



Data Direct 2.0 User Guide



Data Direct Overview

- Data Direct is an application that allows users to create queries using data submitted to MPOG for quality improvement (QI) and research purposes.
- It contains multiple filters that can help easily identify a cohort of patients and access data following appropriate approvals

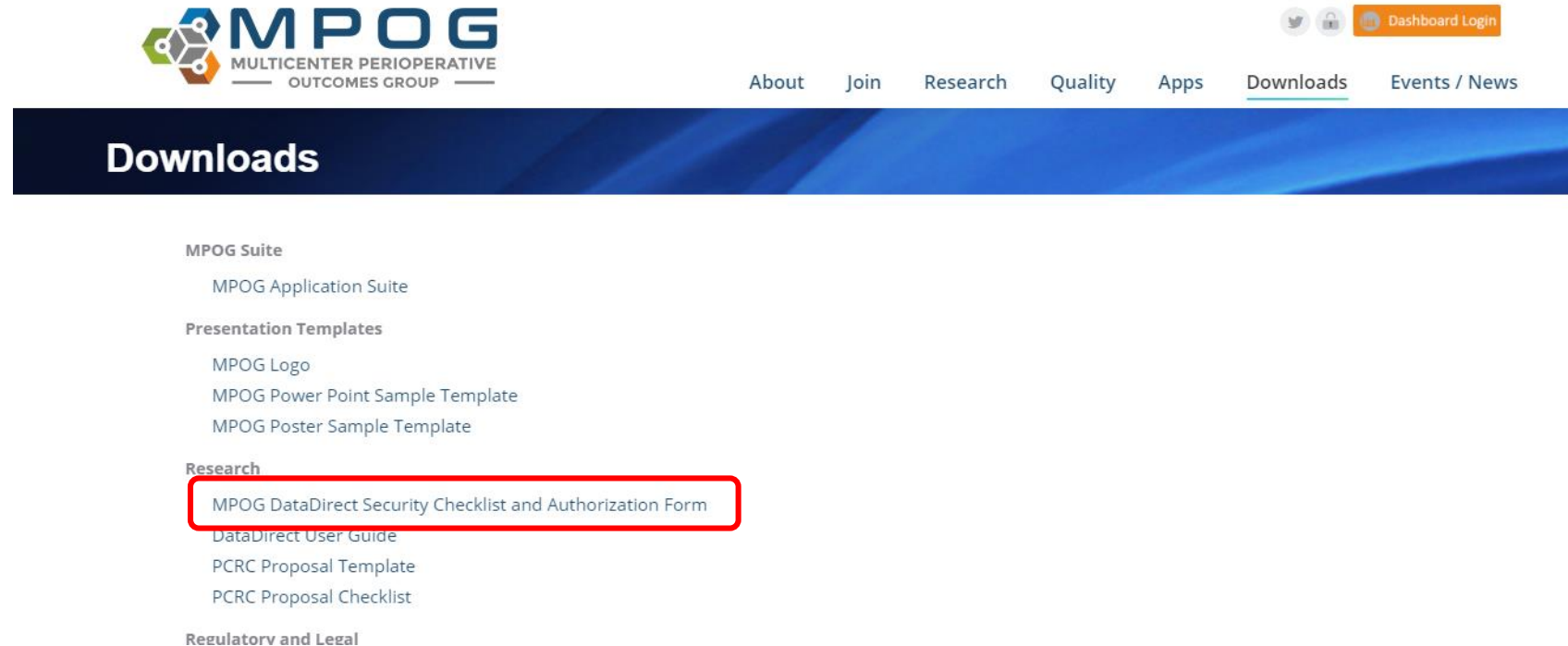
Data Direct Overview

- Researchers can use Data Direct to identify patient, case, and institution counts for the cohort they are interested in studying.
- Quality Champions can generate a list of patients to audit outcomes or processes of case. As an example, the Quality Champion for the site may be interested in identifying patients who received reversal for neuromuscular blockade and compare that to institution reintubation rates to identify if any correlation exists.

Gaining Data Direct Access

- Data Direct contains a limited dataset. Protected Health Information is excluded except for dates of service.
- However, because Data Direct may contain information regarding hospital level quality indicators (i.e. hospital mortality), approval from the appropriate hospital department (i.e. Quality or Health Information Management) is required.

Gaining DataDirect Access



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- MPOG DataDirect Security Checklist and Authorization Form**
- DataDirect User Guide
- PCRC Proposal Template
- PCRC Proposal Checklist

Regulatory and Legal

- To gain access to DataDirect, an authorization form must be completed and sent to the MPOG coordinating center. This form can be found on our website <https://mpog.org/downloads>

Gaining Data Direct Access

- Please scan and email the completed form to mpog-admin@med.umich.edu. You will be contacted once login permissions have been updated. Access expires every six months. Users must renew to maintain access.

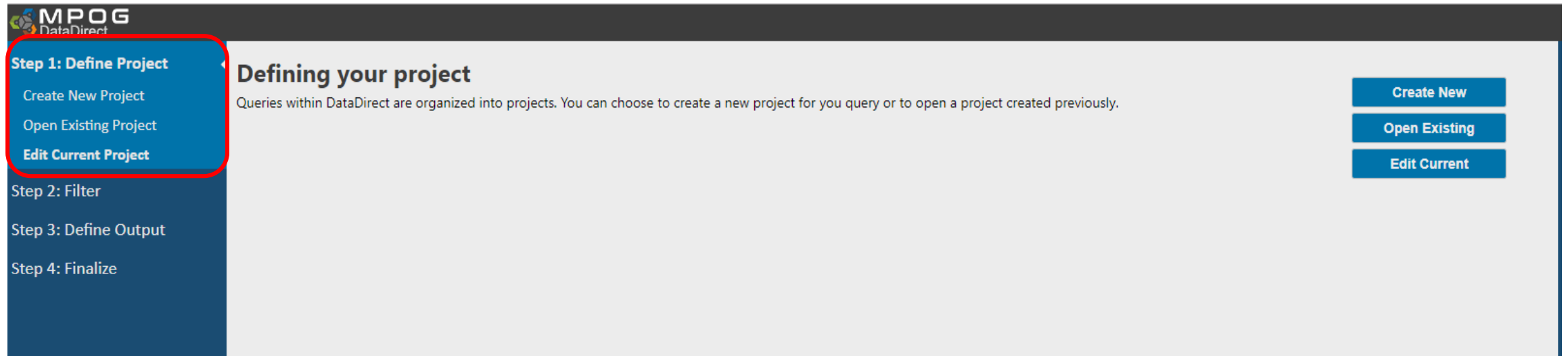
Generating a Query

When creating a query, there are three modes you can choose from.

