Trust for London

Tackling poverty and inequality

Analysing your survey data – Advanced

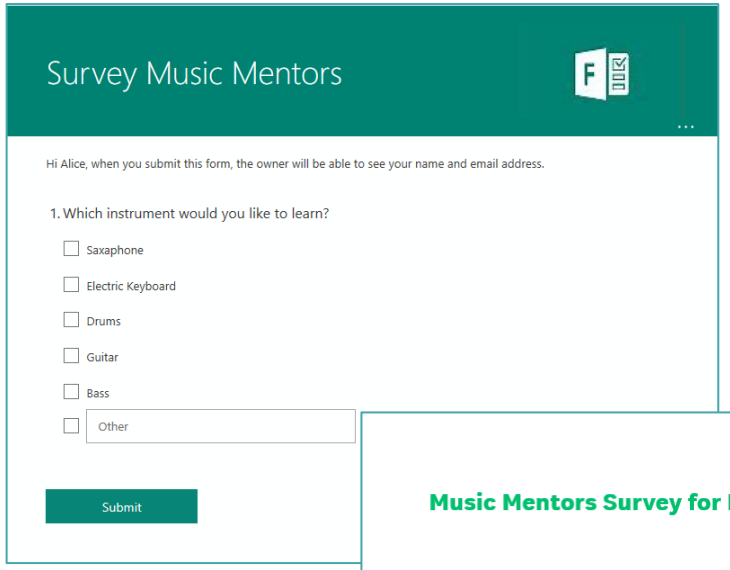
superhighways

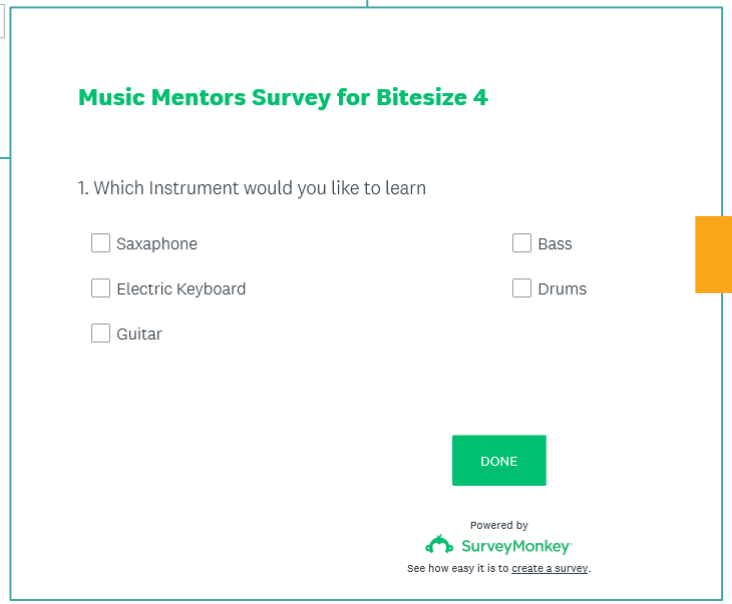
harnessing technology for community benefit

What we'll be covering

- ✓Excel analysis - pivot tables & charts refresher
- ✓Multi select multiple choice questions
  - ✓Total row, Text Filter, CountIf
  - ✓Power Query / Get Transform
- ✓Coding free text responses
- ✓Xlookup
- ✓Power Query
  - ✓Connect & Append

Multiple Select Multiple Choice questions





Which instrument would you like to learn?
Saxaphone;Drums;Bass;
Electric Keyboard;Drums;
Drums;
Saxaphone;
Electric Keyboard;
Bass;
Drums;Saxaphone;
Drums;Electric Keybo
Bass;Harmonica;
Saxaphone;Trumpet;
Electric Keyboard;
Drums;
Electric Keyboard;Dru
Saxaphone;Electric K
Electric Keyboard Dru
Electric Keyboard;
Electric Keyboard;Dru
Saxaphone;Electric K

Which Instrument would you like to learn				
Saxaphone	Electric Keyboard	Guitar	Bass	Drums
	Electric Keyboard	Guitar	Bass	
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone		Guitar		
	Electric Keyboard		Bass	
	Electric Keyboard			Drums
		Guitar	Bass	Drums
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone				
	Electric Keyboard		Bass	
	Electric Keyboard			Drums
	Electric Keyboard			

Multiple choice exports

- ✓ Microsoft Forms & Google Forms return multiple options selected in one column, separated by semi colons & commas respectively

Which instrument would you like to learn?
Saxaphone;Drums;Bass;
Electric Keyboard;Drums;
Drums;
Saxaphone;
Electric Keyboard;
Bass;
Drums;Saxaphone;
Drums;Electric Keyboard;
Bass;Harmonica;
Saxaphone;Trumpet;
Electric Keyboard;
Drums;
Electric Keyboard;Drums;Guitar;
Saxaphone;Electric Keyboard;Drums;
Electric Keyboard;Drums;Guitar;
Bass;Guitar;

- ✓Survey Monkey returns multiple options across consecutive columns

Which Instrument would you like to learn				
Saxaphone	Electric Keyboard	Guitar	Bass	Drums
	Electric Keyboard	Guitar	Bass	
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone		Guitar		
	Electric Keyboard		Bass	
	Electric Keyboard			Drums
		Guitar	Bass	Drums
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone				
	Electric Keyboard		Bass	
	Electric Keyboard			Drums
	Electric Keyboard			

Counting up numbers for each option

✓Convert to a Table

✓Add Total row and select Count

Which Instrument would you like to learn				
Saxaphone	Electric Keyboard	Guitar	Bass	Drums
	Electric Keyboard	Guitar	Bass	
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone		Guitar		
	Electric Keyboard		Bass	
	Electric Keyboard			Drums
		Guitar	Bass	Drums
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone				
	Electric Keyboard		Bass	
	Electric Keyboard			Drums
	Electric Keyboard			

Counting up numbers for each option

✓Use Text filtering

Or

✓Use CountIF formula

=Countif(Column range, “*Drums*”)

