How to Use the Explore Service Area Tool: By Patient Origin

www.udsmapper.org
### Acronyms Used in This Lesson

<table>
<thead>
<tr>
<th>Acronym</th>
<th>What It Stands For</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCP</td>
<td>Health Center Program</td>
</tr>
<tr>
<td>UDS</td>
<td>Uniform Data System</td>
</tr>
<tr>
<td>ZCTA</td>
<td>ZIP Code Tabulation Area</td>
</tr>
</tbody>
</table>

[www.udsmapper.org](http://www.udsmapper.org)
Terminology

- Funded service area: Based on the area included in the health center’s scope of project
- Patient origin service area: Based on analysis of where patients lived in the reporting year
  - Core service area – a subset of the patient origin service area that includes only the ZCTAs with the largest number of patients from that health center, accounting for 75% of the health center patients in the reporting year
Explore Service Area by Patient Origin

Enables you to:

- Highlight the ZCTAs where their patients lived in the reporting calendar year by selecting individual HCP grantees and/or look-alikes
  - This shows the “patient origin” service area, which may be different than the health center’s “funded” service area
- Adjust the percentage of patients included to define a “core” service area (75% of patients), a total patient service area (100% of patients), or other service area by percent of patients included
- Receive data for highlighted ZCTAs in data table format
- Analyze service area overlap

www.udsmapper.org
How to Open the Explore Service Area Tool in By Patient Origin Mode

- Click on the **Explore Service Area tool icon** (looks like a shield) in the Tool Box in the upper right corner of the map
  - If you only see a blue bar with a few tool buttons, click the **white, downward-pointing arrow** to reveal the tools

- Select the **radio button** for **By Patient Origin**
  - The health center administrative locations will turn on, and cannot be turned off while in this mode
Selecting Health Centers

- There are two ways to select health centers individually
  - Enter the name into the **Search** box
  - Click the dot/triangle on the map

- You can also use the **Pen tool** (explained later in this lesson), which is best used for quickly selecting multiple health centers in an area

www.udsmapper.org
Selecting Health Centers: Using the Search Box

- Type the name of an HCP grantee or look-alike
- Wait for the drop-down results to appear, and click on a result
- Click **Add** to select the health center
  - Clicking **Go** will zoom in to that location on the map

www.udsmapper.org
Selecting Health Centers: Clicking on the Map

- **Zoom in** to your area of interest
  - If necessary, turn on the Information Card in the Tool Kit in the lower left corner of the map
  - Put your cursor over a health center administrative location to see its name in the Information Card
- Click on a health center to select it

www.udsmapper.org
Verifying Selected Health Centers

You can tell that a health center is selected because:

- It is listed in the white, **Selected Health Centers** box
- It is outlined in a thick black circle on the map
Deselecting Health Centers

- There are two ways to deselect health centers individually
  - Put your cursor over the name in the Selected Health Centers box and click the red X that appears
  - Click again on a selected health center on the map
- You can also quickly deselect all health centers by clicking **Clear Selection** (below the white Selected Health Centers box)
Patient Origin Service Area

- When you select a health center, you will usually see that some ZCTAs around it become shaded with diagonal hatching lines
  - With the default selected, these shaded areas show the core patient origin service area (75% of the total patients)
- To see all ZCTAs that are shaded:
  - Click **Go to Selected Area** (below the white Selected Health Centers box) to zoom and center the map at the closest view that shows all patient origin ZCTAs
- If no ZCTAs are shaded, this is likely a new health center that has not yet submitted a UDS report
The 75% patient origin service area (displayed by default) shows the ZCTAs where the selected health center reported the most patients, limited to 75% of the total patients
   • This shows a core service area by excluding ZCTAs where the health center reported relatively few patients

To change the % of patients included in the displayed area, adjust the **Patients Included** slider
   • Click and drag the circle on the slider or click once on the circle and then use your keyboard arrow keys

To see all ZCTAs where the health center reported at least 11 patients, set the slider to 100%
Explanation of Patient Origin Service Area Calculations

How we determine which ZCTAs are highlighted according to the set % of patients included:

1. The list of every ZIP Code where the health center reported patients is converted to ZCTA and ranked in descending order, from the ZCTA with the most patients reported by the health center down to the ZCTA with the fewest patients for that health center.