- **Cohort Only** generates a *count* to rapidly determine feasibility of a research or QI project. There is no ability to download data, and no additional approval (e.g. Institutional Review Board) is required for access.
- **Quality Report** generates a cohort count, data query, and case list for a specific site. Although Data Direct will display final case counts, institutions will remain anonymized.
- **Single Center Research** allows for cohort identification and data access from your site only.
- **Multi-Center Research** allows for cohort identification and data access from multiple sites and requires approval from the Perioperative Clinical Research Committee (PCRC). Steps for PCRC review are found here: <https://mpog.org/pcrc/>

Step 1: Define your Project

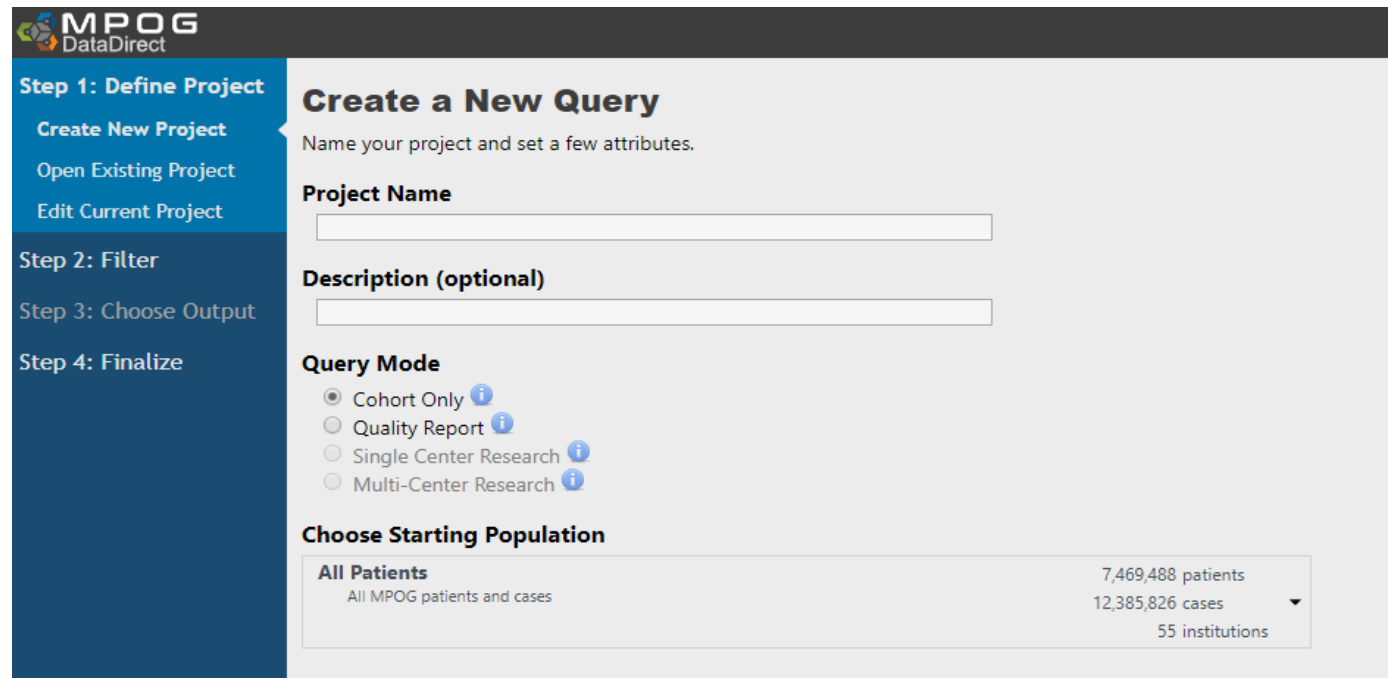
- Choose from **New**, **Existing**, or **Edit Current**



The screenshot shows the MPOG DataDirect interface. On the left, a navigation menu lists four steps: Step 1: Define Project (highlighted with a red box), Step 2: Filter, Step 3: Define Output, and Step 4: Finalize. The main content area is titled 'Defining your project' and contains the text: 'Queries within DataDirect are organized into projects. You can choose to create a new project for you query or to open a project created previously.' On the right side of the main content area, there are three blue buttons: 'Create New', 'Open Existing', and 'Edit Current'.

Creating a New Query

- Enter a name, description (optional), and reason for your query



The screenshot shows the 'Create a New Query' interface in the MPOG DataDirect system. On the left is a navigation sidebar with four steps: 'Step 1: Define Project' (highlighted), 'Step 2: Filter', 'Step 3: Choose Output', and 'Step 4: Finalize'. Under 'Step 1: Define Project', there are three options: 'Create New Project', 'Open Existing Project', and 'Edit Current Project'. The main content area is titled 'Create a New Query' and includes the instruction 'Name your project and set a few attributes.' Below this are three sections: 'Project Name' with a text input field; 'Description (optional)' with a text input field; and 'Query Mode' with four radio button options: 'Cohort Only' (selected), 'Quality Report', 'Single Center Research', and 'Multi-Center Research'. Each radio button has an information icon. At the bottom is the 'Choose Starting Population' section, which features a dropdown menu currently set to 'All Patients'. To the right of the dropdown, the following statistics are displayed: '7,469,488 patients', '12,385,826 cases', and '55 institutions'.

Step 2: Filtering Cases

- Next, begin defining criteria for your query. Choose from the filters listed in the left panel. The **Next** button advances users through the list of filters as they are added.

The screenshot displays the MPOG DataDirect interface. The top left corner shows the logo and 'DataDirect'. The top right corner shows the user name 'Kathryn Buehler' and a 'Logout' link. The main content area is titled 'Filtering Cases' and includes a sub-header 'Filtering Cases' and a descriptive paragraph: 'Here you will apply filters to define your cohort and return only cases that you're interested in. The available filters are listed on the left sidebar while the size of your cohort will be dynamically updated on the right.' A blue 'Next' button is highlighted with a red box in the top right of the main area. The left sidebar is divided into four steps: 'Step 1: Define Project', 'Step 2: Filter', 'Step 3: Define Output', and 'Step 4: Finalize'. The 'Step 2: Filter' section is highlighted with a red box and contains a list of filter categories: Demographics, Cases, Comorbidities, Diagnoses, Procedures, Medication Administration, Intraoperative Notes, Physiologic, Laboratory, and Outcomes. A large red arrow points downwards from the 'Step 2: Filter' section. The right sidebar displays project information: 'Project ACQR Test', 'Project ID: 2128', 'Query Mode: cohort', and 'Last updated on 9/18/2019'. Below this, it shows 'Cohort Size' with 'Start All Patients' and '12,015,843 cases 55 institutions'.

Cohort Results

- As Data Direct retrieves data to match the selected criteria, the right panel of the screen will display final counts. This will refresh as filters are added (see next slide). *Note: your query is also saved to your individual profile in Data Direct.*
- Results include:
 - Initial patient, case, and institution counts
 - Saved query criteria
 - Sequential counts of patient data matching each successive query criteria.

Step 1: Define Project

- Create New Project
- Open Existing Project
- Edit Current Project

Step 2: Filter

- Demographics
- Cases**
- Comorbidities
- Diagnoses
- Procedures
- Medication Administration
- Intraoperative Notes
- Physiologic
- Laboratory
- Outcomes

Step 3: Define Output

Step 4: Finalize

Cases

Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

Add & Next
Skip & Next

Procedure Date to

CPT Base Units to

Weekend Case Yes No

Holiday Case Yes No

ASA Status ASA 1 ASA 2 ASA 3 ASA 4 ASA 5 ASA 6

Emergency Status Yes No Unspecified

Admission Type Inpatient
 Outpatient
 Other
 Unknown

Case Duration minute(s) to minute(s)

Cardiac Case Yes No

Anesthesia Technique General Yes No

Anesthesia Technique LMA Yes No

Endotracheal Tube Used Yes No

Anesthesia Technique Neuraxial Yes No

Anesthesia Technique Block Yes No

Project
ACOR Test
Project ID: 2128
Query Mode: cohort
Last updated on 9/18/2019

Cohort Size

Start	12,015,843 cases
All Patients	55 institutions

Demographics
Gender: Female or Unknown
Age: 20 years - 60 years
BMI: 0.0 - 100.0
Institution: University of Michigan Health System
285,028 cases
1 institutions

Adding Filters

Demographics

- Demographics are *patient-level* characteristics available from the administrative registry systems, *not* case-level information.

Demographics

Patient characteristics from administrative registration systems. Data is mostly case-level and reflects the most recent value for a given patient (e.g. smoking status), regardless of time period specified in Cases.