Which instrument would you like to learn?
Saxaphone;Drums;Bass;
Electric Keyboard;Drums;
Drums;
Saxaphone;
Electric Keyboard;
Bass;
Drums;Saxaphone;
Drums;Electric Keyboard;
Bass;Harmonica;
Saxaphone;Trumpet;
Electric Keyboard;
Drums;
Electric Keyboard;Drums;Guitar;
Saxaphone;Electric Keyboard;Drums;
Electric Keyboard;Drums;Guitar;
Bass;Guitar;
Bass;
Electric Keyboard;
Electric Keyboard;Drums;
Saxaphone;Electric Keyboard;Drums;

Get & Transform data

- ✓The Power Query Editor in Excel has been rebranded **Get & Transform** data in 2016 and later versions

- ✓If you're working with Excel 2010 or Excel 2013, you need to download and install the Power Query add-in.

  https://www.microsoft.com/en-us/download/details.aspx?id=39379

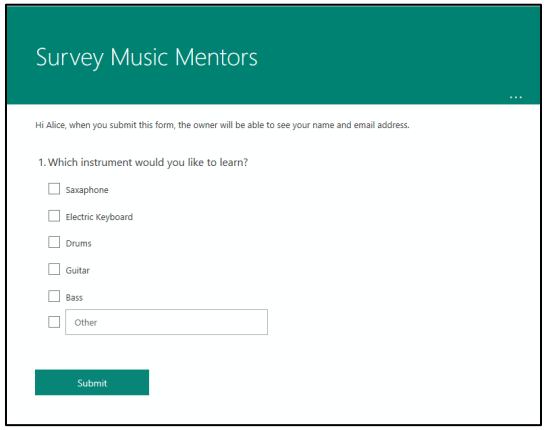
  But please note Microsoft are no longer updating this add-in so ideally you should upgrade.

What is a query & how do they work

A Microsoft Query is an **SQL SELECT Statement** which allows you to retrieve & transform data from different Excel worksheets and work books. You need to provide answers to the following questions to create a query:

- ✓Where is that data located?
- ✓What steps do you want to take to transform it?
- ✓Where do you want to store the results?

1. Conduct a survey

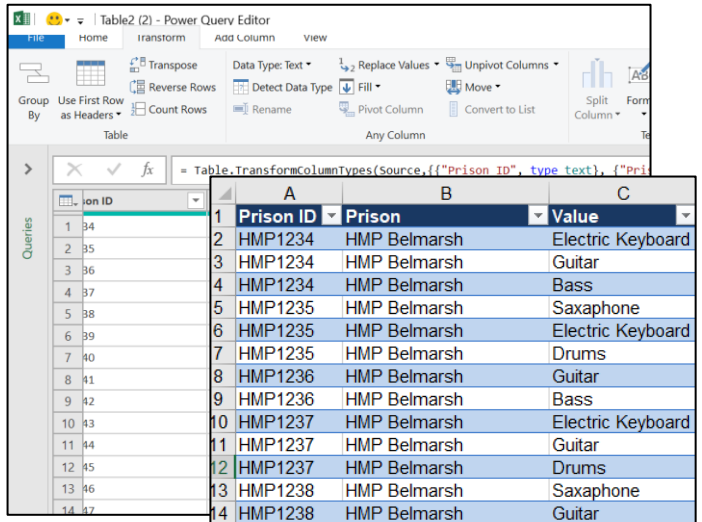


2. Export to Excel

	C
	Which instrument would you like to learn?
	Saxaphone;Drums;Bass;
	Electric Keyboard;Drums;
	Drums;
	Saxaphone;
	Electric Keyboard;
	Bass;
	Drums;Saxaphone;
	Drums;Electric Keyboard;
	Bass;Harmonica;
	Saxaphone;Trumpet;
	Electric Keyboard;
	Drums;
	Electric Keyboard;Drums;Guitar;
	Saxaphone;Electric Keyboard;Drums;
	Electric Keyboard;Drums;Guitar;
	Bass;Guitar;
	Bass;
	Electric Keyboard;
	Electric Keyboard;Drums;
	Saxaphone;Electric Keyboard;Drums;
	Guitar;Bass;
	Electric Keyboard;Guitar;
	Electric Keyboard;
	Electric Keyboard;
	Guitar;Violin;
	Drums;
	Electric Keyboard;Saxaphone;
	Electric Keyboard;Drums;
	Saxaphone;

Prison ID	Prison					
HMP1234	HMP Belmarsh				Bass	Drums
HMP1235	HMP Belmarsh				Bass	
HMP1236	HMP Belmarsh					Drums
HMP1237	HMP Belmarsh				Bass	
HMP1238	HMP Belmarsh					Drums
HMP1239	HMP Bronzefield					
HMP1240	HMP Bronzefield				Bass	
HMP1241	HMP Bronzefield					Drums
HMP1242	HMP Bronzefield				Bass	Drums
HMP1243	HMP Bronzefield					Drums
HMP1244	HMP Bronzefield				Bass	
HMP1245	HMP Bronzefield					Drums
HMP1246	HMP Bronzefield					
HMP1247	HMP Bronzefield				Bass	
HMP1248	HMP Bronzefield					Drums
HMP1249	HMP Eastwood Pa					
HMP1250	HMP Eastwood Park				Bass	Drums
HMP1251	HMP Eastwood Park					Drums
HMP1252	HMP Eastwood Park			Guitar	Bass	
HMP1253	HMP Eastwood Park	Saxaphone	Electric Keyboard	Guitar		Drums
HMP1254	HMP Eastwood Park					
				Guitar	Bass	

