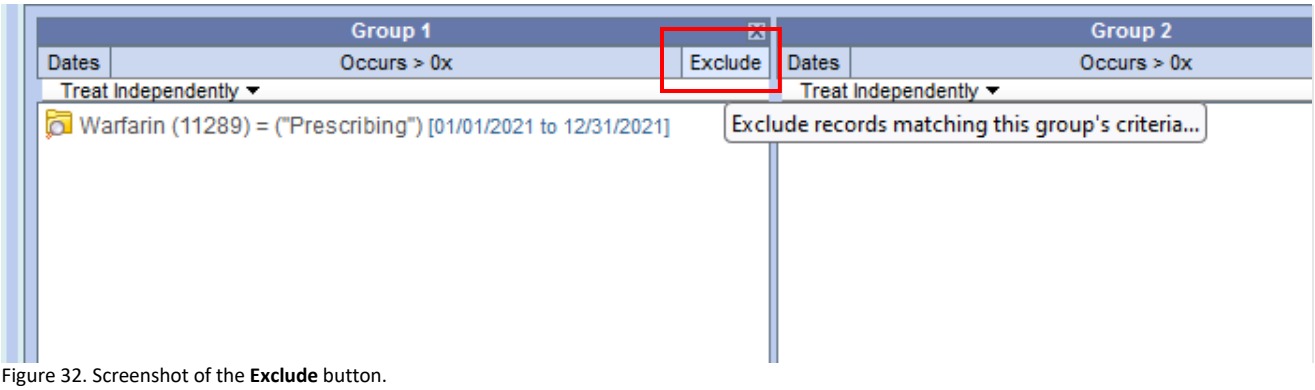


Figure 32. Screenshot of the **Exclude** button.

When the **Exclude** group filter is applied, the **Exclude** button's text is underlined, a 'NOT' operator in red appears in front of each term, and the text in the box at the bottom of the group changes from '*one or more of these*' to '*none of these*'.

The following represents patients who did not have a prescription for Warfarin between 1/1/2021 and 12/31/2021:

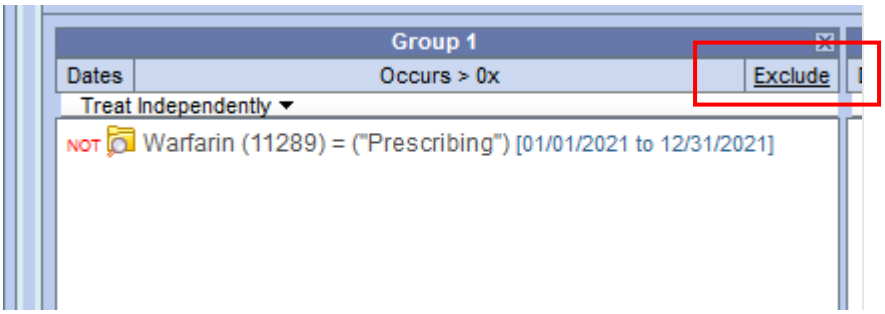


Figure 33. Using the Exclude button to exclude patients who did not have a prescription for Warfarin between 1/1/2021 and 12/31/2021.

“Choose Value” pop-up window filter for selected terms

Upon selecting and adding certain terms to the query tool section, a pop-up window will appear that allows users to select filter values from a category list or enter custom numeric values. This window can also be displayed for terms already in the group pane(s) by right clicking on the term and selecting **Set Value**.

Some of the terms for which this dialog-box filter is enabled include:

- Diagnosis Source: choose either Encounter Diagnosis, Medical History, or Problem List in the Diagnoses (Encounter; Medical Hx; Problem List) folder:

