<u>Distributed Query Tool</u> <u>Sample Investigator Manual</u>

Powered by PopMedNetTM

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The **PopMedNet**TM application was developed under from the Agency for Healthcare Research and Quality, US Department of Health and Human Services as part of the Developing Evidence to Inform Decisions about Effectiveness (DEcIDE) program, awarded to the DEcIDE centers at the HMO Research Network Center for Education and Research on Therapeutics (HMORN CERT) and the University of Pennsylvania. The Food and Drug Administration's Mini-Sentinel project provided additional support.



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1 Introduction

The **PopMedNet™** software application enables simple, efficient creation and use of distributed data networks, through a set of tools and web-based services. It is optimized to facilitate distributed analyses of medical product safety, comparative effectiveness, quality, medical resource utilization, cost-effectiveness, and related studies. The system provides secure, customized private portals, query tools,

and file transfer capabilities. It supports both menu driven queries and distributed analyses using complex, single use or multi-use programs designed to execute against a local data resource.

Data partners exercise full control over the files they make available for querying, the results returned to requestors, and the individuals who are permitted to submit queries.

This <u>SAMPLE Investigator Manual</u> describes the main features and functions for Investigators participating in a health data network powered by PopMedNet[™] software. Investigators will primarily interact with the PopMedNet[™] network through a secure web-based portal as described below. This sample document is based on the FDA Mini-Sentinel Network's implementation of the PopMedNet[™] system, including the query types available for Mini-Sentinel. Different networks will have different types of queries and capabilities. PopMedNet[™] software can customize and brand the network as desired.

The Department of Population Medicine at the Harvard Pilgrim Health Care Institute (HPHCI) led development of the system in collaboration with Lincoln Peak Partners (LPP). Lincoln Peak Partners provides support services and secure hosting for current system users, and leads development of system enhancements.

2 System Overview

The Distributed Query Tool software is comprised of two separate applications, the web-based **Portal** and the **DataMart Client**. There is one Portal in the network and each data partner has one or more "DataMarts". The Portal is the starting point for all information requests and controls all system communications, security, and governance policies. Data Partners receive queries, process them, and securely return them to the Portal via their locally installed DataMart Client software application. Each Data Partner will have at least one DataMart; multiple DataMarts per Data Partner are possible. Each DataMart can contain different types of data and DataMarts can have different query processing settings. All query requests and communications within the network are securely routed from the Portal to the DataMarts and then back to the Portal.

Note: The term **DataMart** is used in an information technology context referring to the place where the data are held for querying. Use of this term does not imply that data partner information is being sold or being made broadly available; Data Partners maintain control of all their data and all uses.

Browser Requirements

The Portal is designed to work with Internet Explorer (IE) 8 or later. Earlier versions of IE may not display the user interface properly. Although IE8 is the only officially supported browser, other browsers such as Firefox and Chrome may also work; Firefox has been used extensively in testing.

The DataMart Client Application

The DataMart Client application allows the DataMart Administrator to view queries distributed to the DataMart, execute queries locally, review the results, and upload the results to the portal. The

DataMart Client is a .NET/C# Windows desktop application that is installed locally on one or more data partner computers. All communications between the DataMart Client application and the Portal use HTTP/SSL/TLS connections to securely transfer queries and results between the application and the Portal. The application uses ODBC connections to the local DataMart databases used to process queries and generate results.

Audience

This manual is intended for PopMedNet™ Investigators who want to:

- ✓ Get started accessing the Distributed Query Tool
- ✓ Submit a query to the available DataMarts
- ✓ Monitor status of a query
- ✓ Review results of a query

Investigator Security Groups

Security Groups determine the rights that individual users have when using the Portal. There are three Investigator security groups that available within the system.

<u>Investigator</u>: can submit requests to DataMarts that have given them or their organization permission to submit gueries and view only aggregated requests results.

<u>Enhanced Investigator</u>: can submit requests to DataMarts that have given them or their organization permission to submit queries and review their requests results. This role has the additional right to view disaggregated (site-specific) results.

Query Administrator: can approve requests before they are sent to DataMarts. This user has the rights of an Enhanced Investigator for sending and reviewing requests.

A user may be a member of one or more Security Groups thereby inheriting the rights of all the security groups.

Related Documents

For more information about the PopMedNet™ system, see one of the following documents available on the PopMedNet™ public website (popmednet.org):

PopMedNet™ Distributed Query Tool Sample DataMart Administrator Manual

The *DataMart Administrator Manual* describes the tasks and activities required to install and manage a DataMart. This includes:

- ✓ Setting up and configuring the physical environment -- consisting of Internet connectivity/desktop computer requirements, and system software
- ✓ Installing and performing initial administrative setup of a DataMart Client
- ✓ Managing the DataMart setting in the portal

PopMedNet™ Distributed Query Tool Overview and Administrator's Guide

The *Overview and Administrator's Guide* describes the overall network system architecture, key querying features, and hosting and security details. This includes:

- ✓ System overview and workflow
- ✓ Policies and features
- ✓ Technical architecture and security
- ✓ Installing an instance of a Portal and an associated database
- ✓ Performing the initial administrative setup
- ✓ Performing typical System Administrator functions such as adding new users and DataMarts, creating new roles, and deleting users and DataMarts

3 How to Login to the Web Portal

Before you can login to your Distributed Query Tool portal, you need a username and password assigned by your Network Administrator or the PopMedNet™ support staff. Once you have your Login Credentials, follow the steps below.



Use these steps to login to the portal:

 Navigate to the PopMedNet[™] custom website login page: [Secure URL distributed by network coordinating center.]

- 2. Enter your Username and Password in the boxes.
- 3. If this is your first login, you will be prompted to read and acknowledge your agreement to the Terms and Conditions of use. If you have cookies enabled, you will not be prompted on subsequent logins.
- 4. Click the Login button to enter the Portal.

4 Submitting a Request, Viewing Request Status, and Viewing Results

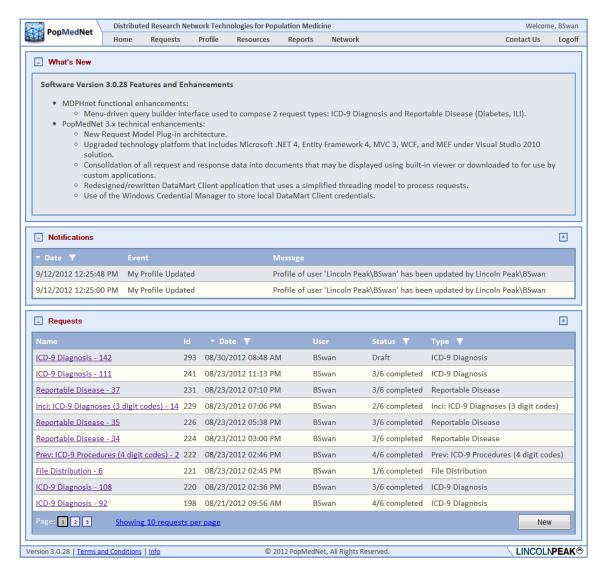
Once you have logged in, the portal displays the home page shown below. From the home page, you can view your notifications, view existing requests, and create a new request. This section tells you how to create a request, view its status and results.

Note: The descriptions below refer to a specific implementation using the PopMedNet™ software.

Installations for other PopMedNet™- powered networks may have different query capabilities.

4.1 Getting Started

Once you login into the Portal you will land on the Home page.



The home page is a landing page that contains a set of controls that provide the user with recent information that is relevant to his daily tasks. The following controls are available on the home page:

- ✓ What's New message panel used to communicate system wide information site upgrades, new features and functions
- ✓ Notifications list of recent notifications on requests and responses performed or associated with the user
- ✓ Requests list recent requests that have been initiated by the user or require the user's approval or review

Collapsible content panels are used throughout the user interface that allows the user to collapse, expand, and maximize the content panel within the page. Additionally, for panels that contain grid controls, the user may specify the number of items displayed in the grid, set column sort orders, and column filters. All these settings are preserved across user sessions.

Note: The term Request is used interchangeably with Query. With the introduction of PopMedNet Release 3, the application has the ability to compose and route a variety of queries, commands, and general *requests* to DataMarts through a "plugin" framework that allows the network to be easily extended to add introduce new requests types.

4.2 Submitting a Request

The Requests panel lists the queries that have been composed by the user. A full page dedicated to requests is available by clicking the Requests menu item at the top of the page. The Requests panel allows you to create menu-driven queries. The criteria that you can enter vary for each type. However, the basic steps are the same for all requests. Once you select a query type, the page shows a common header panel that identifies the request, a common footer panel that contains the DataMarts where the request will be routed, and a content panel in the middle that displays controls used to enter criteria settings for the particular request type.

Procedure

Follow these basic steps to submit a request:

- 1. Click the New button in the request panel and choose the request category from the drop down menu.
- 2. Choose a request model and type from the drop down menu.
- 3. Enter a unique name for the request in the text box. This name should help you distinguish among your requests. Note that this field only appears after you select the request type.
- 4. Enter a brief description of the request and the reason for submitting this request, for example to assess the utilization of a medical product. This description is distributed along with the request and should be detailed enough to allow data partners to assess the reason for the query. This step also displays your email address. To update your email address, navigate to your **Profile** by clicking the Profile menu item at the top of the page. You must use a business email address, not a personal account.

- 5. Specify the request specific criteria and settings for each request type.
- 6. The available DataMarts that you have rights to route the request to will be listed in the DataMart Routing panel at the bottom of the request page. Select one or more of the DataMarts to execute the request.
- 7. Click the Submit button to submit the query. The request goes out to all the DataMarts that you have selected. You may click the Save button to save the request to a Draft status to be reopened later and resume composing the request before submitting it.

4.3 Request Types

The system currently supports a number of request types:

- ✓ Menu-driven queries that execute against Summary Table databases
- ✓ Menu-driven queries that execute against ESP databases
- ✓ File distribution queries used to exchange documents between the portal and DataMarts
- ✓ Queries composed from a number of external applications, such as I2B2, that use an interface native the application to compose the query and submit it to a PopMedNet network

4.3.1 Summary Queries

PopMedNet™ software currently supports querying against summary tables. The structure of the currently supported tables is described in separate documentation. Briefly, these tables provide summary counts of individuals by period, age group, and sex. The summary counts include information on medication use (e.g., number of dispensings, users, and days supplied), diagnoses (e.g., number of individuals with the diagnosis), procedures, and the overall data partner population.

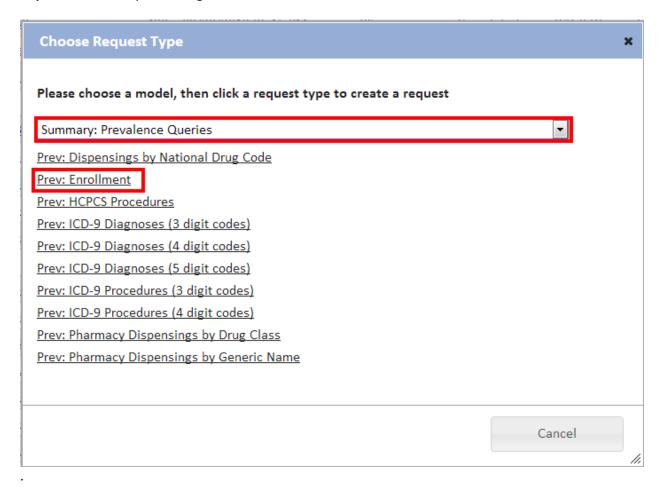
The summary queries are group into three request models as follows:

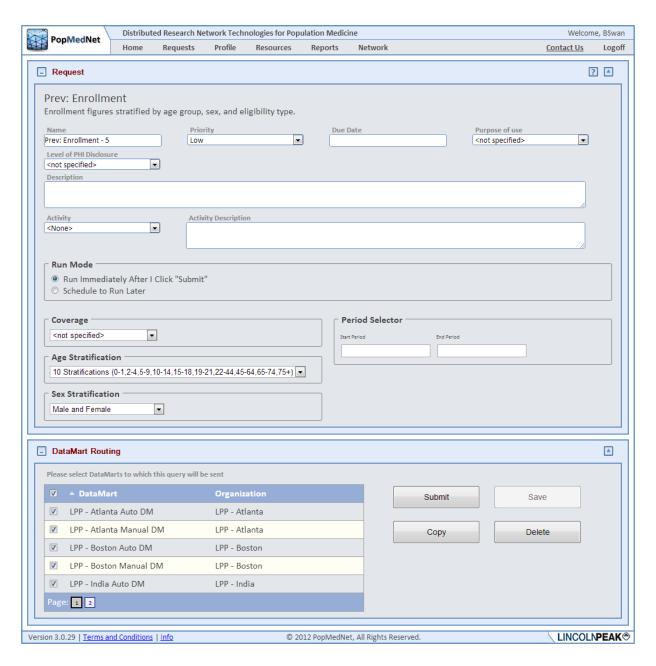
Request Model	Request Type
Incidence	ICD-9 Diagnosis (3 digit codes)
	Pharmacy Dispensings by Drug Class
	Pharmacy Dispensings by Generic Name
Prevalence	ICD-9 Diagnosis (3 digit codes)
	ICD-9 Diagnosis (4 digit codes)
	ICD-9 Diagnosis (5 digit codes)
	ICD-9 Procedures (3 digit codes)
	ICD-9 Procedures (4 digit codes)
	Enrollment
	HCPHCS Procedures
	Pharmacy Dispensings by Drug Class
	Pharmacy Dispensings by Generic Name

	Dispensings by National Drug Code
Most Frequently Used	HCPCS Procedures
	ICD-9 Diagnosis (3 digit codes)
	ICD-9 Diagnosis (4 digit codes)
	ICD-9 Diagnosis (5 digit codes)
	ICD-9 Procedures (3 digit codes)
	ICD-9 Procedures (4 digit codes)
	Pharmacy Dispensings by Drug Class
	Pharmacy Dispensings by Generic Name
Administrative	Refresh Dates

4.3.1.1 Prevalence Enrollment Query

To compose an Enrollment query, click on the "New" button in the request panel, choose "Summary: Prevalence Queries", and then choose the "Enrollment" request type.





