Data Talks: The Indices of Deprivation (IoD)

A BEGINNER'S GUIDE TO THE IOD

About me

- I’m the Social Research and Data Lead at London Plus
- London Plus supports the voluntary sector through networking, advocacy and insights (<- I’m responsible for this bit!)
- Back in November 2019 I wrote a blog about getting started with the IoD, which can be viewed here: https://datawise.london/resources/IoD-how-to/
- I collaborate with colleagues from the HEAR Network and the Coalition for Efficiency to deliver Datawise London’s *‘Qualitative Data Essentials’* series

To find out more about what we’re up to, sign up to our newsletters and follow DataWise London on Eventbrite ☺

Open Data Manchester

party in
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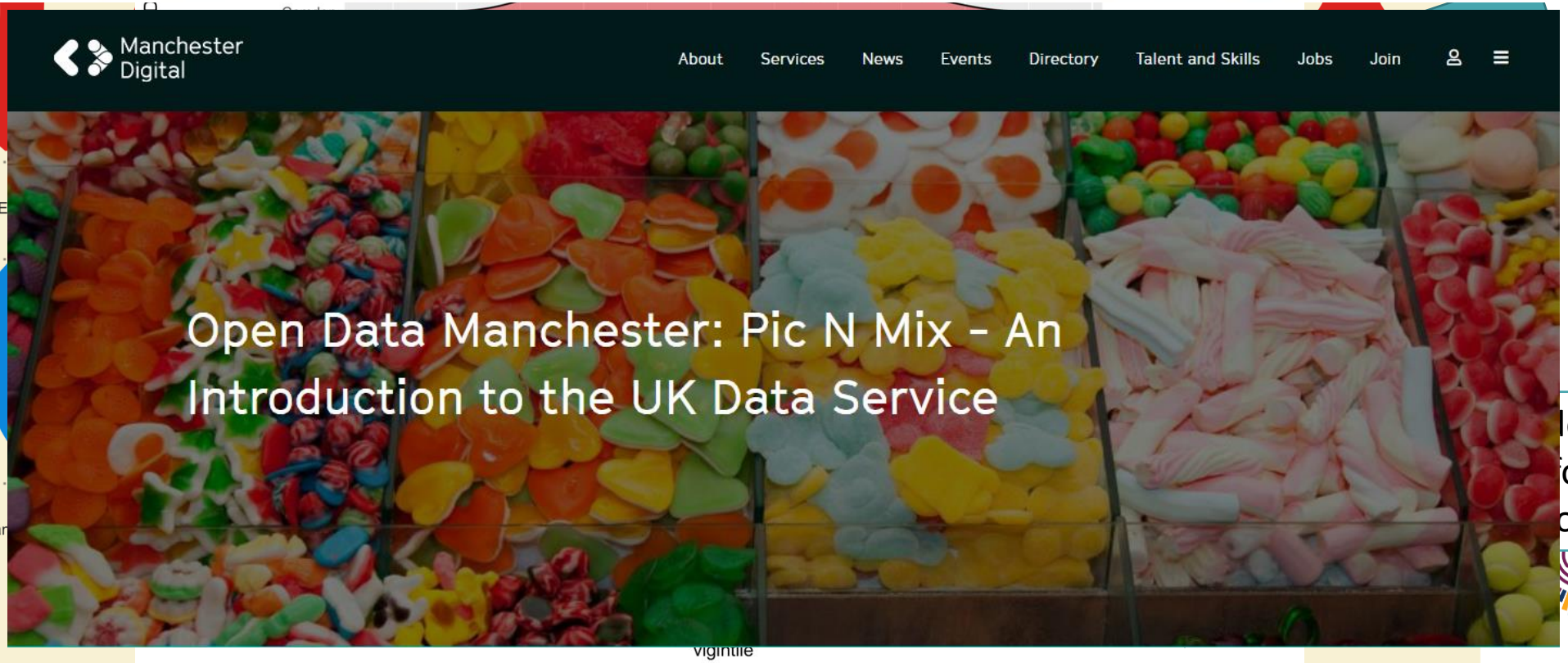

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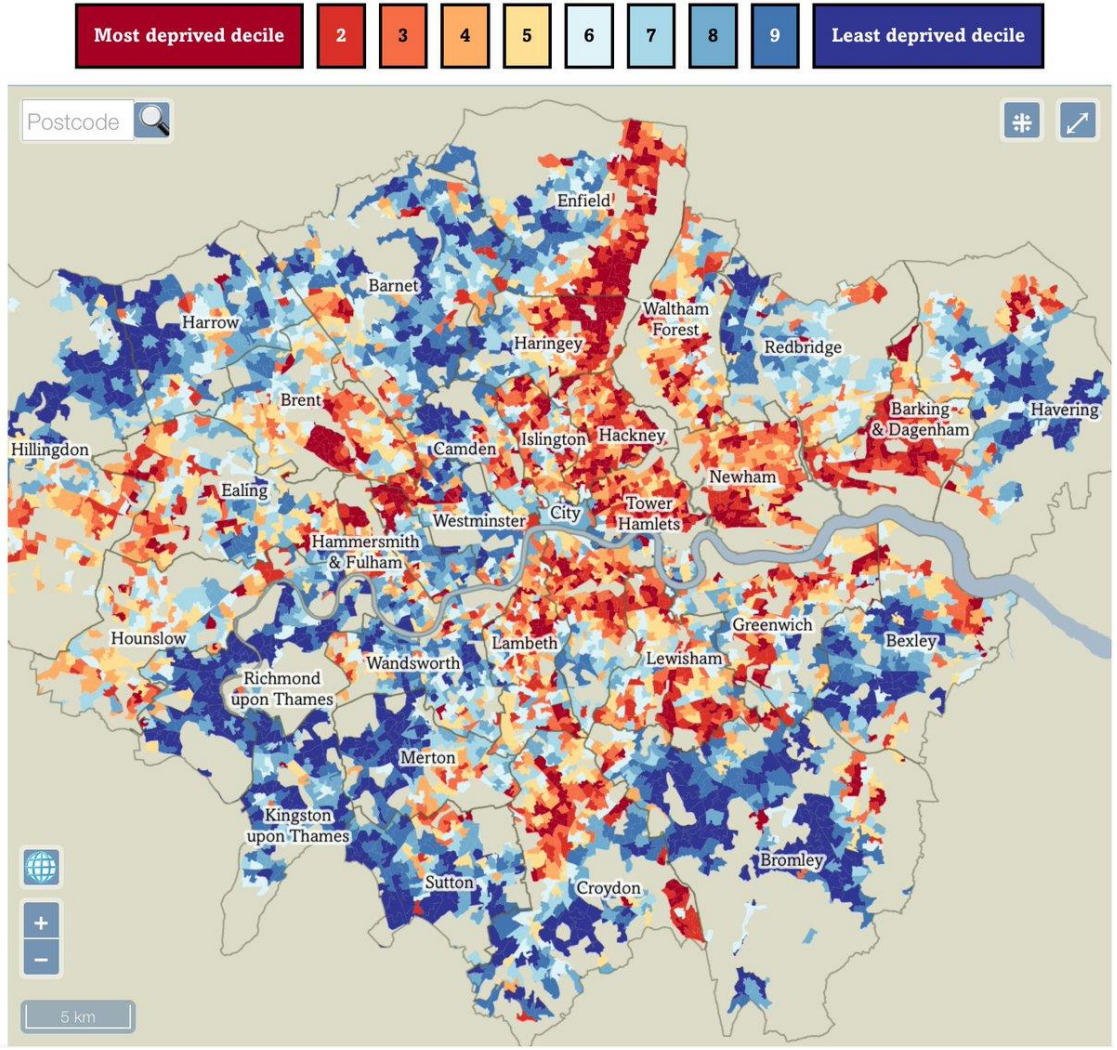
What are the IoD?

The who, where, what, why and how



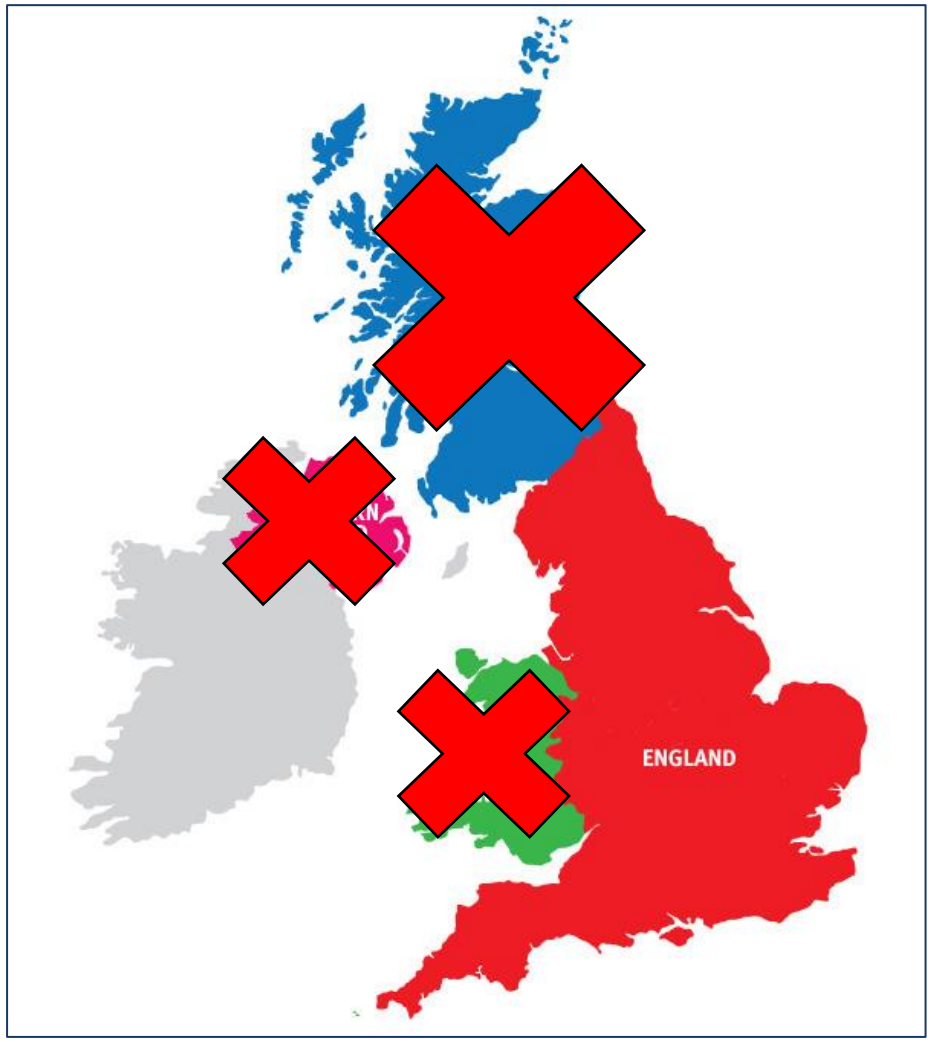
Who?