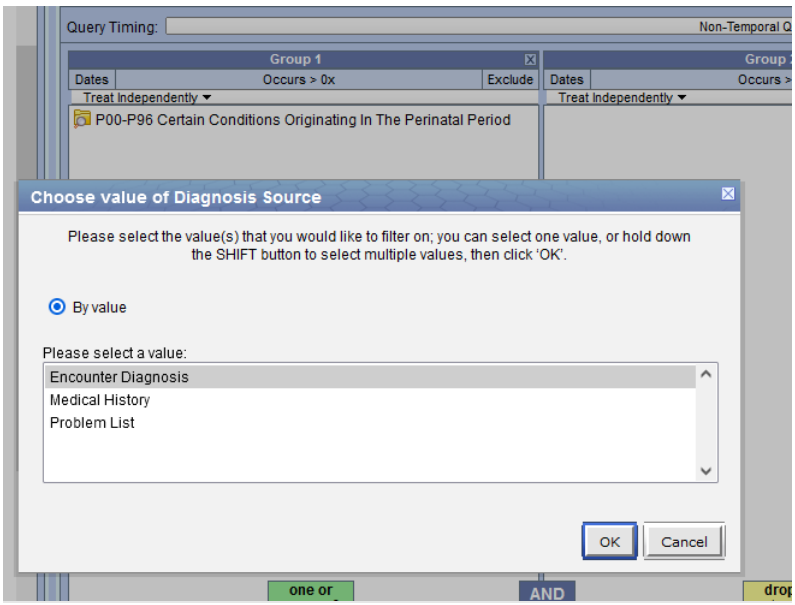


Figure 34. Screenshot of the pop-up value for diagnosis source from the Encounter, Medical History, Problem List Ontology folder.

Source of data: in this case choose either Prescribing or Dispensing from the list of terms in the Medications folder:

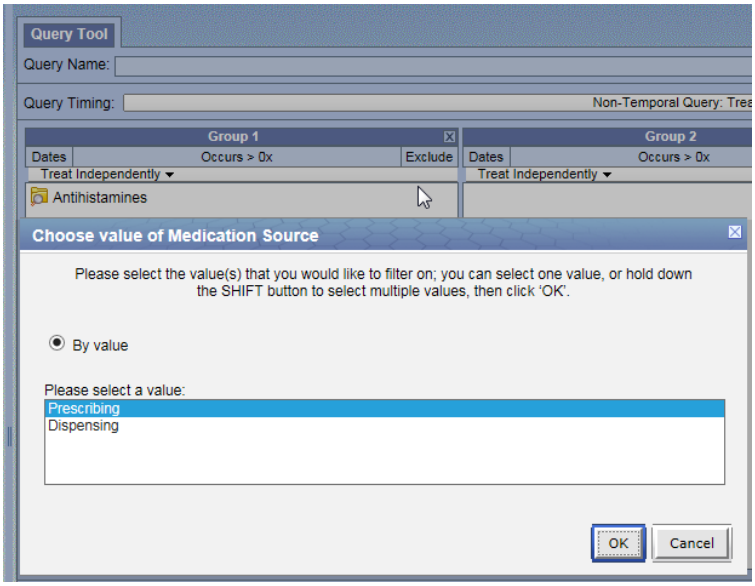


Figure 35. Screenshot of the pop-up value for medication source.

The filter dialog box is available for certain lab results. It allows users to select operators and define custom numeric values. In the example below, we want to get a count of patients with an HDL value of greater than or equal to 40:

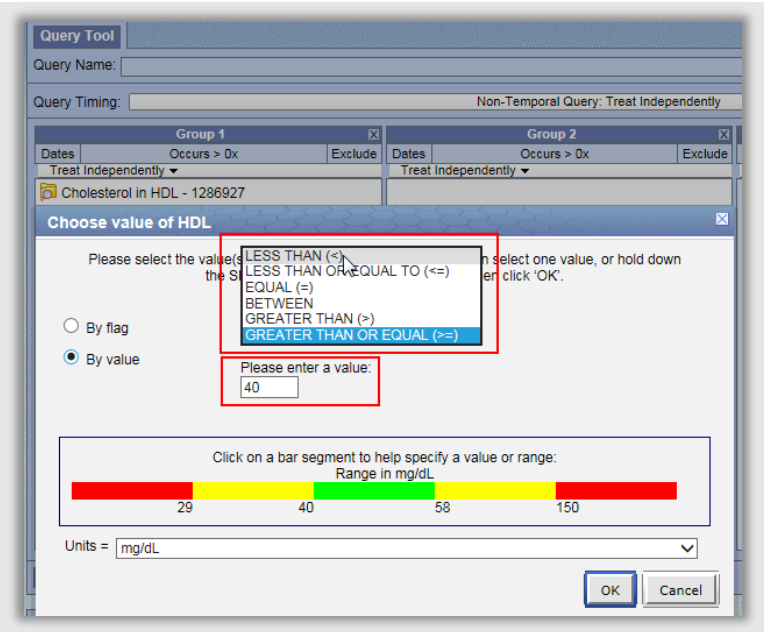


Figure 36. Selecting HDL value of greater than or equal to 40.