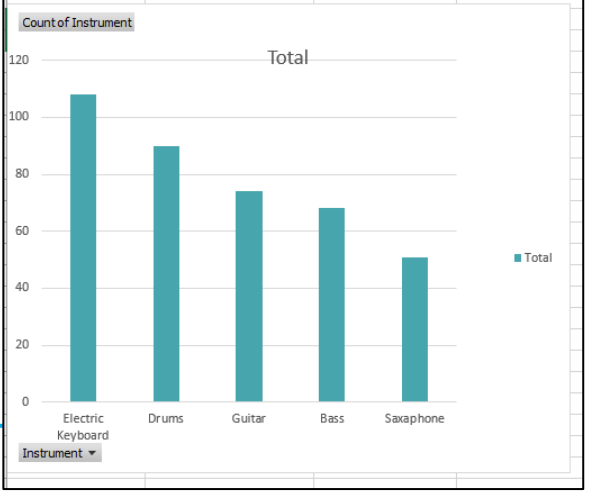
3. Unpivot the data



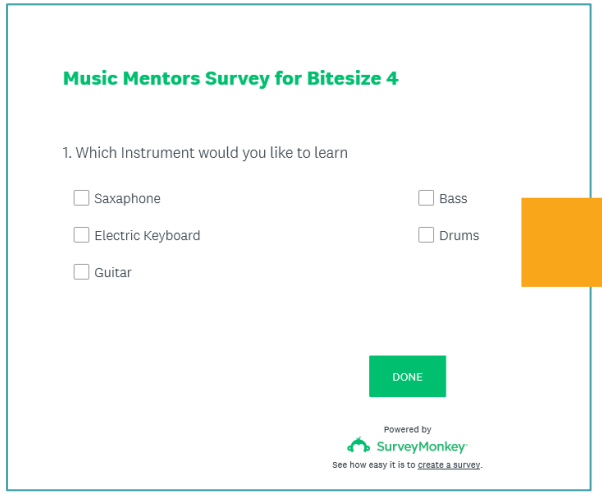
	A	B	C
1	Prison ID	Prison	Value
2	HMP1234	HMP Belmarsh	Electric Keyboard
3	HMP1234	HMP Belmarsh	Guitar
4	HMP1234	HMP Belmarsh	Bass
5	HMP1235	HMP Belmarsh	Saxaphone
6	HMP1235	HMP Belmarsh	Electric Keyboard
7	HMP1235	HMP Belmarsh	Drums
8	HMP1236	HMP Belmarsh	Guitar
9	HMP1236	HMP Belmarsh	Bass
10	HMP1237	HMP Belmarsh	Electric Keyboard
11	HMP1237	HMP Belmarsh	Guitar
12	HMP1237	HMP Belmarsh	Drums
13	HMP1238	HMP Belmarsh	Saxaphone
14	HMP1238	HMP Belmarsh	Guitar
15	HMP1239	HMP Bronzefield	Electric Keyboard
16	HMP1239	HMP Bronzefield	Bass
17	HMP1240	HMP Bronzefield	Electric Keyboard
18	HMP1240	HMP Bronzefield	Drums
19	HMP1241	HMP Bronzefield	Guitar
20	HMP1241	HMP Bronzefield	Bass

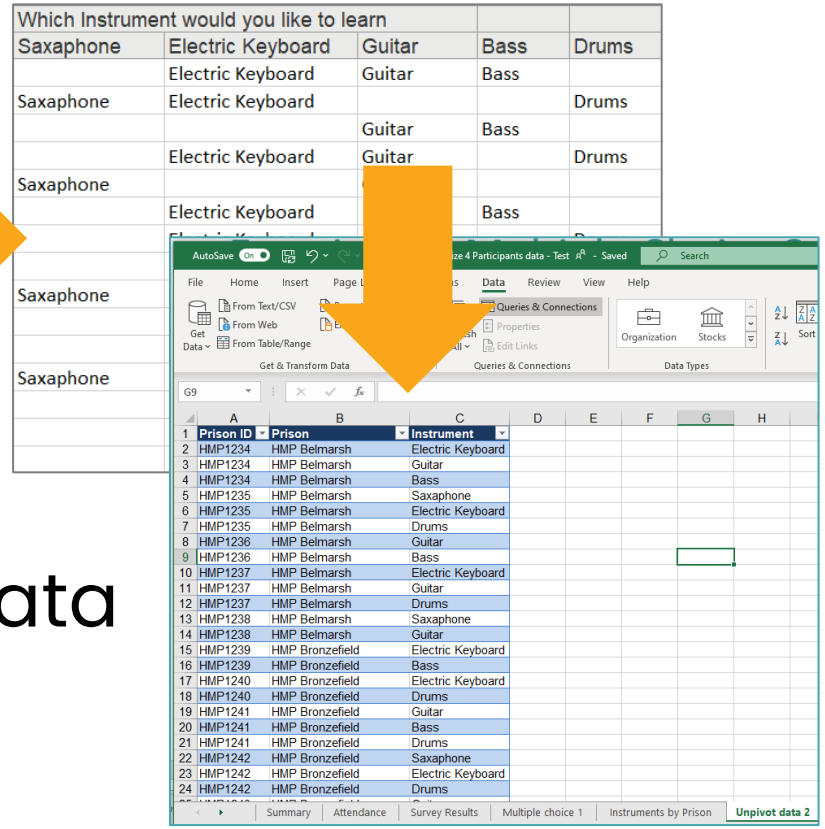
4. Create a Pivot table & chart

Row Labels	Count of Instrument
Electric Keyboard	108
Drums	90
Guitar	74
Bass	68
Saxaphone	51
Grand Total	**391**



Unpivot Data – Method 1





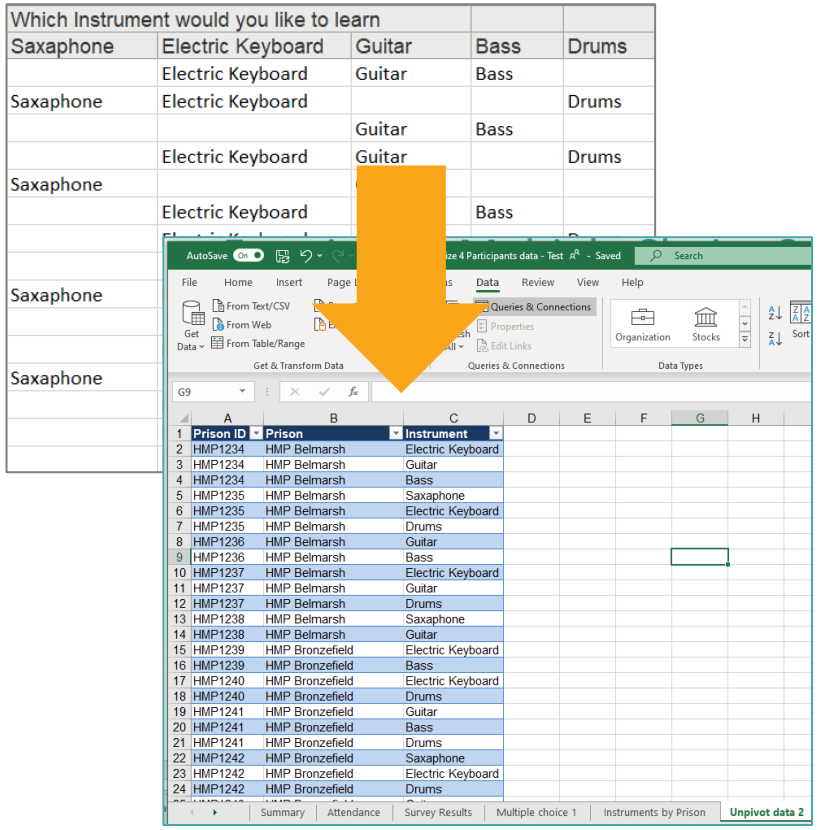
Which Instrument would you like to learn				
Saxaphone	Electric Keyboard	Guitar	Bass	Drums
	Electric Keyboard	Guitar	Bass	
Saxaphone	Electric Keyboard			Drums
		Guitar	Bass	
	Electric Keyboard	Guitar		Drums
Saxaphone				
	Electric Keyboard		Bass	
Saxaphone				
Saxaphone				