Enter the following criteria for an Enrollment query:

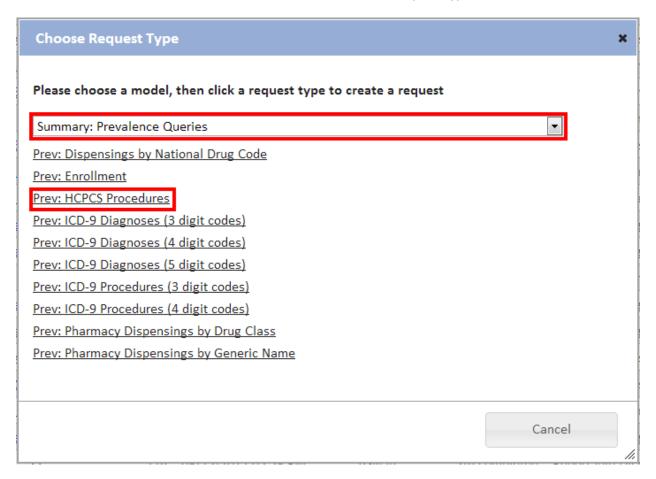
Control	Description
Coverage	Select one of the coverage types that this query is based upon: ✓ Drug and Medical Coverage ✓ Drug Coverage Only ✓ Medical Coverage Only ✓ All Members (which represents a the union of previous 3 coverage types)

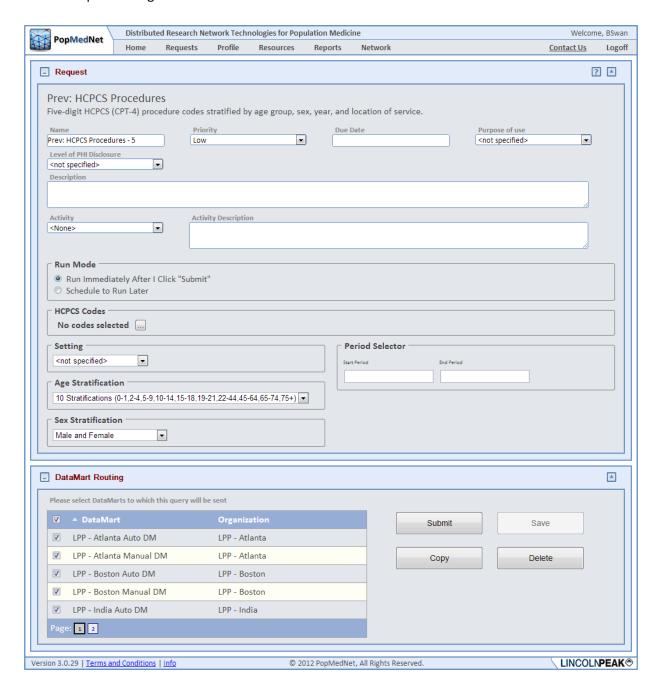
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

Note: These counts are used to calculate prevalence rates as seen in Section 4.6.1.

4.3.1.2 Prevalence HCPCS Procedures (Healthcare Common Procedure Coding System) Query

To compose a HCPCS query, click on the "New" button in the request panel, choose "Summary: Prevalence Queries", and then choose the "HCPCS Procedures" request type.





Enter the following criteria for HCPCS Procedures query:

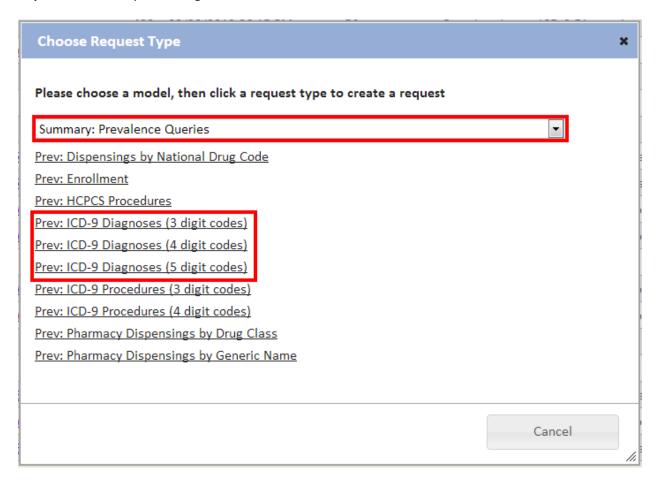
Control	Description
Code Selection	You can choose up to 10 HCPCS (CPT-4) procedure codes to view in one query.
	There are two ways to select the codes:
	✓ Search by text string or code; search using wildcards "*" is available.
	✓ Choose a category and select from a list. The list shows code and

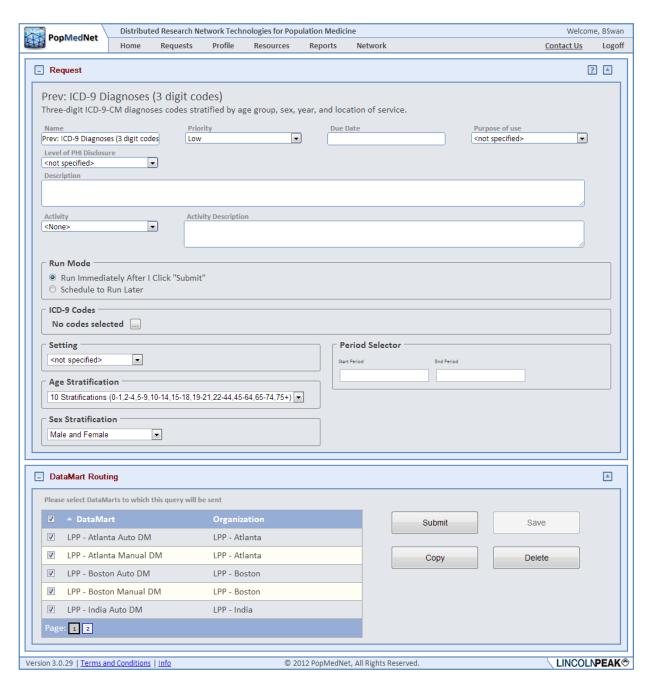
	name. Click on the column header to sort by code or by name.
	Click on Add Codes to add the selected codes to the list and display the list.
Setting	Select the care setting for the query: inpatient, outpatient (ambulatory), emergency department, or any setting
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.3 Prevalence ICD-9 Diagnoses (3, 4 and 5 Digit Codes) Query

To compose an ICD-9 Diagnosis query, click on the "New" button in the request panel, choose "Summary: Prevalence Queries", and then choose the "ICD-9 Diagnosis (3-digit)", "ICD-9 Diagnosis (4-digit)", or "ICD-9 Diagnosis (4-digit)" request type.

Note: Each different digit code represents a separate query. You may not combine different digit codes into one query.





Enter the following criteria for an ICD-9 Diagnoses query:

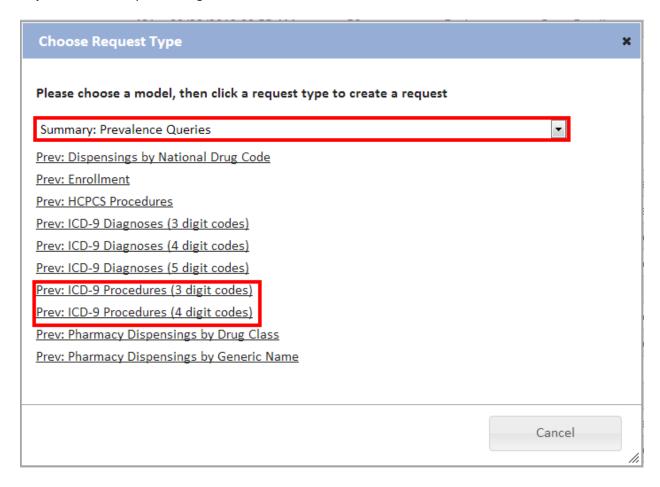
Control	Description
Code Selection	You can choose up to 10 ICD-9 diagnoses codes per query.
	There are two ways to select the codes:
	✓ Search by text string or code; search using wildcards "*" is available.
	✓ Choose a category and select from a list. The list shows code and

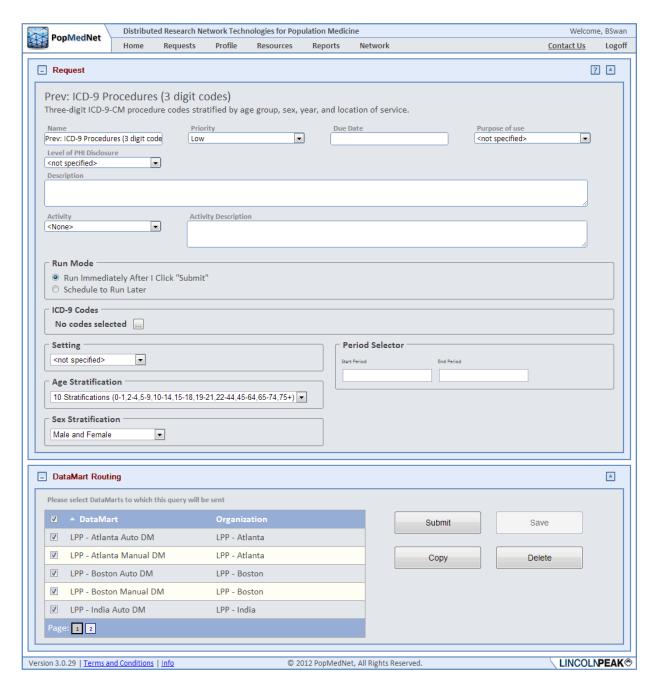
name. Click on the column header to sort by code or by name.
Click on Add Codes to add the selected codes to the list and display the list.
Select the required age stratification from the drop down menu.
Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Select the care setting for the query: outpatient, emergency department, or inpatient.
Select one or more years. Enter the start year and ending year for period range.
Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.4 Prevalence ICD-9 Procedures (3 and 4 Digit Codes) Query

To compose an ICD-9 Procedure query, click on the "New" button in the request panel, choose "Summary: Prevalence Queries", and then choose the "ICD-9 Procedure (3-digit)" or "ICD-9 Procedure (4-digit)" request type.

Note: Each different digit code represents a separate query. You may not combine different digit codes into one query.





