Exercise: Construct attribute queries

Influenza is a virus that infects people around the world, year after year. To help prevent next year's outbreak, you will train health care facilities in the United States about outbreak prevention. You will start in the state of Washington, visiting hospitals that had the highest cases of influenza in the past year.

You have GIS data that lists all the health care facilities in Washington. You will query this data to identify the hospitals that you plan to visit first.

Estimated completion time: 20 minutes

To complete exercises, you need the following:

ArcGIS Pro 2.3 (Basic, Standard, or Advanced)

- Step 1: Download the data

To complete the exercise, you must download the data. If you have already downloaded and installed the data, continue to the next step.

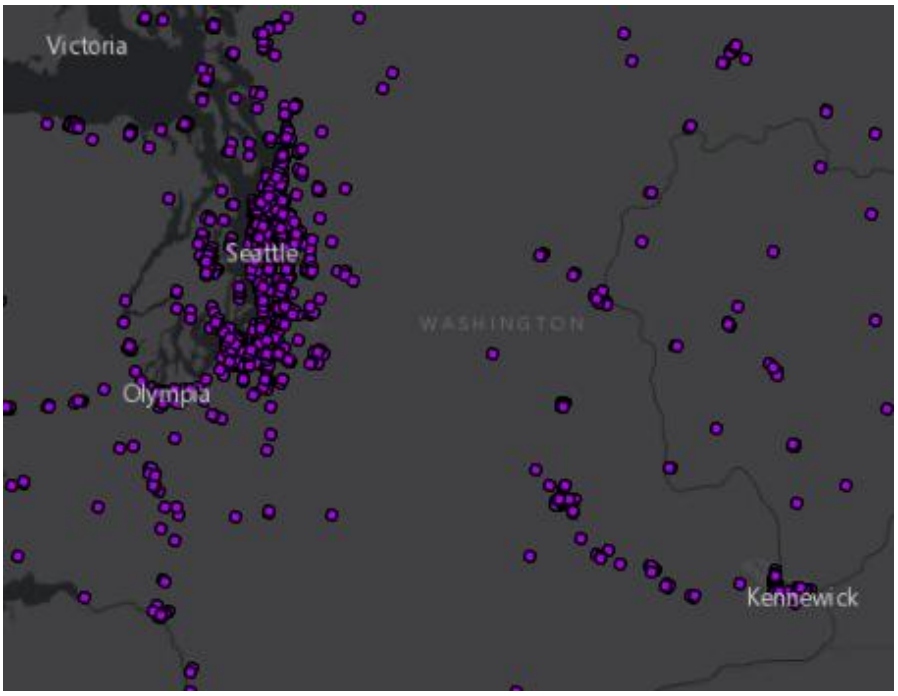
- Step 2: Open an ArcGIS Pro project

Start ArcGIS Pro.

Note: If you have configured ArcGIS Pro to start without a project template or with a default project, you will not see the Start page. On the Project tab, click Open, and then click Open Another Project.

Click Open Another Project.

Browse to **C:\EsriTraining\ProDataQuerying\HealthCare** and open HealthCare.aprx.