Prison ID	Prison	Instrument
HMP1234	HMP Belmarsh	Electric Keyboard
HMP1234	HMP Belmarsh	Guitar
HMP1234	HMP Belmarsh	Bass
HMP1235	HMP Belmarsh	Saxaphone
HMP1235	HMP Belmarsh	Electric Keyboard
HMP1235	HMP Belmarsh	Drums
HMP1236	HMP Belmarsh	Guitar
HMP1236	HMP Belmarsh	Bass
HMP1237	HMP Belmarsh	Electric Keyboard
HMP1237	HMP Belmarsh	Guitar
HMP1237	HMP Belmarsh	Drums
HMP1238	HMP Belmarsh	Saxaphone
HMP1238	HMP Belmarsh	Guitar
HMP1239	HMP Bronzefield	Electric Keyboard
HMP1239	HMP Bronzefield	Bass
HMP1240	HMP Bronzefield	Electric Keyboard
HMP1240	HMP Bronzefield	Drums
HMP1241	HMP Bronzefield	Guitar
HMP1241	HMP Bronzefield	Bass
HMP1241	HMP Bronzefield	Drums
HMP1242	HMP Bronzefield	Saxaphone
HMP1242	HMP Bronzefield	Electric Keyboard
HMP1242	HMP Bronzefield	Drums

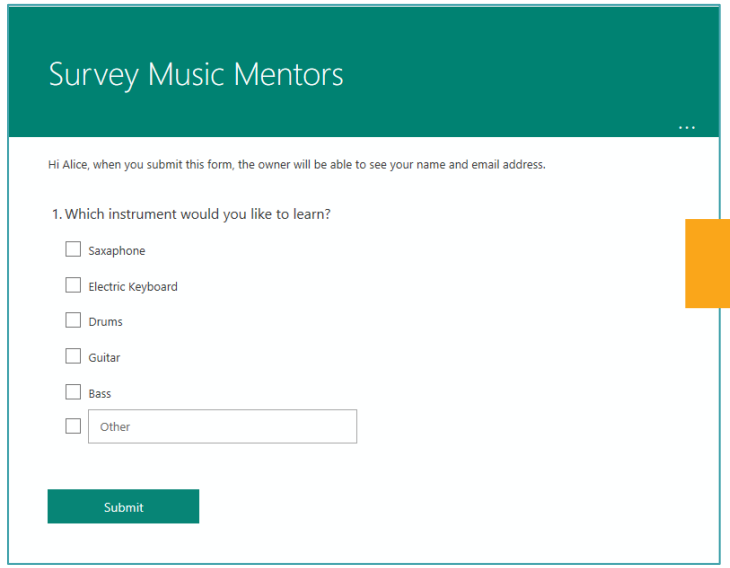
✓How to unpivot data from multiple columns

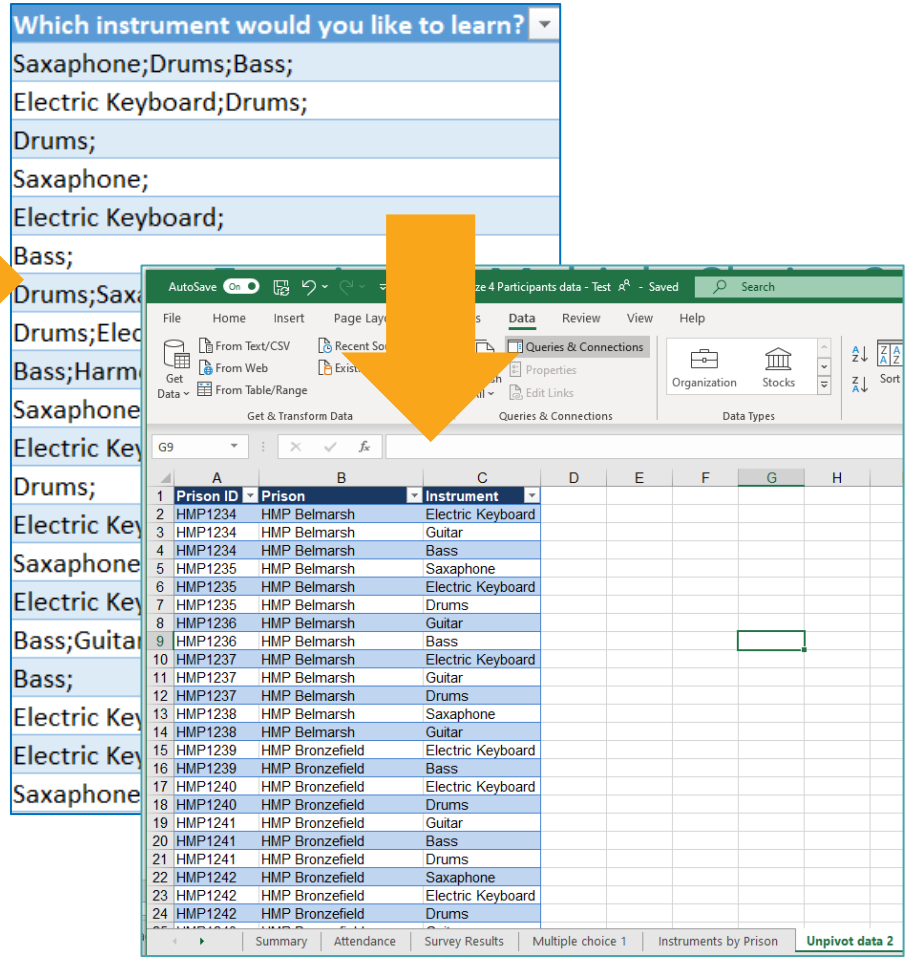
Unpivot data - Method 1 (tabular data)