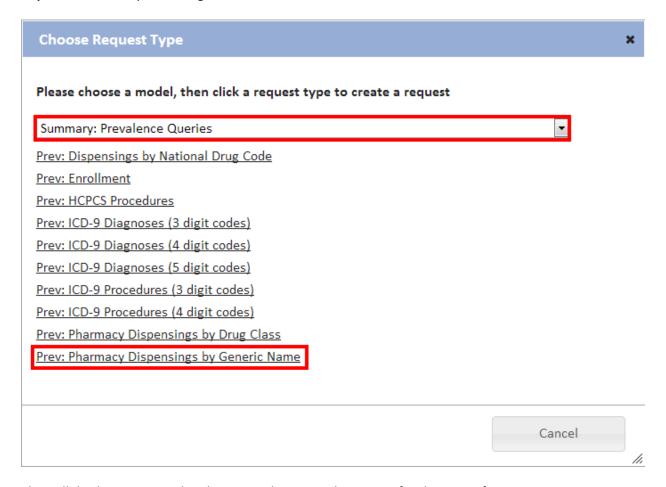
Enter the following criteria for an ICD-9 Procedures query:

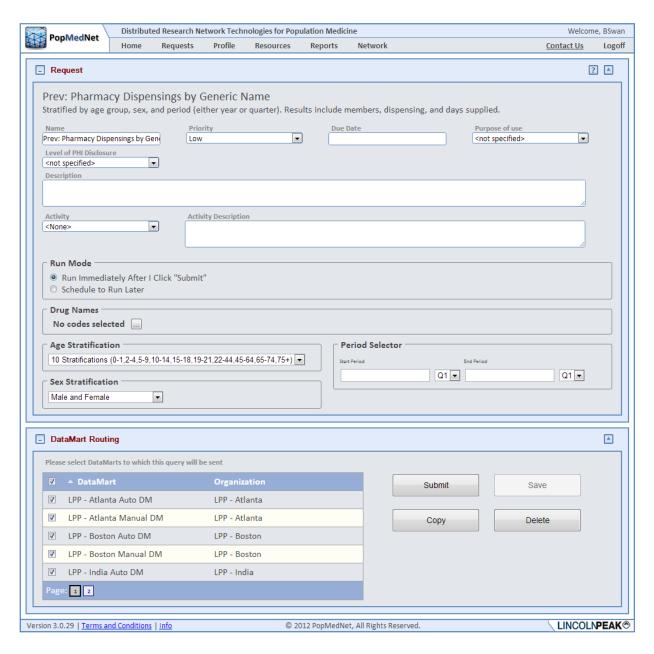
Control	Description
Code Selection	You can choose up to 10 ICD-9 procedure codes to view in one query.
	There are two ways to select the codes:
	✓ Search by text string or code; search using wildcards "*" is available.
	✓ Choose a category and select from a list. The list shows code and

Click on Add Codes to add the selected codes to the list and displements. Setting Select the care setting for the query: inpatient, outpatient (ambutemergency department.	ay the list.
	latory), or
Age Stratification Select the required age stratification from the drop down menu.	
Sex Stratification Select a sex grouping from the drop down menu to specify the se stratification for your results (female only, male only, male and female aggregated).	
Period Select one or more years. Enter the start year and ending year for range.	r period
Select the DataMarts to submit your query to. Only the DataMart you have rights to route your request to are displayed.	s for which

4.3.1.5 Prevalence Pharmacy Dispensings by Generic Name Query

To compose a Pharmacy Dispensings by Generic Name prevalence query, click on the "New" button in the request panel, choose "Summary: Prevalence Queries", and then choose the "Pharmacy Dispensings by Generic Name" request type.





Enter the following criteria for a Pharmacy Dispensings by Generic Name query:

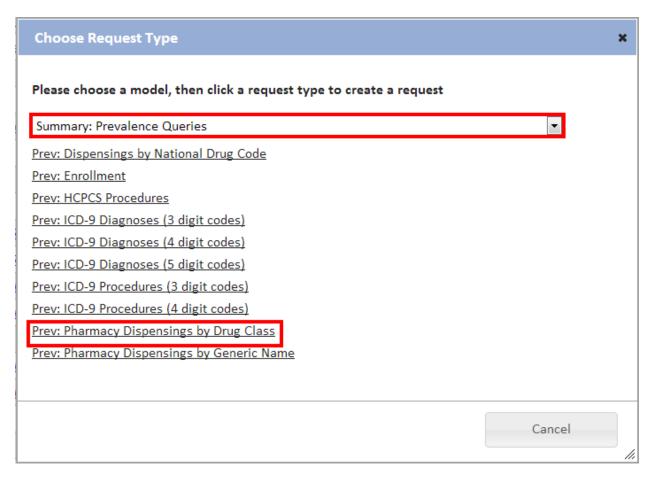
Control	Description
Drug Selection	You can choose up to 10 drugs per query. Note: First DataBank was used to map National Drug Codes to the Generic Name list.
	There are two ways to select the drugs:
	✓ Search by text string or code; search using wildcards "*" is available.
	✓ Choose a category and select from a list.

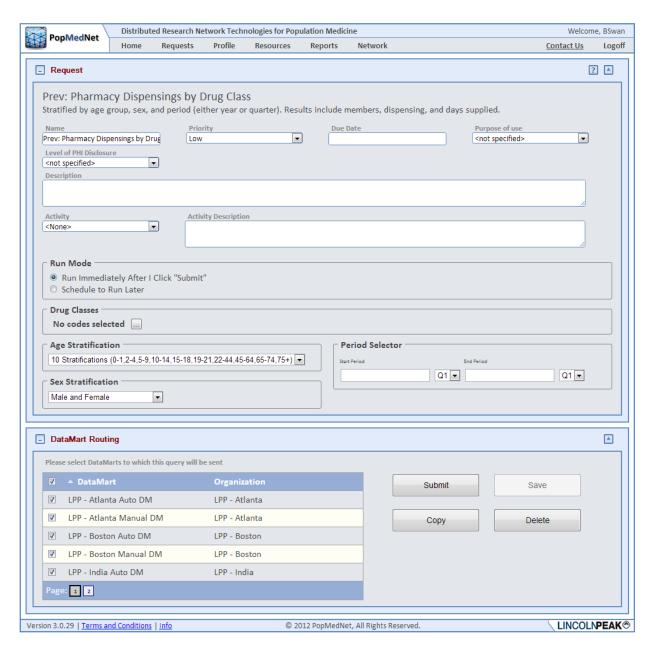
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	Click on Add Codes to add the selected drugs to the list and display the list.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period Type	Select the period type: Quarterly or Yearly.
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.6 Prevalence Pharmacy Dispensing by Drug Class Query

To compose a Pharmacy Dispensings by Drug Class prevalence query, click on the "New" button in the request panel, choose "Summary: Prevalence Queries", and then choose the "Pharmacy Dispensings by Drug Class" request type.





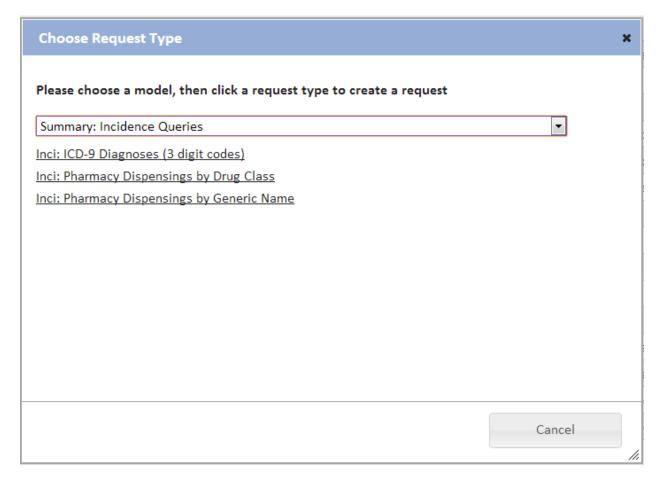
Enter the following criteria for a Pharmacy Dispensings by Drug Class query:

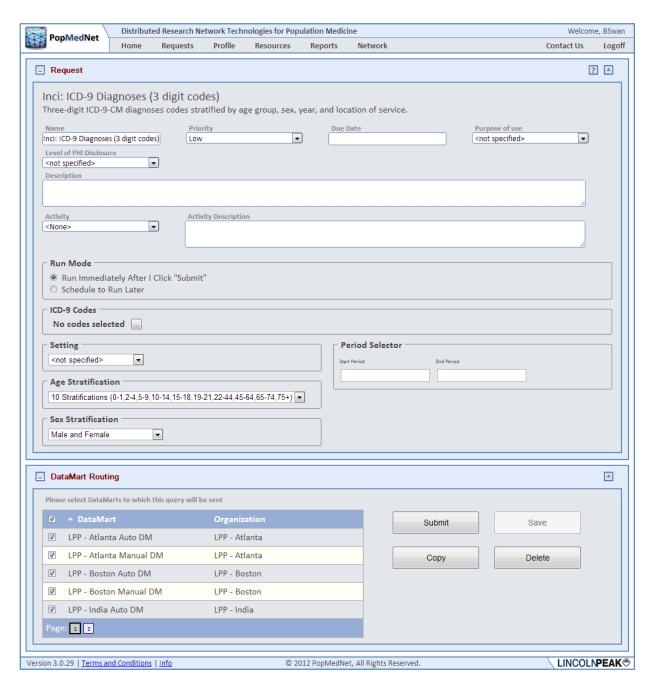
Control	Description
Drug Class Selection	You can choose up to 10 drugs per query. Note: First DataBank was used to map National Drug Codes to the Drug Class list.
	There are two ways to select the drugs:
	✓ Search by text string or code; search using wildcards "*" is available.
	 ✓ Select from a list of drug classes. Leave the text box blank and click Search to display the list of drug

	classes available for this query. Check the box next to each drug class to include in your query.
	Click on Add Codes to add the selected drug classes to the list and display the list.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period Type	Select the period type: Quarterly or Yearly.
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.7 Incidence ICD-9 Diagnosis (3-digit codes) Query

To compose an ICD-9 Diagnosis (3-digit codes) incidence query, click on the "New" button in the request panel, choose "Summary: Incidence Queries", and then choose the "ICD-9 Diagnosis (3-digit codes)" request type.





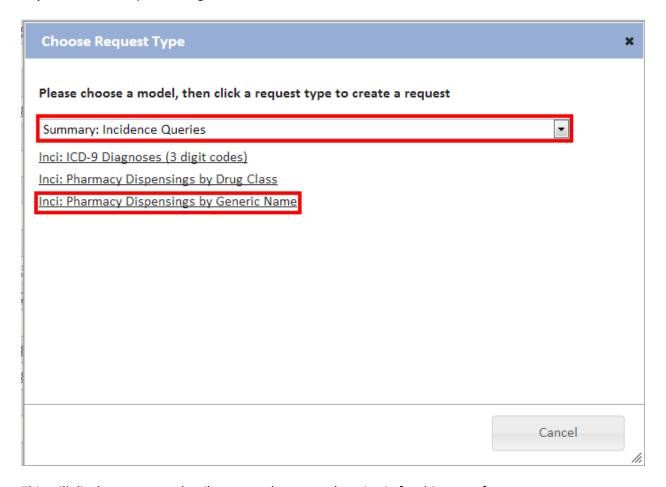
Enter the following criteria for an ICD-9 Diagnoses query:

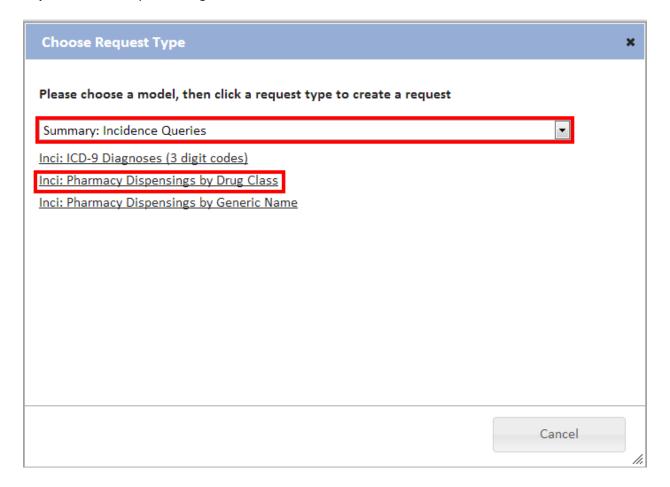
Control	Description
Code Selection	You can choose up to 10 ICD-9 diagnoses codes per query.
	There are two ways to select the codes:
	✓ Search by text string or code; search using wildcards "*" is available.
	✓ Choose a category and select from a list. The list shows code and

	name. Click on the column header to sort by code or by name.
	Click on Add Codes to add the selected codes to the list and display the list.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Setting	Select the care setting for the query: outpatient, emergency department, or inpatient.
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.8 Incidence Pharmacy Dispensings by Generic Name Query

To compose a Pharmacy Dispensings by Generic Name incidence query, click on the "New" button in the request panel, choose "Summary: Incidence Queries", and then choose the "Pharmacy Dispensings by Generic Name" request type.