Add

Next

Sex [?](#)

Female Male Unknown

Age [?](#)

20 year(s) to 60 year(s)

BMI [?](#)

0 to 100

Institution [?](#)

1 institution selected

University of Michigan Health System [×](#)

Race [?](#)

any race

Smoking Status [?](#)

Current Former Never Unknown

- **Select** the checkboxes beside the characteristics to *include* them in your query. De-select items you do not wish to include. For example, to find only Female patients, de-select Male and Unknown under Gender. You can select all institutions or only your own institution in cohort mode.
- Click **Add** to add these criteria to your query:

- The selected criteria will now appear in the box to the right

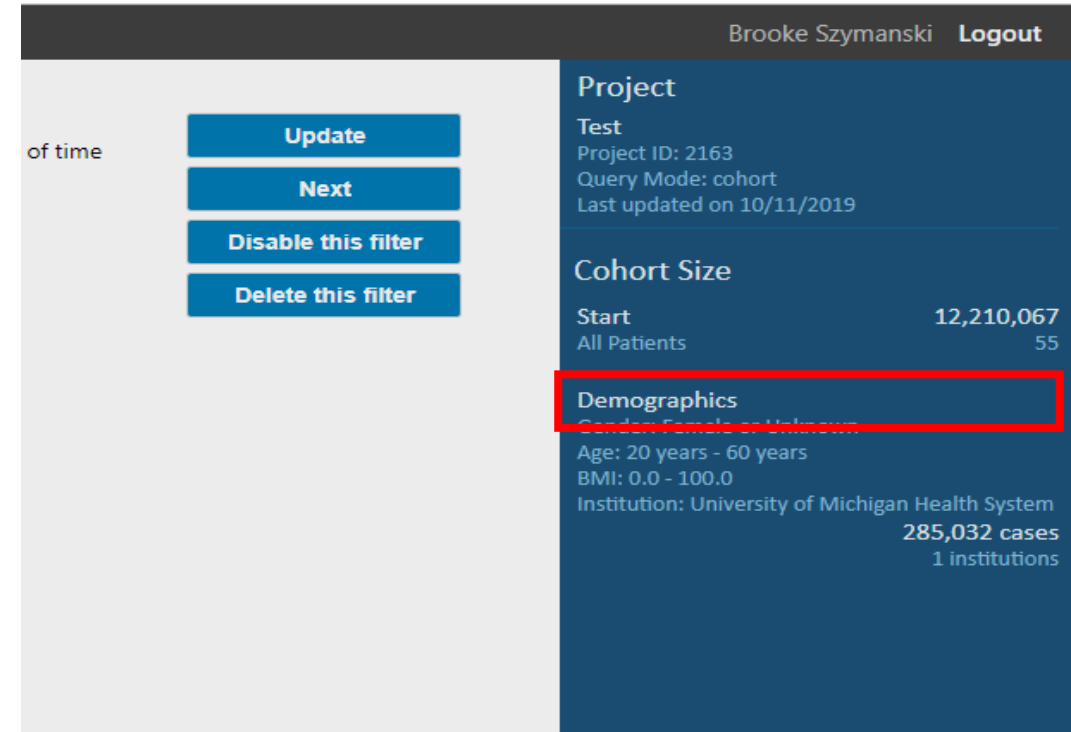
The screenshot shows a web application interface. On the left, there are four blue buttons stacked vertically: "Update", "Next", "Disable this filter", and "Delete this filter". To the right of these buttons is a dark blue summary box with a red border. The summary box contains the following information:

- Project**
 - Test
 - Project ID: 2163
 - Query Mode: cohort
 - Last updated on 10/11/2019
- Cohort Size**
 - Start: 12,210,067
 - All Patients: 55
- Demographics**
 - Gender: Female or Unknown
 - Age: 20 years - 60 years
 - BMI: 0.0 - 100.0
 - Institution: University of Michigan Health System
 - 285,032 cases
 - 1 institutions

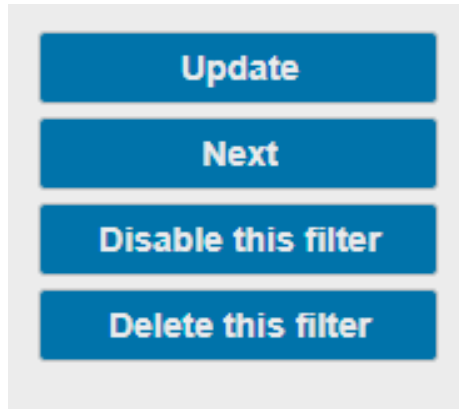
At the top right of the interface, the user name "Brooke Szymanski" and a "Logout" link are visible.

Filter Navigation

- As filters are created and updated, *Filter Navigation* buttons can be used in the top right corner of Data Direct. As you build your query, check the right panel to verify that your criteria have been added. At any time, you may enable/disable, edit or remove an individual filter from your query.
- First, click the header of the filter you would like to change



The screenshot shows a user interface for managing filters. On the left, there are four blue buttons: "Update", "Next", "Disable this filter", and "Delete this filter". On the right, a dark blue panel displays filter details for a "Project" (Test, Project ID: 2163, Query Mode: cohort, Last updated on 10/11/2019). Below this, the "Cohort Size" is shown as "Start All Patients 12,210,067 55". The "Demographics" section is highlighted with a red box and includes "Gender: Female or Unknown", "Age: 20 years - 60 years", "BMI: 0.0 - 100.0", and "Institution: University of Michigan Health System 285,032 cases 1 institutions". The top right corner of the interface shows the user name "Brooke Szymanski" and a "Logout" link.



- Then, use the Filter Navigation buttons in the upper right-hand corner to make modifications.
- **Update:** When making changes to an existing filter, use **Update** to update filters on the right
- **Next:** Will move the user to the next step (i.e. the next filter down the list on the right).
- **Disable this filter:** Will disable the filter from the query. It will not be deleted but allows the user to view the difference in results when applying the filter vs. disabling the filter.
- **Delete this filter:** Will delete the filter entirely.

Cases

To continue building your query, select an additional filter category, for example, **Cases**.

- Choosing **Next** on the above screen will advance the user to the Cases filter.
- Check boxes you wish to select within each field.
- Click **Add** to apply the filter and **Next** to advance to the next filter (e.g. Comorbidities).

Review the updated result panel on the right side of the screen each time you click **Add** to note the additional criteria have been *saved* to your query.

(see next slide)

Step 1: Define Project

Step 2: Filter

Demographics

Cases

Comorbidities

Diagnoses

Procedures

Notes

Medications

Physiologic

Labs

Outcomes

Step 3: Choose Output

Step 4: Finalize

Cases

Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

Procedure Date	<input type="text" value="01/01/2000"/> to <input type="text" value="10/11/2019"/>
CPT Base Units	<input type="checkbox"/> <input type="text" value="3"/> to <input type="text" value="30"/>
Weekend Case	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Holiday Case	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ASA Status	<input checked="" type="checkbox"/> ASA 1 <input checked="" type="checkbox"/> ASA 2 <input checked="" type="checkbox"/> ASA 3 <input checked="" type="checkbox"/> ASA 4 <input checked="" type="checkbox"/> ASA 5 <input checked="" type="checkbox"/> ASA 6
Emergency Status	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Unspecified
Admission Type	<input checked="" type="checkbox"/> Inpatient <input checked="" type="checkbox"/> Outpatient <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Unknown
Case Duration	Anesthesia time <input type="text" value="1"/> minute(s) to <input type="text" value="1440"/> minute(s)
Cardiac Case	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Anesthesia Technique General	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Anesthesia Technique LMA	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Endotracheal Tube Used	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Anesthesia Technique Neuraxial	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Anesthesia Technique Block	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Update