- ✓The Government started publishing the IoD in the year 2000
- ✓**The Ministry of Housing, Communities & Local Government** are currently responsible for publishing the IoD
- ✓The IoD is published periodically, but not frequently/during specific intervals
- ✓Existing IoD data sets are:
  - **IoD 2000**
  - **IoD 2004**
  - **IoD 2007**
  - **IoD 2010**
  - **IoD 2015**
  - **IoD 2019**

2000s

2010s

Where? *(IMPORTANT INFORMATION!)*



- ✓ The Indices of Deprivation are officially named *'The English Indices of Deprivation'*
- ✓ The dataset accounts for **England**, but not Scotland, Wales or Northern Ireland. This is mainly due to political jurisdiction over government intelligence.

For Scotland, Wales and Northern Ireland:

- Scottish Index of Multiple Deprivation
- Welsh Index of Multiple Deprivation
- Northern Ireland Multiple Deprivation Measure

You cannot directly compare the IoD to these sets *without doing some complicated calculations. This is because different data collection methods are used, meaning that* ***each set is a "case" in it's own right*** *and variables used would therefore have to be weighted accordingly.*

What?

The IoD are gathered and analysed on a geographic basis *("statistical geographies").* This means that each piece of data in the IoD is specific to the area it was measured from.

The IoD uses a particular type of "base" map which measures deprivation at a small local area level. These areas are known as Lower-layer Super Output Areas and they contain 1,000-3000 people or 400-1,200 households (Open Data Manchester, 2018).

Largest ***Smallest***

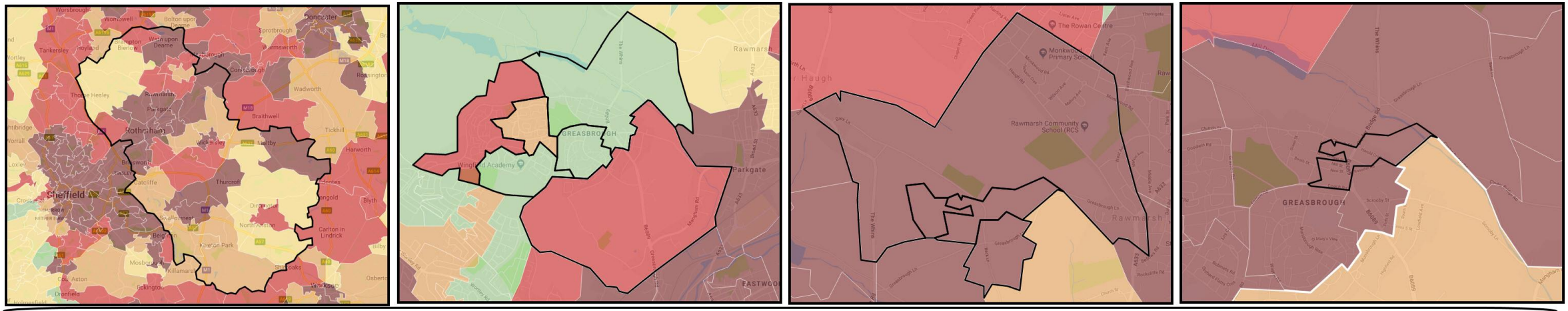


Image via OSCI 2019

Like an onion, statistical geographies have many layers…

MSOA

Ward****

Borough

County

Region

* Output Area = 300 people ** Lower Layer Super Output Area = 1,700 people (London)

*** Middle Layer Super Output Area = 7,200 people (London)

**** Ward 13,000 people (London)

Still confused? Don't worry, we've got you covered!

- ✓ ***MapIt UK*** (a website where you can enter a postcode and find an array of information about it's statistical geography) https://mapit.mysociety.org/

- ✓ ***The Local Authority look up dashboard*** https://app.powerbi.com/view?r=eyJrIjoiOTdjYzIyNTMtMTcxNi00YmQ2LWI1YzgtMTUyYzMxOWQ3NzQ2IiwidCI6ImJmMzQ2ODEwLTljN2QtNDNkZS1hODcyLTI0YTJlZjM5OTVhOCJ9

- ✓ ***The Local authority map drive*** (where you can find your lA map to download) https://imd2019.group.shef.ac.uk/

- ✓ ***The IoD explorer tool*** (we'll come back to this!) http://dclgapps.communities.gov.uk/imd/iod_index.html

- ✓ ***GLA IoD Resources*** (we'll come back to this too!)

https://data.london.gov.uk/download/indices-of-deprivation/9ee0cf66-e6f9-4e38-8eec-79c1d897e248/ID%202019%20for%20London.xlsx

What?

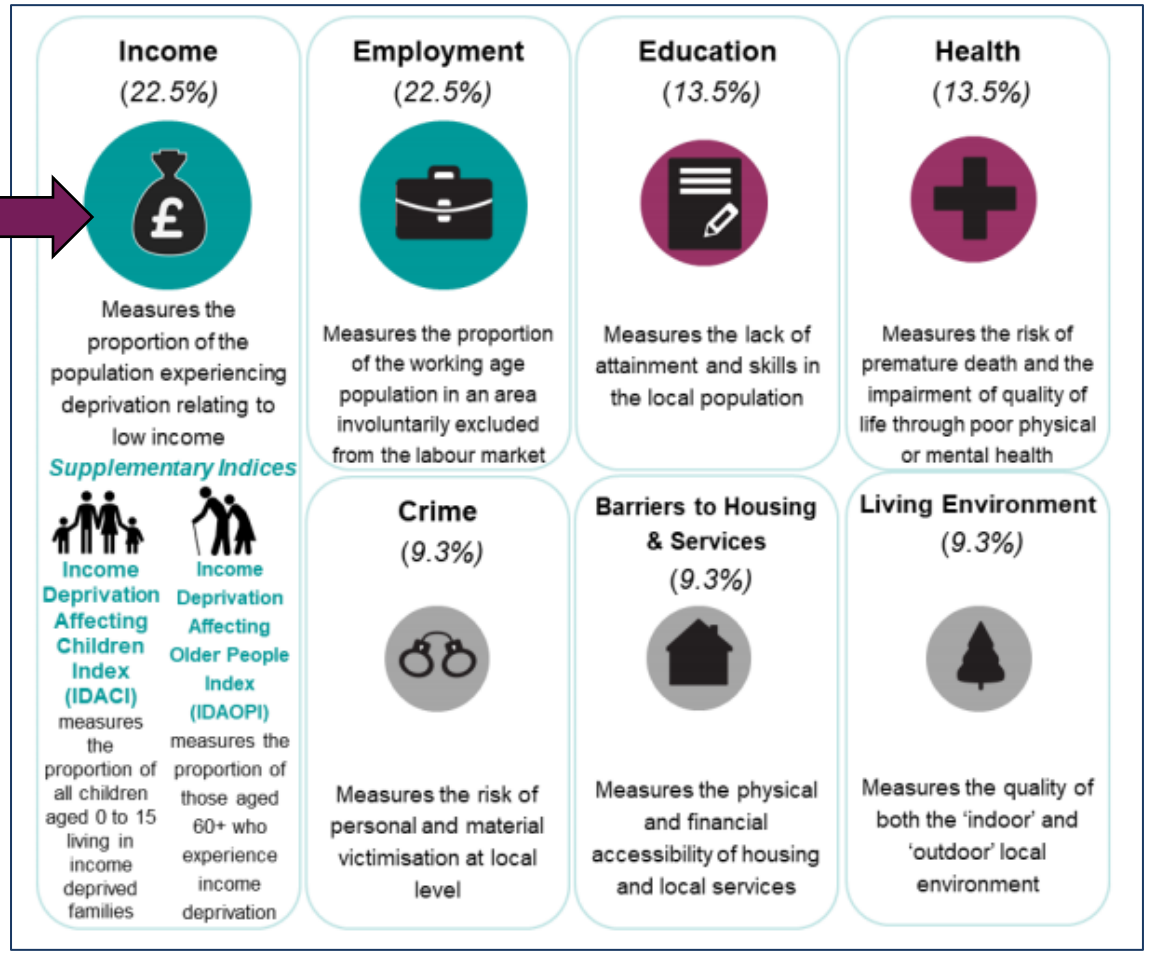
Each LSOA is scored (and ranked) based on **it's performance across the 7 domains of deprivation.**

The 7 domains of deprivation measure the variables pictured to the right. **Each of these are measured per area and given an overall value. These values are then weighted and combined to provide an overall deprivation score for the LSOA.**