Enter the following criteria for a Pharmacy Dispensings by Generic Name query:

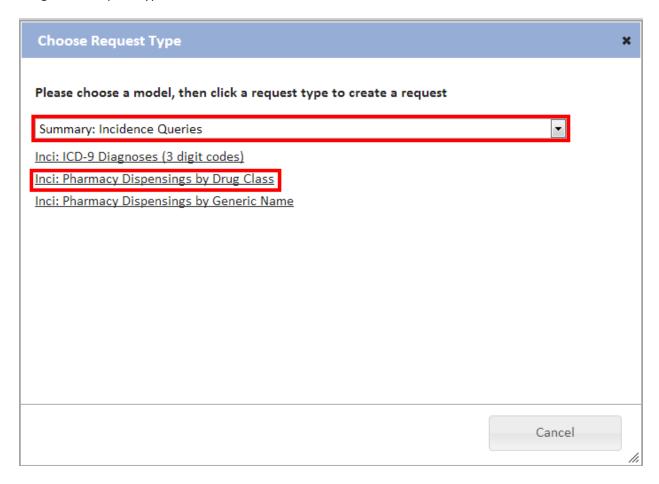
Control	Description
Drug Selection	You can choose up to 10 drugs per query. Note: First DataBank was used to map National Drug Codes to the Generic Name list. There are two ways to select the drugs: ✓ Search by text string or code; search using wildcards "*" is available. ✓ Choose a category and select from a list. Click on Add Codes to add the selected drugs to the list and display the list.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).

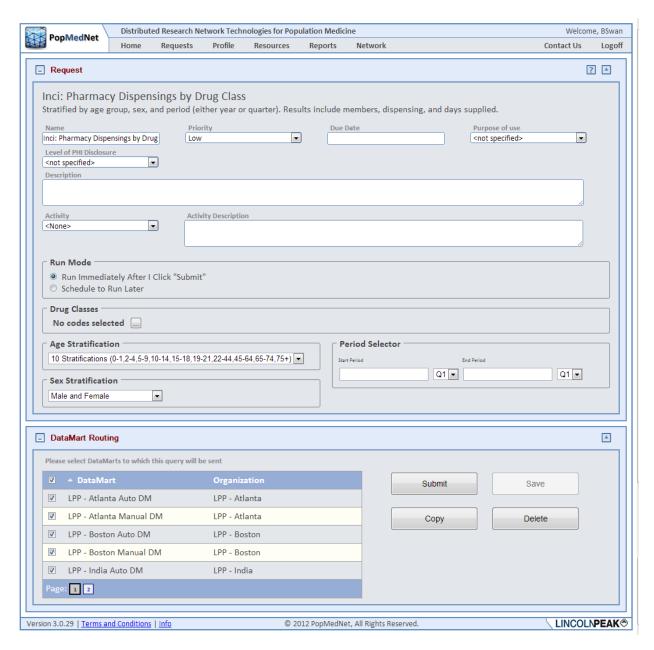
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Period Type	Select the period type: Quarterly or Yearly.
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.9 Incidence Pharmacy Dispensing by Drug Class Query

To compose a Pharmacy Dispensings by Drug Class incidence query, click on the "New" button in the request panel, choose "Summary: Incidence Queries", and then choose the "Pharmacy Dispensings by Drug Class" request type.





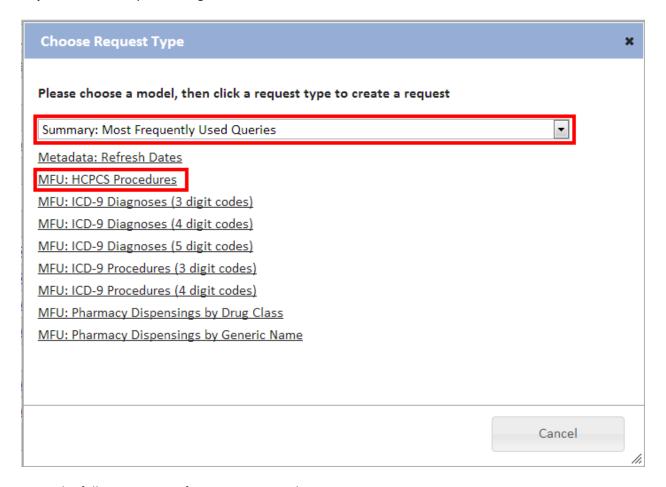
Enter the following criteria for a Pharmacy Dispensings by Drug Class query:

Control	Description
Drug Class Selection	You can choose up to 10 drugs per query. Note: First DataBank was used to map National Drug Codes to the Drug Class list.
	There are two ways to select the drugs:
	✓ Search by text string or code; search using wildcards "*" is available.
	 ✓ Select from a list of drug classes. Leave the text box blank and click Search to display the list of drug

	classes available for this query. Check the box next to each drug class to include in your query. Click on Add Codes to add the selected drug classes to the list and display the list.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period Type	Select the period type: Quarterly or Yearly.
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.10 Most Frequently Used HCPCS Procedures Query

To compose a HCPCS most frequently used query, click on the "New" button in the request panel, choose "Most Frequently Used Queries", and then choose the "HCPCS Procedures" request type.

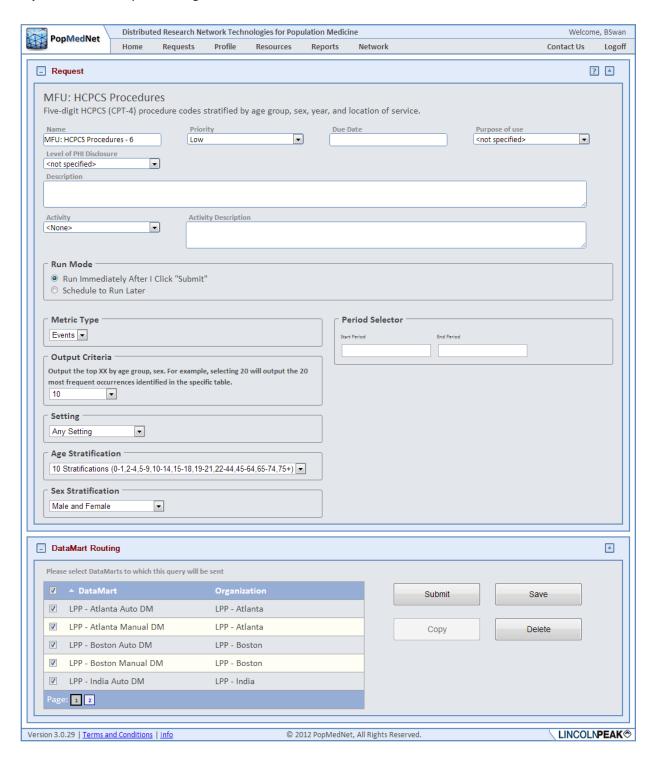


Enter the following criteria for a HCPCS Procedures query:

Control	Description
Metric Type	Select from one of two metric types: ✓ Events ✓ Users
Output Criteria	Select the criteria ranking value to stratify the output from the list. For example, selecting 20 will output the 20 most frequently occurrences identified in the specific table
Setting	Select the care setting for the query: inpatient, outpatient (ambulatory), emergency department, or any setting.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period	Select one or more years. Enter the start year and ending year for period

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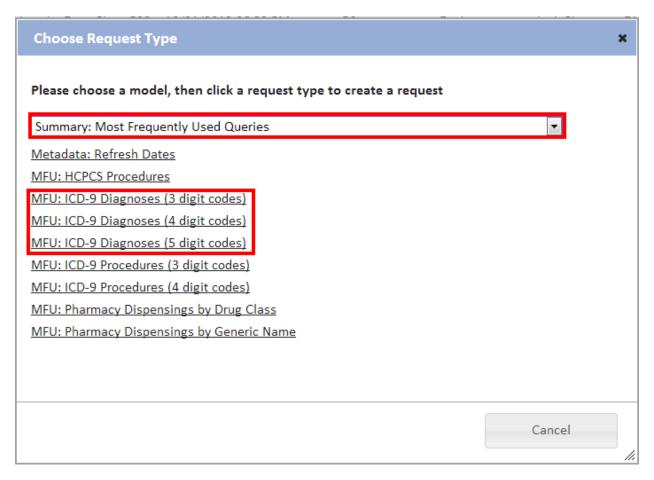
	range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

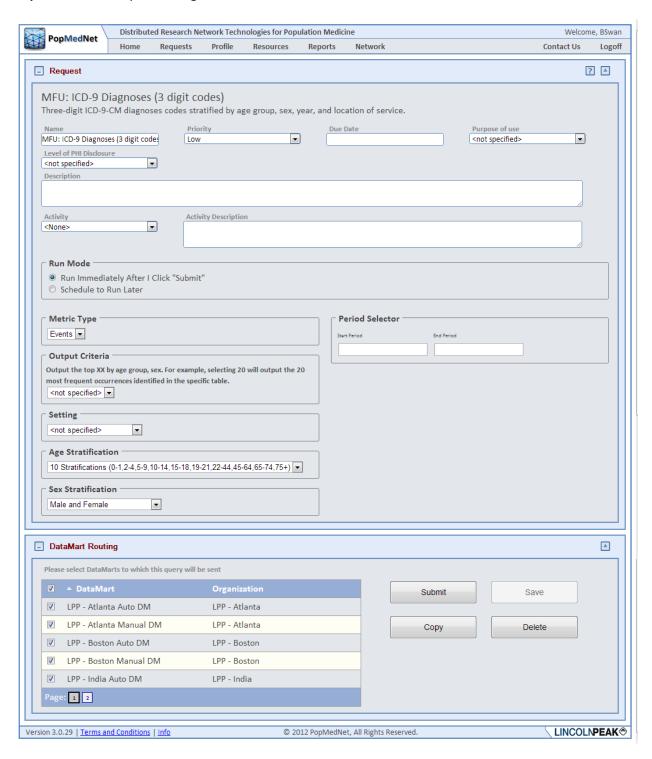


4.3.1.11 Most Frequently Used ICD-9 Diagnoses (3, 4 and 5 Digit Codes) Query

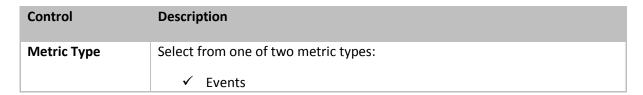
To compose an ICD-9 Diagnosis most frequently used query, click on the "New" button in the request panel, choose "Summary: Most Frequently Used Queries", and then choose the "ICD-9 Diagnosis (3-digit)", "ICD-9 Diagnosis (4-digit)", or "ICD-9 Diagnosis (4-digit)" request type.

Note: Each different digit code represents a separate query. You may not combine different digit codes into one query.





Enter the following criteria for an ICD-9 Diagnoses query:

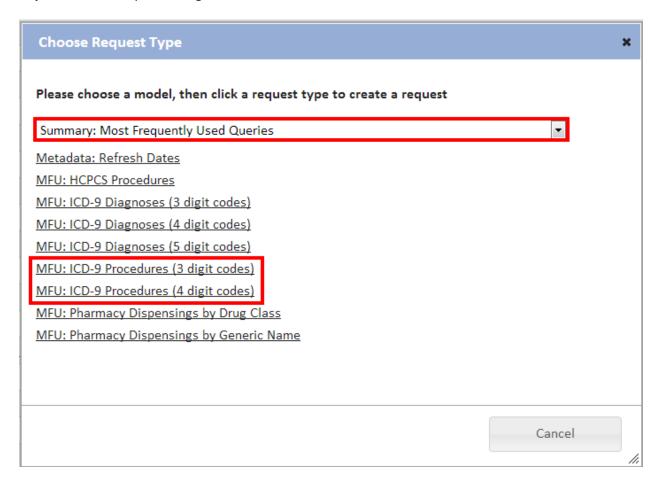


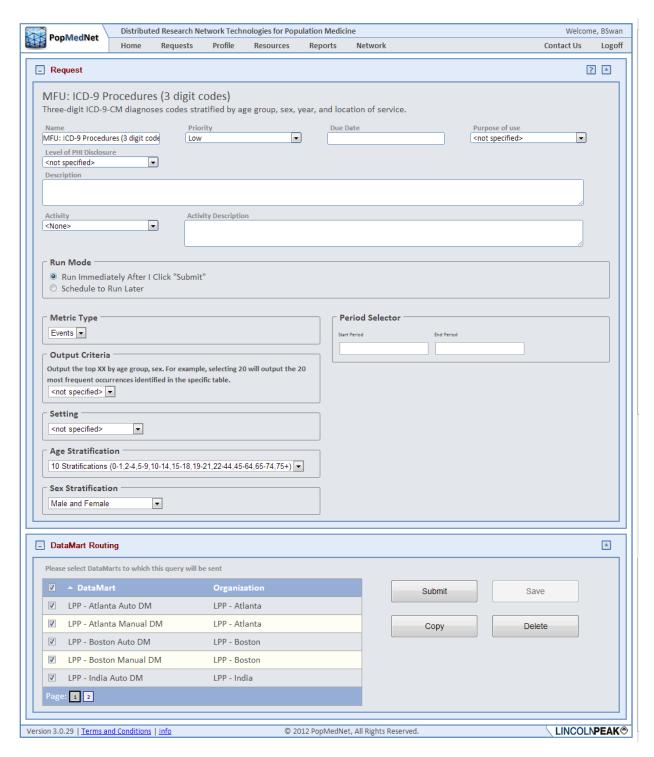
	✓ Users
Output Criteria	Select the criteria ranking value to stratify the output from the list. For example, selecting 20 will output the 20 most frequently occurrences identified in the specific table
Setting	Select the care setting for the query: inpatient, outpatient (ambulatory), emergency department, or any setting.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.12 Most Frequently Used ICD-9 Procedures (3 and 4 Digit Codes) Query

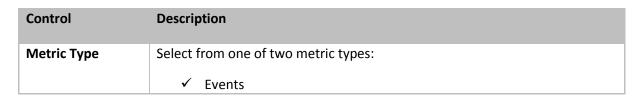
To compose an ICD-9 Procedure most frequently used query, click on the "New" button in the request panel, choose "Summary: Most Frequently Used Queries", and then choose the "ICD-9 Procedure (3-digit)" or "ICD-9 Procedure (4-digit)" request type.

