

### Guide to Using the DILLN tool

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## Intro to DILLN



DILLN is a POWERBI dashboard that colleagues can access <u>using this link</u>. It works as a population comparison tool, focussing in on characteristics such as CORE20PLUS5, IMD, and ethnicity at a ward level. It helps people working across health and care services to better understand our service users compared to the population and be able to ask: "Does it look like Newham?"

The tool can help you progress along the 'four steps to improving equity' route of change.



## Four steps to improving equity



Understanding the picture as is

Do service users reflect the local demographics/target populations?

Are ONS18+1 ethnicity groups used for data collection?

Is there any variation in people's experience of the service?

Is there any variation in people's outcomes?

**Health Equity Toolkit** - Use **DILLN** to benchmark service user data against Newham's population.

Promote conversation about what equity means, why it matters, and your own positionality. Use Domain 1 of the **Health Equity Routemap** to support these reflections.



Digging deeper into the root causes

What might be the causes of

What more information might you

Is there a difference in your service

Health Equity Toolkit - Use the ART

framework to review how accessible.

relevant and trusted the service is by

Conduct a literature review to

patterns/similarities/good practice.

need to make sense of the situation?

variation?

users.

understand any

and similar services

locally/regionally?



Considering the change idea

What does 'good' look like, and how might you get there?

What else is happening in the system that may affect the outcome of your work?

How might you prioritise/decide what to do?

**Health Equity Toolkit** - Review case studies and best practice.

Co-produce change with residents and VCFS groups that represent the service users you want to reach, as identified using **DILLN**.



Plan: measuring success Do Study/review Act/modify

The four stage are a cycle, when will you review this again?

Health Equity Toolkit- Use the ART Framework and DILLN to evaluate the changes you have made in your next service review.

Use the **Health Equity Routemap** to consider your next steps in reducing health inequalities within your service/organisation.





This slide deck provides a worked example that uses anonymised referral data from the Joy social prescribing service from the last 12 months.

The process of making an insightful comparison using DILLN can be broken up into the following steps:

- 1. Extracting your service data
- 2. Preparing your data
- 3. Extracting relevant DILLN data
- 4. Combining and cleaning your data
- 5. Making notes on data issues
- 6. Comparing the data
- 7. Getting insight and 'what next'





### **Extracting your service data**

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## **Extracting your service data**



The Well Newham Services Database lists all the services on offer to Newham residents across the voluntary, community and faith sector, NHS, Council and private services into one easy to access place for everyone to use. It is powered by a system called Joy.

The anonymised referral data shows what referrals have been made, what services these people were referred to, and some characteristics about these people.

On the right you can see some sample data taken from this service, the important column for us being **Client\_Ethnicity.** 

	В	С		E	Н	1
1	Joy_Organisation	Client_Status		Date_First_Contact	Client_Gender	Client_Ethnicity
47	North East 2 PCN - Newham	Discharged successful		18/01/2022	Female	-
48	North East 2 PCN - Newham	Active	-		-	-
49	Our Newham Money	Active	-		-	-
50	North East 2 PCN - Newham	Discharged successful	-		Female	African
51	North East 2 PCN - Newham	Active	-		-	-
52	North East 2 PCN - Newham	Active	-		-	-
53	North East 2 PCN - Newham	Active	-		-	-
54	North Newham PCN	Discharged successful	-		Female	English, Welsh, Scottish, Northei
55	South One Newham Primary Car	Discharged successful		13/07/2021	Female	English, Welsh, Scottish, Northei
56	North East 2 PCN - Newham	Discharged other		21/09/2022	-	-
57	North East 2 PCN - Newham	Active	-		-	-
58	North East 2 PCN - Newham	Active		08/12/2022	-	-
59	North East 2 PCN - Newham	Discharged successful		06/09/2023	Female	Any other Asian background
60	South One Newham Primary Car	Discharged successful		01/07/2021	Female	English, Welsh, Scottish, Northei
61	South One Newham Primary Car	Discharged other		08/07/2021	Male	English, Welsh, Scottish, Northei
62	North Newham PCN	Discharged no show	-		Female	Any other Asian background
63	North Newham PCN	Discharged successful	-		Male	Any other Asian background
64	South One Newham Primary Car	Discharged successful		22/03/2022	Male	African
65	North Newham PCN	Discharged successful	-		Female	-
66	North Newham PCN	Discharged no show	-		Female	Indian
67	North Newham PCN	Discharged successful	-		Female	African
68	North Newham PCN	Discharged other	-		Female	-
69	South One Newham Primary Car	Discharged successful		14/07/2021	Male	Prefer not to say
70	South One Newham Primary Car	Discharged successful		14/03/2022	-	Caribbean
71	North East 2 PCN - Newham	Discharged other	-		-	-
72	North Newham PCN	Discharged successful		03/05/2023	Female	English, Welsh, Scottish, Northei
73	North Newham PCN	Discharged other	-		Female	Any other Asian background
74	North East 2 PCN - Newham	Discharged successful		07/07/2022	-	
75	South One Newham Primary Car	Discharged other		21/07/2021	Male	Prefer not to say
76	North East 2 PCN - Newham	Discharged other		20/03/2023	-	-
77	South One Newham Primary Car	Discharged other		22/07/2021	Male	English, Welsh, Scottish, Norther
78	North East 2 PCN - Newham	Active	-		-	-
79	North East 2 PCN - Newham	Active	-		-	-
80	North East 2 PCN - Newham	Active	-		-	-
81	North East 2 PCN - Newham	Active	-		-	-
82	Our Newham Money	Active	-		-	-
83	North East 2 PCN - Newham	Discharged successful		06/03/2023	Female	Pakistani