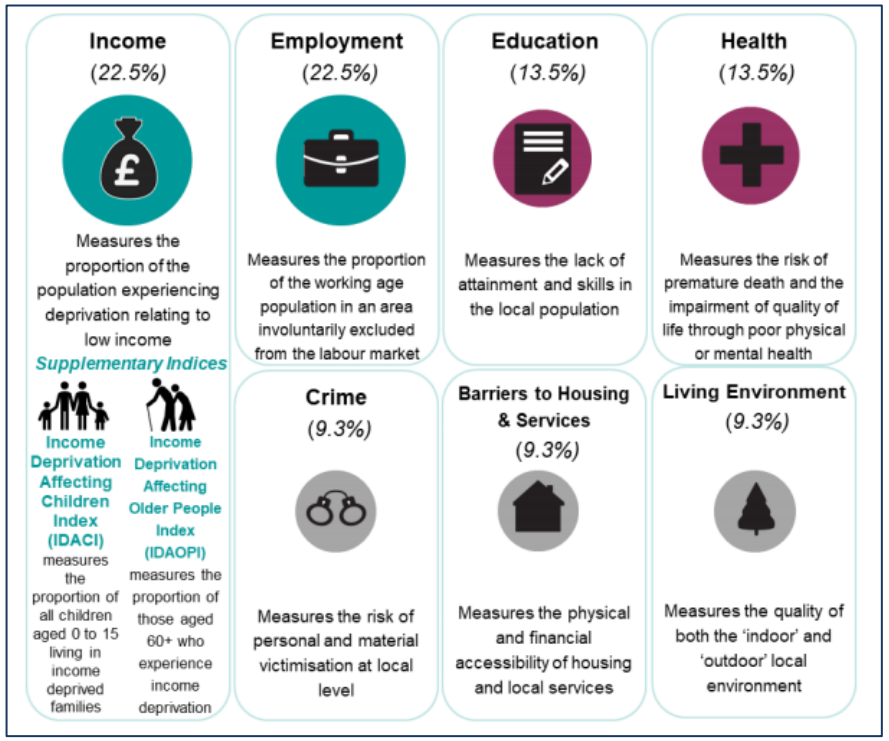
Each of 7 domains have been selected based on the academic literature around deprivation. These are meant to provide a holistic measure of deprivation in an LSOA. **Deprivation, like quality of life and happiness, is a difficult thing to measure.** It therefore requires the analyst to consider several different variables, rather than a single measure in isolation i.e crime.

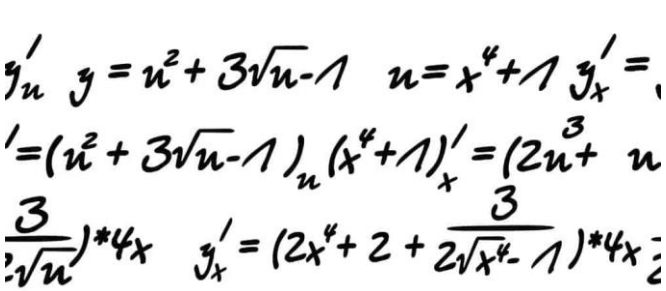
Once a score is generated for each LSOA, **each LSOA across England is ranked to create a scale** i.e most deprived to least deprived.

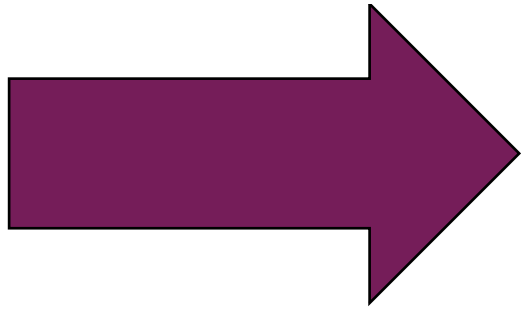
….and **this scale** is known as ***the Index of Multiple Deprivation!***



NOTE: the Indices of Deprivation and the Index of Multiple Deprivation (IMD) are not the same thing!







Deprivation Score

The Index of Multiple Deprivation

The Index of Multiple Deprivation (IMD) ranks every small area in England from 1 (most deprived area) to 32,844 (least deprived area). **The closer to 1, the worse the ranking.**

Why? (and who?)

- ✓ Enables individuals from different sectors and occupations to **better understand the social challenges** facing an area of interest (i.e postcode, town, city, ward, borough, region.)

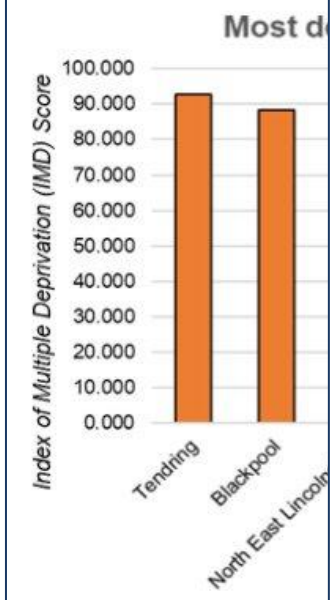
- ✓ Commonly described as ***the "billion pound dataset",*** the IoD/IMD are **used to inform decision making** on a national, regional, pan-city/town and local authority basis.

- ✓ The main users of the IoD/IMD are therefore *"intelligent generalists"* i.e no specific domain of expertise *per se,* but a "hunch" or interest they want to follow up on.

- ✓ I.e *Policy Makers, Data Scientists, Politicians/Parties, Journalists, Teachers, Local Councillors, Charities/ThinkTanks, Infrastructural organisations i.e CVSs, Activist Groups and individuals!*

- ✓ The IoD/IMD are open access to encourage **Citizen Science-** and the department behind the set have been working hard to create **accessible tools to engage a wider audience of users** i.e interactive maps.

IMD & Crim



Ministry of Housing, Communities & Local Government

Uses

us Kakapos

ost deprived (8)
most deprived (99)
% most deprived (688)
% most deprived (2,031)
east deprived (2,009)

How? *(i.e how should I use this data?)*

- The IoD/IMD is **not "wild" activity/data-** it has been **heavily processed** by the statisticians working on the dataset, so do not be surprised if things don't seem to match up with other "wild" resources or datasets you may have.

- When looking at a particular domain of deprivation score for an area, be attentive to the fact that **the overall deprivation score has been weighted** accordingly i.e **its not a 1/7th split!**

- **DEPRIVATION SCORES are a very different type of value from INDEX RANKS.** The Index is a unique measure relative to other entries within the dataset. It cannot be analysed in isolation.

The IoD/IMD is, like all data, at best a representation of something happening within the social world.

DEADLY SINS for IoD/IMD … *(aka **do not** try this at home!)*

- DO NOT be tempted to “add it up”. Adding values together within this set will not give you the answers you’re looking for. Each piece of data is linked to the other, so things are not as easy as they might seem!

- Despite the statisticians behind the data creating a 2015/2019 mapping tool, you cannot measure **absolute change** over time between the sets. i.e *“there has been a % increase in x from 2015 to 2019”* isn’t allowed! *(strictly speaking)*

- This is because all of the measures are determined by the data gathered during the collection period, meaning that each set has it’s own variables on which it is contingent i.e 2015 political targets and ways of measuring crime may have been drastically different in 2019, etc.

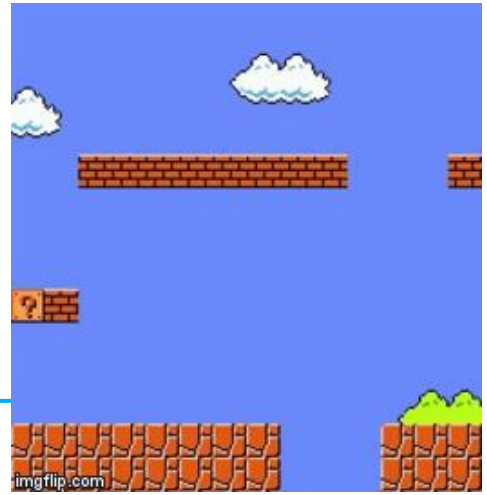
If in doubt, find a route out:

- ✓ FAQ Document https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853811/IoD2019_FAQ_v4.pdf

- ✓ DataWise London- contact us for help with your hunches ☺

- ✓ Google it! (I recommend using stack overflow https://stackoverflow.com/)

And finally… watch out for rabbit holes! It’s too easy to become overwhelmed with information and get lost in the details!



Getting Started

A brief introduction to accessing and analysing the IoD

Where to find the IoD/IMD

Location -> https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019 *(don't type IoD into google, you'll get the Institute of Directors!!!)*

It seems an obvious point, but:

- There are a lot of files available. **Downloading the right dataset for your type of query is key to getting the most appropriate answers.**

- The IoD webpage is rich with **resources and interactive tools** to help everyone participate in Citizen Science. Make sure you're not missing out on these freebies!

