Data Essentials

DISCOVER. LEARN. ANALYSE. SHAPE. REPEAT

BE MORE DATAWISE

#DatawiseLondon

Our mission at Datawise London is to help you unlock the value of data.

We aim to improve use of data by small local charities and community organisations, leading to better shaping of services to meet the needs of Londoners.

http://bit.ly/datawiselondon

New partnership programme

COALITION FOR EFFICIENCY

Makerble

hear
humanity. equality. rights.

london plus

DataKind UK

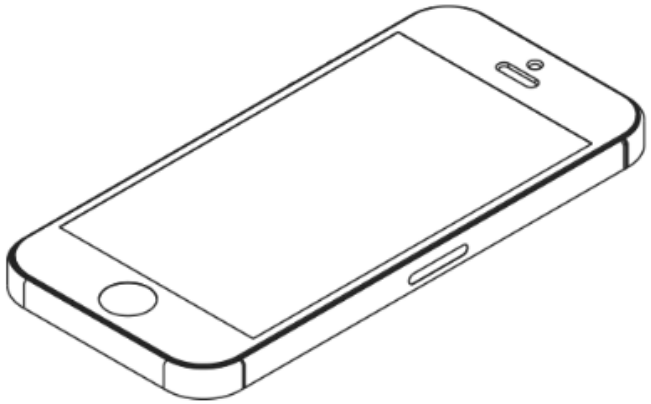
superhighways
harnessing technology for community benefit

Helping small charities in London better use digital for 20 years

- ✓ Support
- ✓ Training
- ✓ Consultancy
- ✓ Digital inclusion
- ✓ Impact Aloud
- ✓ Datawise London

- ✓ E-news sign up https://superhighways.org.uk/e-news/

Go to **www.menti.com** and use the code **48 62 09**



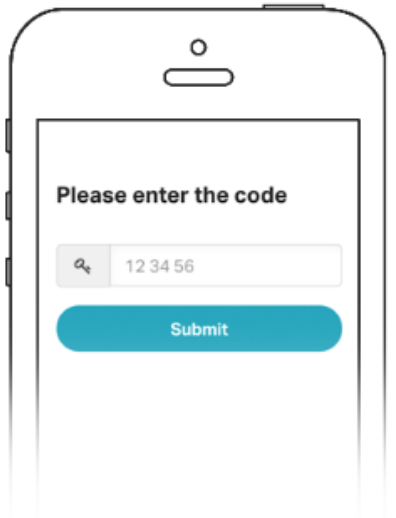
1

Grab your phone

www.menti.com

2

Go to www.menti.com



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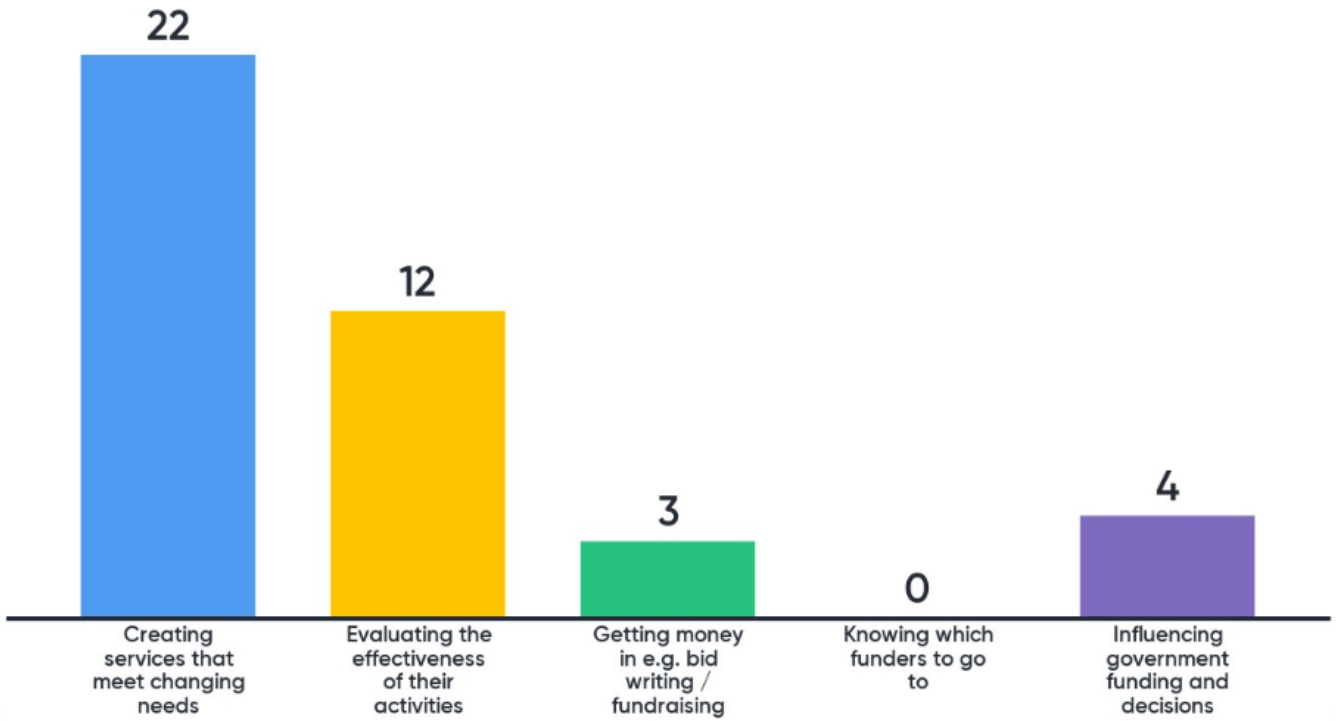
Enter the code **48 62 09** and vote!

Where could charities & groups most use data wisely?

Mentimeter



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Data Essentials – what we'll cover today…

- ✓ Data collection
- ✓ Data analysis
- ✓ Data best practice
- ✓ Using external data
- ✓ Data maturity frameworks
- ✓ Next steps with your Data hunch / challenge

Data collection

What data do you collect?

Data Essentials example:

Organisation
Name
Role
Geography (post code or borough)
Knowledge level
How did you find out?

On booking – via Eventbrite

What is data?
Data challenges
Data use benchmark
Data maturity

In session – via Mentimeter / post its

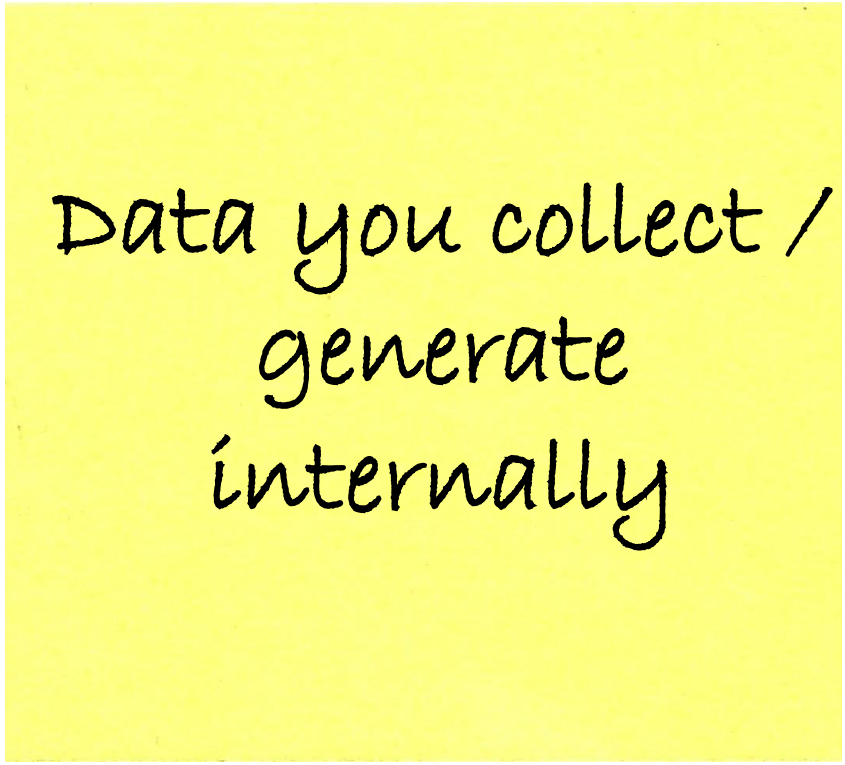
Feedback
- Satisfaction / quality
- Usefulness
- Next steps
- Support needs
- Quotes
- Case studies