### Preparing your data

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# **Preparing your data**



If each of your data rows represents one service user, you are going to want a COUNT of each ethnicity. You can do this by inserting a **pivot table** and using a **count function**.

To create a **Pivot table**, choose it by navigating to 'Insert', and 'Pivot table'.

Once inserted, you tick the ethnicity marker to display all the ethnicities listed in your data in a table.



Then, you can use the formula: =COUNTIF("data","ethnicity\_category") to count how many of each ethnicity are in the data.

In this example, the formula looked like this: =COUNTIF(DATA!I:I,A4)

	А	В
2	Client_Ethnicity	
3	-	14510
4	African	1582
5	Any other Asian background	610
6	Any other Black, African or Caribbean background	454
7	Any other ethnic group	154
8	Any other Mixed or Multiple ethnic background	271
9	Any other White background	972
10	Arab	97
11	Bangladeshi	1822
12	Caribbean	949
13	Chinese	82

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## **Preparing your data**



To make comparisons to DILLN easier, you can add a percentage column.

If you do this, you should not include people whose ethnicity isn't recorded. You can do this by unticking these options in the Pivot table Pop Up menu. This is an issue with the data that you will need to record and assess the impact of later in the process.

Client_Ethnicity	
African	1582
Any other Asian background	610
Any other Black, African or Caribbean background	454
Any other ethnic group	154
Any other Mixed or Multiple ethnic background	271
Any other White background	972
Arab	97
Bangladeshi	1822
Caribbean	949
Chinese	82
English, Welsh, Scottish, Northern Irish or British	2031
Gypsy or Irish Traveller	12
Indian	1286
Irish	14
Pakistani	987
Prefer not to say	210
White and Asian	19
White and Black African	47
White and Black Caribbean	73
Grand Total	11672

Use the =SUM function for a total.

Client_Ethnicity		
African	1582	= <mark>B3/\$</mark> B\$22
Any other Asian background	610	
Any other Black, African or Caribbean background	454	
Any other ethnic group	154	
Any other Mixed or Multiple ethnic background	271	
Any other White background	972	
Arab	97	
Bangladeshi	1822	
Caribbean	949	
Chinese	82	
English, Welsh, Scottish, Northern Irish or British	2031	
Gypsy or Irish Traveller	12	
Indian	1286	
Irish	14	
Pakistani	987	
Prefer not to say	210	
White and Asian	19	
White and Black African	47	
White and Black Caribbean	73	
Grand Total	í 11672	

Client_Ethnicity	Ŧ	
African	1582	13.55%
Any other Asian background	610	5.23%
Any other Black, African or Caribbean background	454	3.89%
Any other ethnic group	154	1.32%
Any other Mixed or Multiple ethnic background	271	2.32%
Any other White background	972	8.33%
Arab	97	0.83%
Bangladeshi	1822	15.61%
Caribbean	949	8.13%
Chinese	82	0.70%
English, Welsh, Scottish, Northern Irish or British	2031	17.40%
Gypsy or Irish Traveller	12	0.10%
Indian	1286	11.02%
Irish	14	0.12%
Pakistani	987	8.46%
Prefer not to say	210	1.80%
White and Asian	19	0.16%
White and Black African	47	0.40%
White and Black Caribbean	73	0.63%
Grand Total	11672	

Divide each by the total for a proportion. Use dollar signs after the **Grand total** values in the formula. Drag the box to fill and format as percentages using: Home  $\rightarrow$  Number  $\rightarrow$  Percent



### **Extracting relevant DILLN data**

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## **Extracting relevant DILLN data**



In the DILLN tool, navigate to the "Quadrant % (narrow / ONS18) tab"

Ensuring your data is collected with ONS18+1 categories (as minimum) will enable an easier and more useful comparison using the DILLN tool.