My favourite freebies:

- Mapping resources
- Statistical Release- Main Findings
- The English IoD 2019 Infographic
- Frequently Asked Questions *(don't worry about the jargon. This resource is really useful for IoD related troubleshooting.* ***Ctrl+f is my best friend.*** *)*
- Technical Report *(if you're hardcore….)*

Basic Wrangling – exploring the IoD in my area

A recipe for basic wrangling with Excel

1. Download File 10
2. Open Excel
3. Create Tables for each Domain (Ctrl +T function)
4. Create a new sheet (name it after the area you're interested in i.e "Newham")
5. Filter each domain for the area of your interest and copy/paste each average score
6. Press Ctrl + T again to create a table (this will help you order values in your graph)
7. Highlight both columns of table, go to insert and select bar graph
8. Filter your average score data from smallest/largest, or vice versa
9. Use the format ribbon to add titles, legends, labels and adjust the design and colour of your table

Average Scores at a glance…

Table 3.2. The higher-area summa

Summary measure	Descriptio
Average score	The 'avera deprivatio Lower-lay As all Low to create t covering b populatio Output Ar methodol measure i simplified

LSOA

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Guidelines for interpreting average scores and rank of average score

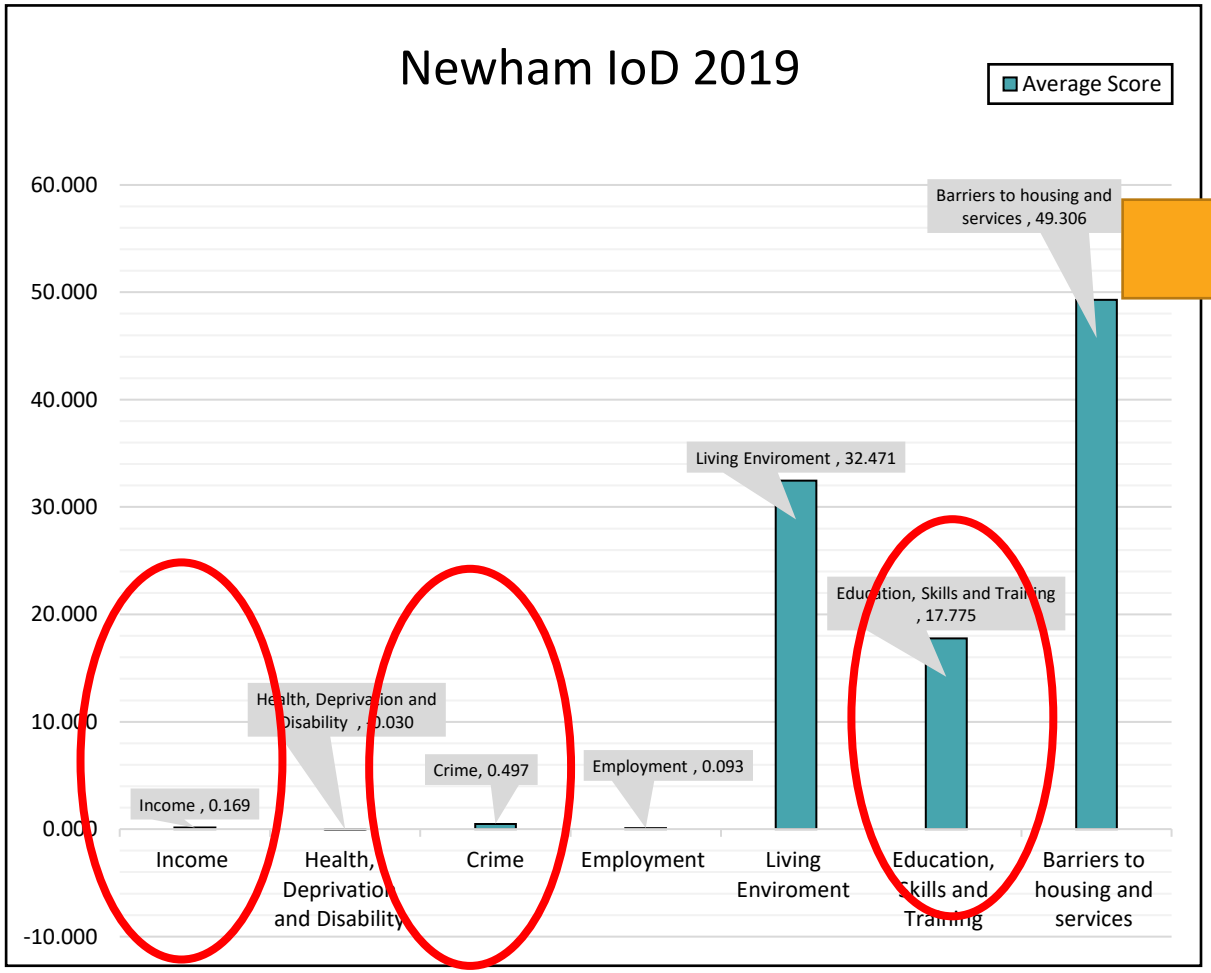
AVERAGE SCORE

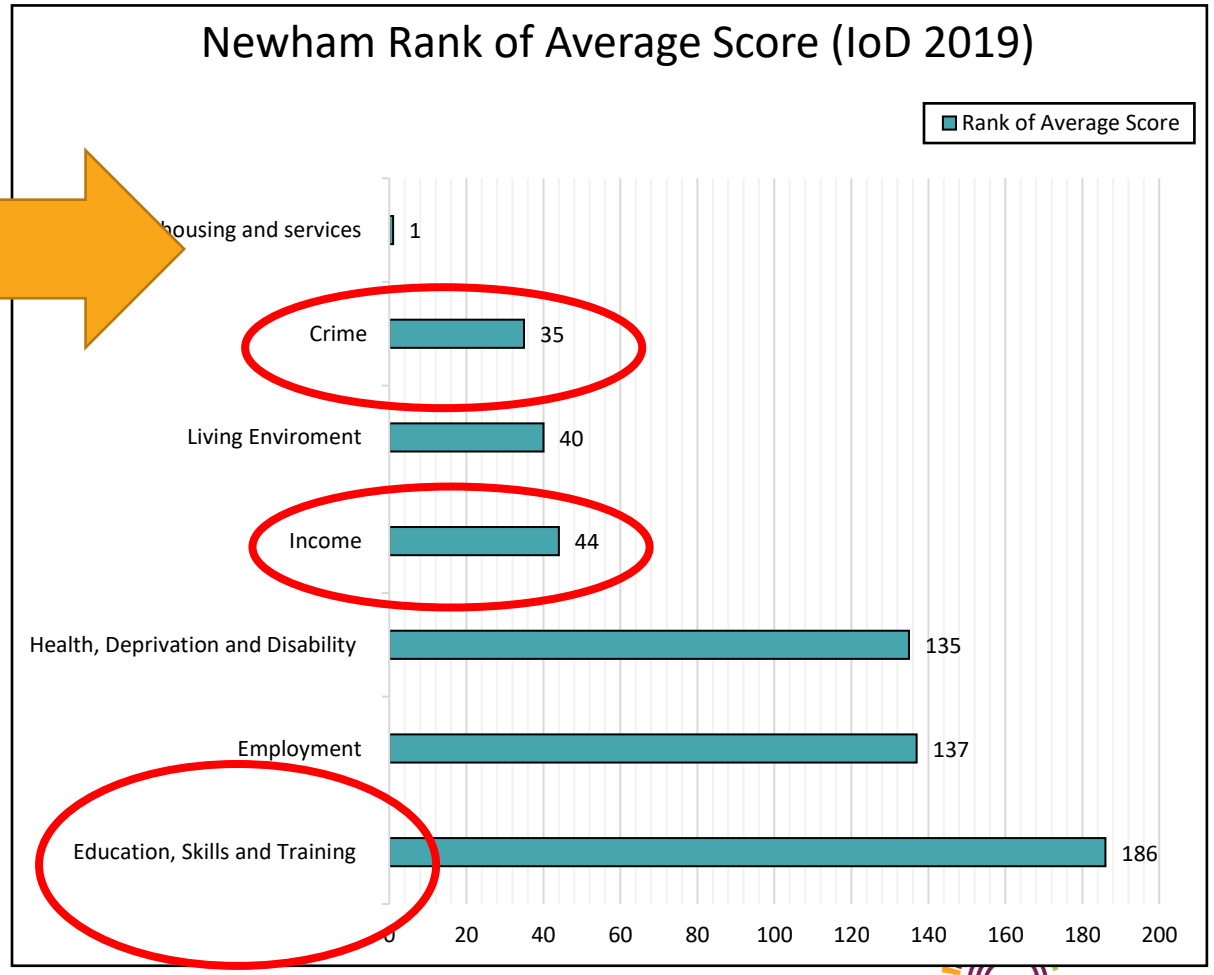
- Average scores are calculated based on an areas performance across the seven domains of deprivation.
- The more highly an area scores for a domain i.e income, the more badly that area has performed.