2. Starting from the top row (the ZCTA with the most reported patients) and going down, ZCTAs are added into the service area until the set % of patients are accounted for.
   • See the next slide for a hypothetical patients by ZCTA data table that shows which ZCTAs would be highlighted at 75% and 100% patients included.
# Explanation of Data* for Calculations

<table>
<thead>
<tr>
<th>ZCTA</th>
<th># Patients</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>12345</td>
<td>1,089</td>
<td>21.76%</td>
</tr>
<tr>
<td>34567</td>
<td>796</td>
<td>37.70%</td>
</tr>
<tr>
<td>98765</td>
<td>701</td>
<td>51.72%</td>
</tr>
<tr>
<td>23456</td>
<td>432</td>
<td>60.36%</td>
</tr>
<tr>
<td>65432</td>
<td>286</td>
<td>66.08%</td>
</tr>
<tr>
<td>45678</td>
<td>245</td>
<td>70.98%</td>
</tr>
<tr>
<td>32109</td>
<td>200</td>
<td>74.98%</td>
</tr>
<tr>
<td>54321</td>
<td>197</td>
<td>78.92%</td>
</tr>
<tr>
<td>87654</td>
<td>172</td>
<td>82.36%</td>
</tr>
<tr>
<td>56789</td>
<td>154</td>
<td>85.44%</td>
</tr>
<tr>
<td>21098</td>
<td>145</td>
<td>88.34%</td>
</tr>
<tr>
<td>67890</td>
<td>126</td>
<td>90.86%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ZCTA</th>
<th># Patients</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>76543</td>
<td>91</td>
<td>92.68%</td>
</tr>
<tr>
<td>89102</td>
<td>90</td>
<td>94.48%</td>
</tr>
<tr>
<td>43210</td>
<td>77</td>
<td>96.02%</td>
</tr>
<tr>
<td>10987</td>
<td>59</td>
<td>97.20%</td>
</tr>
<tr>
<td>88888</td>
<td>44</td>
<td>98.08%</td>
</tr>
<tr>
<td>78901</td>
<td>32</td>
<td>98.72%</td>
</tr>
<tr>
<td>21987</td>
<td>20</td>
<td>99.12%</td>
</tr>
<tr>
<td>89123</td>
<td>11</td>
<td>99.34%</td>
</tr>
<tr>
<td>01234</td>
<td>11</td>
<td>99.56%</td>
</tr>
<tr>
<td>90123</td>
<td>11</td>
<td>99.78%</td>
</tr>
<tr>
<td>32198</td>
<td>11</td>
<td>100%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5000</td>
<td></td>
</tr>
</tbody>
</table>

*Hypothetical data

www.udsmapper.org
Analyzing a Service Area (1)

- Once you have displayed a health center’s patient origin service area by your preferred % Patients Included, take some time to visualize the UDS Mapper data in relation to that service area.

- For example, turn on different Main Maps layers to see data such as the # of low-income people within the service area who are not served by health centers (low-income penetration shown here); these may be areas to target for outreach.

www.udsmapper.org
Analyzing a Service Area (2)

Turning on the Service Access Points may help you understand the service area pattern

- Remember: Patients reported by a HCP grantee/look-alike could have gone to any of the service access sites operated by the organization

- Service Access Points are color-coded to match the color of the administrative location

www.udsmapper.org
Selecting Multiple Health Centers

- You can select more than one health center at a time by clicking on each or searching/adding each OR
- You can use the Pen tool to select many health centers on the map without having to click on every health center
  - Click the **Pen button**
  - Click on the map and hold down your mouse button
  - While holding down your mouse button, drag your cursor to create an area in which to select health centers
  - Let go of your mouse button to select all health centers within the drawn area
Analyzing Service Area Overlap with Multiple Health Centers

With multiple health centers selected, cross-hatching patterns (shown in the legend) will indicate overlap for up to six health centers:

- The same **Patients Included** threshold will apply to the service area of every selected health center.
- You can select as many health centers at a time as you would like, however you will not be able to differentiate the service areas of each unless you turn them on and off individually.

![Map](image-url)
Analyzing Service Area Overlap (1)

- For further analysis, you can click on a ZCTA to show the Information Card with the names of up to five health centers that served patients from that ZCTA in the reporting year.
- You can also see the % of total patients from that ZCTA who were seen by each health center organization.
Analyzing Service Area Overlap (2)

- Analyze service area overlap by turning on Main Maps, especially the penetration rate maps (Penetration of Uninsured shown here)

- If two or more health centers share a ZCTA as part of the core patient origin service area but the penetration is still fairly low (light green), there MAY be room for growth for BOTH health centers – especially if they are offering different services or targeting different populations
How to Use the Explore Service Area Tool: By Patient Origin

Data Table (1)

To see the Data Table:

- Make sure there are ZCTAs selected
- Click the **Data Table** button (looks like a window) in the Tool Kit in the lower left corner of the map
Data Table (2)

- Every ZCTA that is selected on the map (hatching lines indicate that a ZCTA is selected) will be included.
- See the How to Use the Data Table lesson (on the Tutorials page) to learn more.
End of Lesson

Proceed to the next lesson to continue learning how to use the UDS Mapper

www.udsmapper.org