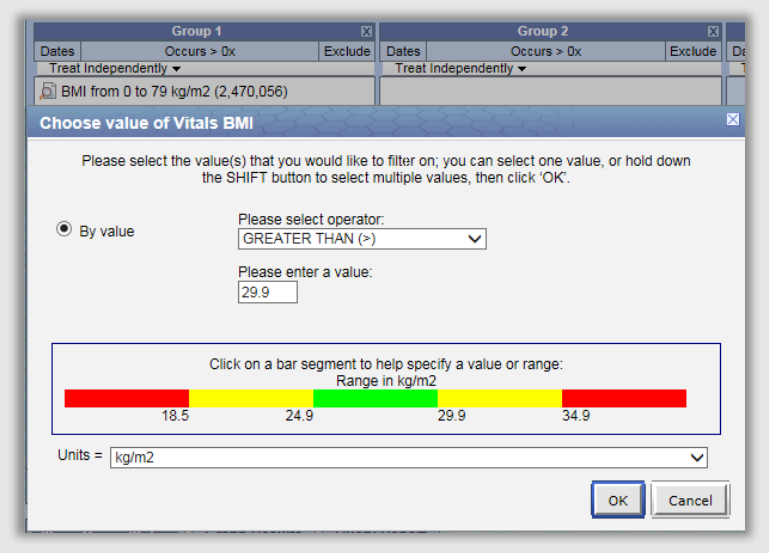


Figure 37. Screenshot of the selection value(s) for BMI, Systolic BP, Diastolic BP, Weight, and Height terms in the Vitals ontology folder.

"Panel Timing" group filter

This filter can be used to link terms in different groups by encounter ID. Thus, the use of this filter is limited to data associated with specific encounters such as Encounter Diagnoses, Procedures, Vitals, etc. The default option for this group filter is 'Treat Independently'.

For example, a query to get patients with one or more ambulatory visits in 2018 **AND** the systolic BP measured at one of the encounters was greater than 140, **AND** with a PHQ score recorded between 1/1/2018 and 3/31/2019 regardless of the score or encounter at which the PHQ was administered, can be represented as:

(Group 1 AND Group 2 occurring in the same encounter) **AND** Group 3 treated independently:

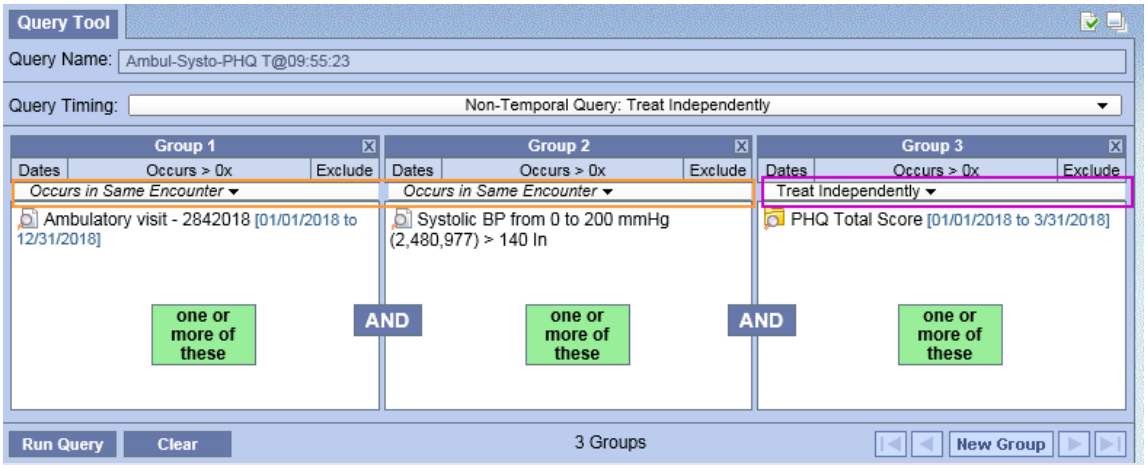
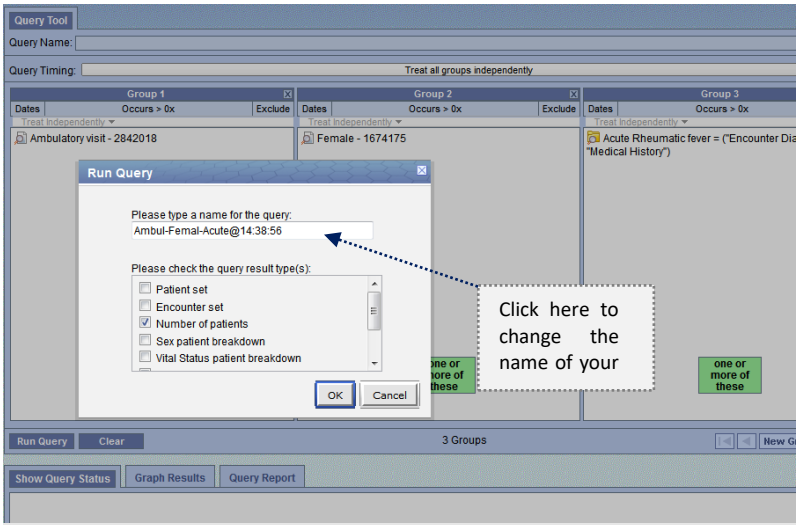