- ✓On the Multiple Choice 1 sheet, make the data into a table & name it “Multiplechoice1” (Ctrl +T)
- ✓Open the Power Query Editor (Data tab – Get Data - From Table/Range button)
- ✓Unpivot the data (Highlight the columns to unpivot using the shift key-Transform tab-Unpivot data button)
- ✓Remove the Attributes column (Right mouse click – Remove)
- ✓Rename the Values column “Instrument” (Right mouse click-Rename)
- ✓Upload & Close the query (Home tab – Upload and Close)
- ✓Rename the results worksheet “Unpivoted data 1”



Unpivot Data – Method 2 (delimited)

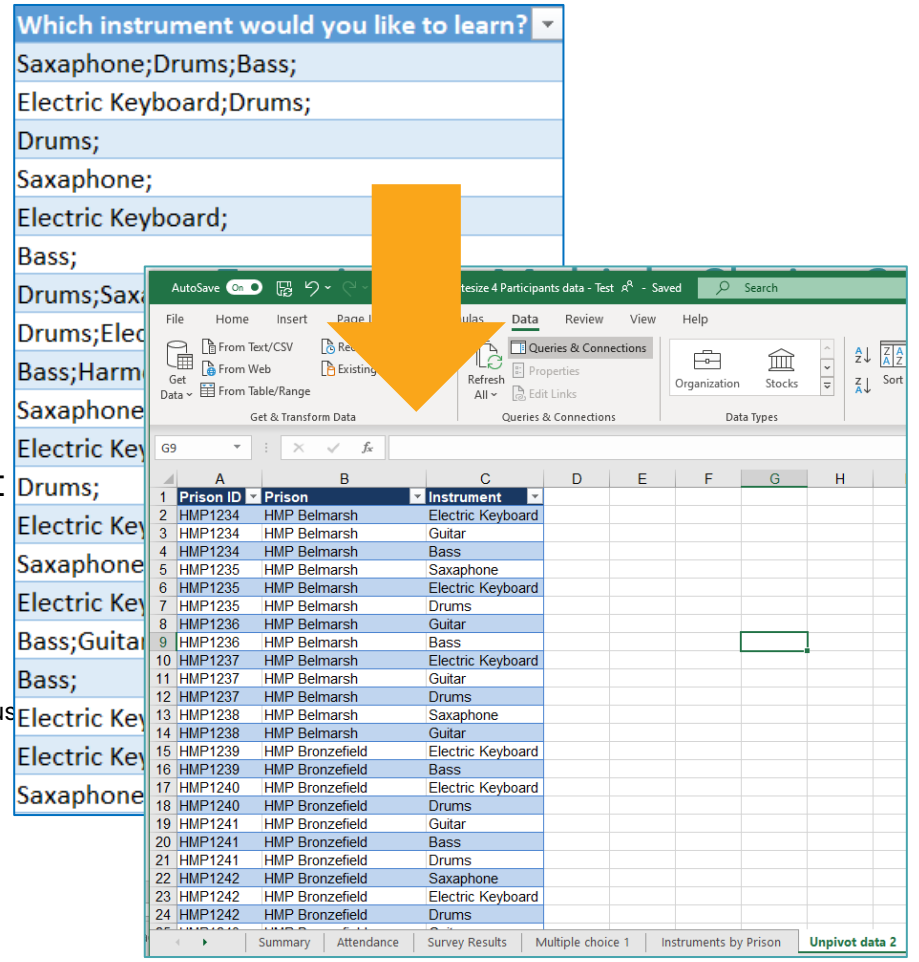




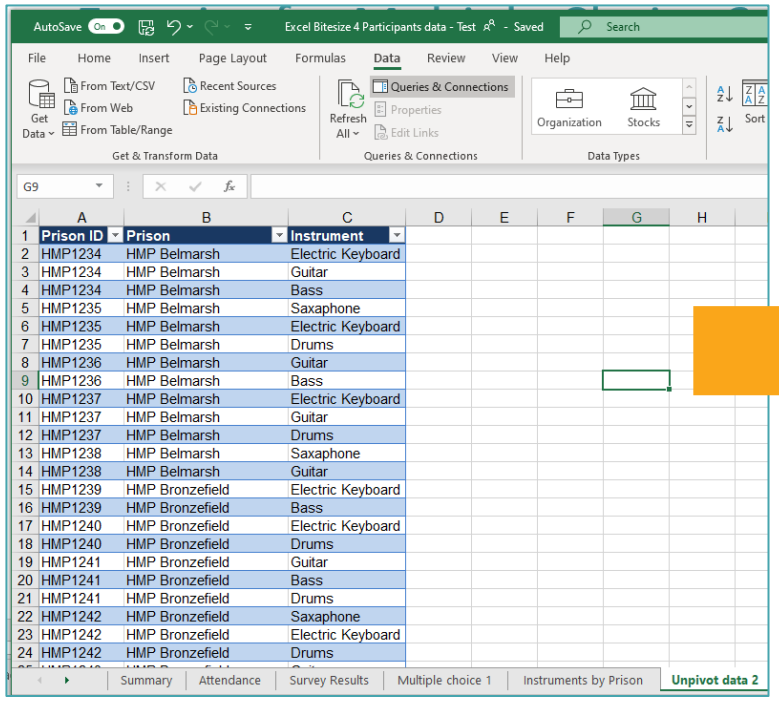
- ✓How to unpivot data from multiple columns

Unpivot data – Method 2 (delimited)