Next

Disable this filter

Delete this filter

Project

Test

Project ID: 2163

Query Mode: cohort

Last updated on 10/11/2019

Cohort Size

Start

12,210,067

All Patients

55

Demographics

Gender: Female or Unknown

Age: 20 years - 60 years

BMI: 0.0 - 100.0

Institution: University of Michigan Health System

285,032 cases

1 institutions

Cases

Procedure Date: 01/01/2000 - 10/11/2019

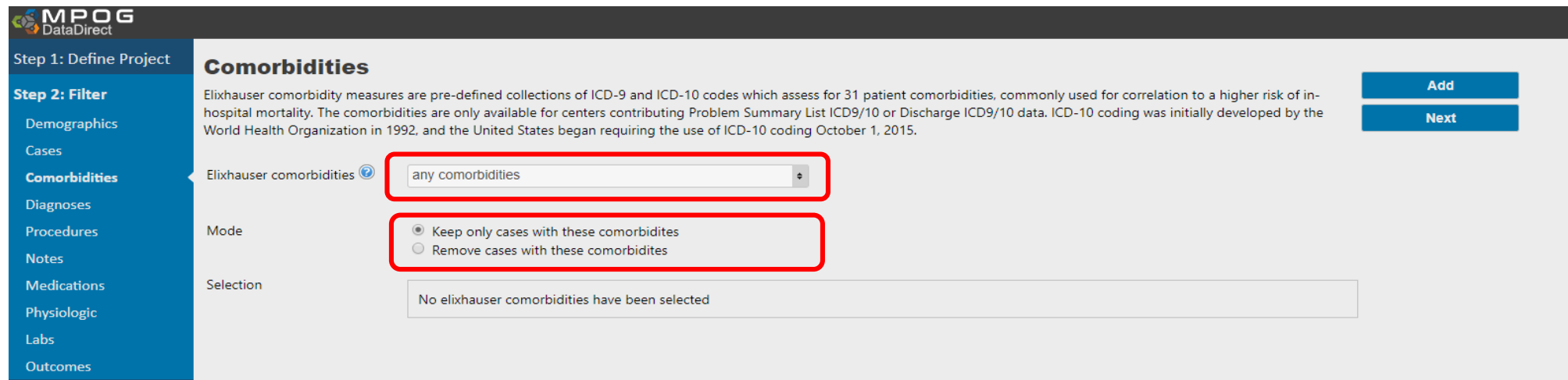
Anesthesia time: 1 minute - 1440 minutes

283,840 cases

1 institutions

Comorbidities

- Check the boxes from the dropdown menu of comorbidities you want to include in your query. Select if you would like to keep only cases with those comorbidities or remove cases with the selected comorbidities.



The screenshot shows the MPOG DataDirect interface for the 'Comorbidities' filter. The left sidebar lists various filter categories, with 'Comorbidities' selected. The main content area is titled 'Comorbidities' and includes a descriptive paragraph about Elixhauser comorbidity measures. Below this, there are three main sections: 'Elixhauser comorbidities' with a dropdown menu set to 'any comorbidities', 'Mode' with two radio button options ('Keep only cases with these comorbidities' and 'Remove cases with these comorbidities'), and 'Selection' with a text box indicating 'No elixhauser comorbidities have been selected'. On the right side, there are 'Add' and 'Next' buttons.

Diagnoses

- Begin typing the desired diagnosis name (or associated ICD-9 and ICD-10 codes) into the Diagnosis Code field. ICD-10 codes were required as of October 1, 2015, therefore historical data may only include ICD-9 codes.
- If you are interested in capturing diagnosis data for a case that occurred before this date, please choose both ICD-9 and ICD-10 codes. Select the codes you desire, then click “**Add Selected**” (see next slide)

Diagnoses are derived from billing sources (administrative or professional billing) or the clinician-entered problem summary list. Clinician-entered problem lists use ICD-9 and ICD-10 codes. ICD-10 coding was initially developed by the World Health Organization in 1992, and the United States began requiring the use of ICD-10

Add

Next

[Search all sources]

ICD-9 ICD-10 Include related ICD-9/ICD10

lupus

1 item(s) selected

Add Selected

Top Result

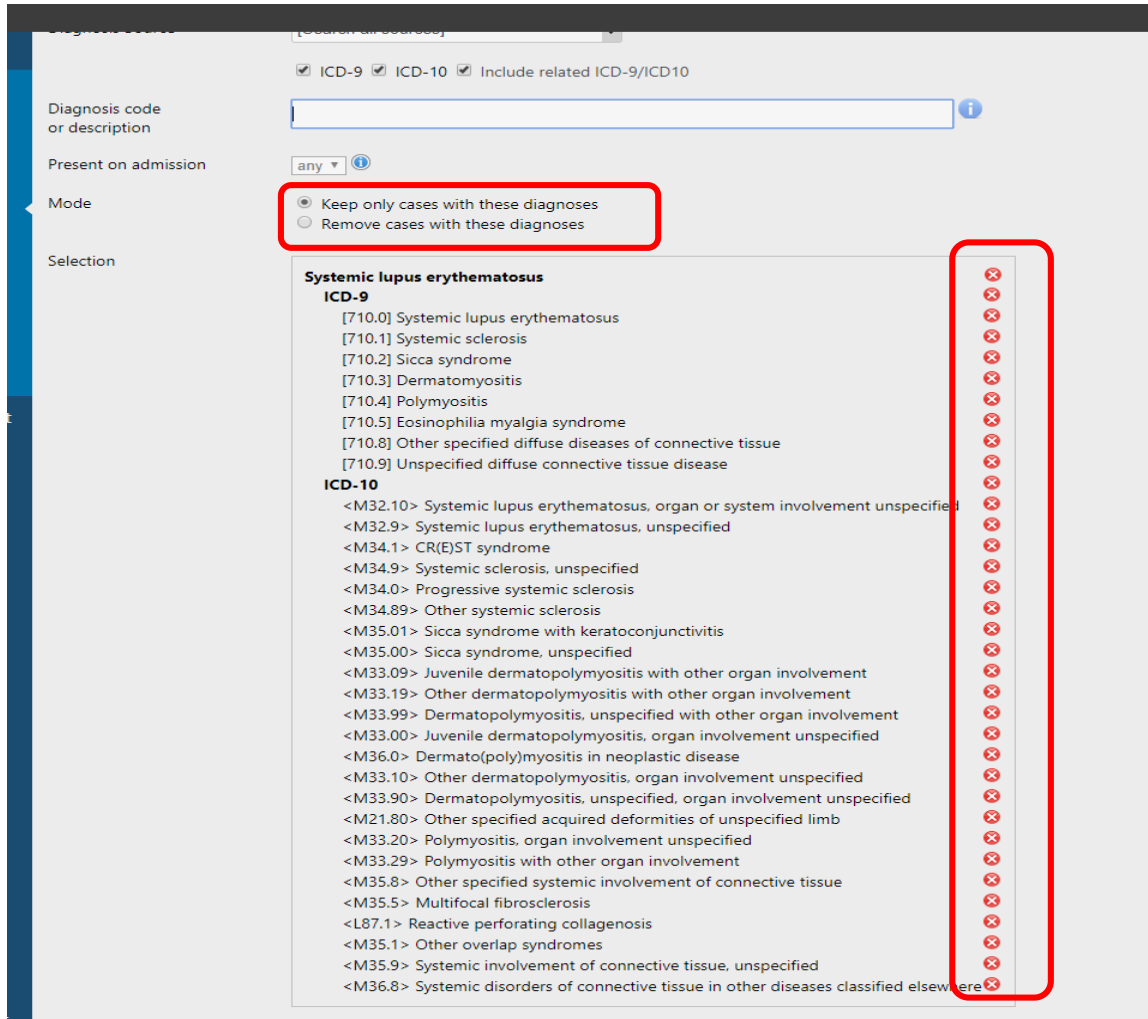
<input checked="" type="checkbox"/> Systemic lupus erythematosus [710.0]	139402 times
<input type="checkbox"/> Systemic lupus erythematosus, unspecified <M32.9>	114461 times
<input type="checkbox"/> Glomerular disease in systemic lupus erythematosus <M32.14>	24678 times
<input type="checkbox"/> Discoid lupus erythematosus <L93.0>	12203 times
24 more...	