Note: Each different digit code represents a separate query. You may not combine different digit codes into one query.





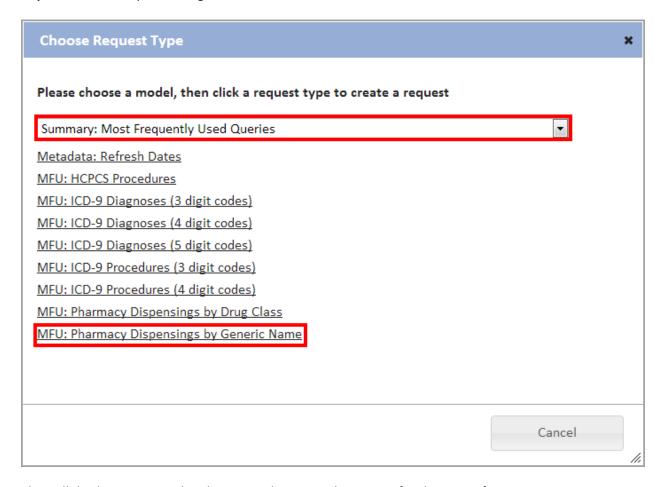
Enter the following criteria for an ICD-9 Procedures query:

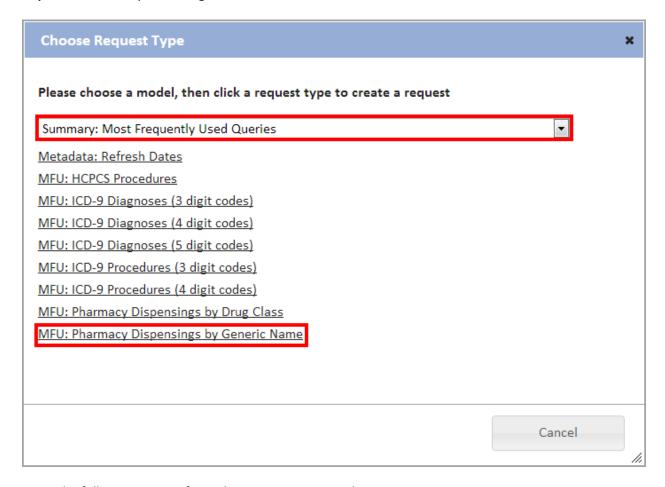


	✓ Users
Output Criteria	Select the criteria ranking value to stratify the output from the list. For example, selecting 20 will output the 20 most frequently occurrences identified in the specific table
Setting	Select the care setting for the query: inpatient, outpatient (ambulatory), emergency department, or any setting.
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.13 Most Frequently Used Pharmacy Dispensings by Generic Name Query

To compose a Pharmacy Dispensings by Generic Name most frequently used query, click on the "New" button in the request panel, choose "Summary: Most Frequently Used Queries", and then choose the "Pharmacy Dispensings by Generic Name" request type.





Enter the following criteria for a Pharmacy Dispensings by Generic Name query:

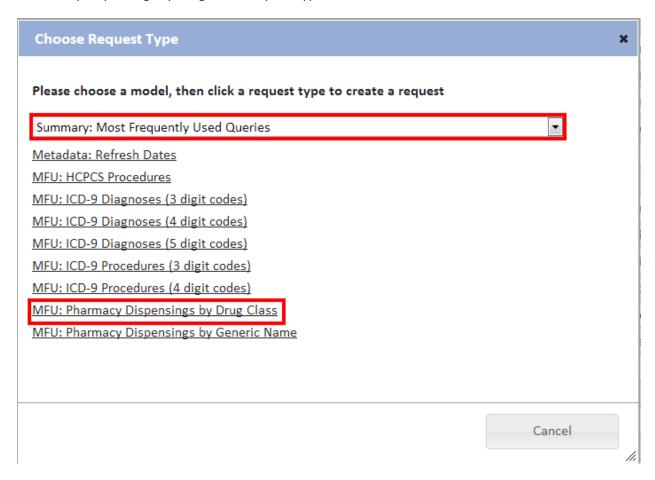
Control	Description
Metric Type	Select from one of two metric types: ✓ Events ✓ Users
Output Criteria	Select the criteria ranking value to stratify the output from the list. For example, selecting 20 will output the 20 most frequently occurrences identified in the specific table
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period Type	Select the period type: Quarterly or Yearly.
Period	Select one or more years. Enter the start year and ending year for period

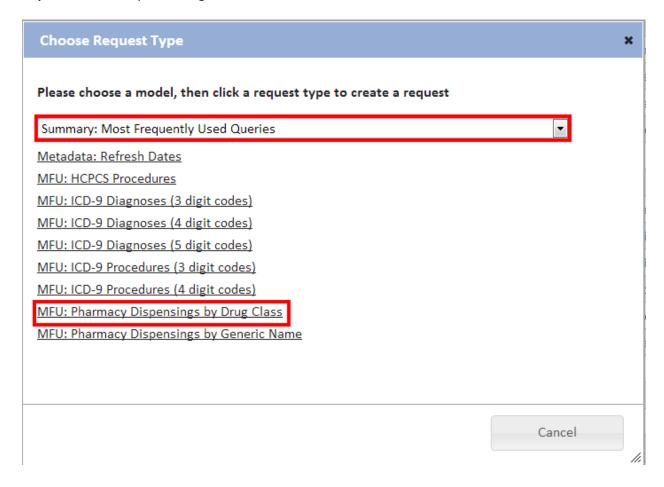
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	range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.1.14 Most Frequently Used Pharmacy Dispensing by Drug Class Query

To compose a Pharmacy Dispensings by Drug Class most frequently used query, click on the "New" button in the request panel, choose "Summary: Most Frequently Used Queries", and then choose the "Pharmacy Dispensings by Drug Class" request type.





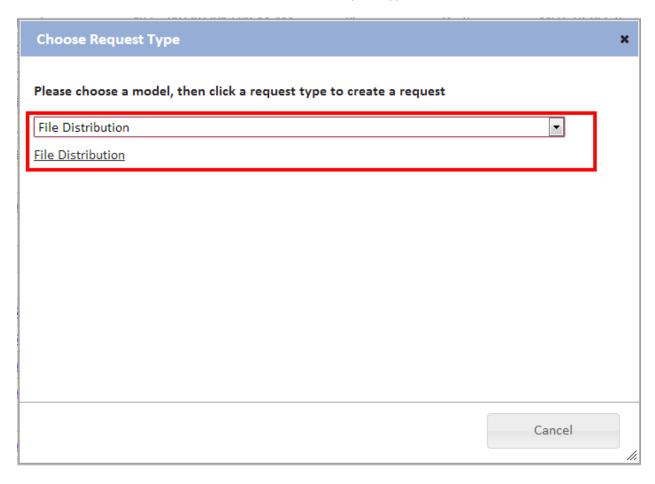
Enter the following criteria for a Pharmacy Dispensings by Drug Class query:

Control	Description
Metric Type	Select from one of two metric types: ✓ Events ✓ Users
Output Criteria	Select the criteria ranking value to stratify the output from the list. For example, selecting 20 will output the 20 most frequently occurrences identified in the specific table
Age Stratification	Select the required age stratification from the drop down menu.
Sex Stratification	Select a sex grouping from the drop down menu to specify the sex stratification for your results (female only, male only, male and female, or male and female aggregated).
Period Type	Select the period type: Quarterly or Yearly.

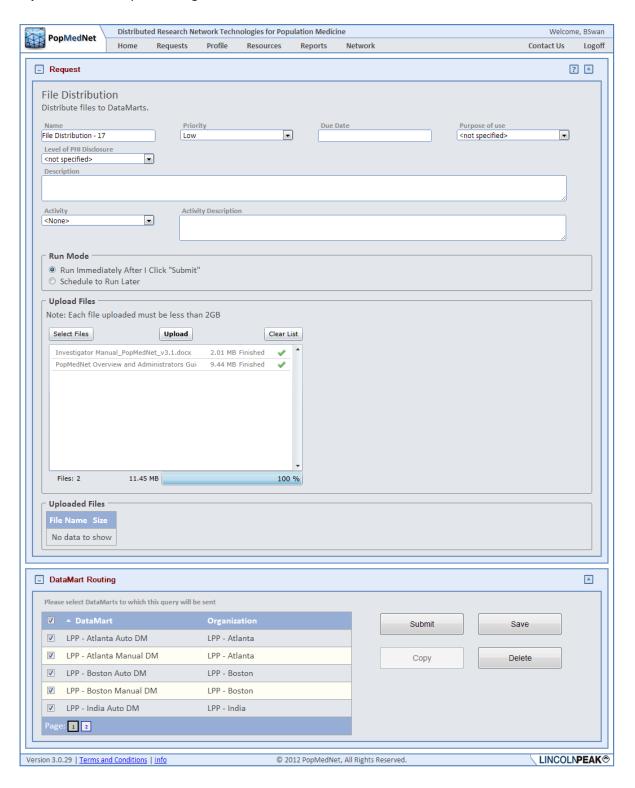
Period	Select one or more years. Enter the start year and ending year for period range.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.3.2 File Distribution

The File Distribution screen allows you to distribute any type of file to the network DataMarts. You can upload files for distribution to a selected DataMart. You create a File Distribution query by selecting the File Distribution model and then the File Distribution request type.



This navigates you to a form to select the files you wish to send to DataMarts.



Use these steps to upload a file to selected DataMarts:

- 1. Enter a unique query name.
- 2. Enter a brief description of the query.
- 3. Click the Browse button to select a file.
- 4. After you select each file, click the Upload button.
- 5. Once you have selected the desired file(s), click the Submit button.

4.3.3 ESP Query Builder Queries

The *Electronic Support for Public Health System* (ESP) Query Builder is a set of requests that operate against the ESP database. ESP uses a set of complex algorithms to identify selected diseases of public health concern such as acute hepatitis B, Lyme disease, influenza-like illness, and diabetes. The ESP algorithms are based on the ESP data model that is a standardize representation of EHR-based encounter and patient demographic information. The ESP platform enables automated extraction of data from EHRs into a format suitable for disease surveillance activities. ESP is installed behind the provider's firewall, giving the provider control access over access and use of their data.