- ✓Go to the **Multiple Choice 2** worksheet
- ✓Rename the Table “Unpivotdata2”
- ✓Open the Power Query Editor (Data tab – From Table/Range button)
- ✓Split the data in the column (Home tab- Select column - Split Column button-select ; as delineator)
- ✓Unpivot the data (Highlight the columns to unpivot using the shift key-Transform tab-Unpivot data button)
- ✓Remove the Attributes column (Right mouse click – Remove)
- ✓Rename the Values column “Instrument” (Right mous click-Rename)
- ✓Filter out the blank rows (Filter on Values column – deselect blanks)
- ✓Upload & Close the Query (Home tab – Upload and Close)
- ✓Rename the results worksheet “Unpivoted data 2”

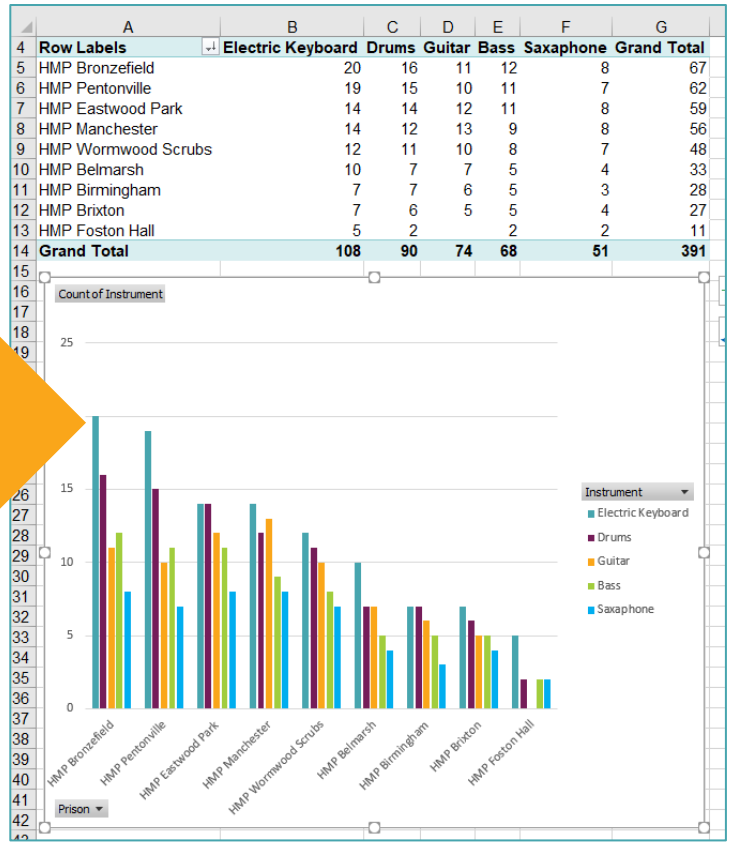


Creating a Pivot table & Column chart



Prison ID	Prison	Instrument
HMP1234	HMP Belmarsh	Electric Keyboard
HMP1234	HMP Belmarsh	Guitar
HMP1234	HMP Belmarsh	Bass
HMP1235	HMP Belmarsh	Saxaphone
HMP1235	HMP Belmarsh	Electric Keyboard
HMP1235	HMP Belmarsh	Drums
HMP1236	HMP Belmarsh	Guitar
HMP1236	HMP Belmarsh	Bass
HMP1237	HMP Belmarsh	Electric Keyboard
HMP1237	HMP Belmarsh	Guitar
HMP1237	HMP Belmarsh	Drums
HMP1238	HMP Belmarsh	Saxaphone
HMP1238	HMP Belmarsh	Guitar
HMP1239	HMP Bronzefield	Electric Keyboard
HMP1239	HMP Bronzefield	Bass
HMP1240	HMP Bronzefield	Electric Keyboard
HMP1240	HMP Bronzefield	Drums
HMP1241	HMP Bronzefield	Guitar
HMP1241	HMP Bronzefield	Bass
HMP1241	HMP Bronzefield	Drums
HMP1242	HMP Bronzefield	Saxaphone
HMP1242	HMP Bronzefield	Electric Keyboard
HMP1242	HMP Bronzefield	Drums

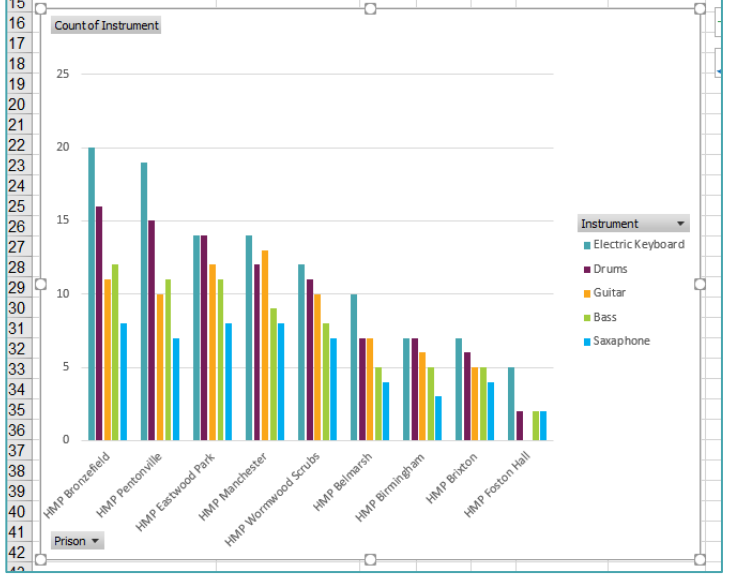
Row Labels	Electric Keyboard	Drums	Guitar	Bass	Saxaphone	Grand Total
HMP Bronzefield	20	16	11	12	8	67
HMP Pentonville	19	15	10	11	7	62
HMP Eastwood Park	14	14	12	11	8	59
HMP Manchester	14	12	13	9	8	56
HMP Wormwood Scrubs	12	11	10	8	7	48
HMP Belmarsh	10	7	7	5	4	33
HMP Birmingham	7	7	6	5	3	28
HMP Brixton	7	6	5	5	4	27
HMP Foston Hall	5	2		2	2	11
Grand Total	**108**	**90**	**74**	**68**	**51**	**391**