Post session – via Survey Monkey / phone call

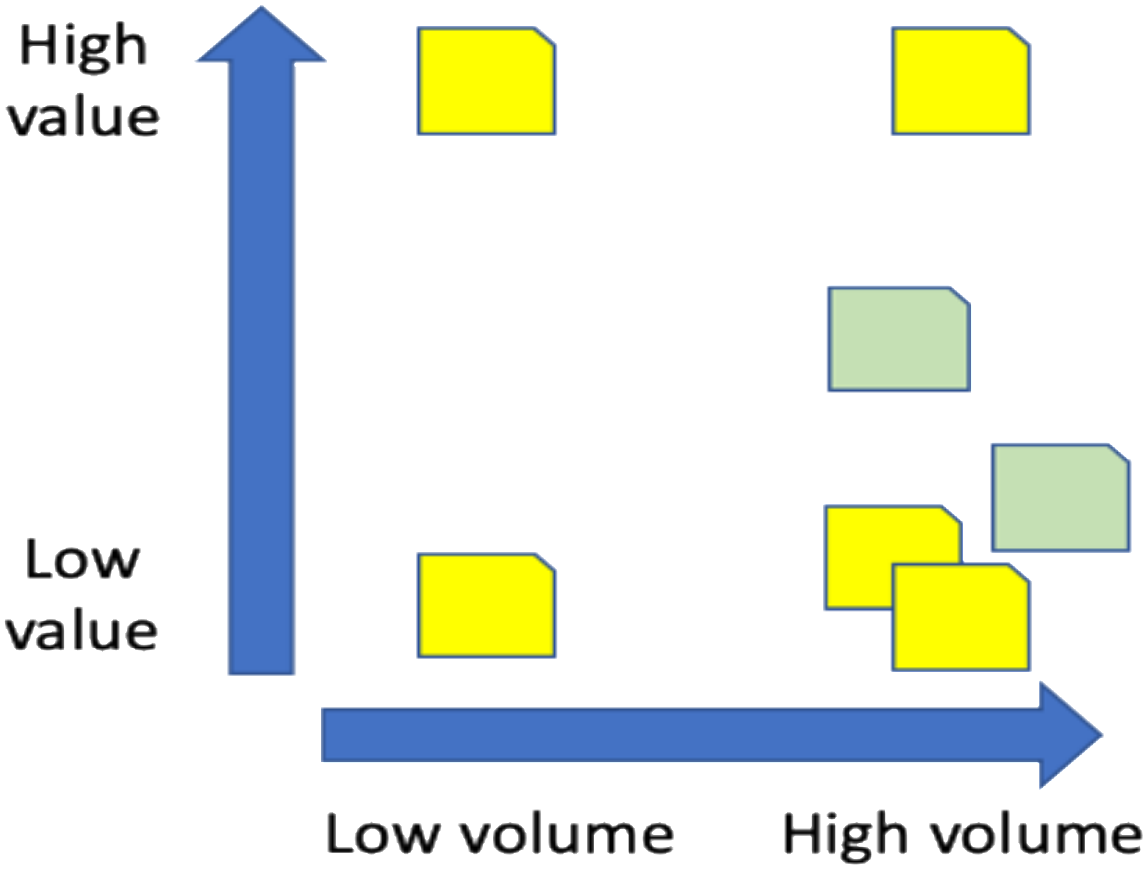
Types of data

User data	Engagement data
Asks: demographics, characteristics, reason for coming service	**Asks:** how people engage, frequency, why they stop
Establishes: your target audience, who you are serving	**Establishes:** the extent to which people use your services and how
Service data	**Outcome data**
Asks: what they liked / didn't like, why, what they would change, what is special	**Asks:** what has changed as a result of using the service, what have people gained
Establishes: whether users are satisfied and your service is working as intended	**Establishes:** short-term and long term impact on people's lives

What data does your organisation collect?



How do you use it - let's get sorting…



- Improving service delivery
- Influencing funders
- Communicating with the public

Using your data

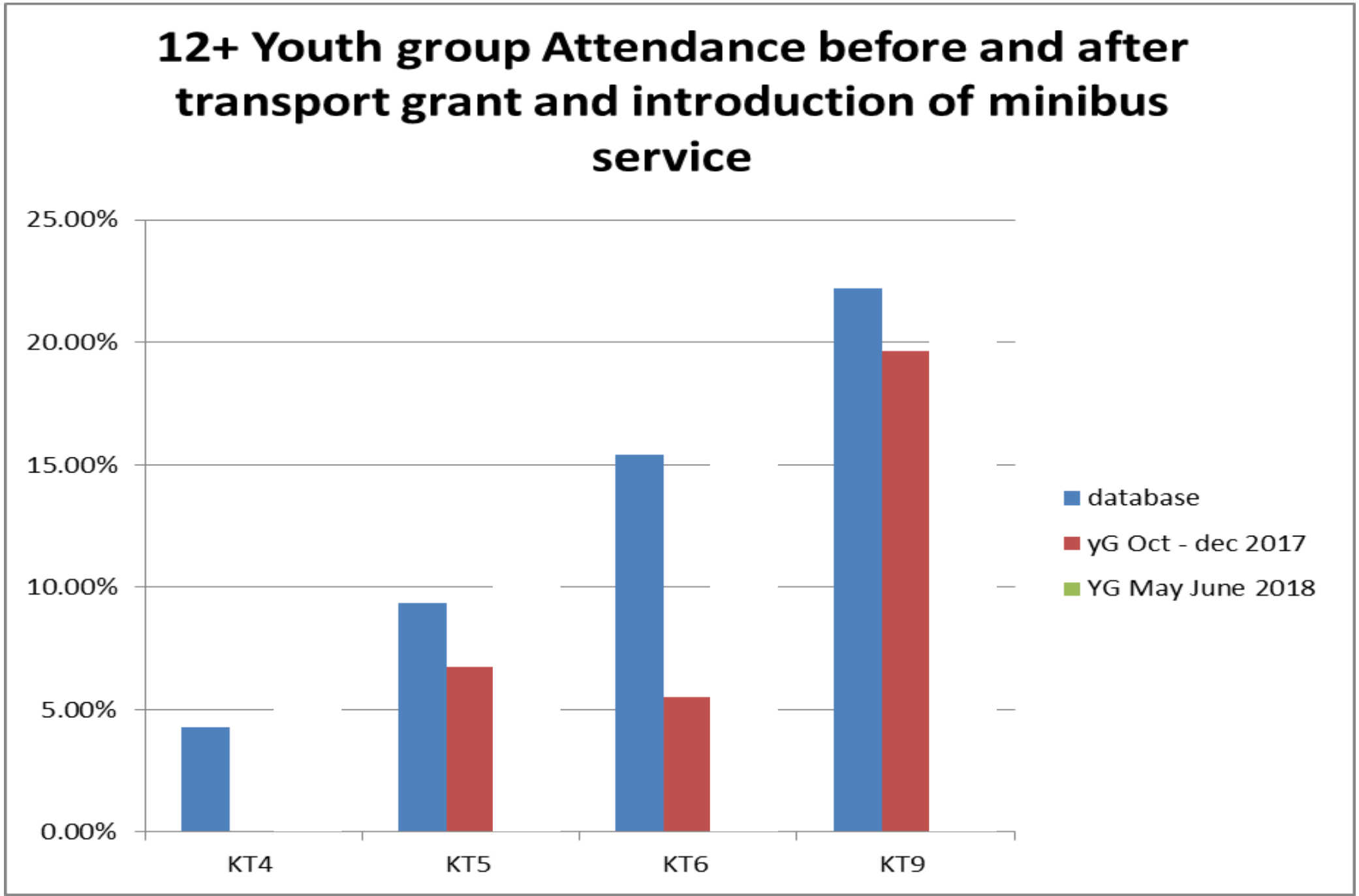
What would Alice do??

- ✓ Split your table into two groups
- ✓ Complete the worksheet
- ✓ Feedback
- ✓ See what actually happened!