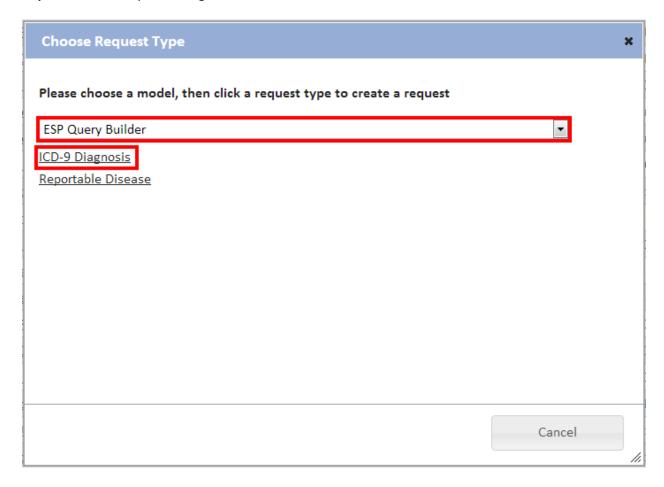
The requests supported by ESP Query Builder are:

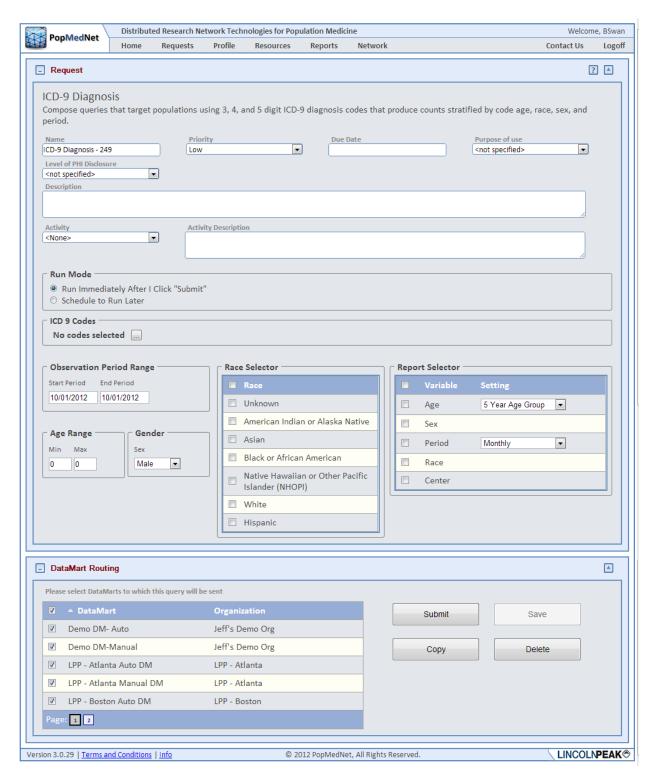
- ✓ ICD-9 Diagnosis used to build ad-hoc custom health measure queries based on ICD-9 3-digit, 4-digit, and 5 digit diagnosis codes that produce reports stratified by period, gender, race, and age range.
- ✓ Reportable Diseases used to select one of a list of reportable disease reports that are produced periodically on the ESP servers stratified by period, gender, race, and age range.

The following sections describe how you can create these request types.

4.3.3.1 ESP ICD-9 Diagnosis Query

To compose an ICD-9 Diagnosis ESP query, click on the "New" button in the request panel, choose "ESP Query Builder", and then choose the "ICD-9 Diagnosis" request type.





Enter the following criteria for an ICD-9 Diagnoses query:

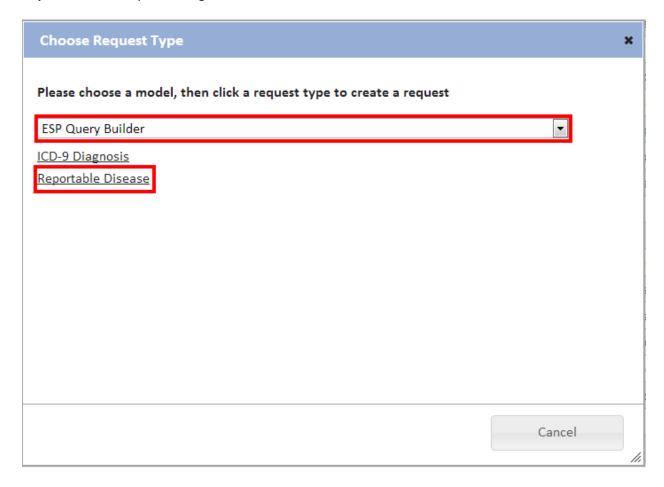
Control	Description
Code Selection	Search by specific code (including decimal, for 4 and 5 digit codes), range of

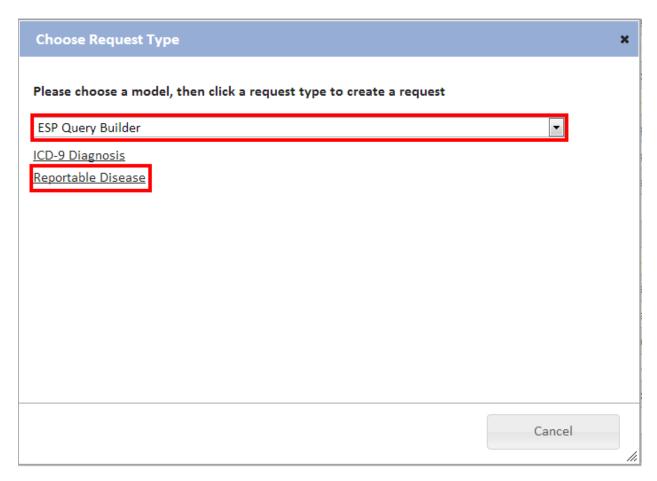
	codes (e.g., 250-251, 250.1-255.1, or 296.00-296.99) or keyword to identify codes for the query; wild cards (*) can be used. Click on Add Codes to add the selected codes to the list and display the list.
	There are two ways to select the codes:
	✓ Search by text string or code; search using wildcards "*" is available.
	✓ Choose a category and select from a list. The list shows code and name. Click on the column header to sort by code or by name.
	Note, when ICD-9 codes of 3 or 4 digits are selected, all available codes to the highest degree of specificity will be displayed in the results. For example, selecting the code '250' is equivalent to a query of 250*, results for available codes 250.xx codes will be queried. Each code in the output will be displayed separately by row.
	Codes selected will result in a query that returns patient counts for that include any of the selected codes or their more specific codes. For instance, selecting 250 and 251 will result in a query that will return counts for all diagnosis of 250 or 250.01-250.09 or 251 or 251.01-251.09.
	The code set used for the specifications for HCPCS, ICD-9 Diagnosis (3, 4 and 5 digit) and ICD-9 Procedure (3 and 4 digit) query types are provided by Ingenix, Inc.
Observation Period	Select the starting period and ending observation period using the date selector
Age Range	Select the minimum age and maximum age for the patient population.
Gender	Select a sex the drop down menu for the patient population. You may choose from the following list:
	✓ Male✓ Female✓ Male and Female
Race	Select one or more values from the race selector
Report Selector	Choose one or more values used to stratify the results. For Age, you may choose to group values by 5 year age groups or 10 year age groups. For Period, you may choose to group values by Monthly or Yearly.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which

you have rights to route your request to are displayed.

4.3.3.2 ESP Reportable Disease Query

To compose an ICD-9 Diagnosis ESP query, click on the "New" button in the request panel, choose "ESP Query Builder", and then choose the "ICD-9 Diagnosis" request type.





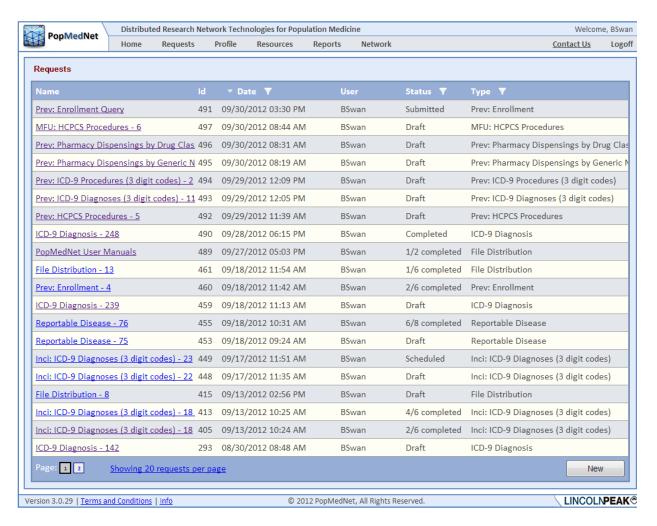
Enter the following criteria for an ICD-9 Procedures query:

Control	Description
Disease Selector	Choose the reportable disease you wish to query from the available diseases listed in the drop-down control
Observation Period	Select the starting period and ending observation period using the date selector
Age Range	Select the minimum age and maximum age for the patient population.
Gender	Select a sex the drop down menu for the patient population. You may choose from the following list: ✓ Male ✓ Female ✓ Male and Female
Race	Select one or more values from the race selector

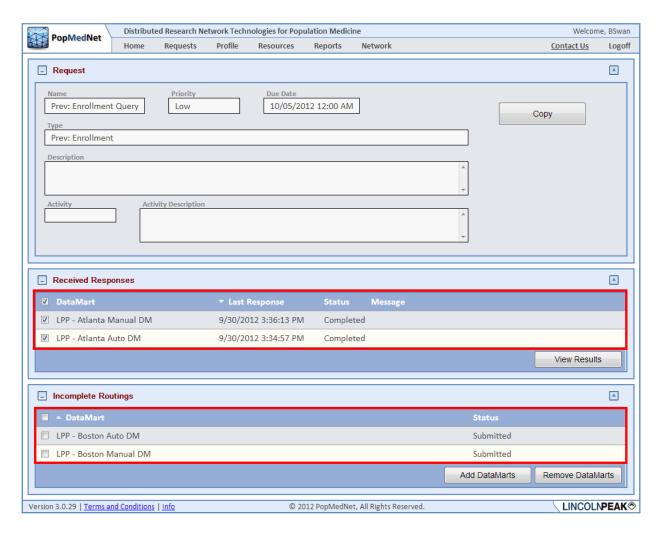
Report Selector	Choose one or more values used to stratify the results. For Age, you may choose to group values by 5 year age groups or 10 year age groups. For Period, you may choose to group values by Monthly or Yearly.
DataMarts	Select the DataMarts to submit your query to. Only the DataMarts for which you have rights to route your request to are displayed.

4.4 Checking the Query Status

Once a request is submitted, its status is displayed in the Requests list.



You can view the detailed status of a request by clicking on the request name to navigate to the Request Status detail page.



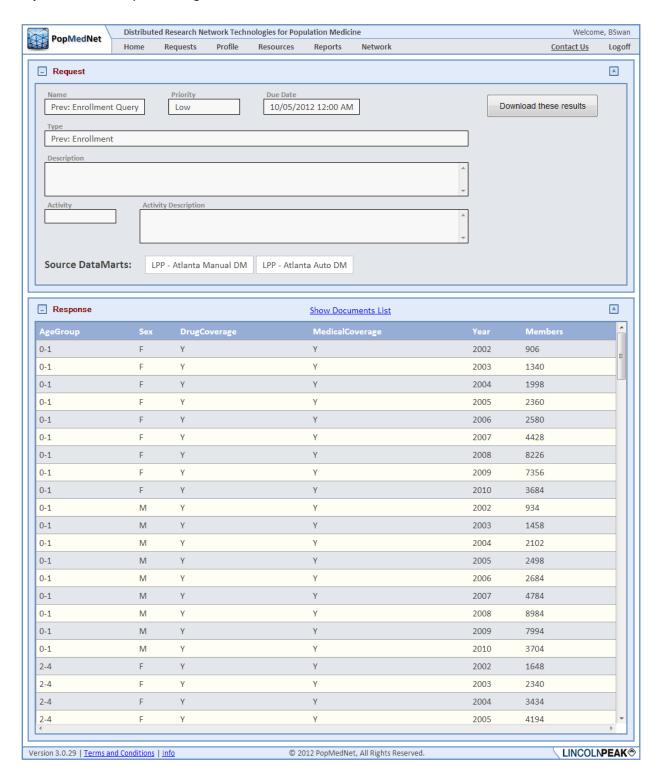
This displays a list of all the DataMarts to which you submitted the request along with status for each DataMart.

4.5 Viewing Request Results

You can view the results of a request from the Request Detail page by clicking

A user designated as an Enhanced Investigator will have the right to view site results individually across the organizations within the query. This role will be assigned at the discretion of a Network Administrator and in accordance with the governance of the system.

Note: Be sure to check the status of a query before you view the results. If you select View Result before all DataMarts have uploaded their results, you will cancel queries which have not yet been responded to (i.e., you will not be able to see any results from the DataMarts that did not respond to that query). If you want information from those DataMarts, you must submit a new query.



4.5.1 Calculated Rates Columns

The calculated columns are included to give supporting information for the codes of interest. The Enrollment summary tables for each category are used with the corresponding selected query type to calculate the rates.

Medical Queries: HCPCS Procedures, ICD-9 Diagnoses and Procedures

- Total Enrollment in Strata (Members)-Total count includes members with both medical and drug coverage plus those with medical coverage only.
- Prevalence Rates (Users per 1000 enrollees)
- Event Rate (Events per 1000 enrollees)
- Events per Member

Drug Queries: Pharmacy Dispensings by Generic Name and Drug Class

- Total Enrollment in Strata (Members)- Total count includes members with both medical and drug coverage plus those with drug coverage only.
- Prevalence Rates (Users per 1000 enrollees)
- Dispensing Rate (Dispensings per 1000 enrollees)
- Days per Dispensing
- Days per User

4.6 Exporting Result Data

You can export the result data to a CSV File or to Excel from the View Results screen.