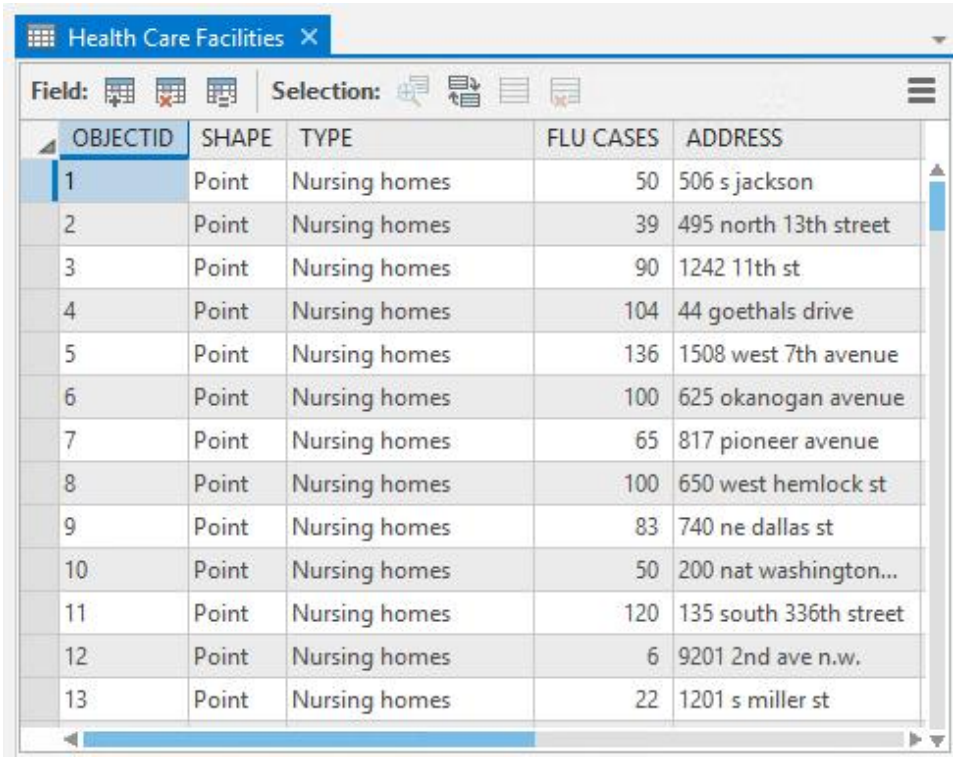
Step 2a: Open an ArcGIS Pro project.

The ArcGIS Pro project includes a map that illustrates the location of health care facilities throughout Washington.

- **Step 3: Review the project data**

Before you query the health care facilities data, you must identify the fields that you will use to build the query.

In the Contents pane, right-click Health Care Facilities and choose Attribute Table.



OBJECTID	SHAPE	TYPE	FLU CASES	ADDRESS
1	Point	Nursing homes	50	506 s jackson
2	Point	Nursing homes	39	495 north 13th street
3	Point	Nursing homes	90	1242 11th st
4	Point	Nursing homes	104	44 goethals drive
5	Point	Nursing homes	136	1508 west 7th avenue
6	Point	Nursing homes	100	625 okanogan avenue
7	Point	Nursing homes	65	817 pioneer avenue
8	Point	Nursing homes	100	650 west hemlock st
9	Point	Nursing homes	83	740 ne dallas st
10	Point	Nursing homes	50	200 nat washington...
11	Point	Nursing homes	120	135 south 336th street
12	Point	Nursing homes	6	9201 2nd ave n.w.
13	Point	Nursing homes	22	1201 s miller st

Step 3a: Review the project data.

The columns in the attribute table represent the data's attribute fields. The rows in the attribute field represent individual features on the map. You will use two of these attribute fields to query the data.

Review each of the attribute fields and their values.

Reread the exercise introduction.

? Which attribute fields should you use to find hospitals with the highest cases of influenza?

You will use the answer to this question to build your attribute query.

Close the attribute table.

- Step 4: Construct an attribute query using text values

Now that you have identified the attribute fields that you will use, you will build the attribute queries. The first query will select all health care facilities that are hospitals.

On the Map tab, in the Selection group, click Select By Attributes.

You create attribute queries using the Select Layer By Attribute geoprocessing tool. This tool will create a selection of features based on the type of selection you choose and the query that you build.

In the Geoprocessing pane, for Input Rows, ensure that Health Care Facilities is selected.

Click the Selection Type down arrow.

You can create different types of selections with the Select By Attributes tool. You can create a selection of features, add to a current selection of features, and even remove features from a current selection. Here, you will create a selection of all the hospital features.

If necessary, choose New Selection.

For Expression, click Add Clause.

The clause includes three drop-down lists. Use the first drop-down list to choose an attribute field, use the second attribute list to choose an operator, and use the third drop-down list to choose a field or an attribute value.