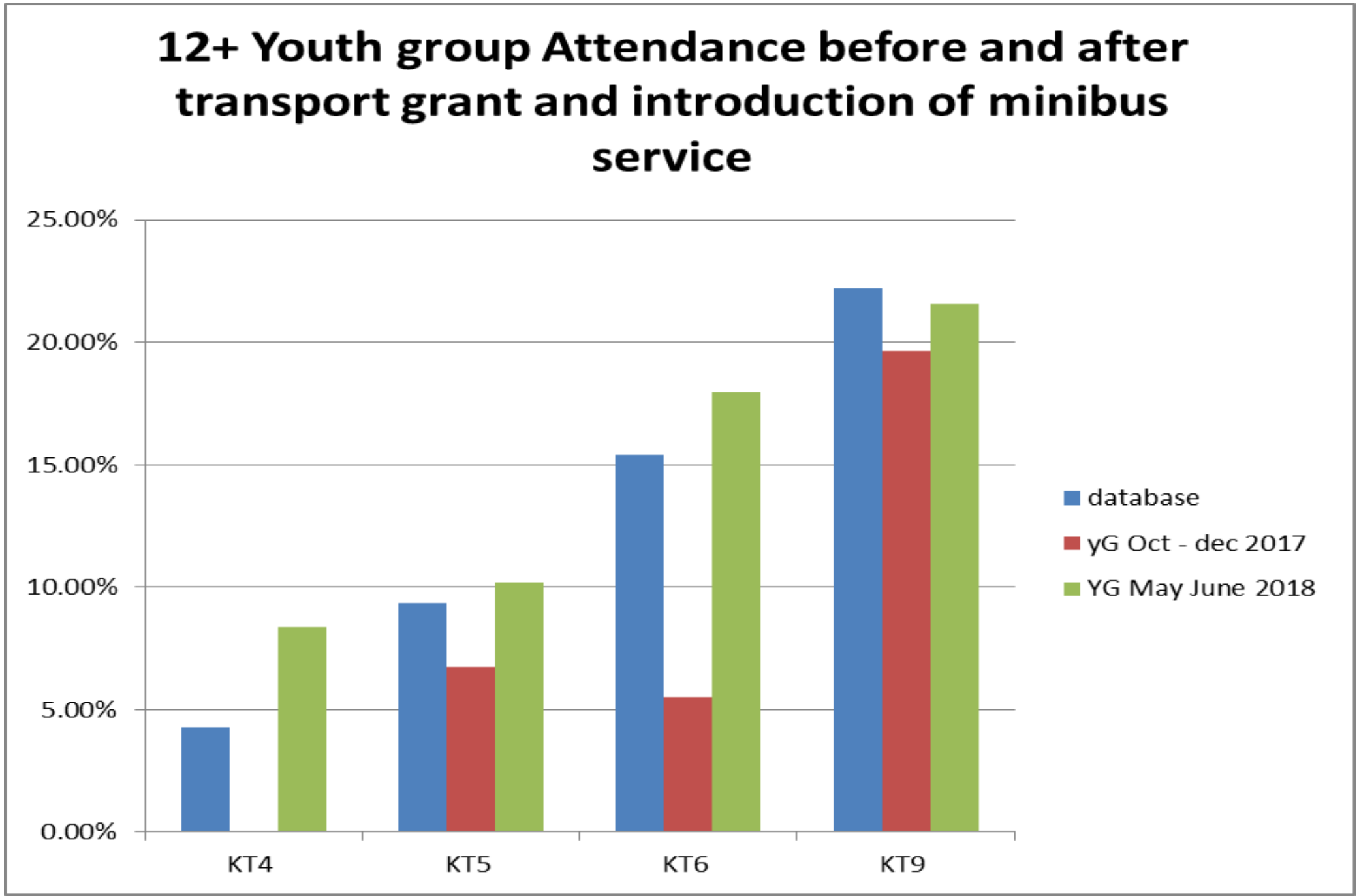
Recap on steps

- ✓Exported current data on numbers of young carers on their database
- ✓Used Excel to analyse spread across top level post codes (used Split columns and Pivot tables to Count nos & Charts to visualise)
- ✓Compared against attendance at the Youth club
- ✓Used to evidence the gap and source funding for the mini bus (using a local Community transport scheme)
- ✓Compared 6 months later to see the change

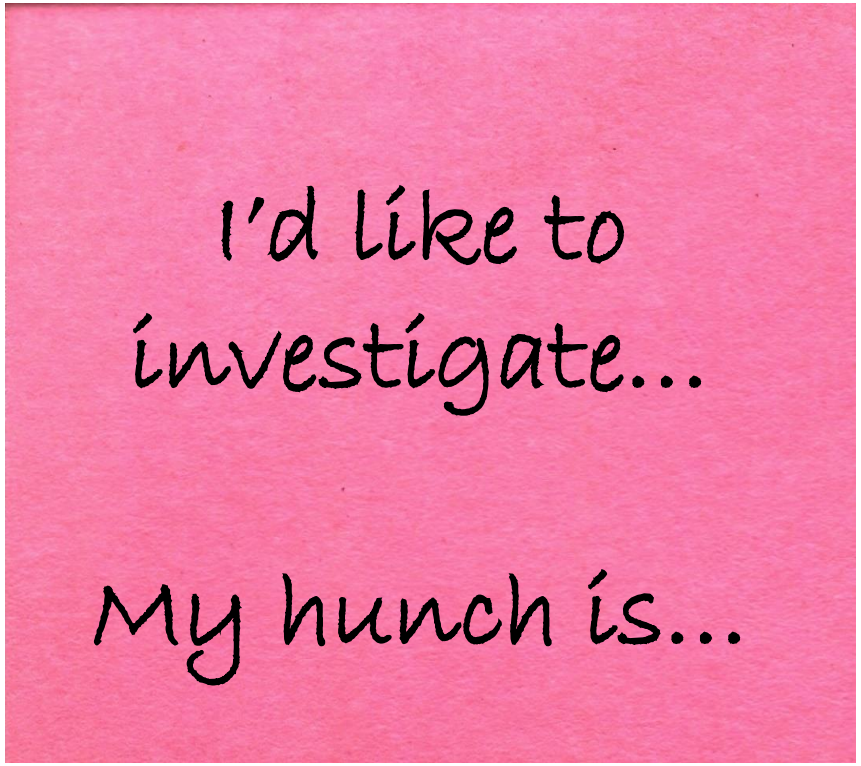
12+ Youth group Attendance before and after transport grant and introduction of minibus service



12+ Youth group Attendance before and after transport grant and introduction of minibus service



What is your data hunch? Big pink post its please!



Break

Data Best Practice

LETS WORK THROUGH AN EXAMPLE…

Music Mentors

- ✓ Music Mentors work with young offenders in prisons. Young people sign up to take part in group sessions where they work together with other offenders and mentors to write, play and record music.
- ✓ The ethos of the sessions is that it is a non-judgemental space where people with varying degrees of musical skill are free to explore ideas. Through music they build relationships with mentors, explore their feelings and experiences, learn that it's ok to make mistakes and grow confidence in their ability to achieve.
- ✓ Extended participation in the sessions sees people making progress on goals, working well with one another, receiving positive reinforcement from mentors and starting to believe in their abilities.
- ✓ The longer term impact on people is an improved sense of self-worth, more determination to succeed as a result of achieving small successes, increased hope for the future and development of an identity away from that of an offender.

Logic model / theory of change

Activities	Short term outcomes	Medium term outcomes	Long term outcomes	Impact
Attending music sessions Building a relationship with a mentor Setting goals Composing music/ songs Recording/performing/ achieving certificates	Opportunity to form new friendships Comfortable making mistakes Belonging to a group with shared experience Opportunity to self-reflect, understand & express self Opportunity to learn from a role model	Improved ability to work with others Greater feeling of affirmation & value Greater belief in ability to achieve Improved self-discipline Improved musical skills	Increased feeling self-worth Increased sense of hope Greater determination to succeed Development of positive identity away from that of an offender	People lead a positive and meaningful life Reduced re-offending

What would you want to know?

User data	Engagement data
What:	**What:**
How:	**How:**

Service data	Outcome data
What:	**What:**
How:	**How:**

What would you want to know?

User data

Length of sentence

Prison behaviour record

Ethnicity

Age

Engagement data

How many sessions were run?

How many attended each session?

How many were new / repeat attendees?

How many musicians attended each session?

Service data

What instruments were available?

What was good about the session?

What could be improved?

How easily could people access the session?

Outcome data

Did people start working better together?

Did it give space to explore issues/ideas?

How did behaviour change over the sessions?

Did people build a relationship with a mentor?

Has attitude changed towards self/future?

Music Mentors' Data

Jan 2018 – Dec 2018	
Total sessions	12
Total participants	60
Total repeat participants	40
No. musicians at each of the 12 sessions	1, 2, 2, 2, 1, 1, 1, 2, 1, 2, 1, 2
No. participants with experience of playing instruments	Drum=40, Guitar=40, Piano=20, Bass=0
Baseline: "I am optimistic about my future" (No. people who agree)	10
End: "I am optimistic about my future" (No. people who agree)	30

Over to you…

		A	B	C
1	On average, how many participants attended each session?	3.3	5	8
2	What percentage of participants were repeat participants?	33%	67%	150%
3	What was the average ratio of musicians to participants at each session?	2:5	1.5 : 5	1 or 2 to 5
4	What percentage of participants had experience of playing piano?	20%	33%	50%
5	What proportion of people felt optimistic at the start?	16.6%	One in four	A quarter
6	What proportion of people felt optimistic at the end?	Half	Three quarters	3/4

Using the data, write one sentence that describes the change in optimism…

Of the 40 repeat participants, only one in four (10 people) felt optimistic about the future at the start. By the end of the programme, three in four (30 people) felt optimistic.

The number of participants feeling optimistic about their future tripled.

The proportion of people feeling optimistic increased from 25% to 75%

The proportion of people feeling optimistic increased by 50 percentage points.

There was a 200 percent increase in people feeling optimistic.

Answers

On average, how many participants attended each session?	5
What percentage of participants were repeat participants?	Two thirds (67%)
What was the average ratio of musicians to participants at each session?	1 or 2 to 5
What proportion of participants had experience of playing piano?	A third (33%)
What percentage of people felt optimistic at the start?	A quarter (25%)
What percentage of people felt optimistic at the end?	Three quarters (75%)
Using the data, write a sentence that describes the change in optimism:	

- Of the 40 repeat participants, only one in four (10 people) felt optimistic about the future at the start. By the end of the programme, three in four (30 people) felt optimistic.
- The number of participants feeling optimistic about their future tripled.
- The proportion of people feeling optimistic increased from 25% to 75%
- The proportion of people feeling optimistic increased by 50 percentage points.
- There was a 200 percent increase in people feeling optimistic.