ICD9 Discharge Diagnoses

<input type="checkbox"/> Systemic lupus erythematosus [710.0]	139402 times
<input type="checkbox"/> Lupus erythematosus [695.4]	7362 times
<input type="checkbox"/> Discoid lupus erythematosus of eyelid [373.34]	35 times

ICD10 Discharge Diagnoses

<input type="checkbox"/> Systemic lupus erythematosus, unspecified <M32.9>	114461 times
<input type="checkbox"/> Glomerular disease in systemic lupus erythematosus <M32.14>	24678 times
<input type="checkbox"/> Discoid lupus erythematosus <L93.0>	12203 times
<input type="checkbox"/> Other organ or system involvement in systemic lupus erythematosus <M32.19>	7981 times
21 more...	



- As you select a diagnosis code, the ‘parent’ ICD-9 and ICD-10 codes and the associated ‘child’ ICD-9 and ICD-10 codes will be displayed and automatically **included**.
- De-select (click the red X) any individual code you wish to remove from the suggested list “Keep only cases with these diagnoses” is the default selection.
- To exclude cases based on diagnosis code, choose “remove cases with these diagnoses.” Click “Add” when finished.

Adding “OR” Logic

- You may be interested in patients who have *either* one condition *or* a second condition.
- For example, if you were interested in patients with Lupus **OR** patients with Diabetes, use “OR” logic.
- To achieve this, include the Diabetes criteria in the “same criteria box” as the Lupus diagnoses.
- Open the existing Diagnoses query Lupus. To add an additional diagnosis, enter the second criteria in the search box and click *Enter*. (see next slide)

Diagnoses

Perioperative patient diagnoses are derived from billing sources (administrative or professional billing) or the clinician-entered problem summary list. Clinician-entered problems linked to ICD-9 and ICD-10 codes. ICD-10 coding was initially developed by the World Health Organization in 1992, and the United States began requiring ICD-10 coding October 1, 2015.

Diagnosis Source: [Search all sources] ▾

ICD-9 ICD-10 Include related ICD-9/ICD10

Diagnosis code or description: diabetes ⓘ

Present on admission:

Mode:

Selection:

0 item(s) selected Add Selected

Top Result

<input type="checkbox"/> Type 2 diabetes mellitus without complications <E11.9>	2206637 times	<input type="checkbox"/>
<input type="checkbox"/> Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00]	1866664 times	<input type="checkbox"/>
<input type="checkbox"/> Type 2 diabetes mellitus with hyperglycemia <E11.65>	560914 times	<input type="checkbox"/>
<input type="checkbox"/> Type 2 diabetes mellitus with diabetic chronic kidney disease <E11.22>	505190 times	<input type="checkbox"/>
		96 more...

ICD9 Discharge Diagnoses

<input type="checkbox"/> Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled [250.00]	1866664 times	<input type="checkbox"/>
<input type="checkbox"/> Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled [250.02]	191591 times	<input type="checkbox"/>
<input type="checkbox"/> Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled [250.60]	167169 times	<input type="checkbox"/>
<input type="checkbox"/> Polyneuropathy in diabetes [357.2]	156975 times	<input type="checkbox"/>
		91 more...

ICD10 Discharge Diagnoses

<input type="checkbox"/> Type 2 diabetes mellitus without complications <E11.9>	2206637 times	<input type="checkbox"/>
<input type="checkbox"/> Type 2 diabetes mellitus with hyperglycemia <E11.65>	560914 times	<input type="checkbox"/>
<M35.5> Multifocal fibrosclerosis		<input type="checkbox"/>
<L87.1> Reactive perforating collagenosis		<input type="checkbox"/>
<M35.1> Other overlap syndromes		<input type="checkbox"/>
<M35.9> Systemic involvement of connective tissue, unspecified		<input type="checkbox"/>
<M36.8> Systemic disorders of connective tissue in other diseases classified elsewhere		<input type="checkbox"/>

ICD-9

[710.0] Systemic lupus erythematosus	<input type="checkbox"/>
[710.1] Systemic sclerosis	<input type="checkbox"/>
[710.2] Sicca syndrome	<input type="checkbox"/>
[710.3] Dermatomyositis	<input type="checkbox"/>

- Select the desired codes again and click **Add Selected**.
- As before, remove any “child” ICD-9 and ICD-10 codes that you do not wish to keep (by clicking the red X for each). Click **Update** (both conditions will be listed). (see next slide)

- Step 1: Define Project
- Step 2: Filter**
 - Demographics
 - Cases
 - Comorbidities
 - Diagnoses**
 - Procedures
 - Notes
 - Medications
 - Physiologic
 - Labs
 - Outcomes
- Step 3: Choose Output
- Step 4: Finalize

Diagnoses

Perioperative patient diagnoses are derived from billing sources (administrative or professional billing) or the clinician-entered problem summary list. Clinician-entered problem lists use problems linked to ICD-9 and ICD-10 codes. ICD-10 coding was initially developed by the World Health Organization in 1992, and the United States began requiring the use of ICD-10 coding October 1, 2015.

Diagnosis Source: [Search all sources]

ICD-9 ICD-10 Include related ICD-9/ICD10

Diagnosis code or description:

Present on admission:

Mode: Keep only cases with these diagnoses Remove cases with these diagnoses

- Update**
- Next
- Disable this filter
- Delete this filter

- ICD-10**
- <M32.10> Systemic lupus erythematosus, organ or system involvement unspecified
 - <M32.9> Systemic lupus erythematosus, unspecified
 - <M34.1> CR(E)ST syndrome
 - <M34.9> Systemic sclerosis, unspecified
 - <M34.0> Progressive systemic sclerosis
 - <M34.89> Other systemic sclerosis
 - <M35.01> Sicca syndrome with keratoconjunctivitis
 - <M35.00> Sicca syndrome, unspecified
 - <M33.09> Juvenile dermatomyositis with other organ involvement
 - <M33.19> Other dermatomyositis with other organ involvement
 - <M33.99> Dermatomyositis, unspecified with other organ involvement
 - <M33.00> Juvenile dermatomyositis, organ involvement unspecified
 - <M36.0> Dermato(poly)myositis in neoplastic disease
 - <M33.10> Other dermatomyositis, organ involvement unspecified
 - <M33.90> Dermatomyositis, unspecified, organ involvement unspecified
 - <M21.80> Other specified acquired deformities of unspecified limb
 - <M33.20> Polymyositis, organ involvement unspecified
 - <M33.29> Polymyositis with other organ involvement
 - <M35.8> Other specified systemic involvement of connective tissue
 - <M35.5> Multifocal fibrosclerosis
 - <L87.1> Reactive perforating collagenosis
 - <M35.1> Other overlap syndromes
 - <M35.9> Systemic involvement of connective tissue, unspecified
 - <M36.8> Systemic disorders of connective tissue in other diseases classified elsewhere
- ICD-9**
- [710.0] Systemic lupus erythematosus
 - [710.1] Systemic sclerosis
 - [710.2] Sicca syndrome
 - [710.3] Dermatomyositis
 - [710.4] Polymyositis

