How healthy is your neighbourhood? – Application User Guide

<u>LAD Overview</u>

Use this tab to analyse the LSOA deciles by Local Admin District (LAD) and the user's indicator of choice.

Use control 1 to select region of interest. Use control 2 to select LAD within region of interest. Use control 3 to select indicator to do analysis. Click on bar plot bars (4) to highlight LSOAs in that percentile and review them on the map.
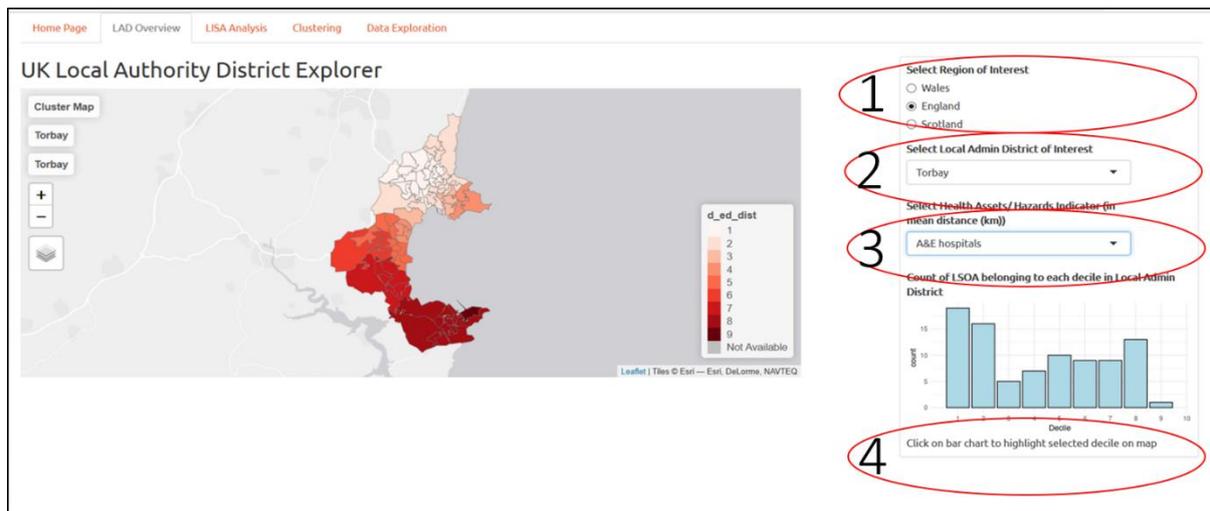
<u>LISA Analysis</u>

Use this tab to perform univariate clustering using Anselin's LISA based on the LAD and indicator chosen by the user.