On average, how many participants attended each session?

- 3.3 = INCORRECT: 40/12 (Repeat participants divided by number sessions)
- ✓5 = CORRECT: 60/12 (Total participants divided by number sessions)
- 8 (or 8.3) = INCORRECT: (60+40)/12 (Total participants + repeat participants) divided by number sessions

POINT: Can't use median or mode here because don't have dataset for each of the months. But if we did: mode might be useful to find most likely group size (e.g. 4, 4, 4, 5, 4, 4, all year round then 10 in December because of Christmas concert) and median might be useful if you don't want large or small group sizes to sway the average which can happen with uncertainly of prison (e.g. lockdown = 0 vs Christmas concert = 10). Median = same number of datapoints above and below the middle. What would be your most meaningful average? .

What percentage of participants were repeat participants?

- 33% (or 33.3%) = INCORRECT: (20/60)*100 (non-repeat participants out of total) multiply by 100 to get percentage
- ✓67% (or 66.6%) = CORRECT: (40/60)*100 (repeat participants out of total) multiply by 100
- 150% = INCORRECT: (60/40)*100 (using the wrong number as the whole and the fraction)

POINT: Use correct total. No double counting. Some of the ‘total’ and ‘repeats’ are the same people

What was the average ratio of musicians to participants at each session?

✓2 = CORRECT: the median or mean, rounded up.

- 1.5 = CORRECT BUT INCONGRUENT: the actual mean or median but can't have half a person
- 1 or 2 = CORRECT: same arithmetic but different way of displaying.

POINT: think about the best was to display or describe your data that is true to the data and meaningful to the audience.

What percentage of participants had experience of playing piano?

- 20% = INCORRECT: (40+40+20)/100 *20 (total piano players of total responses)
- ✓33% (or 33.3%) = CORRECT: (20/60)*100 (total piano players of total participants)
- 50% = INCORRECT: (20/40)*100 (total piano players of repeat participants)

POINT: get your base number correct. And consider the impact of being able to select more than one answer (Colgate example).

What proportion of people felt optimistic at the start?

- 16.6% = INCORRECT: (10/60)*100 (number of optimistic out of total participants). Not a full data set.

✓One in four = CORRECT: (10/40) (optimistic out of repeat participants). Full data set. Sample size < 50 so use numbers not percentages.

✓A quarter = CORRECT: as above. Mix it up.

POINT: Sample sizes are important. See Data essentials key messages pie chart hand out.

What proportion of people felt optimistic at the end?

- Half = INCORRECT: (30/60)*100 (number of optimistic out of total participants). Not a full data set.

✓Three in four = CORRECT: (30/40) (optimistic out of repeat participants). Full dataset. Sample size <50 so use numbers not percentages.

✓Three quarters = CORRECT: as above. Mix it up.

POINT: Sample sizes are important. Show how it affects data on pie chart hand out.

Tips

- ✓Avoid average numbers that don’t make sense in the context.
  - ✓E.g. one or two musicians were present, not 1.5 musicians
- ✓If your sample size is less than 50, use numbers instead of percentages
  - ✓Percentages on small sample sizes can be misleading
- ✓Be careful how you report percentages
  - ✓E.g. percentage increase, percentage points, increase in level of optimism or number of people?
- ✓Use the correct base figure
  - ✓E.g. only those with start and end data. Can people select more than one answer?
- ✓Investigate unused data
  - ✓E.g. are there similarities in the drop-out group? Why do people skip a question?
- ✓Be mindful of factors that can skew your data
  - ✓Can you generalise? Is it representative? Response rate? External factors? Timing? Halo effect?

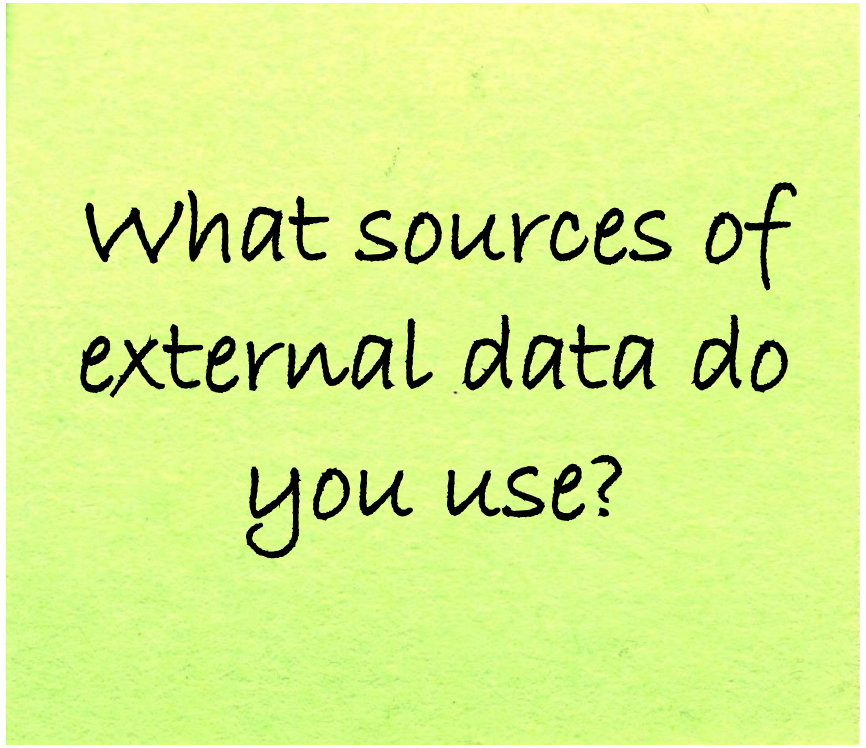
Using data to make informed decisions

	What is it telling you?	Why does it matter?	What more do you want to know?
The retention rate	It looks ok but how do we know? Compare to other retention rates of prison programmes?		
The ratio of participants to musicians	Have we analysed or researched the optimum ratio for forming relationships?		
Participants' previous experience of instruments	Some participants have experience of a few key instruments.		
The change in optimism	Very few participants enter the programme feeling optimistic. More participants leave feeling optimistic		

	What is it telling you?	Why does it matter?	What more do you want to know?
The retention rate	It looks ok but how do we know? Compare to other retention rates of prison programmes?	According to the logic model, change occurs slowly over time. We need as many people as possible to return.	Why do people drop out? Can we ask them? Segment and analyse data: e.g. what impacts the return rate? Sentence / transfers / demographics / number of musicians present?
The ratio of participants to musicians	Have we analysed or researched the optimum ratio for forming relationships?	The relationship with the musician is key in changing behaviour. Numbers present and turnover of musicians impacts success.	Does the musician have time with the current ratio to form relationships? Can we ask them? Are there favourite musicians amongst the participants? If so, what are the characteristics that make them successful.
Participants' previous experience of instruments	Some participants have experience of a few key instruments.	The opportunity to express themselves is important (familiar instruments). Equally important is learning from mistakes (unfamiliar instruments).	Do we have the right mix of instruments in good condition? Can we tailor the groups to increase retention? How can we test our theory about the importance of different instruments?
The change in optimism	Very few participants enter the programme feeling optimistic. More participants leave feeling optimistic	Hope for the future is correlated with a reduction in reoffending – the intended impact of the programme.	Are there common factors for the people not reporting an increase in optimism (user / engagement data)? Would the project still be successful if more people started out feeling optimistic? If not, how do we reach the right people?

Using external data

What external data do you use?



Refugee & migrant advice service

- ✓‘RMAS’ provides information and advice by appointment at their office
- ✓They run a drop in service at a central church location
- ✓Are they reaching the clients most in need?
- ✓Cross referencing Indices of Multiple Deprivation with client addresses
- ✓Could this give some insight re where to provide an outreach service?