RANK OF AVERAGE SCORE

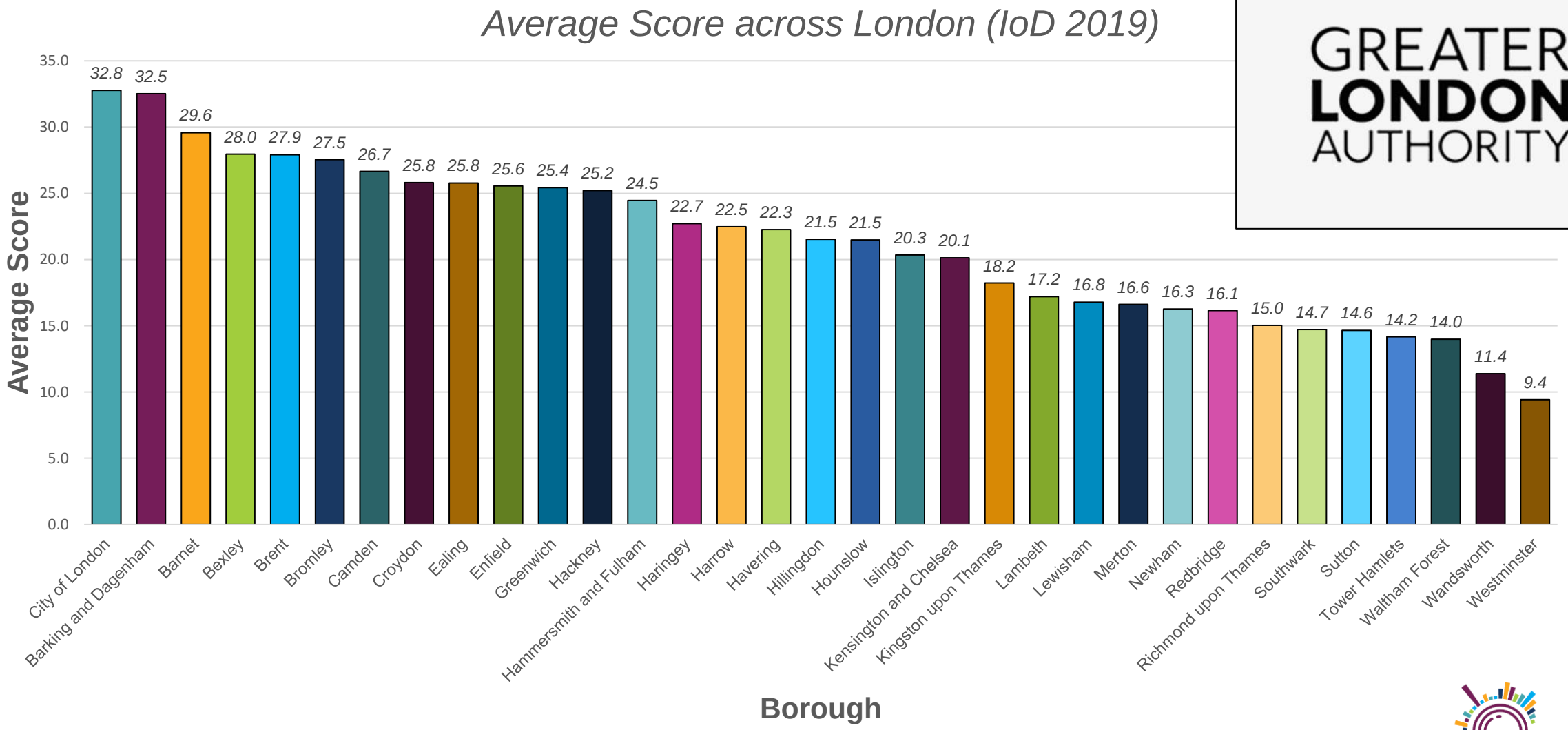
- The RANK of average score is a comparative measure, based on how the overall average score for an area has compared against other areas (i.e 1 the worst to 32,244 being the best).
- The lower an area scores on the ranking system (i.e 1), the more badly that area has performed.
- NOTE: The range of the ranking system (i.e 1-32,244) differs depending on which type of geographical layer is measured i.e there are less Local Authorities nationally than Lower Super Output Areas.

If the average score data is confusing, compare these figures against the rank of average score for each domain

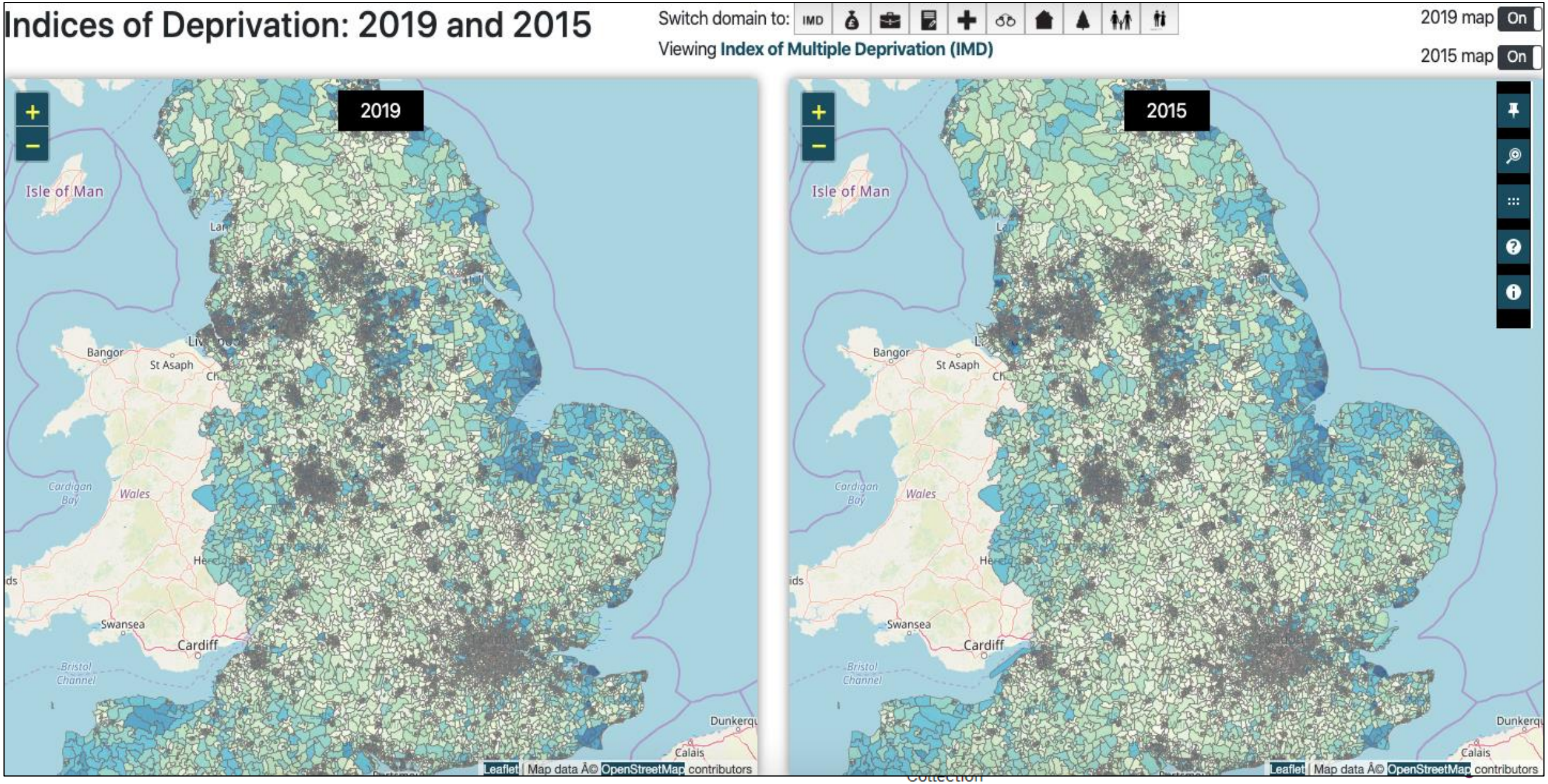




Basic Wrangling – exploring deprivation in London



Comparison over time

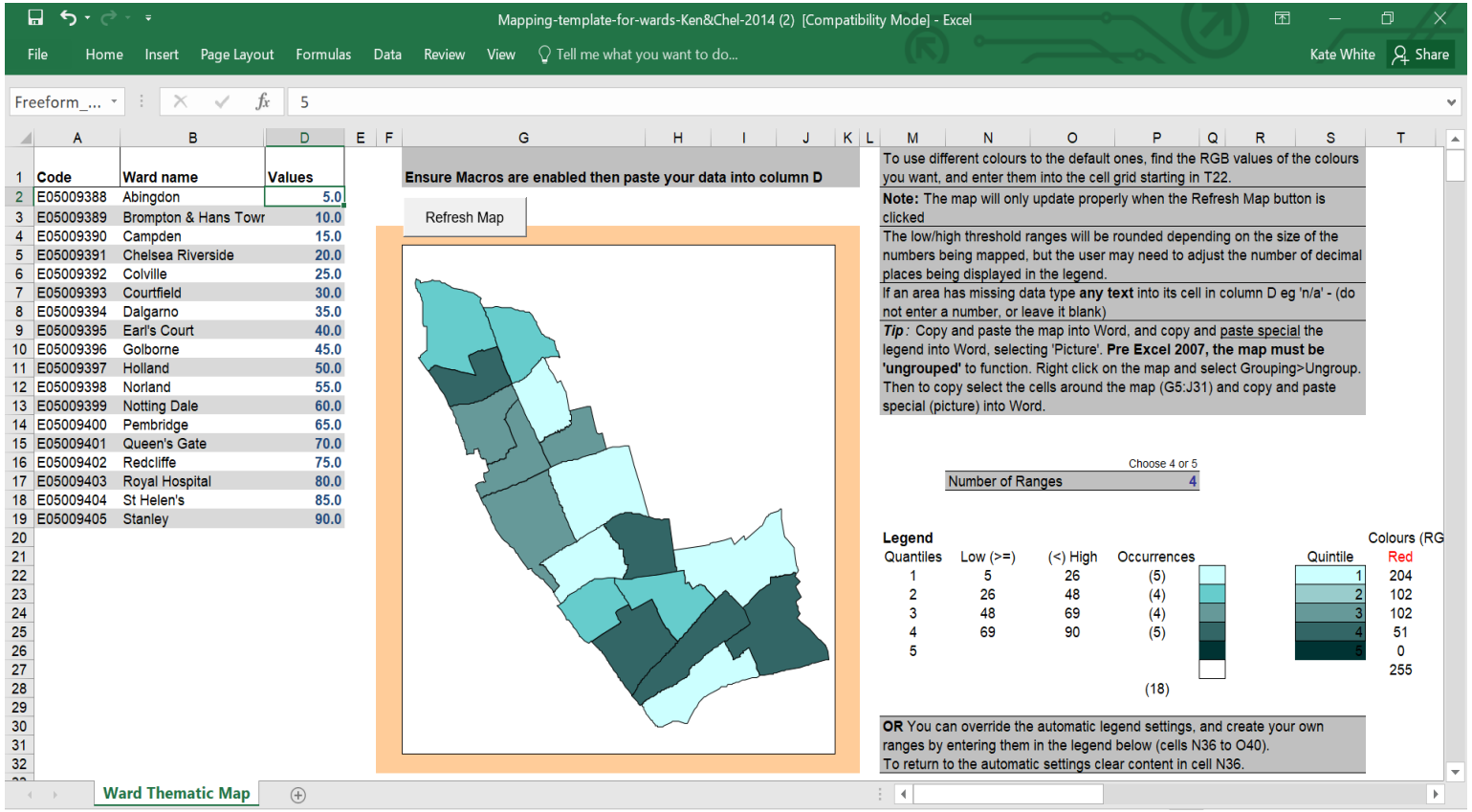


Ideas for a “deep dive”

Thinking holistically with the IoD and IMD

Working at ward or borough level

- The London Data Store provides Excel templates for each London Borough as well as for the whole of Greater London
- These are useful for simple data which are already organised by ward or borough
- https://data.london.gov.uk/dataset/excel-mapping-template-for-london-boroughs-and-wards



What are the steps to adding client data?