Figure 38. Screenshot of using the panel timing group filter.

Running a query

Once you have finished constructing your query, click on the **Run Query** tab to run the query. A pop-up **Run Query** screen will appear with a default query name and an option for you to select the query result type(s). You can either keep the default query name or change it to a query name of your choice. It is recommended that you select a query name that pertains to the query that you are running and one that is meaningful to you. We suggest a naming standard of "Date_QueryName_User_Initials" (e.g., 01012019_Diabetes_JD). Once you have made your query result type selection, click **OK** to run the query to return a count.

Please note: depending on your level of access, you may or may not have access to the result type of encounter set and or patient set. Query run time may vary depending on the complexity of the query as well as the number of records returned by the query (e.g., how many groups and terms per groups with date restrictions, occurs >x times, etc.). Additionally, queries that take longer to run than the configured timeout (180 seconds) will display a message indicating that the query has timed out and has been rescheduled to run in the background (query will have a status of 'processing'. You can see the status in the 'Show Query Status' tab). Once the query is completed, you may find your results in 'Queries' tab.



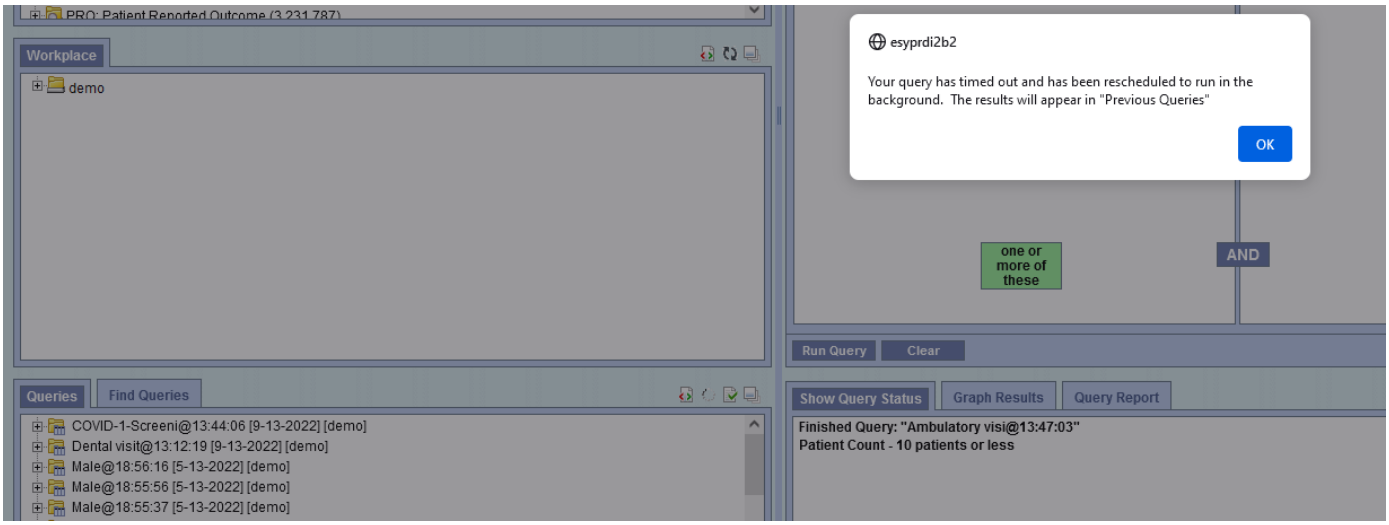


Figure 39 and 40. Screenshot of the Run Query pop up screen and the query timed out screen. You can change the default query name and select the result types that you want returned in the query report. To look at the results of previous queries, go to the 'Queries' tab and select your previously run queries.