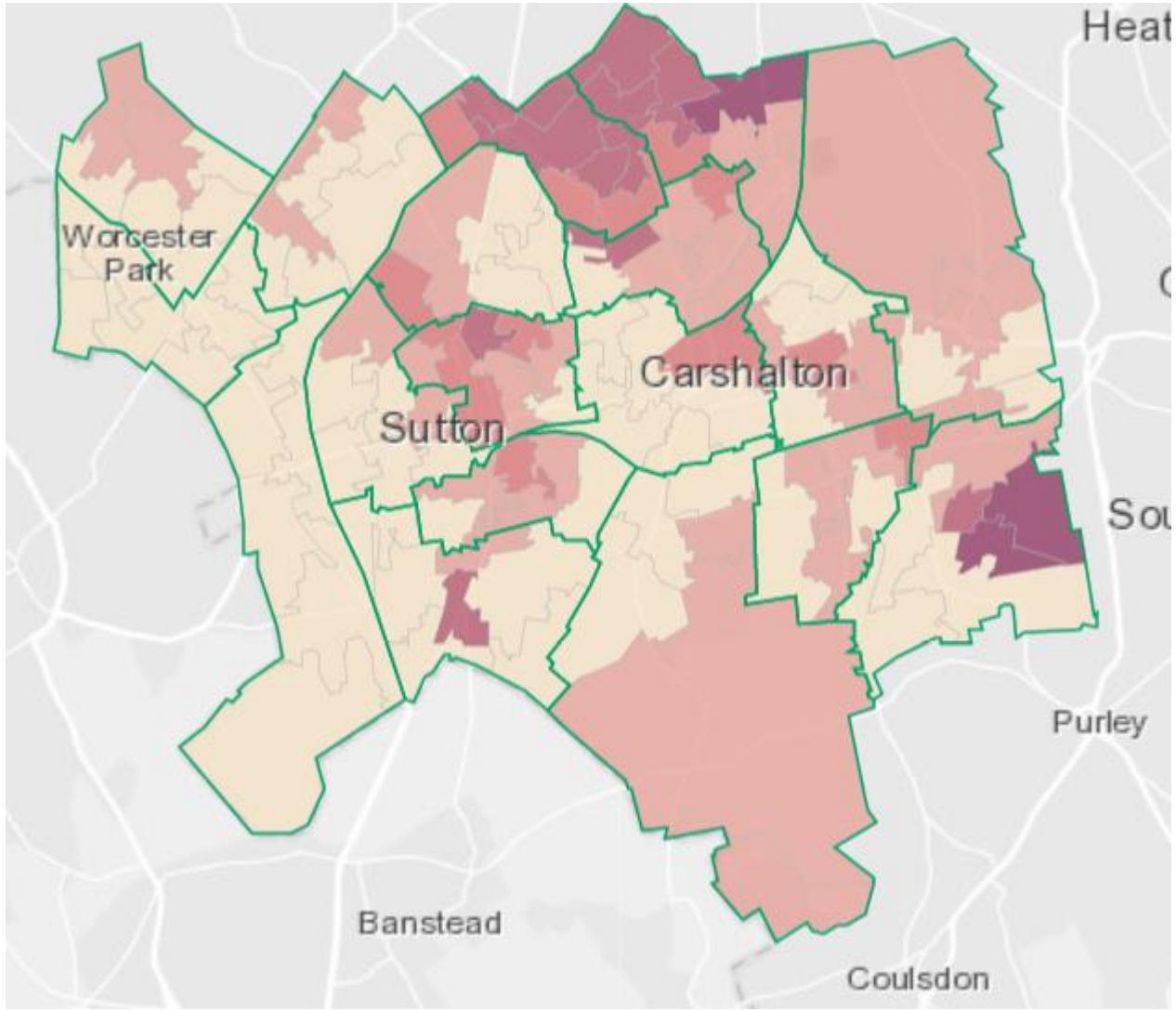
Legend

Ward

LSOA

Index of Multiple Deprivation (IMD) Score|2019

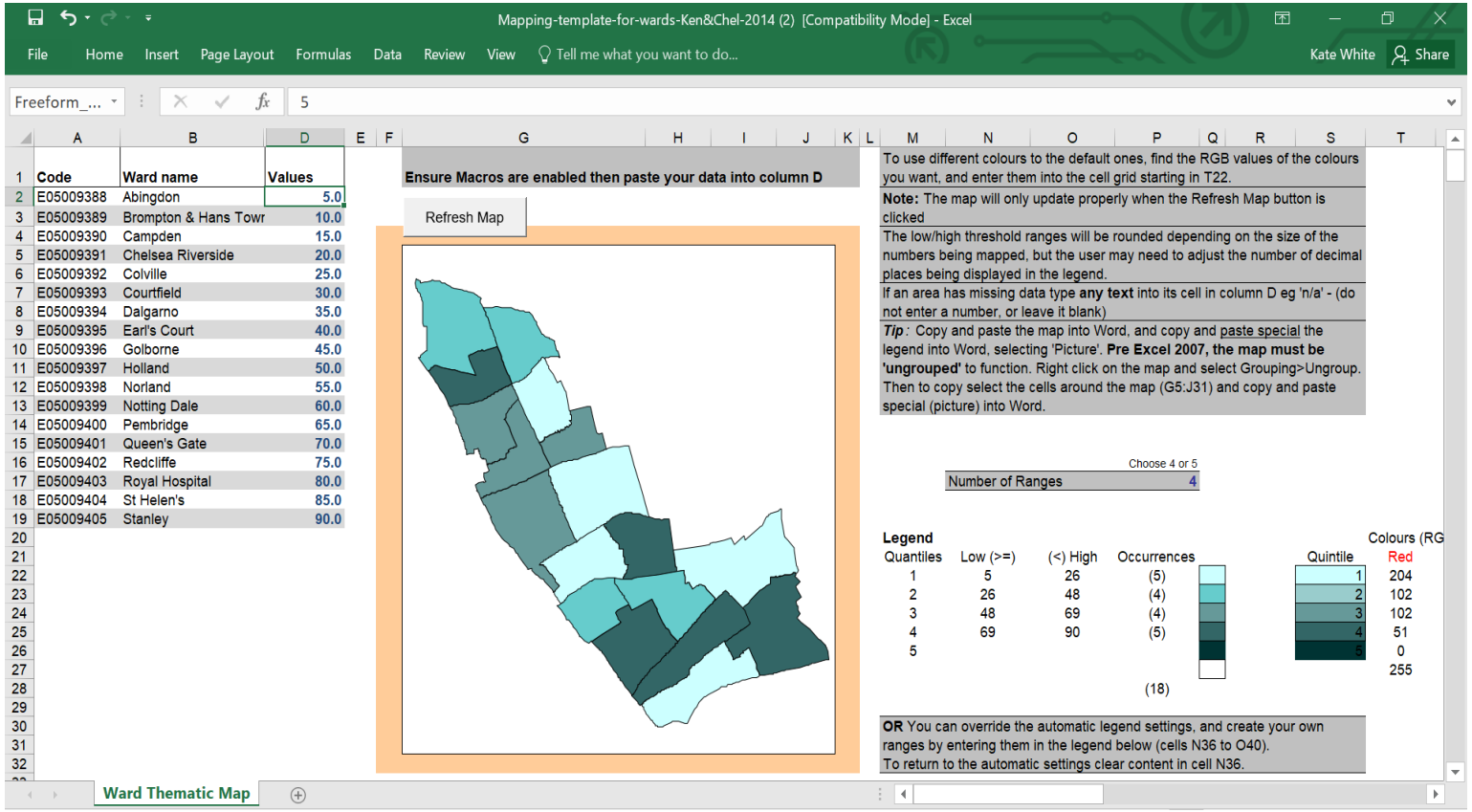
- > 36 – 44
- > 27.6 – 36
- > 19.3 – 27.6
- > 11 – 19.3
- 2.7 – 11
- Other