Pivot table & Column chart

- ✓ Create a Pivot table in the **Unpivot data 1** worksheet (Click in the Table, Insert menu – Pivot table)
- ✓ Rename the worksheet "Instruments"
- ✓ Add Instrument to the Rows & Prison ID to the Values field areas
- ✓ Add a chart (Click in the Pivot Table, PivotTable Analyse menu-Pivot Chart)
- ✓ Sort the results by size (Arrow next to row column, More sort options – Descending – Count of Prison ID)
- ✓ Add Prison to the Columns field area
- ✓ Switch Instruments and Prisons between row and column (Pivot Table Design tab – Switch Row/Column)
- ✓ Sort the Prisons column by size (Arrow next to column header, More sort options-Descending-Count of Prison ID)
- ✓ Resize & move the chart to where you want it on the page (Click and drag on the corner to change the size)

Row Labels	Electric Keyboard	Drums	Guitar	Bass	Saxaphone	Grand Total
HMP Bronzefield	20	16	11	12	8	67
HMP Pentonville	19	15	10	11	7	62
HMP Eastwood Park	14	14	12	11	8	59
HMP Manchester	14	12	13	9	8	56
HMP Wormwood Scrubs	12	11	10	8	7	48
HMP Belmarsh	10	7	7	5	4	33
HMP Birmingham	7	7	6	5	3	28
HMP Brixton	7	6	5	5	4	27
HMP Foston Hall	5	2		2	2	11
Grand Total	**108**	**90**	**74**	**68**	**51**	**391**



Analysing Open Ended Questions

- ✓Add a text box to your sheet to record notes
- ✓Identify the key recurring themes
- ✓Assign a numerical code to each theme e.g.1 = Instrument choice/availability
- ✓Go through all the answers assigning codes to each answer
- ✓Add your coding to the text box so you can refer to it

Open text questions

- ✓ How to code open or free text answers for analysis

What do you think would improve the sessions?
More instruments
Less people in the group, the mentors don't have enough time to spend with everyone
More drums & better heating in the winter & sessions at the weekend
Too much noise from the courtyard
Longer sessions
My welfare officer told me I couldn't attend them anymore
Weekly sessions, once a month isn't enough
The room we practice in is next to the rubbish bins, in summer it stinks and the keyb
More choice of instruments & a mentor who knows how to play drums
We need a piano!
The heating has broken again & could we get drums?
Why are there only 2 mentors? They are always busy with the beginners and never h
Freezing cold room - can you get the heating fixed
We should do a show in the school holidays so my kids can attend

What would improve the sessions?

1 = Number/availablity of Instruments

2 = Number/suitability/training of mentors

3 = Length/frequency of sessions

4 = Rehersal space

5 = Number/timing of performances

6= Other

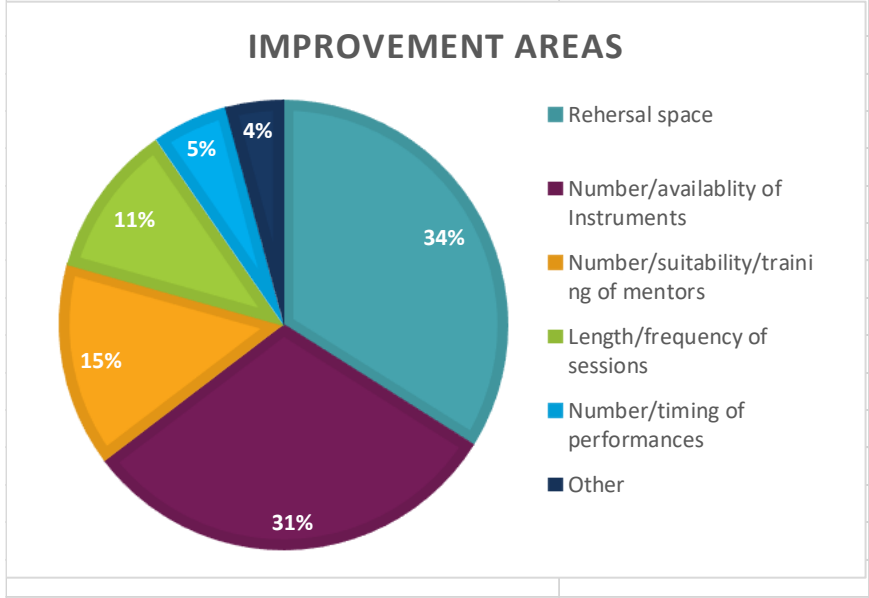
Open text questions (part 1)

- ✓Put the data in the **Survey Results** tab into a Table & name it "OpenTextQuestions"
- ✓Open the Power Query Editor (Data tab – From Table/Range button)
- ✓Select the columns to include in the query results: Prison ID, Prison, What do you think would improve the sessions?, Improvement areas (Home tab – Choose Columns – Select)
- ✓Split the data in the Improvement Area column (Transform tab-Split Column button-By Number of characters)
- ✓Unpivot the data (Highlight the columns to unpivot-Transform tab-Unpivot data button)
- ✓Remove the Attributes column (Right mouse click in the column header– Remove)
- ✓Rename the Values column "Improvement areas" (Right mouse click in the column header – Rename)
- ✓Upload & Close the Query (Home tab – Upload and Close)
- ✓Use Find & Replace to replace the number codes with text (copy the text box from the survey sheet to make it quicker)

Creating a Pivot table & Pie chart(part 2)

- ✓ Create a Pivot table in the **Unpivoted data 3** worksheet (Click in the Table, Insert menu – Pivot table)
- ✓ Rename the new worksheet "Improvement areas"
- ✓ Add **Improvement Area** to the Rows & **Prison ID** to the Values field areas
- ✓ Add **What do you think would Improve the sessions?** To the Rows under **Improvement Areas**
- ✓ Use the + and – on the Row to show/hide rows
- ✓ Sort the Pivot chart by number of people per row (Arrow next to row column, More sort options – Descending – Count of Prison ID)
- ✓ Add a pie chart (Click in the Pivot Table, PivotTable Analyse menu-Pivot Chart)
- ✓ Format the pie chart to show percentages (Click on pie chart, Design tab-select a format with percentages)
- ✓ Remove the field **Count of Prison ID** (Right click on the field in the chart – Remove)
- ✓ Hide all field buttons (Right click on a field in the chart – Select Hide All Field buttons)
- ✓ Rename the chart (Double click into the Title to type in a new heading)