- ✓ Export from client database to Excel
- ✓ Incomplete data – not all addresses had generated a Ward
- ✓ Used look up sites to add Wards from post codes
  - ✓ MySociety Mapit
  - ✓ Doogal
- ✓ Use pivot tables to count numbers of clients in each Ward
- ✓ Add this data to a 2nd mapping template and override the colour code ranges
- ✓ Compare and contrast the maps

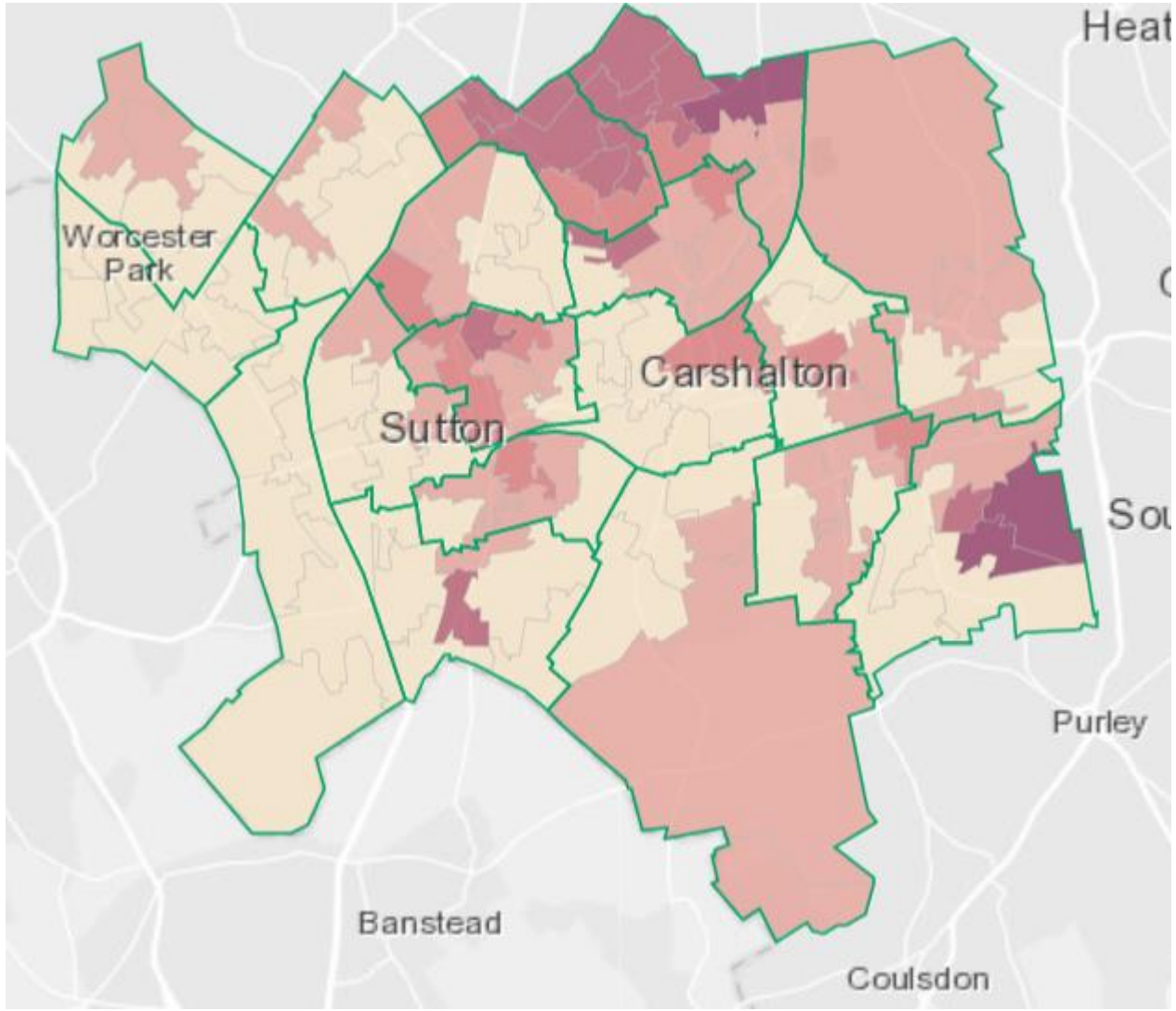
Legend

Ward

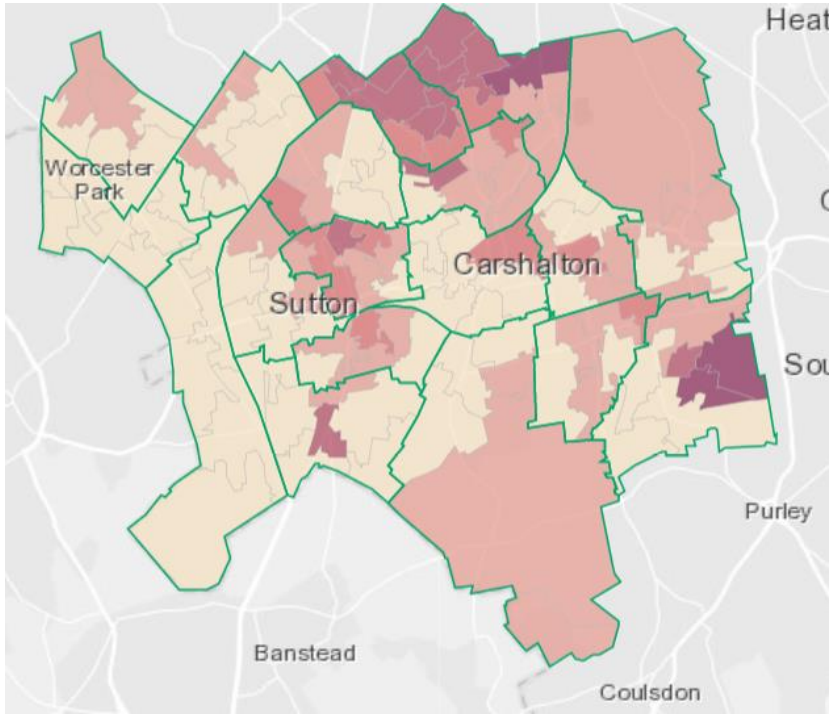
LSOA

Index of Multiple Deprivation (IMD) Score|2019

- > 36 – 44
- > 27.6 – 36
- > 19.3 – 27.6
- > 11 – 19.3
- 2.7 – 11
- Other

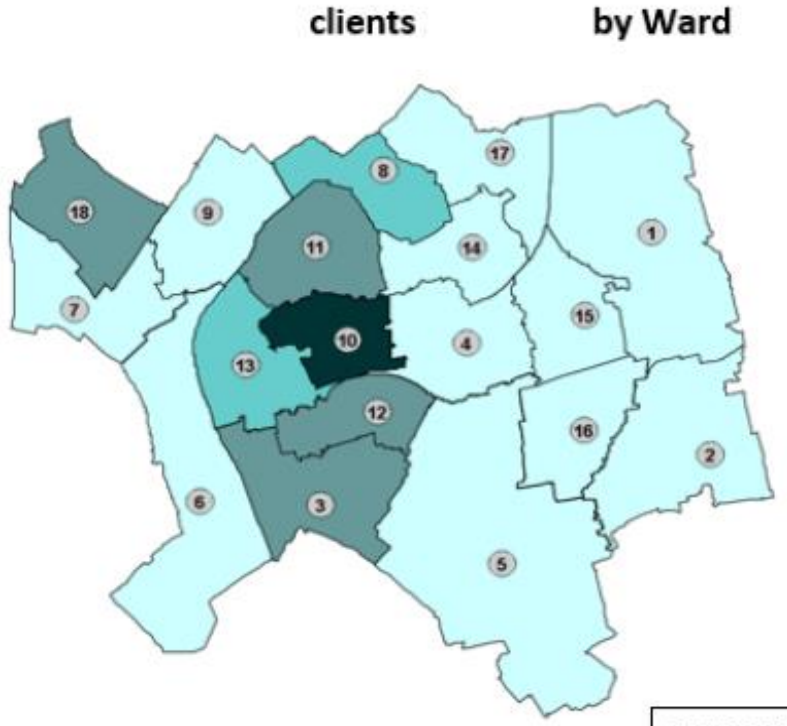


https://data.sutton.gov.uk/deprivation/map/



Indices of multiple deprivation

What can you see?