### 351081 ASC guadrant Age (9 categories) Sex (2 categories) What does this page show? Page shows the breakdown of Newham adult social care quadrants by narrow ethnicity. Tools on the right allow for filtering by quadrant, age group, and sex. All data refers to residents as per the 2021 census. Source: 2021 census - extracted via ONS census Public

Intelligence



### **Extracting relevant DILLN data**



The next step is to export your data from DILLN into Excel:



Once you have your desired data, hover to the top right of the figure and click the three dots to create a drop down. Then select '**Export data**'. This will open a window asking how you want to export the data. Keep the selection as 'Summarized data' and click '**Export**' on the bottom right. Once exported, find the file in your 'downloads' folder and open it. Once opened, click the '**Enable Content**' button at the top in the yellow band.

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### Combining and cleaning your data

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# **Combining and cleaning your data**

Once you have both data sets, you can now <u>combine and clean</u> your data, in order to make comparisons

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5	Any ot	her Bl	ack. Afr	ican or (	Caribbear	background	_		454	3.89%				~				-			
6	Any ot	her et	hnic gro	up					154	1.32%		1	No	filters a	applie	d					
7	Any ot	her M	ixed or I	Vultiple	ethnic bad	ckground			271	2.32%		2									
8	Any ot	her W	hite bac	kground	ł	-			972	8.33%		3	Ne	w na T	%GT 9		1				
9	Arab								97	0.83%		5		w IIa	70GT 3						
10	Bangla	ideshi							1822	15.61%		4	Asi	an Ban	0.158	3644					
11	Caribb	ean							949	8.13%		5	W	nite Brit	0.147	7588					
12	Chines	e							82	0.70%		6	Ot	har Whi	0.1/	611					
13	English	n, Wel	sh, Sco	ttish, No	orthern Iris	h or British			2031	17.40%		0	01		0.1-	1044					
14	Gypsy	or Iris	sh Irave	ller					12	0.10%	-	7	Bla	ck Afric	0.116	6463					
15	Indian								1286	11.02%		8	Asi	an Indi	0.110	092					
10	Insn Dekiet	ani							087	0.12%	-	Q	Aci	an Daki	0.089	2012					
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20	White	and B	lack Afri	can					47	0.40%		11	Ot	her ethi	0.038	3877					
21	White	and B	lack Ca	ibbean					73	0.63%		12	RIa	ck Caril	0.029	2626					
22	Grand	Tota							11672		-	12	Dia		0.030	0000					



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## **Combining the data**



African	1582	0.135538	
Any other	610	0.052262	
Any other	454	0.038897	
Any other	154	0.013194	
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Banglades	Values	(V) 0.1561	
Caribbean	949	U.081306	
Chinese	82	0.007025	
English, W	2031	0.174006	
Gypsy or I	12	0.001028	
Indian	1286	0.110178	
Irish	14	0.001199	
Pakistani	987	0.084561	
Prefer not	210	0.017992	
White and	19	0.001628	

Import the data into the same document using the 'Paste Values' option in the right click menu to remove the table formatting.

	Population percentage	Social Prescribing referral percentage
Asian Bangladeshi	15.86%	15.61%
White British	14.76%	17.40%
Other White	14.64%	8.33%
Black African	11.65%	13.55%
Asian Indian	11.01%	11.02%
Asian Pakistani	8.89%	8.46%
Other Asian	4.68%	5.23%
Other ethnic group	3.89%	1.32%
Black Caribbean	3.87%	8.13%
Other Black	1.95%	3.89%
Asian Chinese	1.77%	0.70%
Other Mixed	1.57%	2.32%
Mixed White and Black Caribbean	1.21%	0.63%
Arab	1.01%	0.83%
Mixed White and Black African	0.95%	0.40%
Mixed White and Asian	0.94%	0.16%
White Roma	0.67%	
White Irish	0.58%	0.12%
White Gypsy or Irish Traveller	0.10%	0.10%
Does not apply	0.00%	

If your labels are different, move the data over manually to line up the ethnicity category rows, and label each dataset.

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# **Cleaning the data**



You should make any changes to the data that are required and note them.

In this example, White Roma had to be removed as it was not recorded in one of the datasets, and the 'Does not Apply' option had to be removed.

	Population percentage	Social Prescribing referral percentage
Asian Bangladeshi	15.86%	15.61%
White British	14.76%	17.40%
Other White	14.64%	8.33%
Black African	11.65%	13.55%
Asian Indian	11.01%	11.02%
Asian Pakistani	8.89%	8.46%
Other Asian	4.68%	5.23%
Other ethnic group	3.89%	1.32%
Black Caribbean	3.87%	8.13%
Other Black	1.95%	3.89%
Asian Chinese	1.77%	0.70%
Other Mixed	1.57%	2.32%
Mixed White and Black Caribbean	1.21%	0.63%
Arab	1.01%	0.83%
Mixed White and Black African	0.95%	0.40%
Mixed White and Asian	0.94%	0.16%
White Irish	0.58%	0.12%
White Gypsy or Irish Traveller	0.10%	0.10%

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### Making notes on data issues

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### Making notes on data issues



In this example, there were three (or four) main issues with the data that should be commented on.