Row Labels	Number of responses
⊞ Rehersal space	74
⊞ Number/availablity of Instruments	67
⊞ Number/suitability/training of mentors	32
⊞ Length/frequency of sessions	24
⊞ Number/timing of performances	12
⊞ Other	9
Grand Total	218



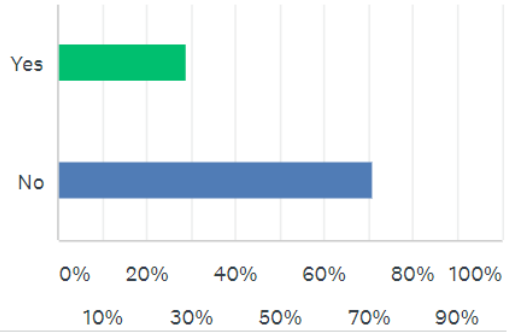
Instant analysis & build a dashboard

Impact Aloud 2020 Evaluation

Impact Aloud 2020 Evaluation

Have you been to one of our Impact ...

Answered: 45 Skipped: 0



Impact Aloud 2020 Evaluation (0)

What were your highlights of the day?

Answered: 38 Skipped: 7

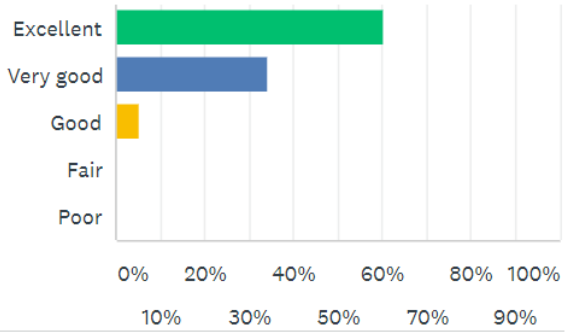
"Really loved the entire day! The impact assessment and 2 storytelling sessions were th 3 I attended. I found your facilitators friendly and welcoming. Lots of people know each othe but I didn't and was made to feel very welcome I forgot to save the chat!! Could that be shared as well?"

← PREV 21 of 38 NEXT →

Impact Aloud 2020 Evaluation (0)

How would you rate Impact Aloud 20...

Answered: 38 Skipped: 7



Impact Aloud 2020 Evaluation (0)

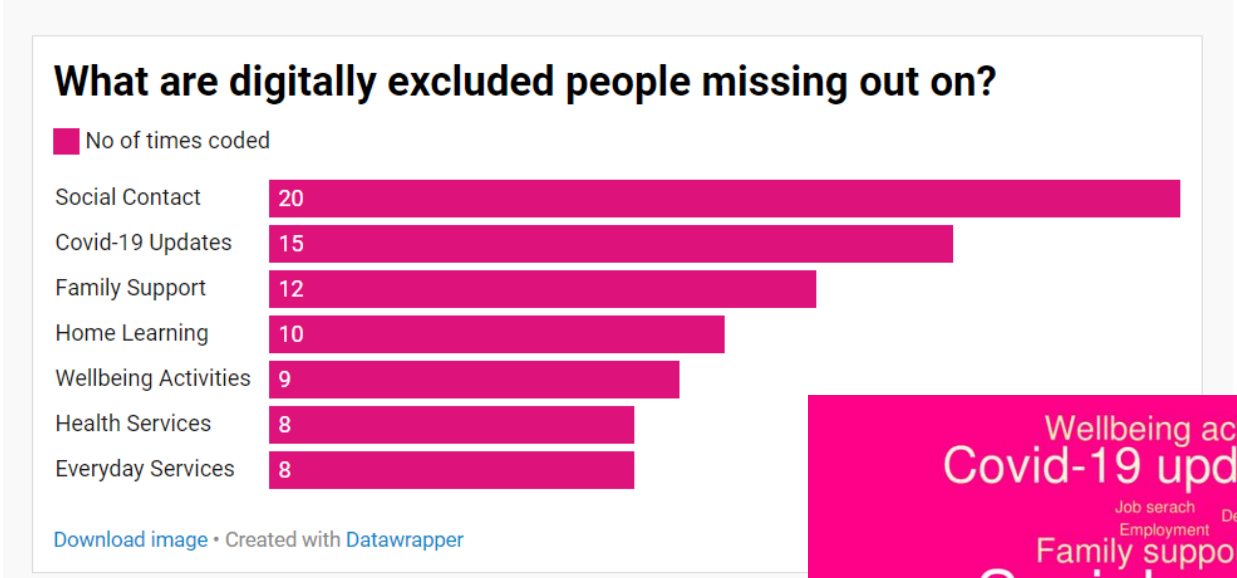
Present survey headline results in engaging ways

There are some additional tools that can help

Datawrapper

Canva

Word It Out



3 out of 5 people are missing social contact

Bringing data together with Power Query

Part 1: Creating connection queries

- ❑ Create a query for Prison 1 : Belmarsh (Data tab – From data from Table/range)
- ❑ Close and Load to Connection (Home menu - Close & load to – connection only)
- ❑ Repeat for prisons 2 & 3

Bringing data together with Power Query

Part 2: Appending queries

- ❑ Launch the Power Query Editor (Data tab – Get data – Launch Power Query Editor)
- ❑ Create an Append query (Home tab, select **Append query** as new, select all the tables, click on **Add,** rename the query to **All participants,** then **Close and Load** the query to create a new worksheet)

Bringing data together with Power Query

Part 3: Adding data and refreshing queries

- ❑ Add a row to any of your 3 prison's worksheet for a new participant
- ❑ Refresh your query (Data tab – Refresh All)

About Superhighways....

A programme of Kingston Voluntary Action, we provide digital, data & tech advice, support & training to the sector, including:

- ✓ Tech support
- ✓ Current training
- ✓ Training brochure
- ✓ Websites
- ✓ Digital, data & tech strategy
- ✓ Digital inclusion
- ✓ Digital / data consultancy
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superhighways
harnessing technology for community benefit

Kate White

info@superhighways.org.uk
www.superhighways.org.uk