Darker shades represent higher numbers of clients

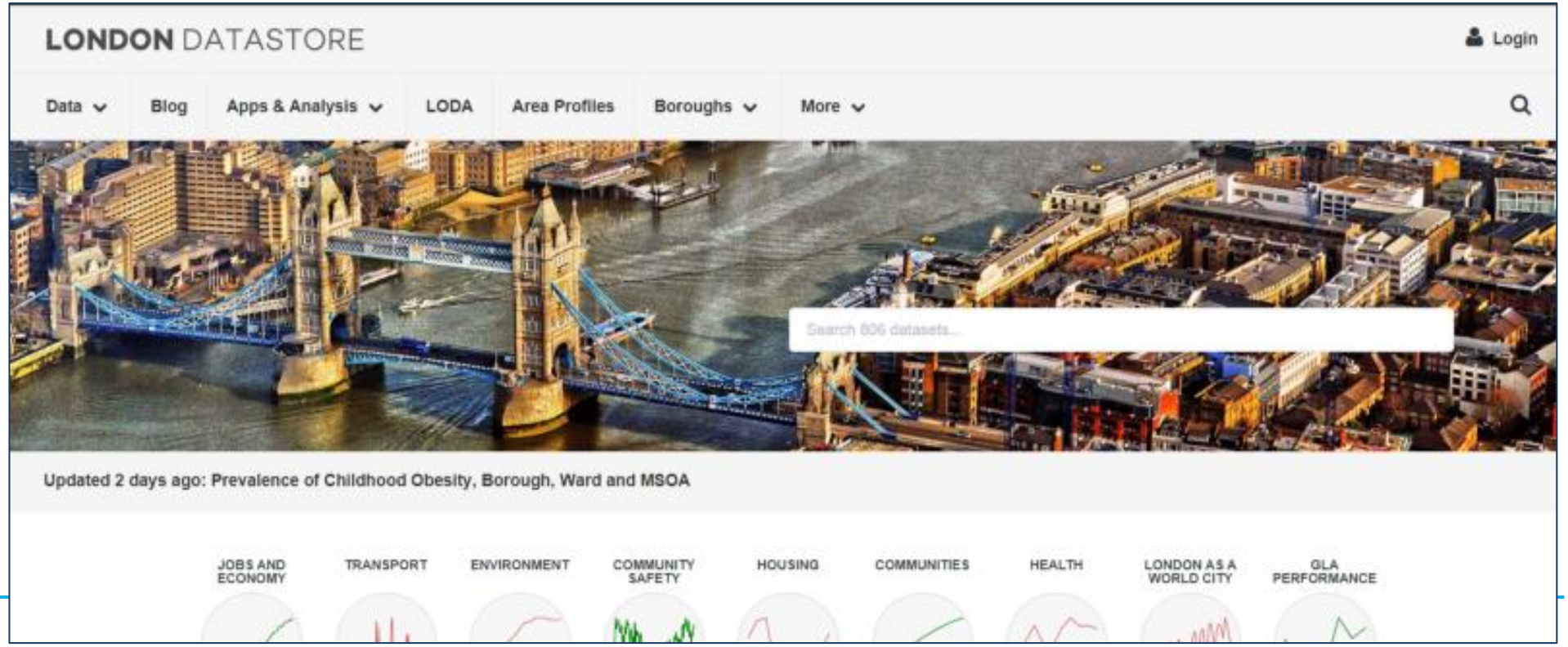
Low (>=)	(<) High	Occurrences
1	5	(11)
6	10	(4)
11	15	(2)
16	20	(1)
21	25	

WARD KEY

1 Beddington North
2 Beddington South
3 Belmont
4 Carshalton Central
5 Carshalton South and Clockhouse
6 Cheam
7 Nonsuch
8 St. Helier
9 Stonecot
10 Sutton Central
11 Sutton North
12 Sutton South
13 Sutton West
14 The Wrythe
15 Wallington North
16 Wallington South
17 Wandle Valley
18 Worcester Park

London Datastore (GLA)

- ✓Bespoke datasets customised to showcase data about Londoners
- ✓Updated regularly with up to date figures (and archives of previous projects)
- ✓Completely free to use
- ✓Straightforward to access and user friendly
- ✓Use it or lose it!!! ☹



A few data dive worthy datasets that can be found on the datastore…

Browse by topic or search a key phrase to find:

Personal Wellbeing by Borough

London Borough Profiles and Atlas *(for a detailed breakdown of key indicators across each borough i.e environment, housing etc)*

Food Security in London

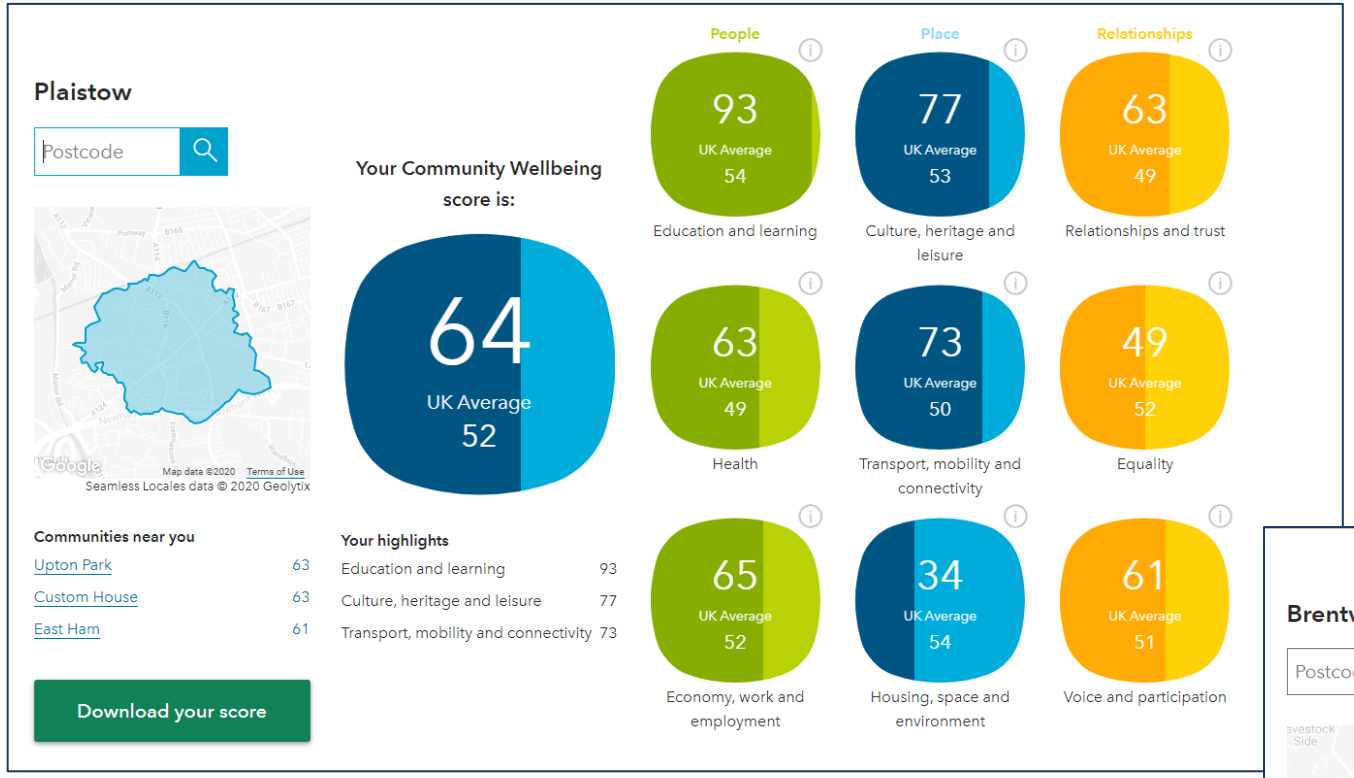
Cultural Infrastructure Map

Socio-Economic impact of COVID19

Co-Op Wellbeing Index

- ✓Location -> https://communitywellbeing.coop.co.uk/
- ✓An alternative dataset to the IoD/IMD that measures the more qualitative, and therefore often overlooked, aspects of community wellbeing.
- ✓For more details, see this Short Report.

Revisiting Newham and Brentwood

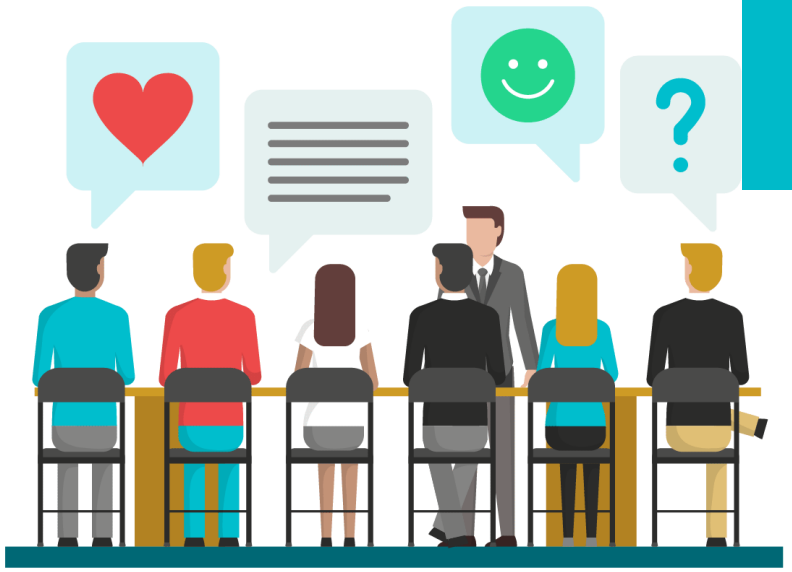


Deprivation is not always a hallmark of "absent" community life.

Contrary to popular opinion, more deprived communities tend to be **more neighbourly** than their wealthier counterparts (McKenzie 2017… and countless others!)

Always remember that there's more to the statistics than meets the eye.

And finally… consider using qualitative data!