Complete the clause using the following parameters:

Attribute field: TYPE

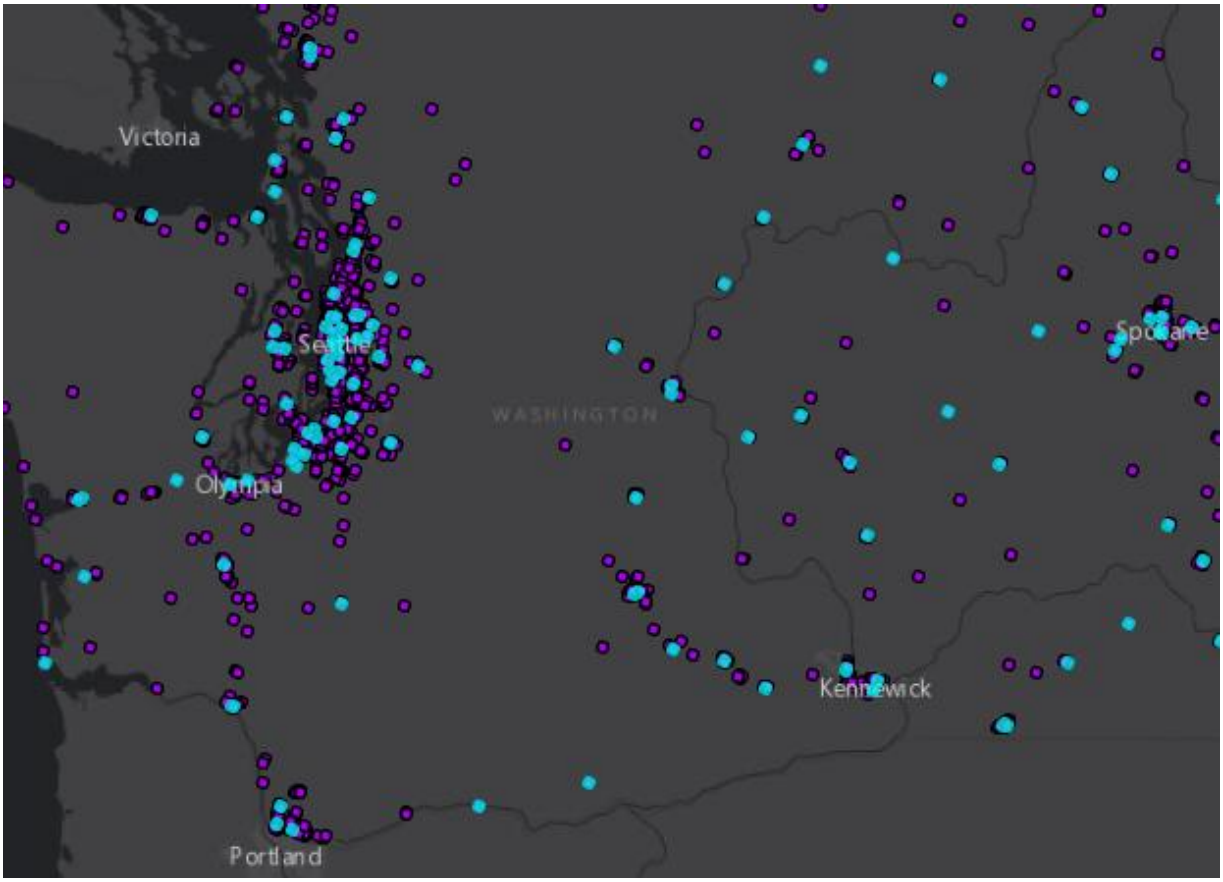
Operator: Is Equal To

Attribute value: Hospitals

Step 4a: Construct an attribute query using text values.

Click Add.

Run the tool.



Step 4b: Construct an attribute query using text values.

All the hospital features have been selected. Now you must identify which of these hospitals had the highest number of influenza cases.

- Step 5: Construct an attribute query using numeric values

The next query will select all health care facilities with 200 or more cases of influenza in the past year. You will combine the first query with this query to select all hospitals with 200 or more cases of influenza.

In the Geoprocessing pane, for Input Rows, confirm that Health Care Facilities is listed.

You want to create a selection of features that meets the criteria of the first attribute query and the new attribute query that you will build.

For Selection Type, confirm that New Selection is listed.

For Expression, click Add Clause.

There is an extra drop-down list in the clause dialog box. This drop-down list is used to combine the two queries

with an AND or an OR operator.

In the first drop-down list, confirm that And is listed.