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

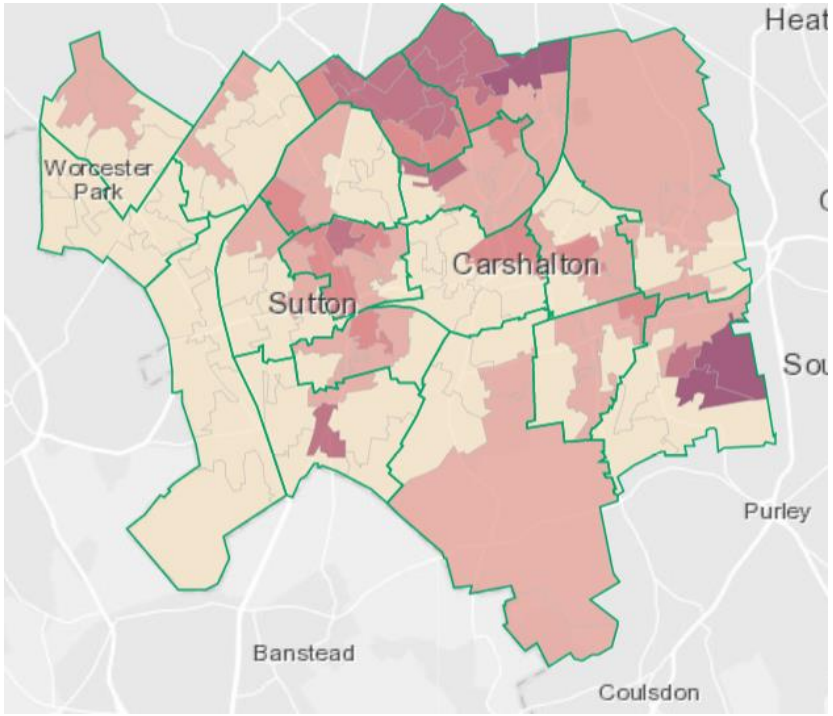
Working at ward or borough level

- 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

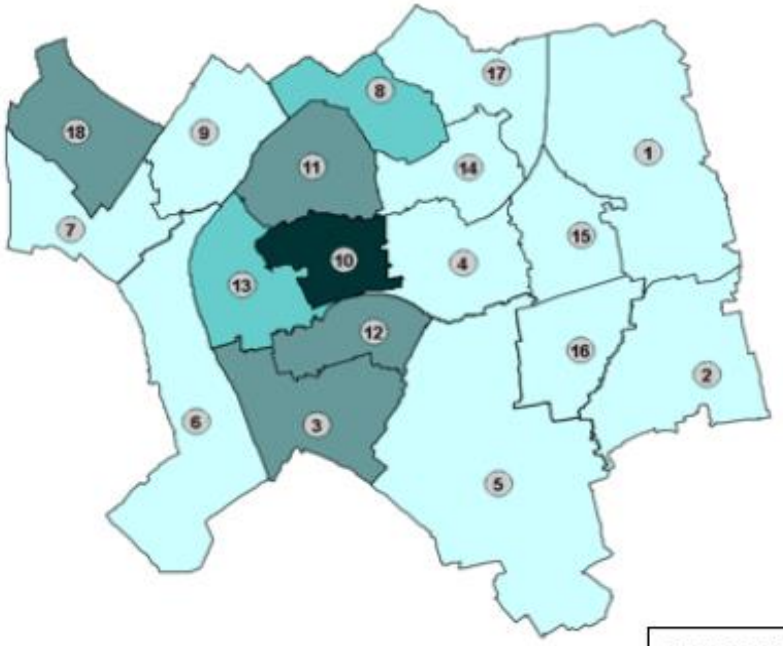


What are the steps to adding client data?

- ✓ 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



clients by Ward



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

What can you see?

Mapping data points…

batchgeo

Paste data sets with postcodes & create a map!

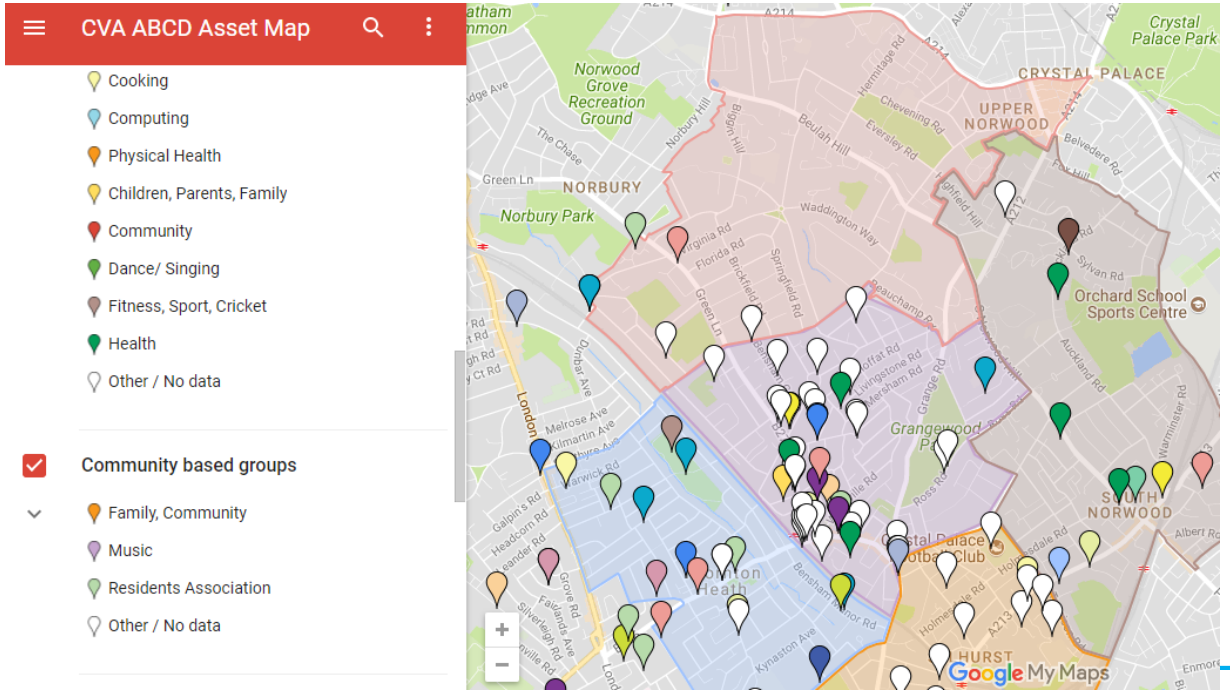
✓Blue existing volunteers

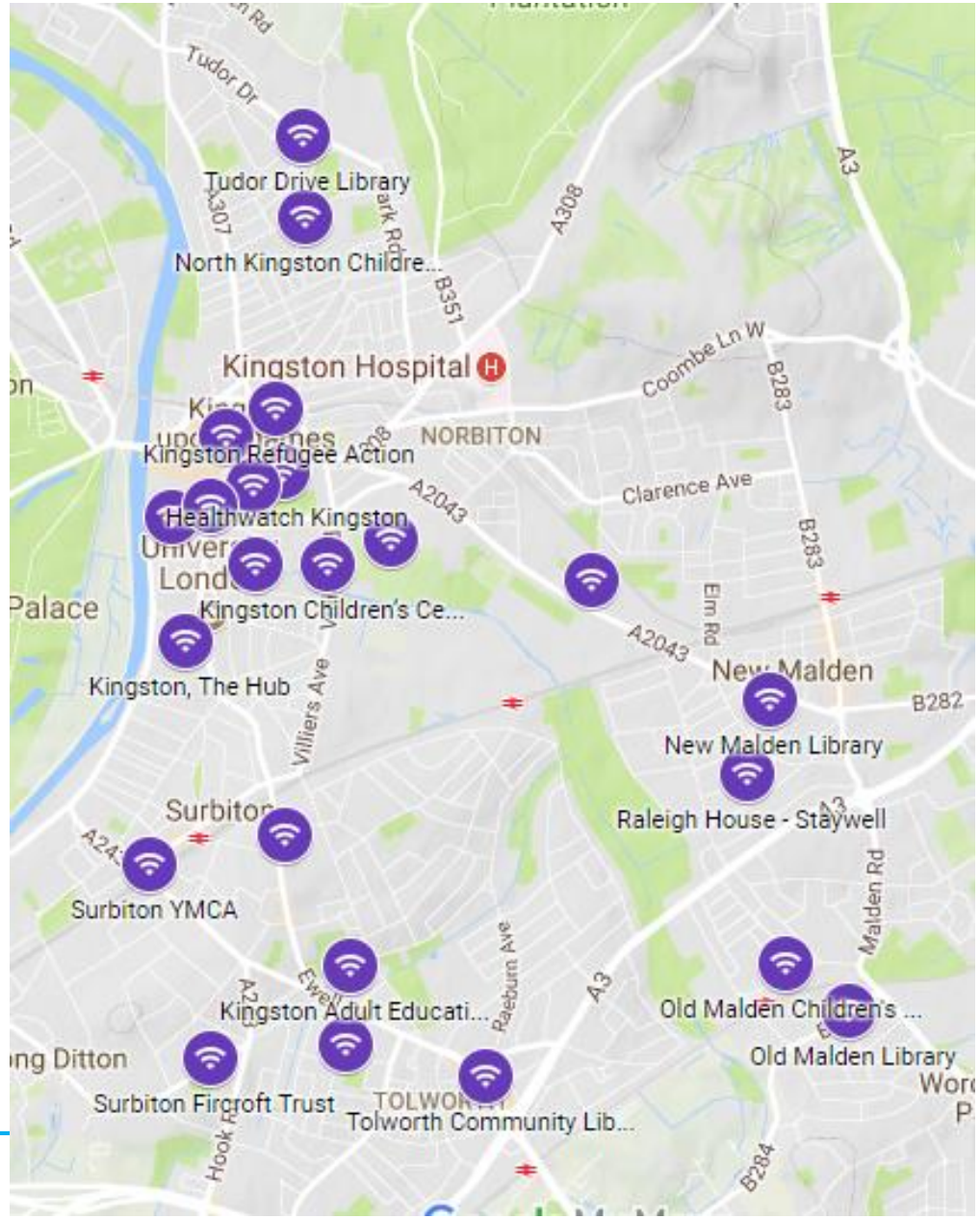
✓Red new client referrals

How can the map help you?

Google My Maps

- ✓Add multi-media
- ✓Add different layers (max 10)
- ✓Customise look and feel





Our Favourite Apps 2019

superhighways
harnessing technology for community benefit

Infographics

Create infographics, social media posts, flyers and more for web or print with **Canva**. Charities can upgrade to Canva for Work for free.

Choose from a range of **Piktochart** templates and icons to visually present your data. Charity discount.

Infogram lets you create infographics and interactive online charts. Basic free account available.

Audio

audioBoom lets you record, collate and share audio content online. Monthly cost $9.99.