Use these steps to export data:

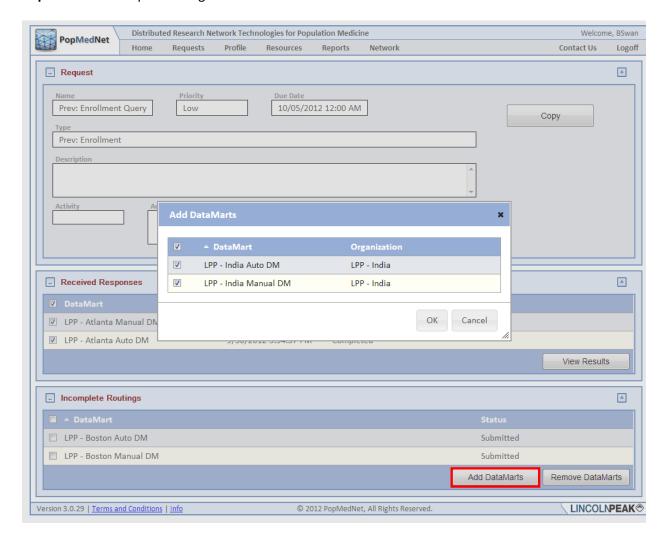
- 1. Choose CSV or Excel from the "Export to:" drop down box.
- 2. Click the Export button

The file name for your exported data is made up of: the query name up to the first space in the name. For example: if your query name is "NamingScheme_SummaryQuery for Query Tool," the name of the file will be "NamingScheme_SummaryQuery.xls."

4.6.1 Adding a DataMart to a Query

Use these steps to add a DataMart to a query:

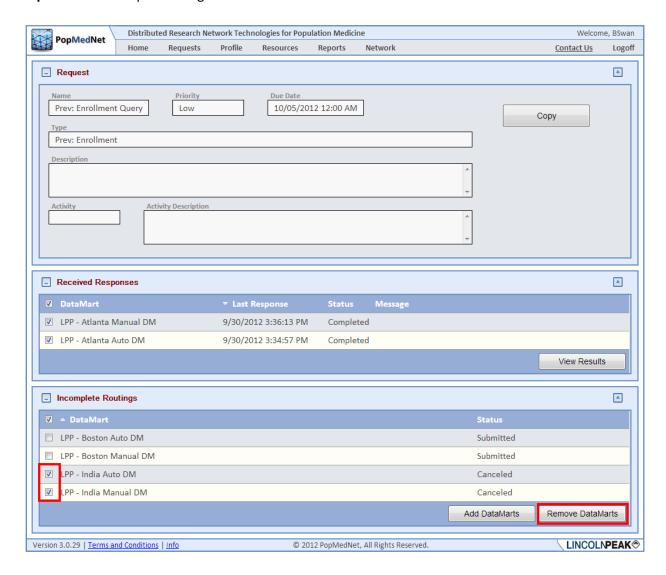
- 1. On the View a Query page, click the Add button to display a list of possible DataMarts.
- 2. Check box for each of the DataMarts that you would like to send the query to.
- 3. Click the Add button.
- 4. The query request will be sent to the newly added DataMart(s).



4.6.2 Removing a DataMart from a Query

Use these steps to remove a DataMart from a query:

- 1. On the View Request Status page, check the box beside the DataMart(s) you would like to remove from the query.
- 2. Click the Remove button.
- 3. An email will be sent to the removed DataMart(s) cancelling your query request.



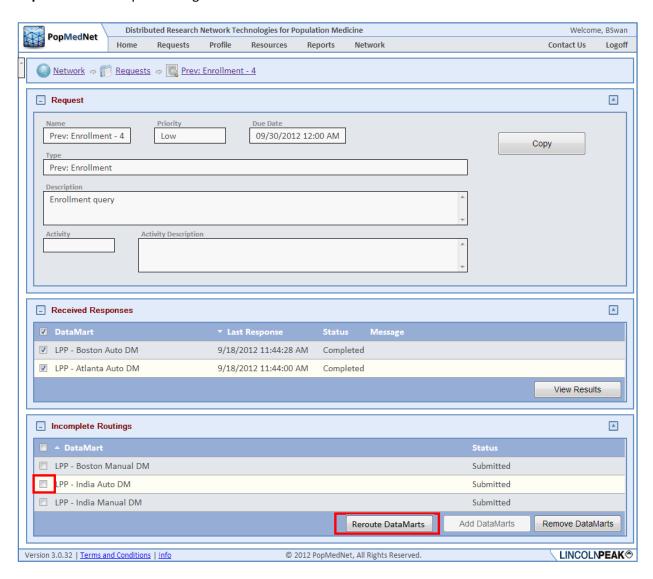
4.7 Rerouting Submitted Queries

Before viewing your query result, you can add DataMarts to or remove them from a query.

Note: You cannot remove a particular DataMart after it has uploaded results to the query.

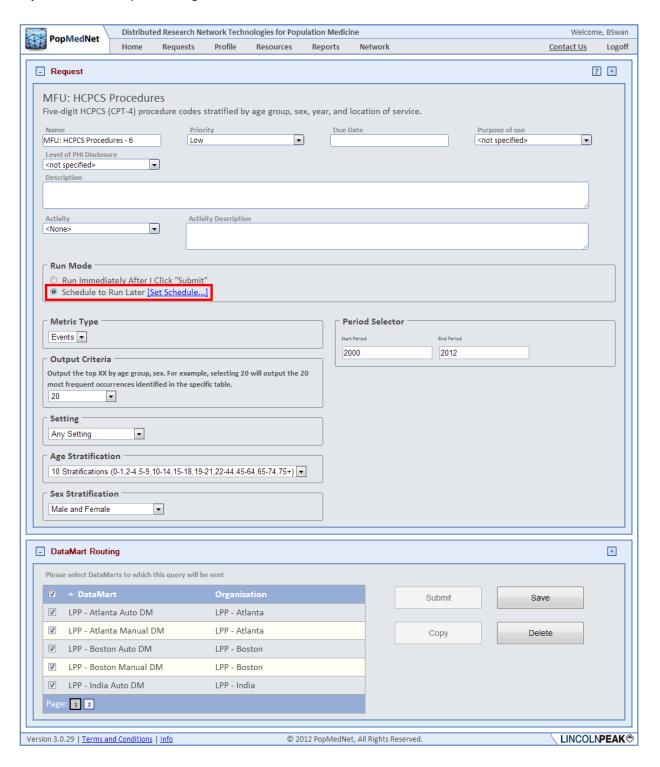
Use these steps to re-route a query:

- 1. Check one or more of the DataMarts in the Incomplete Routings panel and then click the Reroute DataMart button.
- 2. In the Add DataMart popup dialog, select the new DataMarts you wish to route the query to.
- 3. An email will be sent to the removed DataMart to cancel the request, while a new query email will be sent to the added DataMart.

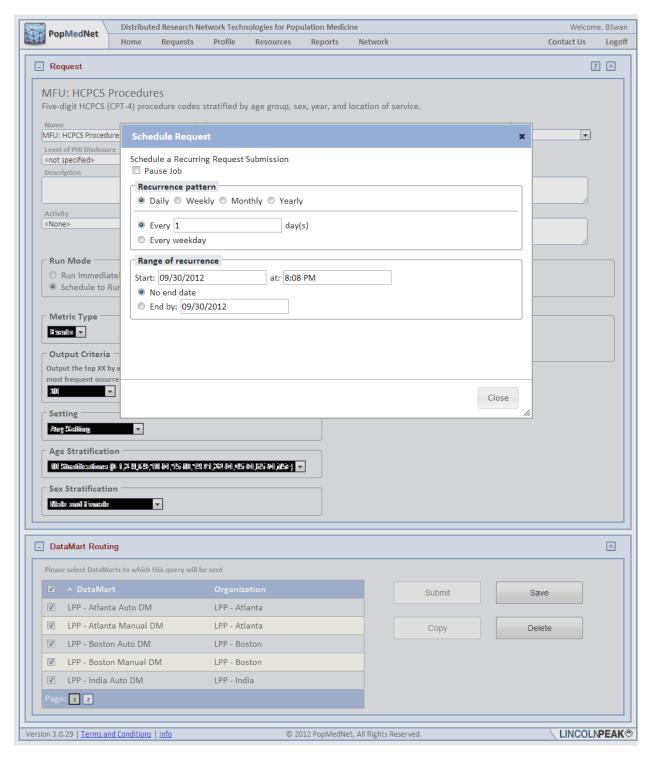


4.8 Scheduling Requests

Requests may be scheduled to run in the future rather an immediately when the user clicks Submit.



To schedule a request, click the "Schedule to Run Later" radio button in the Run Model group on the request detail page. This will displays a "Set Schedule" link that will display a popup dialog box that provides in interface to choose a recurrence pattern and date range to run the request.



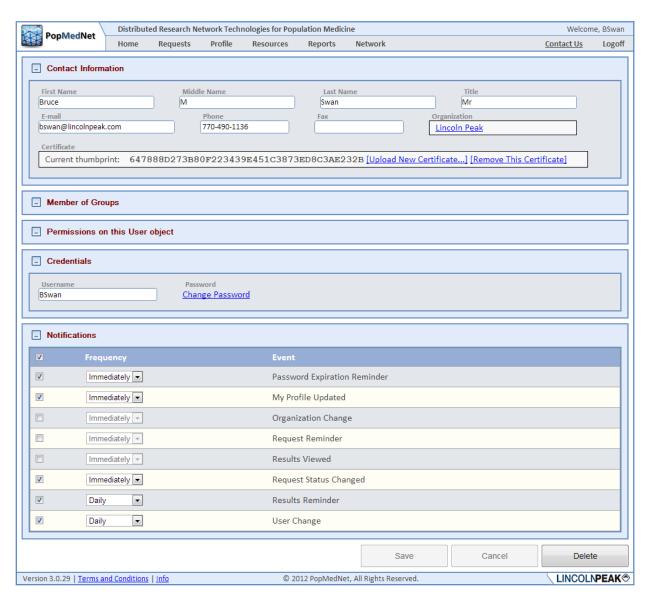
Once the schedule is set and the request saved, the request is now scheduled to run based on the settings you've entered. You'll notice that the request status goes to "Scheduled". When the date/time comes to run the request, a copy of the request is made and submitted to the DataMarts that were selected in the base request with its name modified to reflect the scheduled copy (e.g. <code>BaseRequestName_Weekly_1</code>). Once submitted, the request behaves like any other request that was

submitted.

This request's schedule may be adjusted by opening the base request, modifying the request or schedule, and re-saving it. A request can be unscheduled by changing the Run Mode to "Run immediately" and saving the request. This will place the request into a Draft mode.

5 Administering your User Profile

This section describes how to administer your user profile. You must be logged in to the web portal to administer your user profile. Click Users on the Administration tab located at the top of the screen. The screen displays your user profile.



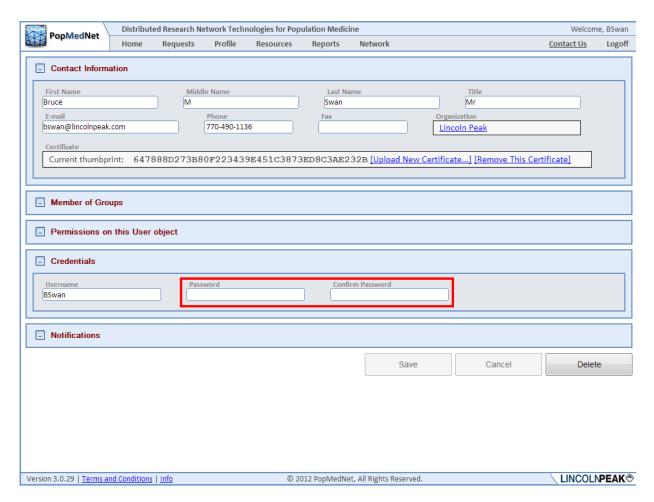
5.1 How to Reset your Password

Your user profile has two boxes for passwords. To change your password:

- 1. Enter the new password in the first Password box.
- 2. Re-enter the new password in the second Password box.
- 3. Click the Save button.

Note: All passwords must meet the following complexity standard:

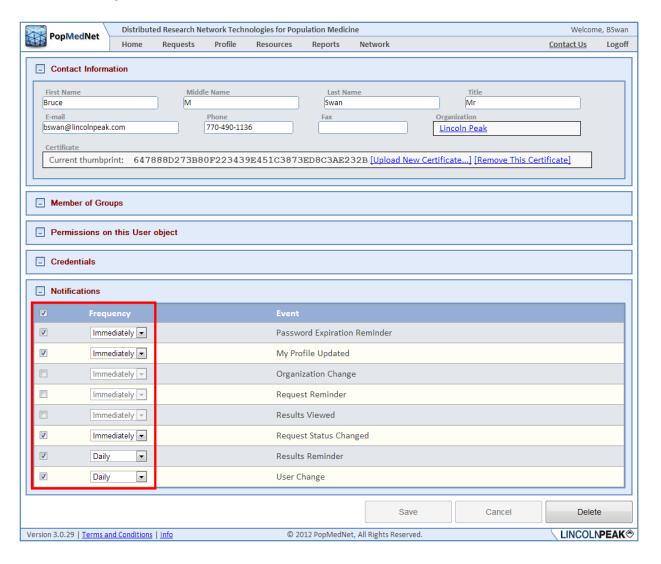
- Length must be at least 7 characters
- Password must include at least 1 upper case letter, 1 lower case, 1 number, and 1 symbol.