Viewing a query report

While running a query, the **Show Query Status** tab displays the progress of your query. After your query finishes running, the results are displayed in the **Graph Results** tab. You can also view the results and additional information about your query by clicking on the **Query Report** tab or by clicking on the square icon next to the **Print Report** option.

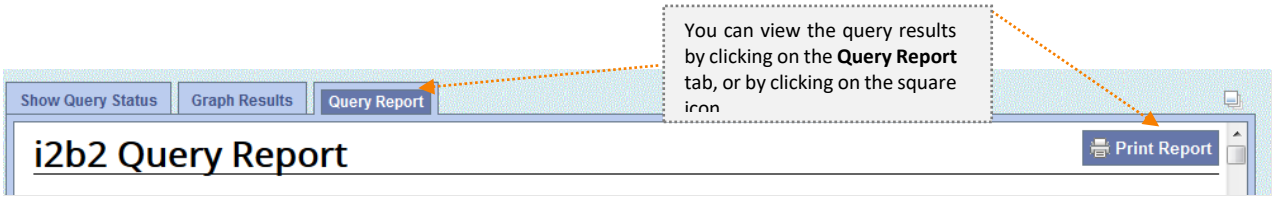


Figure 41. Screenshot of how to view your query report.

Saving and rerunning your previous queries

Previous Queries

Previously executed queries (up to the last 20) can be found in the **Previous Queries** tab. Please note that a history of all previous queries is stored behind the scenes in i2b2. If you need to access a query that is no longer displayed on the list, please contact the i2b2 admin team at: i2b2Admin@ochin.org

To start a new query, click on the **Clear** tab.

To run a previously saved query from your **Workplace** folder or from the **Previous Queries** tab, find the query that you want to rerun, then drag and drop it in the **Query Name** box under the **Query Tool** tab.

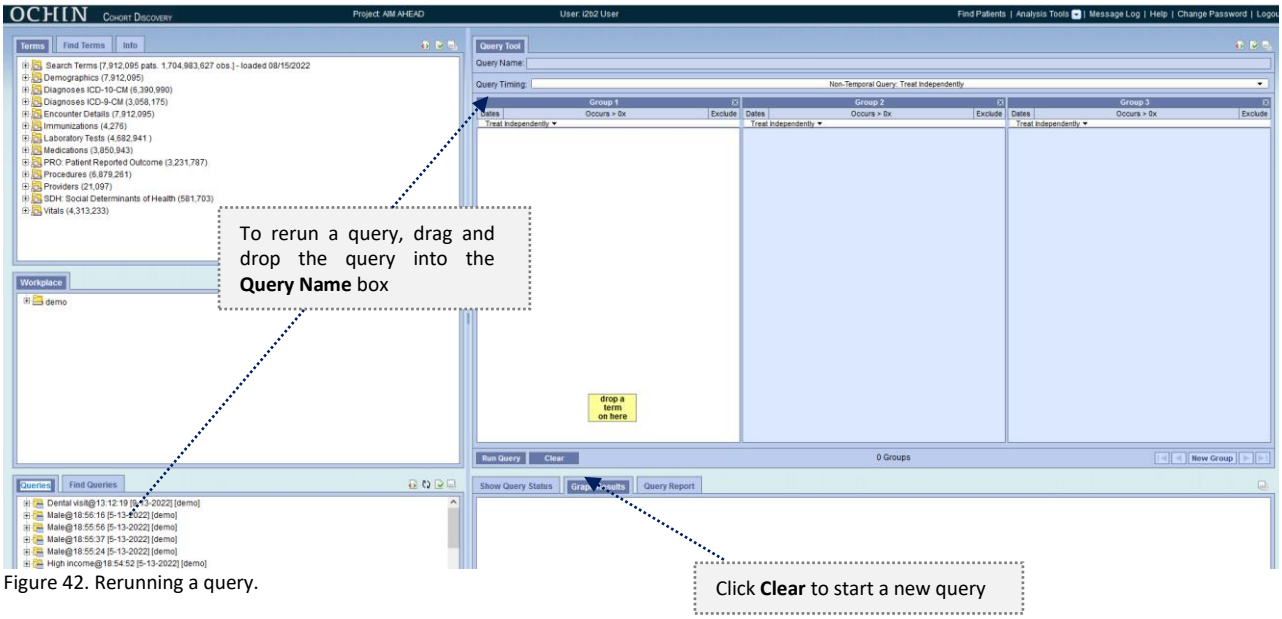


Figure 42. Rerunning a query.