Project

Test
Project ID: 2163
Query Mode: cohort
Last updated on 10/11/2019

Cohort Size

Start: 12,210,067
All Patients: 55

Demographics

Gender: Female or Unknown
Age: 20 years - 60 years
BMI: 0.0 - 100.0
Institution: University of Michigan Health System
285,032 cases
1 institutions

Cases

Procedure Date: 01/01/2000 - 10/11/2019
Anesthesia time: 1 minute - 1440 minutes
283,840 cases
1 institutions

Diagnoses

diagnosis category: Clinical Problem Summary List
Professional Billing, Administrative Discharge
Billing
present on admission: any
diagnosis type: none specified
psl status: none specified
keep codes: M32.10 or M32.9 or M34.1 or M34.9 or M34.0 or M34.89 or M35.01 or M35.00 or M33.09 or M33.19 or M33.99 or M33.00 or M36.0 or M33.10 or M33.90 or M21.80 or M33.20 or M33.29 or M35.8 or M35.5 or L87.1 or M35.1 or M35.9 or M36.8 or 710.0 or 710.1 or 710.2 or 710.3 or 710.4 or 710.5 or 710.8 or 710.9
4,110 cases
1 institutions



- As expected, by adding Diabetes to the filters through “OR” logic, the number of cases has increased as compared to the number of cases only including Lupus

Diagnoses
diagnosis category: Clinical Problem Summary List
Professional Billing, Administrative Discharge
Billing
present on admission: any
diagnosis type: none specified
psl status: none specified
keep codes: M32.10 or M32.9 or M34.1 or M34.9
or M34.0 or M34.89 or M35.01 or M35.00 or
M33.09 or M33.19 or M33.99 or M33.00 or M36.0
or M33.10 or M33.90 or M21.80 or M33.20 or
M33.29 or M35.8 or M35.5 or L87.1 or M35.1 or
M35.9 or M36.8 or 710.0 or 710.1 or 710.2 or
710.3 or 710.4 or 710.5 or 710.8 or 710.9

4,110 cases
1 institutions

Including Lupus Only

Diagnoses
diagnosis category: Clinical Problem Summary List,
Professional Billing, Administrative Discharge
Billing
present on admission: any
diagnosis type: none specified
psl status: none specified
keep codes: M32.10 or M32.9 or M34.1 or M34.9
or M34.0 or M34.89 or M35.01 or M35.00 or
M33.09 or M33.19 or M33.99 or M33.00 or M36.0
or M33.10 or M33.90 or M21.80 or M33.20 or
M33.29 or M35.8 or M35.5 or L87.1 or M35.1 or
M35.9 or M36.8 or E10.8 or E11.65 or E13.65 or
E11.9 or E13.9 or E10.65 or E10.9 or 710.0 or
710.1 or 710.2 or 710.3 or 710.4 or 710.5 or 710.8
or 710.9 or 250.01 or 250.02 or 250.03 or 250.00

23,763 cases
1 institutions

Including Lupus OR
Diabetes



Adding “AND” Logic

- In contrast, if you are interested in patients who have BOTH Lupus AND Diabetes diagnoses, use “**AND**” logic.
- To find these patients, build two separate filters (i.e. one for Lupus, and a separate one for Diabetes).
- Start with an initial Diagnosis filter including Lupus.

Step 1: Define Project

Step 2: Filter

- Demographics
- Cases
- Comorbidities
- Diagnoses**
- Procedures
- Notes
- Medications
- Physiologic
- Labs
- Outcomes

Step 3: Choose Output

Step 4: Finalize

- Build an additional Data Source (Diagnosis) by *returning* to the main filter list (see left).
- Click **Diagnoses**, enter Diabetes into the Diagnosis code field, and click **Add Selected** to create new, separate criteria.
- Follow the same steps as above to remove any “Child” criteria you would not like to include.

Project
 Test
 Project ID: 2163
 Query Mode: cohort
 Last updated on 10/11/2019

Cohort Size

Start 12,210,067
 All Patients 59

Demographics
 Gender: Female or Unknown
 Age: 20 years - 60 years
 BMI: 0.0 - 100.0
 Institution: University of Michigan Health System
 285,032 cases
 1 institutions

Cases
 Procedure Date: 01/01/2000 - 10/11/2019
 Anesthesia time: 1 minute - 1440 minutes
 283,840 cases
 1 institutions

Diagnoses
 diagnosis category: Clinical Problem Summary List, Professional Billing, Administrative Discharge Billing
 present on admission: any
 diagnosis type: none specified
 psl status: none specified
 keep codes: M32.10 or M32.9 or M34.1 or M34.9 or M34.0 or M34.89 or M35.01 or M35.00 or M33.09 or M33.19 or M33.99 or M33.00 or M36.00 or M33.10 or M33.90 or M21.80 or M33.20 or M33.29 or M35.8 or M35.5 or L87.1 or M35.1 or M35.9 or M36.8 or 710.0 or 710.1 or 710.2 or 710.3 or 710.4 or 710.5 or 710.8 or 710.9
 4,110 cases
 1 institutions

Diagnoses
 diagnosis category: Clinical Problem Summary List, Professional Billing, Administrative Discharge Billing
 present on admission: any
 diagnosis type: none specified
 psl status: none specified
 keep codes:
 4,110 cases
 1 institutions

- The additional required criteria appear as a separate criteria box in the right hand panel, and the narrowed query results show a far more limited population of patients – only those patients who possess BOTH of the listed diagnosis codes
- Each filter will appear as a separate Diagnosis filter on the right hand side (see left).

Other Filters

- Continue to work through the filters on the left hand side and apply as necessary.
- Continue to build and refine your query using Data Sources on the left-hand panel.
- Refer to the instructions inside each filter panel to determine the source and details for the information available.

Modifying selected filters

Cases
Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

Procedure Date to

CPT Base Units 3 to 30

Weekend Case Yes No

Holiday Case Yes No

ASA Status ASA 1 ASA 2 ASA 3 ASA 4 ASA 5 ASA 6

Emergency Status Yes No Unspecified

Admission Type Inpatient Outpatient Other Unknown

Case Duration minute(s) to minute(s)

Cardiac Case Yes No

Anesthesia Technique General Yes No

Anesthesia Technique LMA Yes No

Endotracheal Tube Used Yes No

Anesthesia Technique Neuraxial Yes No

Anesthesia Technique Block Yes No

Update & Next
Skip & Next
Disable this filter
Delete this filter

After making the selection changes, click 'Update & Next' to apply the filter.

Click the filter header that you wish to modify on the 'Project' results bar.

Project
ACQR Test
Project ID: 2128
Query Mode: cohort
Last updated on 9/18/2019

Cohort Size
Start All Patients 12,015,843 cases
55 institutions

Demographics
Gender: Female or Unknown
Age: 20 years - 60 years
BMI: 0.0 - 100.0
Institution: University of Michigan Health System
285,028 cases
1 institutions

Cases
Procedure Date: 01/01/2018 - 01/01/2019
ASA Status: ASA 1 or ASA 2 or ASA 3 or ASA 4
Emergency Status: Yes
Admission Type: Inpatient
Anesthesia time: 1 minute - 1440 minutes
1,306 cases
1 institutions

Procedures
include: 01967
< 10 cases
1 institutions

Filtering Cases Summary

- Finalize all filters as prompted by the guided step-by-step process.
- As filters are added, counts for the cohort size will continue to refresh in real-time.
- Click directly on the filter headers to modify previously selected filters.
- Move on to Step 3 once filters are selected and cohort size seems plausible.