Final Thoughts

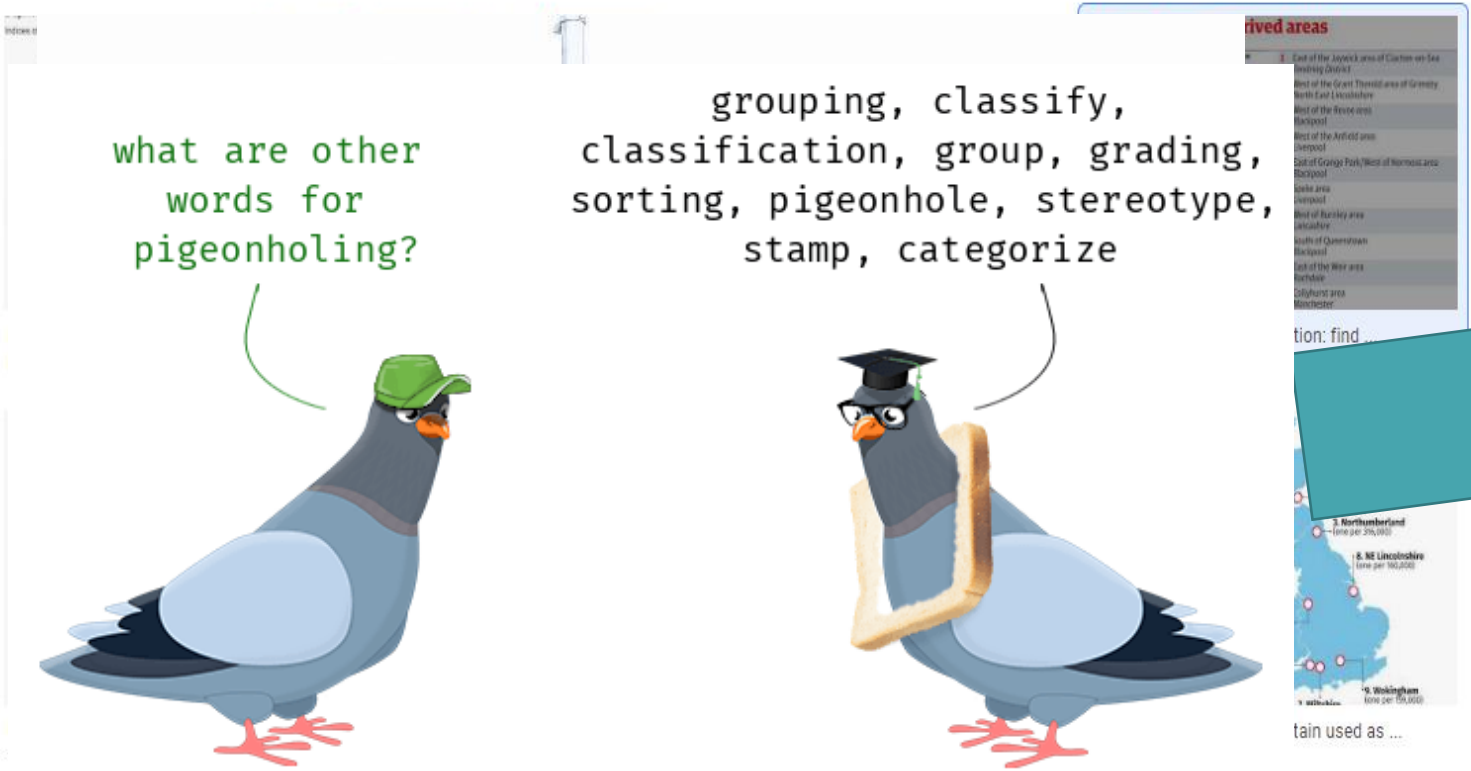
The importance of challenging the presumptions of the IoD/IMD

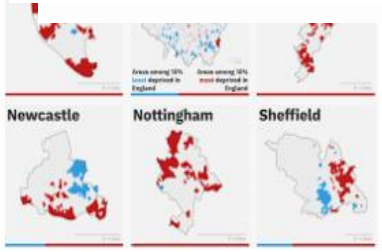
Google

poorest areas in the uk map

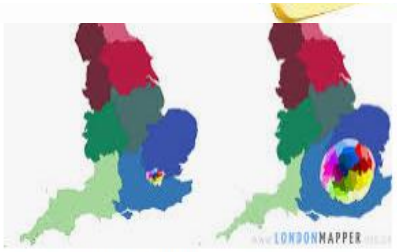
All | Maps | Images | News | Shopping | More | Settings | Tools | Collections | SafeSearch

income | crime | london | average | wealth | fast food | fuel poverty | household income | inequality | northern europe | violent crime | eu funding | multiple deprivation | gdp per | sheffield | obesity

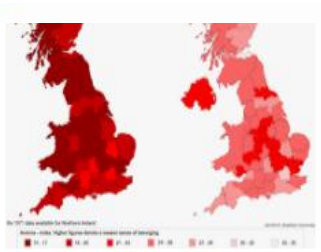




council areas

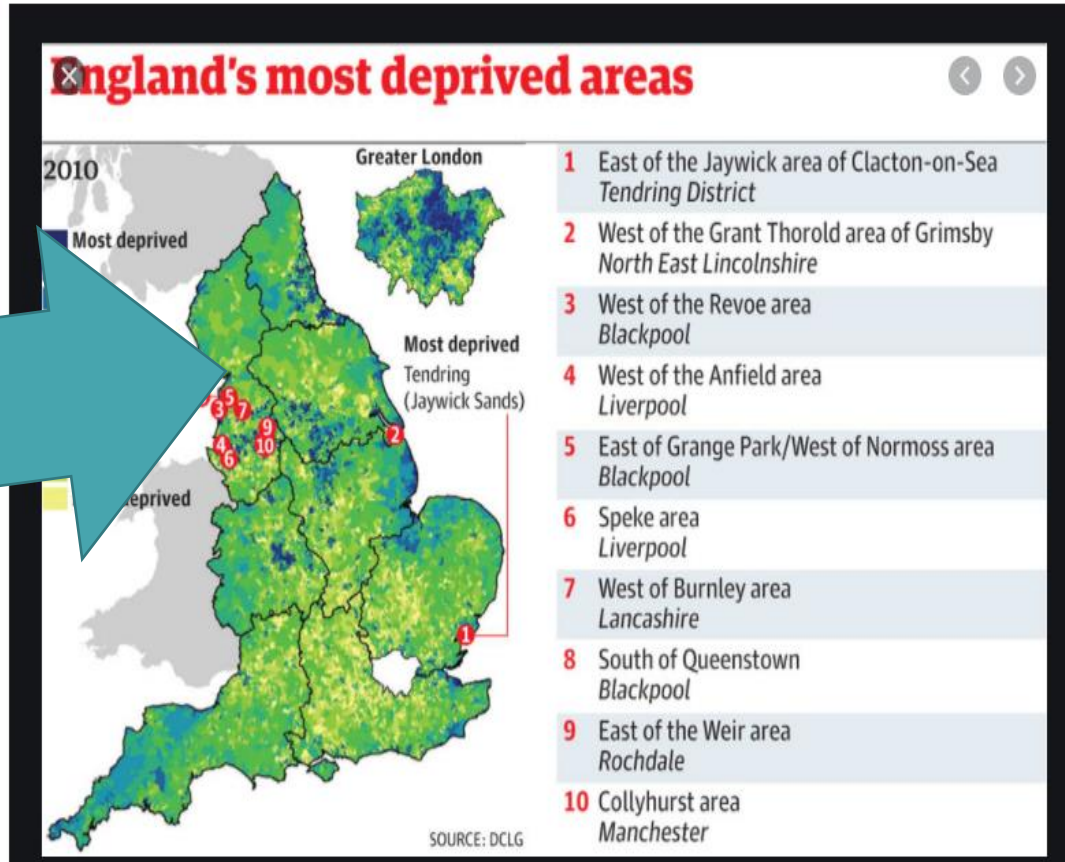


Poverty and Wealth 1980-2010 | Londonmapper



BBC NEWS | UK | Mapping loneliness

10 POOREST AREAS in Northern Eur



The Guardian

Indices of multiple deprivation: find the poorest places in England | News | thegua...

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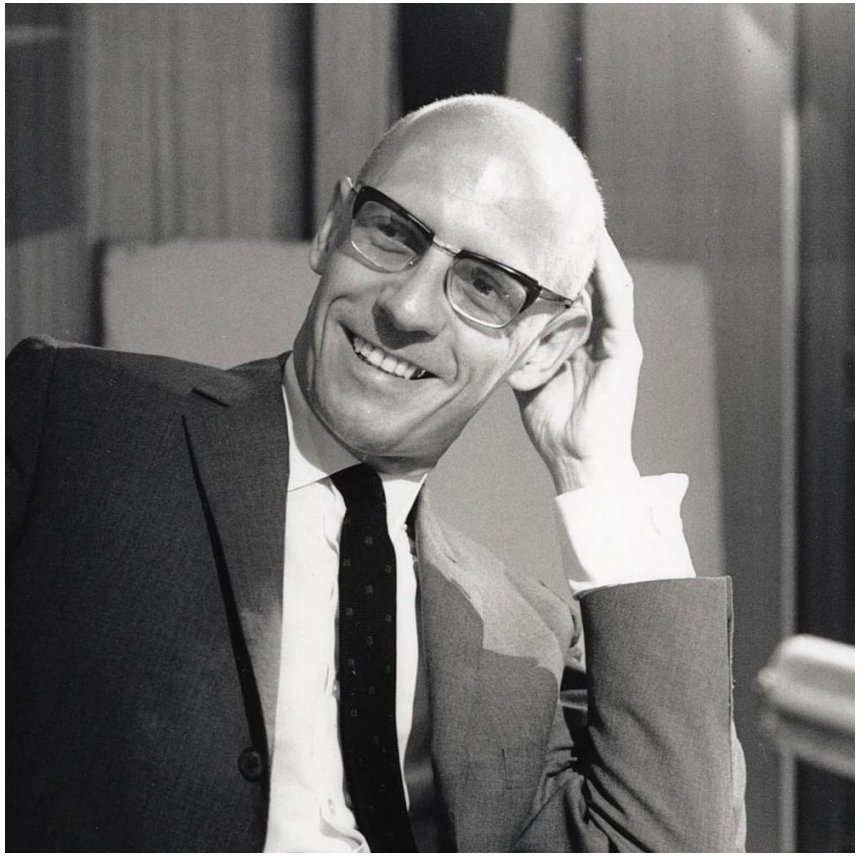
Knowledge is power… *aka the importance of citizen science*



"It is the reappearance of what people notice at a local level, of these disqualified knowledges, that make critique possible" – Michel Foucault (1976)