Workplace

To save your queries so that you can access them later, simply go into the **Previous Queries** tab and drag the query that you want to save into your **Workplace** folder or to a shared folder. The workplace tab will contain your individual folder as well as a **Shared** folder. Only you and the i2b2 admin team can view and access the saved queries in your individual folder. Queries saved in the shared folder will be accessible by all users on the project. To add a folder specific to your project in the Shared folder, right click on the **SHARED** folder and select **New Folder** and name the new folder.

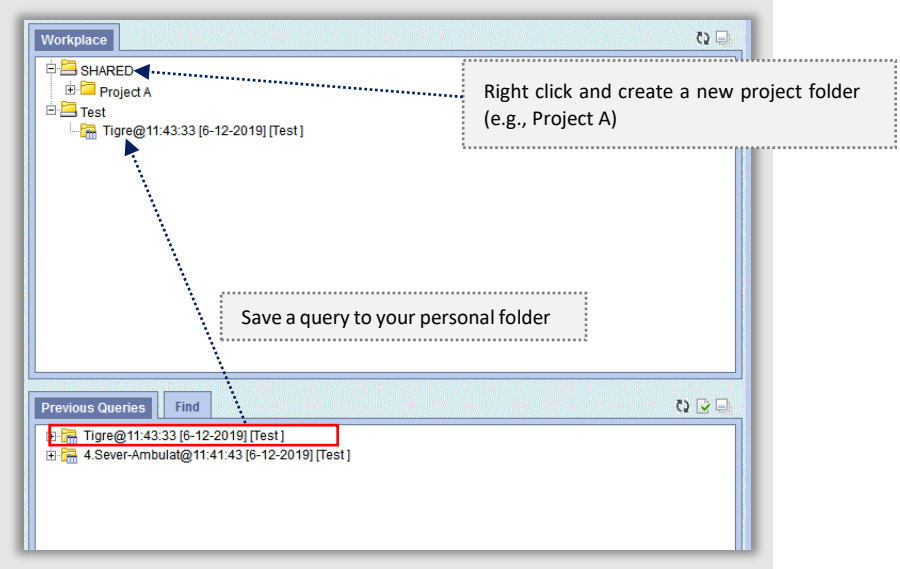


Figure 43. Save a query to your personal folder (e.g., Test), and how to create a project folder within the shared folder.

Appendix A: List of terms and their associated date descriptions for Set Date Constraint filters

When the Set Date Constraint filter is applied to terms in the Query Tool, data are filtered on dates that represent different events depending on the type of folder and source:

Folder	Source	Date description for Date Constraint filter
Demographics	N/A	N/A: Date constraints are not allowed for terms in the Demographics folder. The Query Tool displays an error message if users try to use the date filter on items in this folder.
Diagnoses	Encounter	Encounter date
	Medical Hx Problem List	Onset date: date when the problem or medical history diagnosis (illness, disorder, or symptom) started; for diagnoses where an onset date was not specified in the EHR, this is the date when it was first recorded in the EHR.
Encounter	All	Encounter date
Immunizations	All	Date when the immunization was administered
Laboratory Results	All	Lab result date
Medications	Prescribing	Start date: date on which the patient was intended to start taking the medication. For prescriptions where a start date was not specified in the EHR, this is the date when the prescription order was placed.
	Dispensing	Date when the medication was dispensed.
PRO Patient Reported Outcome	All	Date when the instrument or questionnaire was administered, and patient responses were recorded.
Procedures	All	Date when the procedure was performed or ordered. For procedures associated with ambulatory encounter this is typically the encounter date.
Providers	All	Caution: while it is possible to apply a date constraint filter on terms in the provider folder, this is not recommended as data will be filtered on any dates associated with clinical data in i2b2 for the provider or providers, such as encounter dates, lab result dates, prescription dates, etc.
Social Determinants of Health	All	Date when the instrument or questionnaire was administered, and patient responses were recorded.
Vitals	All	Date when vitals were measured.

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