Once you initially get your login credentials from the system administrator, it is highly advised that you change your password from the default password given to you.

5.2 Notifications

Notification options allow the user to manage events that are triggered due to actions performed by the user or related to the user's role, such as a Query Administrator. Users have the option of receiving notifications immediately when they are triggered, daily, weekly, or monthly. When choosing daily, weekly, or monthly, the notifications are batched together with other notifications on the same schedule in a single email.



Note: Once the user has chosen to receive notifications, no matter what the delivery frequency is selected; the notifications are displayed in the Notifications panel on the Home page.

The notification options displayed in your profile are dependent on the roles or privileges that have been granted to you. The following is a complete list of notifications.

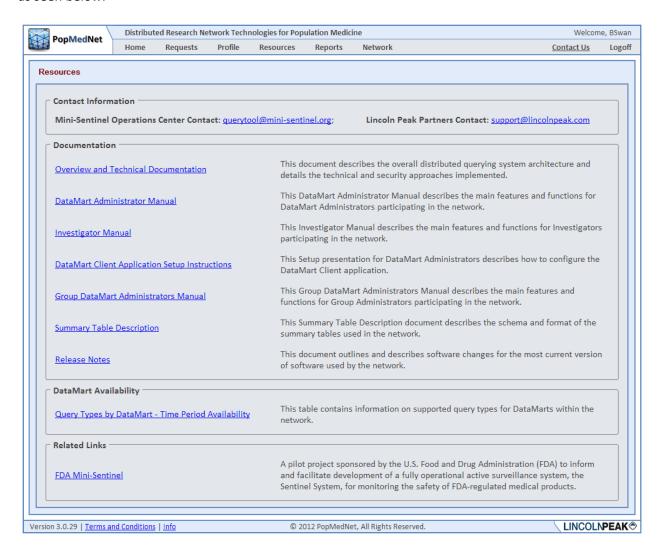
Category	Event	Description
User	Password Expiration Reminder	Notifies the user that their password is about to expire.
	My Profile Change	Notifies the user there was an update to their profile.
	User Change	Notifies administrators there was a user added, deleted, or updated.
	New User Registration Submitted	Notifies administrators a new user request has been submitted.
	Registration Change	Notifies administrators there has been a change to a user registration request.
Requests	New Request Submitted	Notifies DataMart administrators that a new request has been submitted.
	Request Status Changed	Notifies investigators and administrators that a change has been made to a request.
	Request Reminder	Reminds DataMart administrators there is a pending request that requires their attention.
	Results Reminder	Reminds administrators and investigators that results have been uploaded for their request.
	Results Viewed	Notifies administrators that a result has been viewed.
Organization	Organization Change	Notifies administrators that an organization has been added, updated, or deleted.
Group	Group Change	Notifies administrators that an group has

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		been added, updated, or deleted.
DataMart	New DataMart Client Version is Available	Notifies DataMart administrators that a new version of the DataMart Client application is available.
	DataMart Change	Notifies administrators that a DataMart has been added, updated, or deleted.

6 Getting Help

Once logged in, the Resource Tab offers helpful contact information, documentation, and related links, as seen below.



If you have trouble accessing the Web Portal or your user account, click on the Contact Us link and describe your issue to request help from the PopMedNet™ support staff.

7 Development and Funding Statement

The **PopMedNet™** software application was developed as part of several contracts awarded by the Agency for Healthcare Research and Quality to the HMO Research Network (HMORN) Center for Education and Research on Therapeutics (CERT) DEcIDE Center housed in the Department of Population Medicine at the Harvard Pilgrim Health Care Institute (HPHCI). The software application has been enhanced using additional funding via the FDA Mini-Sentinel contract with Harvard Pilgrim Health Care. The system was developed by Lincoln Peak Partners under the direction of HPHCI.

8 Frequently Asked Questions

This section lists some of the most frequently asked questions.

✓ What is the difference between Groups, Organizations, and Users?

Users are individuals with various roles and associated rights within the system such as Investigator, DataMart Administrator, and System Administrator. Organizations have one or more users and zero, one, or more DataMarts. Users are members of a single Organization. Groups are collections of one or more Organizations and an Organization may be a member of zero, one, or more Groups. Groups allow management of a collection of organizations by a set of administrators.

✓ What are my rights as a user and how can I change them?

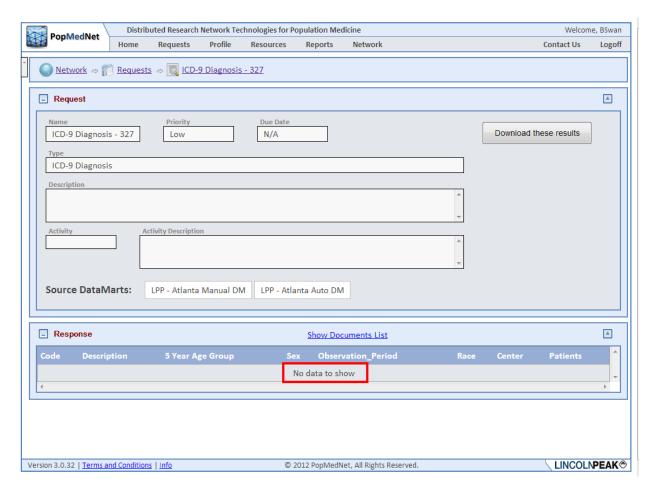
Rights can be assigned to individual user accounts for to various security groups for which the user is a member by the Network Administrator or the user's Organization Administrator.

✓ Where can I get more information on the PopMedNet[™] application?

You may contact the Operations Center for more information:

Jeffrey Brown, PhD Harvard Pilgrim Health Care Institute Jeff brown@hphc.org

✓ When I viewed my results, I got the error message "No data available for display." What does this mean?



This means that the sites queried had no data in their database that matched your query specifications so an empty set was returned to the portal

Appendix A: Quick Reference for Investigators

Quick Reference: Investigator

1. How to Submit a Query

- a. Log into the Portal with your credentials.
- b. Click the New button in the Requests panel and select the Summary Query request model and then choose the type of request from the list.
- c. Complete the request form by entering a name, brief description of the query, and selecting the relevant parameters.
- d. Select the DataMarts (Data Partners) who you would like to send the guery.
- e. Click Submit.

2. How to Distribute a File

- a. Log into the Portal with your credentials.
- b. Click the New button in the Requests panel and select the File Distribution request model and then choose the File Distribution request type.
- c. Complete the File Distribution form by entering a name and a brief description of the file(s) you are sending.
- d. Browse and upload your file(s) you wish to send to DataMarts.
- e. Select the DataMarts (Data Partners) who you would like to send the file(s).
- f. Click Submit button.

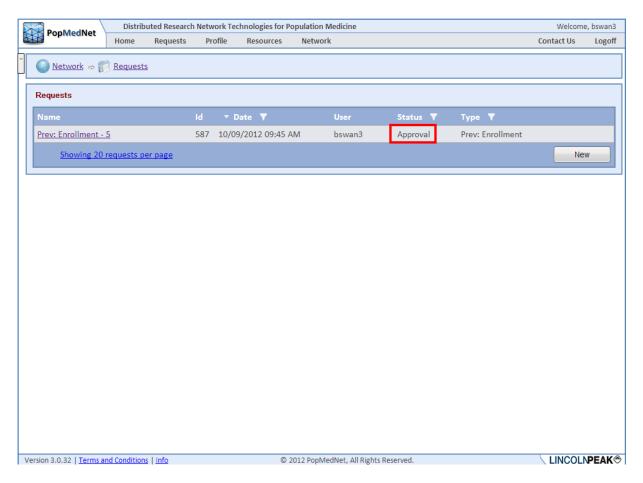
3. How to View Results on the Portal

- a. Log into the Portal with your credentials and go to the *Requests* list panel on the home page or click Requests from the top menu.
- b. Find and click on the request name for which you wish to see the results to navigate to the Request Status page.
- c. When all sites have responded, click *View Result*. Enhanced Investigators may view site-specific results by checking a site and clicking *View Selected Results*.
- d. Export result data to Excel/CSV or download returned files for review.

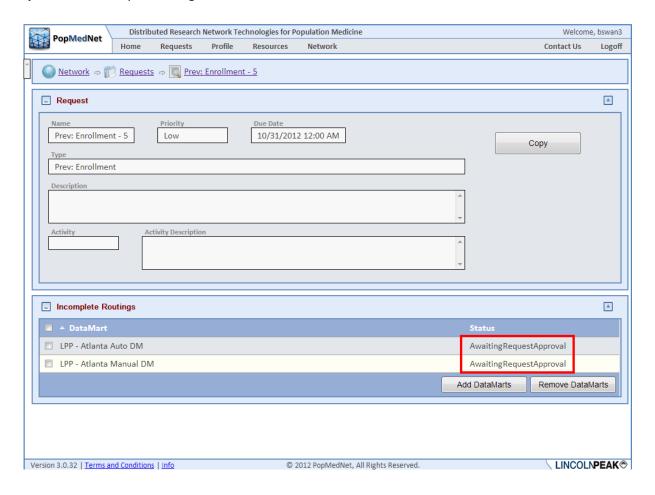
Appendix B: Query Administrator Role

The Query Administrator acts as a gatekeeper for all the queries coming out of an organization. Given budgeting for queries, this role can monitor query submission so that only the most relevant queries are distributed to the sites in the network.

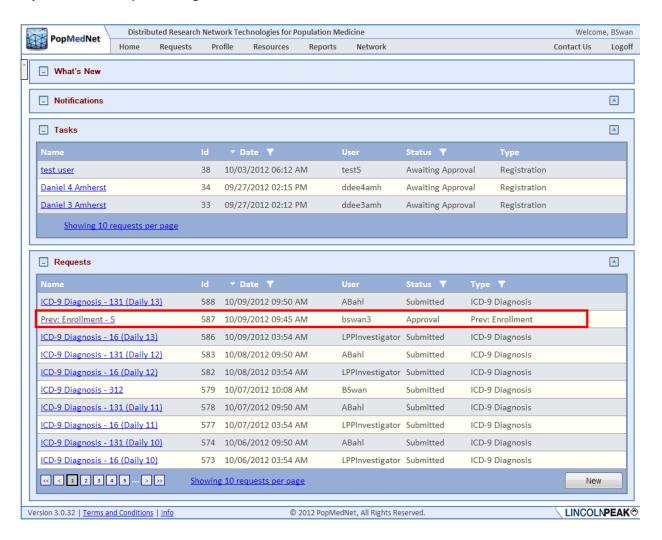
Once an investigator within the organization submits a query, the request status is marked as "Approval" as shown in the following figure.



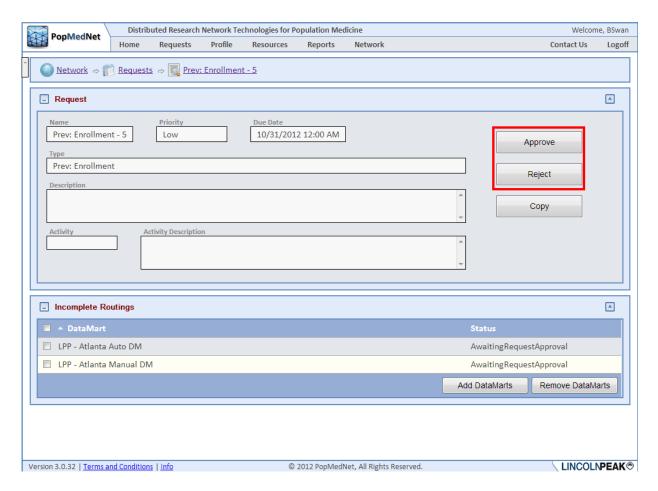
Clicking on the request name navigates the user to the request status page where they see its status.



The query administrator receives an email notification about a query that is "Awaiting Request Approval". When the Query Administrator then logs in with their login credentials, they will see the new request waiting for approval in their request list.



By clicking request name will navigate the query administrator to the request status page where they can review, approve, or reject the query along with comments.



As results are uploaded to the query, the Query Administrator can view individual site results, just like an Enhanced Investigator. Query Administrators can also submit queries.