Step 3: Define Outputs

- **Outputs** are column headers for your downloadable Excel file.
- They are available on the left side of the screen.
- Choose the (+) to add an output.
- Final selection of outputs are listed on the right, some are defaults that can be removed as needed. (see next slide)

MPOG | DATADIRECT

https://datadirect.mpogresearch.org/Main

John Doe Logout

MPOG DataDirect

Step 1: Define Project

Step 2: Filter

Step 3: Choose Output

Step 4: Finalize

Choose Output Items

Now that you've chosen which cases will be included, you will need to define which data elements will be returned in the result set. Next

Search Output Items

All Categories

Enter search keywords here

Available Output Items

Anesthesia Duration The difference between anesthesia start and end in minutes	? +
Anesthesia End The time of the last anesthesia end documented on the procedure	? +
Anesthesia Start The time of the first anesthesia start documented on the procedure	? +
Antiemetics Given Whether the patient was given antiemetics or not (yes/no)	? +
Baseline Blood Pressure The baseline blood pressure documented in preop	? +
Core Temperature Location Documented Whether a core temp location was documented (yes/no)	? +

Selected Output Items

Age The patient's age in years at the time of the procedure	? X
ASA Class (Merged) A merged, single value for the patient's ASA class	Options ? X
Admission Type E.g. outpatient, inpatient, observation	? X

Project

Mark's Super Amazing Query
Query ID 12345
Created on 7/17/2019

Cohort Size

Start 11,594,452 cases
All Patients 45 institutions

Demographics 2,864,021 cases
Age > 18 7 institutions
Female 7 Selected Institutions

Comorbidities 290,351 cases
Diabetes 5 institutions

Output

Total Items 3
Custom Elements 1

Review and Finalize

Here you can review your choices in detail and save documents relevant to your proposal.

[Download Docs](#)
[Download Data](#)

Cohort Details

Project ID: 2319, Query Mode: Quality Report, Last updated on 11/6/2019

Filter	Cases	Patients	Institutions
Start	12,391,201	7,472,601	55
Demographics	5,101,576	3,331,001	55
Cases	3,125,693	2,189,990	49
Comorbidities	12,340	7,539	46
Diagnoses	1,430	769	33

Query Output Specification

Main Case

This table contains data for Main Case

Display Name	Source	Data Direct Category
MPOG_Case_ID	Collation Group: MPOG_Case_ID	Basic Elements
Institution	Institution Randomizer	Basic Elements
ASA Status	Collation Group: ASA Status Classification	Case Characteristics
Arrived Intubated	Collation Group: Arrived Intubated Classification	Case Characteristics
Anesthesia Technique Used: Block	Collation Group: Anesthesia Technique Block	Case Characteristics

Processing Complete:
Click here to download your results

Project

test 1
Project ID: 2319
Query Mode: Quality Report
Last updated on 11/6/2019

This query has already been submitted and cannot be modified

[Create a new query with the same settings](#)

Cohort Size

Start 12,391,201 cases
All Patients 55 institutions

Demographics 5,101,576 cases
Age: 5 years - 50 years 55 institutions
BMI: 0.0 - 100.0
Institution: All Institutions

Cases 3,125,693 cases
49 institutions
Procedure Date: 01/01/2015 - 11/06/2019
ASA Status: ASA 1 or ASA 2 or ASA 3 or ASA 4
Anesthesia time: 1 minute - 1440 minutes





Comorbidities 12,340 cases
46 institutions
keep: Alcohol Abuse

Diagnoses 1,430 cases
33 institutions
diagnosis category: Clinical Problem Summary List, Professional Billing, Administrative Discharge Billing
present on admission: any
diagnosis type: none specified
psl status: none specified
keep codes: E11.9 or E11.3 or 250.02 or 250.00

+ Final Counts by Institution

Step 4: Review and Finalize

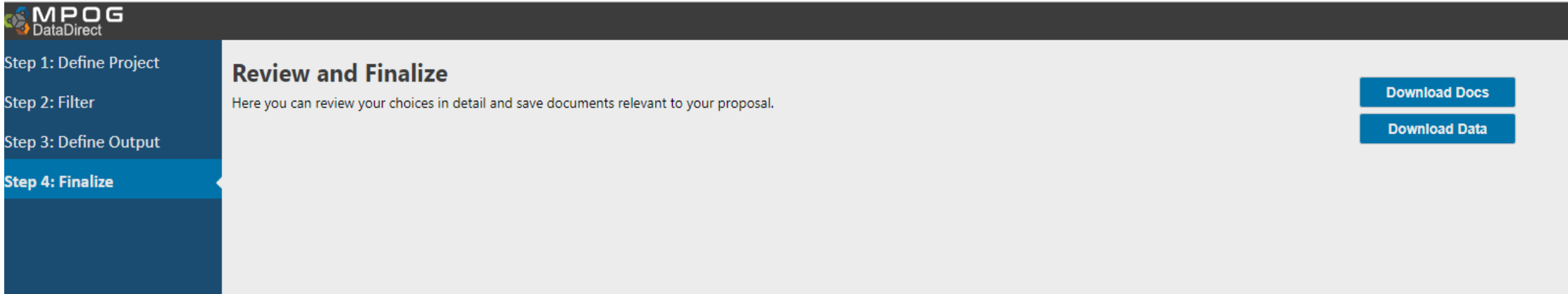
- To see anonymized counts by institution, click on the icon to the right of the number to open a list.

Filter	Cases	Patients	Institutions	#	Patients
Start	12,391,201	7,472,601	55	1	248,596
Demographics	5,101,576	3,331,001	55 	2	245,467
Cases	3,125,693	2,189,990	49 	3	190,003
Comorbidities	12,340	7,539	46 	4	185,744
Diagnoses	1,430	769	33 	5	160,734
				6	159,312

Based on query mode, different options are available:

- **Download Docs:** Output is a “Query Specification”, i.e. a document of the query itself (Quality Report Mode, Single Center Research Mode, Multi-Center Research Mode)
- **Download Data:** Output is your institution’s data for the query for Quality Report Mode or Single-Center Research Mode (local sites only). *Note: for Multi-Center Research Mode, data queries are specified by the MPOG Central analyst team, and available to Researchers via a secure data enclave following PCRC approval*
- **No download option** (Cohort Only Mode)

- Click **Download Docs**



The screenshot shows a software interface for MPOG DataDirect. On the left is a vertical navigation menu with four steps: 'Step 1: Define Project', 'Step 2: Filter', 'Step 3: Define Output', and 'Step 4: Finalize'. 'Step 4: Finalize' is highlighted in a darker blue. The main content area is titled 'Review and Finalize' and contains the text: 'Here you can review your choices in detail and save documents relevant to your proposal.' On the right side of this area are two blue buttons: 'Download Docs' and 'Download Data'.

- Step 1: Define Project
- Step 2: Filter
- Step 3: Choose Output
- Step 4: Finalize

Review and Finalize

Here you can review your choices in detail and save documents relevant to your proposal.