Use control 1 to select type of LISA analysis to perform, which includes i) Contiguity-based methods (Contiguity Queen and Contiguity Rook), ii) distance-based (inverse distance weight (IDW) Queen or IDW Rook)) and iii) k nearest neighbours. If analysis method selected is "K Nearest Neighbours", control 2 will appear. Use that to select the K value for the K nearest neighbours analysis. Control 3 allows the user to select the confidence level for the LISA analysis. If 90% is select, only p-values below 0.1 will be considered as significant. If 95% is selected, only p-values below 0.05 will be considered as significant and so on. Use control 4 to select the type of plot to use as a reference to the LISA plot. The reference plot will appear on the right of the LISA plot. Use control 5 to select the method to display the reference plot.
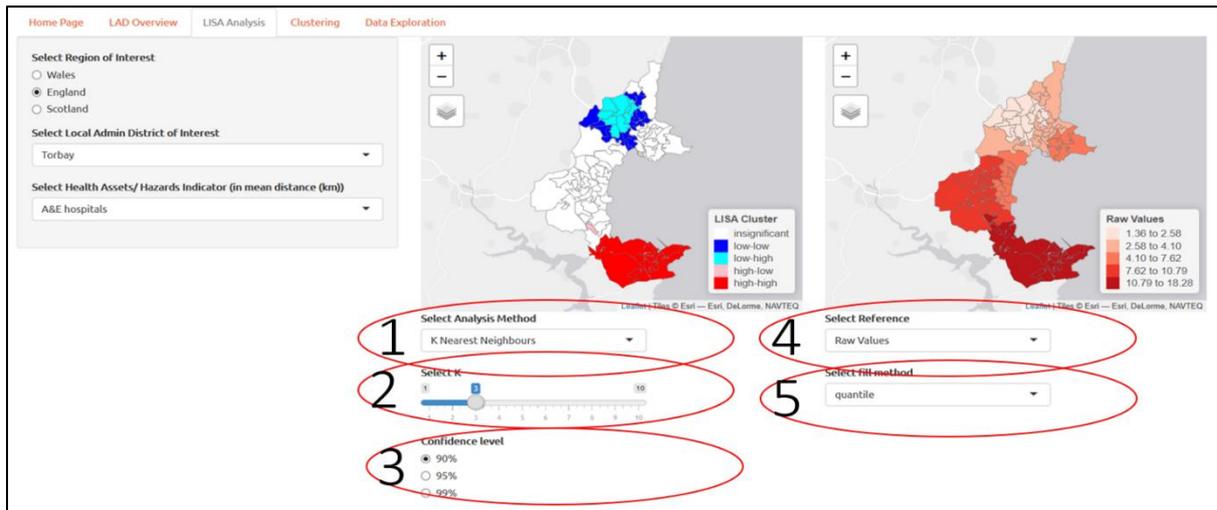
Clustering

Use this tab to perform multivariate clustering.

We recommend that you use the controls in the following order. Use control 1 to select region of interest, use control 2 to select LAD within region of interest, and use control 3 to select the indicators to do the multivariate clustering (at least 2 indicators must be selected in control 3).

Once the indicator selection has been completed, use control 4 to toggle between correlation and dendrogram plots and use the information from the plots to review whether the indicators selected are appropriate and the number of clusters to use to do the multivariate clustering analysis. Input the number of clusters in control 5.

Use control 6 to select the type of clustering method to use. If Geo spatial clustering is selected, control 7 will appear. Use that to select the mixing factor (α) to trade-off between the feature weightage D_0 and the spatial weightage of D_1. Selecting 0 is equivalent to hierarchical clustering with no geo-spatial constraints.

Data exploration

Use this tab to explore the raw data using the controls provided.

Choose the variables

Select Region of Interest
- ○ Wales
- ◉ England
- ○ Scotland

Select Local Admin District of Interest

Torbay   ▾

Select indicator(s) to examine

GP surgeries   Dentists   Pharmacies

Show 10 ▾ entries   Search: [   ]

	LAD	MSOA	LSOA	gpp_dist	dent_dist	pharm_dist
E01015190	Torbay	Torbay 013	Torbay 013A	2.19404761904762	2.60571428571429	1.835
E01015234	Torbay	Torbay 014	Torbay 014E	0.935172413793103	0.722413793103448	0.48448275862069
E01015208	Torbay	Torbay 019	Torbay 019F	1.27314285714286	2.163	1.27371428571429
E01015232	Torbay	Torbay 014	Torbay 014C	0.723636363636364	0.874727272727273	0.688363636363636
E01015228	Torbay	Torbay 011	Torbay 011E	0.533409090909091	1.52568181818182	0.476136363636364
E01015193	Torbay	Torbay 013	Torbay 013D	0.464516129032258	0.908064516129032	0.558064516129032
E01015229	Torbay	Torbay 014	Torbay 014A	0.586315789473684	1.10447368421053	0.431578947368421
E01015203	Torbay	Torbay 012	Torbay 012B	1.32821428571429	0.8425	1.15821428571429
E01015217	Torbay	Torbay 008	Torbay 008A	1.08697674418605	1.15279069767442	0.984883720930233
E01015222	Torbay	Torbay 015	Torbay 015D	2.2574	2.1352	1.156