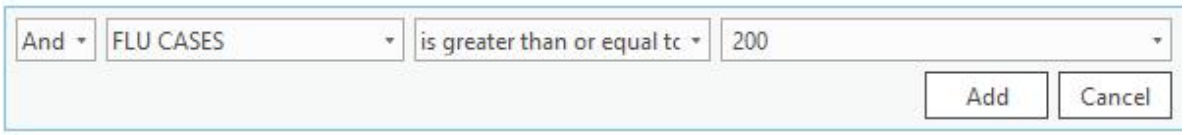
You will use the AND operator because you want to select features that meet the criteria of both attribute queries.

Create a clause using the following parameters:

Attribute field: FLU CASES

Operator: Is Greater Than Or Equal To

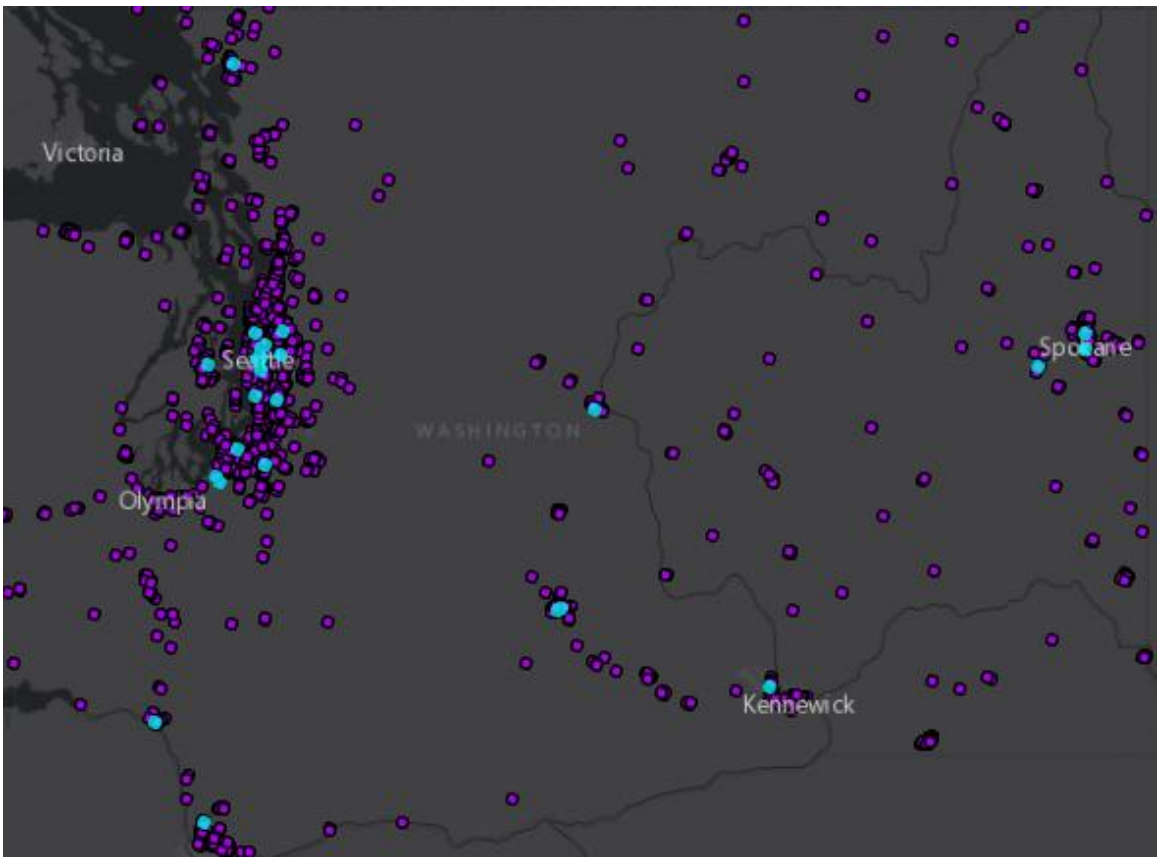
Value: **200**



Step 5a: Construct an attribute query using numeric values.

Click Add.

Run the tool.



Step 5b: Construct an attribute query using numeric values.

The features selected in the map are the hospitals that had 200 or more cases of influenza in the past year. These hospitals are the first health care facilities that you will visit to train about outbreak prevention.

Save your changes to the project.

Exit ArcGIS Pro.