- Download Docs
- Download Data

Cohort Details

Project ID: 2163 Query Mode: cohort Last updated on 10/11/2019

Filter	Cases	Patients	Institutions
Start	12,210,067	7,376,216	55
Demographics	285,032	151,949	1
Cases	283,840	151,651	1
Diagnoses	4,110	1,289	1
Diagnoses	4,110	1,289	1

Query Output Specification

Table 1 - Main Case List

This table contains a single row for each case in the research

Display Name	Source
MPOG_Case_ID	Collation (
Institution	Institution Randomizer basic Elements
Anesthesia Technique Used: General	Collation Group: Anesthesia Technique GeneralCase Characteristics
Anesthesia Technique Used: Neuraxial	Collation Group: Anesthesia Technique Neuraxial Case Characteristics

Download Query Specification Documents

If you are finished editing your project and selecting your output items click 'Download Documents' below. Otherwise, click 'Cancel' to go back and make additional changes.

Project

Test
 Project ID: 2163
 Query Mode: Cohort
 Last updated on 10/11/2019

Cohort Size

Start 12,210,067 cases
 All Patients 55 institutions

Demographics

Gender: Female or Unknown
 Age: 20 years - 60 years
 BMI: 0.0 - 100.0
 Institution: University of Michigan Health System
 285,032 cases
 1 institutions

Cases

Procedure Date: 01/01/2000 - 10/11/2019
 Anesthesia time: 1 minute - 1440 minutes
 283,840 cases
 1 institutions

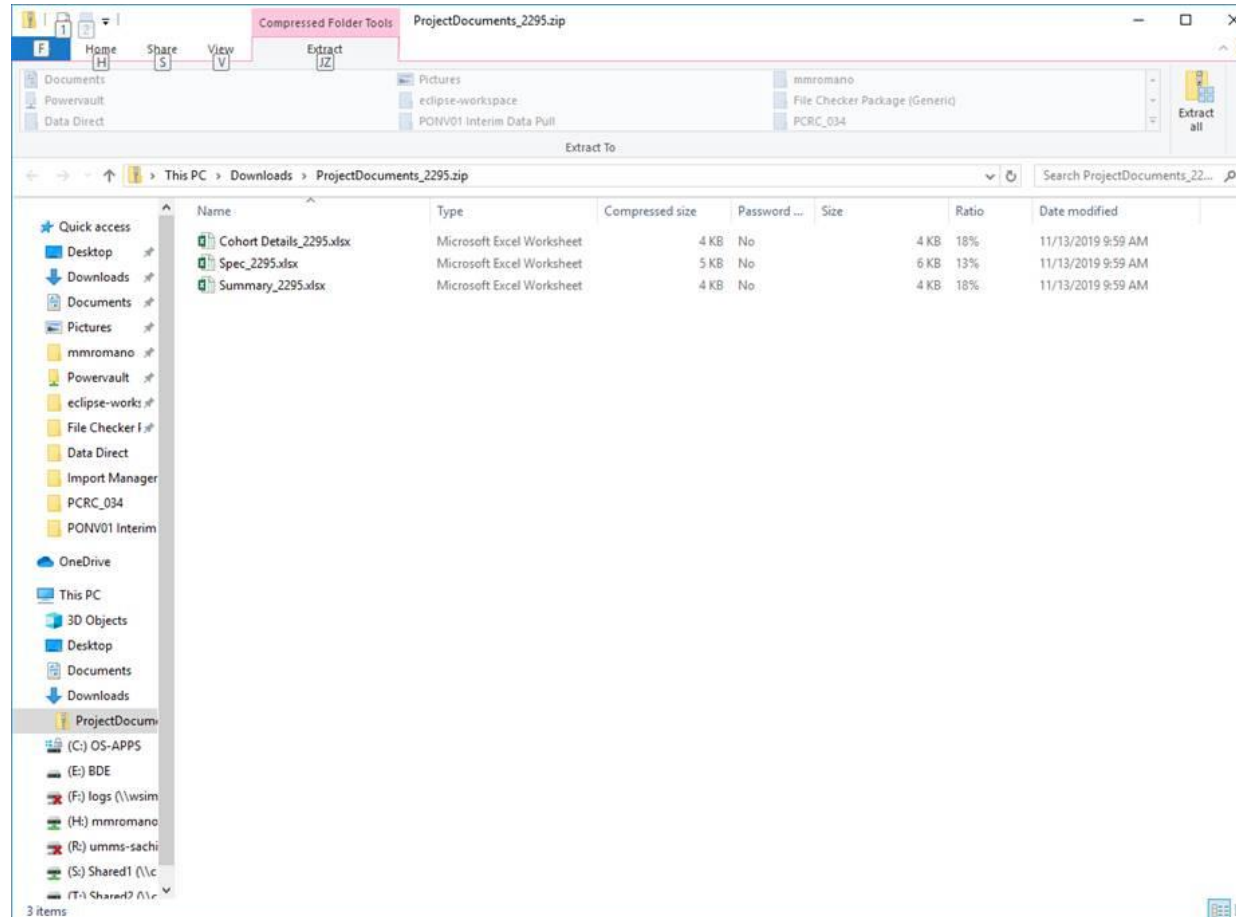
Diagnoses

diagnosis category: Clinical Problem Summary List, Professional Billing, Administrative Discharge Billing
 present on admission: any
 diagnosis type: none specified
 psl status: none specified
 keep codes: M32.10 or M32.9 or M34.1 or M34.9 or M34.0 or M34.89 or M35.01 or M35.00 or M33.09 or M33.19 or M33.99 or M33.00 or M36.0 or M33.10 or M33.90 or M21.80 or M33.20 or M33.29 or M35.8 or M35.5 or L87.1 or M35.1 or M35.9 or M36.8 or 710.0 or 710.1 or 710.2 or 710.3 or 710.4 or 710.5 or 710.8 or 710.9
 4,110 cases
 1 institutions

Diagnoses

diagnosis category: Clinical Problem Summary List, Professional Billing, Administrative Discharge Billing
 present on admission: any
 diagnosis type: none specified
 psl status: none specified
 keep codes:
 4,110 cases
 1 institutions

- Download Docs will generate/auto download a zip file that contains 3 excel files



Data Query Specification

- Upon downloading the “Query Specification” for a particular project, a summary of the data, and characteristics of the data queried, are available in spreadsheet form.

Data Summary

- Example of Excel file generated through DataDirect

query_id	Display_Name	ColumnName	DataType	Comment	Source	DataDirect_Category
2163	MPOG_Case_ID	Value	uniqueidentifier		Collation Group: MPOG_Case_ID	Basic Elements
2163	Institution	Value	varchar		Institution Randomizer	Basic Elements
2163	Institution	MPOG_Institution_ID	numeric(18,0)		Institution Randomizer	Basic Elements
2163	Anesthesia Technique Used: General	Value	varchar	General anesthetic attempted operatively	Collation Group: Anesthesia Technique Used: General	Case Characteristics
2163	Anesthesia Technique Used: General	Value_Code	int	General anesthetic attempted operatively	Collation Group: Anesthesia Technique Used: General	Case Characteristics
2163	Anesthesia Technique Used: General	LMA_yn	varchar	General anesthetic attempted operatively	Collation Group: Anesthesia Technique Used: General	Case Characteristics
2163	Anesthesia Technique Used: Neuraxial	Value	varchar	Neuraxial block attempted perioperatively	Collation Group: Anesthesia Technique Used: Neuraxial	Case Characteristics
2163	Anesthesia Technique Used: Neuraxial	Value_Code	int	Neuraxial block attempted perioperatively	Collation Group: Anesthesia Technique Used: Neuraxial	Case Characteristics
2163	Anesthesia Technique Used: Neuraxial	Spinal_yn	int	Neuraxial block attempted perioperatively	Collation Group: Anesthesia Technique Used: Neuraxial	Case Characteristics
2163	Anesthesia Technique Used: Neuraxial	Epidural_yn	int	Neuraxial block attempted perioperatively	Collation Group: Anesthesia Technique Used: Neuraxial	Case Characteristics