An alternative to audioBoom, **SoundCloud** also allows private storage. Publish up to 3 hours of recordings for free.

Audacity desktop software is free to download and allows you to edit your audio interviews.

Collecting data

Create and publish free surveys online in minutes with **Google Forms**. View results graphically and in real time.

With Microsoft Office 365 forms you can easily create quizzes & surveys and see the results as they come in.

Create and publish online surveys with **SurveyMonkey.** Basic free account does not allow export of data to Excel.

Create a **QuickTap** survey online and collect responses using a tablet even when you are offline. Starts at $16/month.

Mapping data

Use **Batchgeo** to easily create maps by copying and pasting postcodes from Excel. Add other data and map pins will be colour code accordingly.

Google MyMaps allows you to plot pin data but also add up to 10 layers including shape files e.g. Borough / Ward outlines.

Input a postcode, and **MapIt** returns the constituency, council area & ward and more. You can also download area shape files.

Useful tool for batch post code look ups and downloading top level post code shape files

Useful data sources / resources

- ✓ London Data Store - borough profiles
- ✓ London Data Store - borough / ward Excel mapping templates
- ✓ Indices of Multiple Deprivation - comparison map of 2015 & 2019
- ✓ Mayor of London Survey of Londoners – headline findings
- ✓ Making the most of the London Data Store – scenario guides
  - ✓ UNDERSTANDINGTHE IMPACT OF WARD LEVEL POPULATION GROWTH ON YOUR SERVICES
  - ✓ TARGETTING SERVICES TO OLDER PEOPLE MOST LIKELY TO BE SOCIALLY EXCLUDED
  - ✓ UNDERSTANDING YOUR LOCAL AREA – ARE VOLUNTEERS REFLECTIVE & WHAT ABOUT CRIME STATS

Advice trends
www.citizensadvice.org.uk/about-us/difference-we-make/advice-trends/

Advice trends summarises Citizens Advice service top level statistics. It is aimed at national government departments, regional agencies; third sector organisations concerned with advice or policy and policy researchers.

Ethnicity Facts & Figures
www.ethnicity-facts-figures.service.gov.uk/

Headline figures from each government department detailing ethnic inequalities in the UK.

London Datastore
data.london.gov.uk

The London Datastore is a free and open data-sharing portal where anyone can access data relating to the capital.

London's Poverty Profile
www.trustforlondon.org.uk/data/

Official data from over 100 indicators, revealing patterns in poverty and inequality.

Metropolitan Police
www.met.police.uk/sd/stats-and-data/

Tools to help see what local police forces are doing to combat crime, identify different types of crime and map out different crime stats.

Nomis
www.nomisweb.co.uk

Data from a range of surveys, including the 2011 Census. Enter a location and get a report detailing population characteristics of the local area.

Public Health
fingertips.phe.org.uk/

Rich source of indicators across a range of health and wellbeing themes that has been designed to support JSNA and commissioning to improve health and wellbeing and reduce inequalities

Stat-Xplore
stat-xplore.dwp.gov.uk

Explore Job Centre data, including types of benefits received, and rates that sanctions are applied, by area and individual characteristics.

The London Intelligence
www.centreforlondon.org/project/london-intelligence/

Quarterly publication from the Centre for London, that identifies the changes taking place in the City to help policy makers prepare and plan for the future. Analyses the latest data under five major themes: Demography, Economy, Infrastructure and housing, Society and Health and environment.

UK Data Service
www.ukdataservice.ac.uk

Holds a range of social, economic and population datasets. They also publish 'how to' guides and case studies of effective use of data.

Understanding Society
www.understandingsociety.ac.uk

Search results from academic research using the UK's largest representative household survey.

Ward Profiles and Atlas
data.london.gov.uk/dataset/ward-profiles-and-atlas

Provide a range of demographic and related data for each ward in Greater London. They provide an overview of the population in these small areas including data on population, diversity, households, life expectancy, housing, crime and employment.

Who runs London
www.londoncouncils.gov.uk/who-runs-london

London Councils publish data from London's local elections, London MPs and their constituencies and data looking at 50 years of political control of the boroughs.

YouGov Results
yougov.co.uk/results/

Runs surveys of public opinion on topical issues, with gender, age and social class breakdowns.

Data Maturity

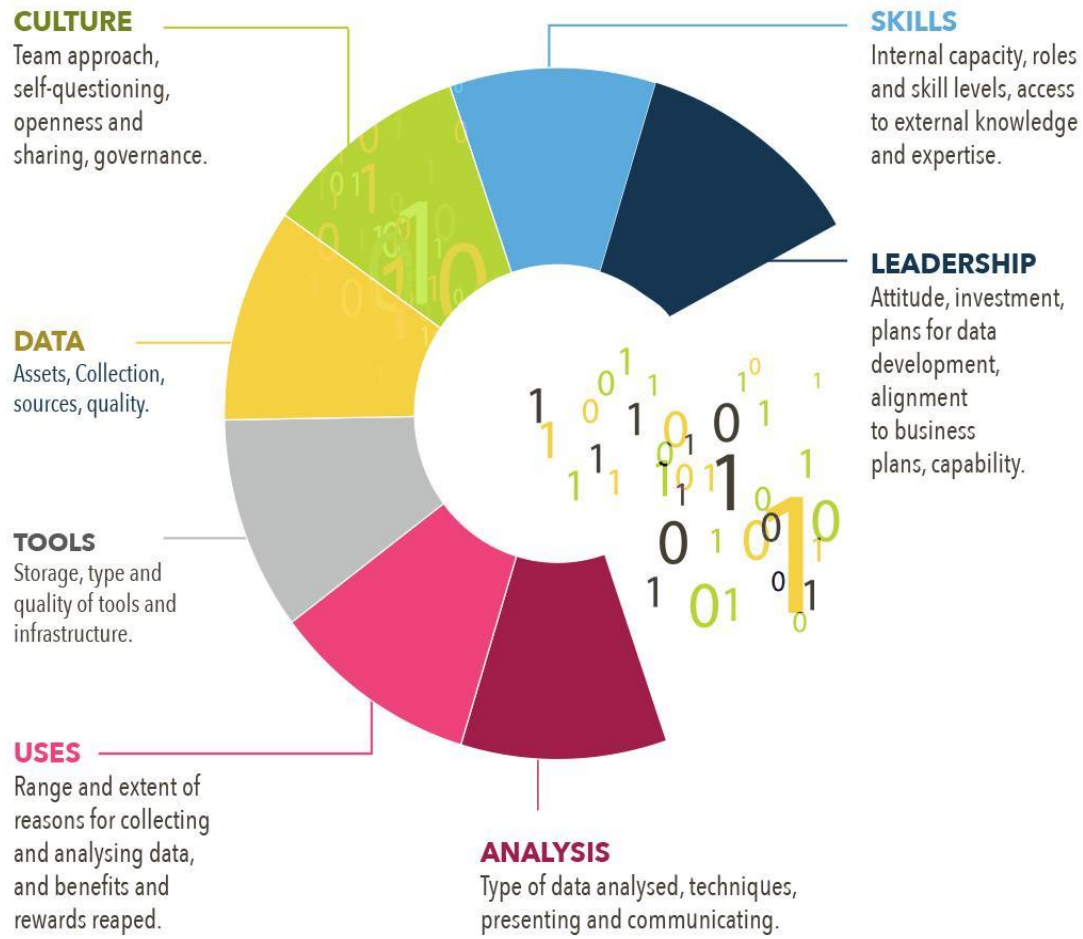
INTRODUCING 3 ASSESSMENT TOOLS…

How data mature is your org?

The Themes of Data Maturity

Developed by: DataKind UK & Data Orchard

http://dataevolution.org.uk/the-framework/



DATAORCHARD

How data savvy is your organisation?

Try one of our free self-assessment tools to find out

20 minute self-assessment

I only have 5 minutes

https://www.dataorchard.org.uk/data-maturity-assessment-tool/

Section 1: Uses

This section is about the purposes for which your organisation uses data. As far as possible respondents are encouraged to think 'whole organisation wide'.

To what extent does your organisation use data for the following service-related purposes? Note: The term 'clients' is used as an overarching term for beneficiaries/customers/service users.

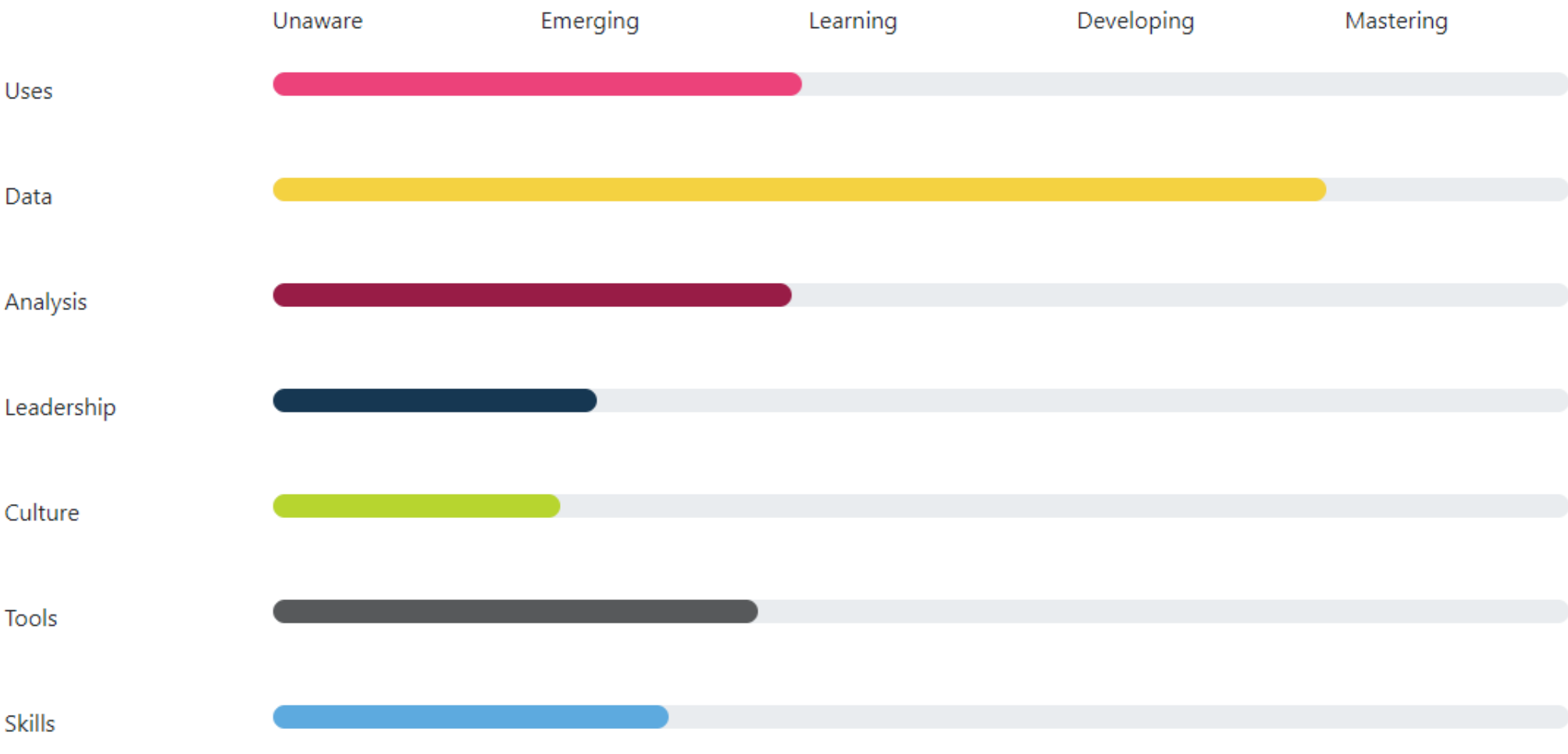
	extensively	moderately	a little	not at all	don't know/not applicable
Recording activity/work with clients	○	○	○	○	○
Measuring service quality and performance	○	○	○	○	○
Measuring the difference you make e.g. outcomes, impact evaluation	○	○	○	○	○
Evidencing the needs/problems you seek to address	○	○	○	○	○
Understanding the types of clients/environment you serve (e.g. profiles, characteristics)	○	○	○	○	○

NEXT

You scored your organisation in the Emerging Stage

Your overall score, based on the average across the seven themes, was **2** out of **5**. You have scored your organisation strongest in **Data**, **Uses**, **Analysis**. Your responses indicate priority areas to focus on are likely to be **Culture**, **Leadership**, **Skills**.

Your overview



INSPIRING IMPACT

SELF-ASSESSMENTS

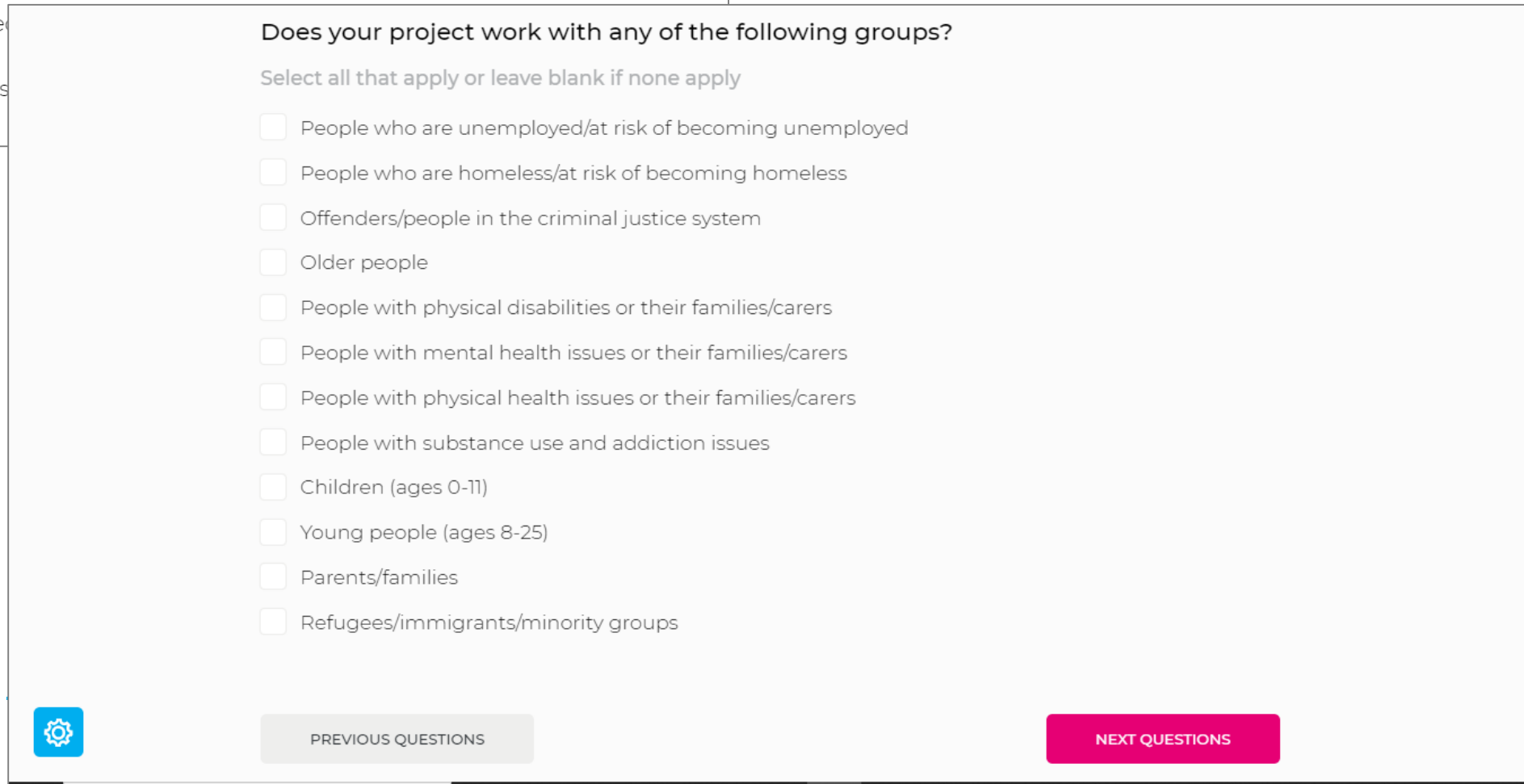
Data diagnostic

Complete this simple questionnaire to to receive a tailored report on what data to collect and how

The data diagnostic asks 10 quick questions about what your programme or service is, who it targets, and whether any research exists to support your approach. If you're already collecting data, the questionnaire will act as a 'health check'. If you're colle

The diagnostic is most suited to organisations

https://www.inspiringimpact.org/self-assessments/data-diagnostic/



NCVO100

DIGITAL MATURITY MATRIX

back to Communications and campaigns | next: Security and data

Getting started

DATA AND INSIGHT

https://tools.ncvo.org.uk/digitalmaturitymatrix

We have a clear, measurable plan for how we will use data to improve our work.

Where are we now?: ○ ○ ○ ○ Choose an answer

Where do we plan to be?: ○ ○ ○ ○ Choose an answer

Add your notes (optional):

We collect data about the people who use our products and services and how they use them.

Where are we now?: ○ ○ ○ ○ Choose an answer

Where do we plan to be?: ○ ○ ○ ○ Choose an answer

Add your notes (optional):

Next steps …

- ✓ Complete our post session survey (& get the presentation slides!)
- ✓ Introduce your organisation to the Data Maturity Assessment tool
- ✓ Identify where you can better capture & use data to shape services
- ✓ We'll follow up re your specific Data hunch
- ✓ Attend training / access further support in 2020
- ✓ Share back with us your successes #DatawiseLondon

Thank you for listening

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