Try and work out what these were from the example so far.





### **Issues in this dataset:**



#### 1. White Roma was not included as an option in the Joy dataset.

Inferences about the Roma population cannot be made, and inferences about the White Gypsy or Irish Traveller population should be made with caution as some people may have been misclassified.

#### 2. The social prescribing data is missing ethnicity on a lot of entries

This means we can be less confident about these results and should only act on strong patterns. These results can be a way to show frontline staff the importance of recording ethnicity for next time.

#### 3. There is a small sample size for some ethnicities.

If there is more variance for a smaller ethnic group, this could be random chance if it is a small sample size. If this issue comes up, you can collect more data (for example over a longer period of time) to increase the sample size.

#### 4. Data misclassification

In the social prescribing data, there were 412 results for 'on'. You should look into results like these to make the original data better quality.





### **Comparing the data**

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## **Comparing the data - graph**



You can create a chart to compare the two sets of data by highlighting it and using **Insert**  $\rightarrow$  **All Charts**.

A **clustered column** or a **combo** chart are usually the best fit for this kind of data.

You can then add a title and ensure your axis are labelled.

Ethnic breakdown of social prescribing contacts in Newham for whom ethnicity was recorded in the last 12 months





## **Comparing the data**



If you are not sure how to do this and you have downloaded this PowerPoint, you can copy this data into Excel to try it yourself.

	Population	Social Prescribing referral
	percentage	percentage
Asian Bangladeshi	15.86%	15.61%
White British	14.76%	17.40%
Other White	14.64%	8.33%
Black African	11.65%	13.55%
Asian Indian	11.01%	11.02%
Asian Pakistani	8.89%	8.46%
Other Asian	4.68%	5.23%
Other ethnic group	3.89%	1.32%
Black Caribbean	3.87%	8.13%
Other Black	1.95%	3.89%
Asian Chinese	1.77%	0.70%
Other Mixed	1.57%	2.32%
Mixed White and Black		
Caribbean	1.21%	0.63%
Arab	1.01%	0.83%
Mixed White and Black		
African	0.95%	0.40%
Mixed White and Asian	0.94%	0.16%
White Irish	0.58%	0.12%
White Gypsy or Irish		
Traveller	0.10%	0.10%

### **Comparing the data - table**



Another way to show to show the data is by comparing the differences in a table:

	Norm	nal		Ba	d		Good	
	Conditional Format as Chec Formatting - Table -	k C	ell	Ex	planato	ry	Follow	ed Hy
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Add a column that subtracts one value from the other, and add **Conditional Formatting** to colour the column. Adding the following **New Formatting Rule** shows visually how close the proportion of service users is to the population, for each ethnic category. If you highlight the new column, sort it, and choose 'Expand Selection, you can order the table by how close the values are.

### **Comparing the data - table**



Taking these steps can make your tabled results easier to understand.

If you feel confident with these comparisons, you can begin extracting more data to get more insight. DILLN allows you to get ethnicity data on a ward level, which is another useful comparison if you want very targeted interventions.

	Social Prescribing referral			
	Population percentage percentage		Difference	
3lack Caribbean	3.87%	8.13%	4.26%	
White British	14.76%	17.40%	2.64%	
Other Black	1.95%	3.89%	1.94%	
3lack African	11.65%	13.55%	1.91%	
Other Mixed	1.57%	2.32%	0.75%	
Other Asian	4.68%	5.23%	0.55%	
Asian Indian	11.01%	11.02%	0.01%	
White Gypsy or Irish Traveller	0.10%	0.10%	0.00%	
Arab	1.01%	0.83%	-0.18%	
Asian Bangladeshi	15.86%	15.61%	-0.25%	
Asian Pakistani	8.89%	8.46%	-0.44%	
White Irish	0.58%	0.12%	-0.46%	
Mixed White and Black African	0.95%	0.40%	-0.54%	
Mixed White and Black Caribbean	1.21%	0.63%	-0.59%	
Mixed White and Asian	0.94%	0.16%	-0.78%	
Asian Chinese	1.77%	0.70%	-1.07%	
Other ethnic group	3.89%	1.32%	-2.57%	
Other White	14.64%	8.33%	-6.32%	

Figure 1. Proportion of social prescribing service users in the last 12 months, by ethnic category compared to Newham population.

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### Getting insight and 'what next'

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# Getting insight and 'what next'



Summaries of your data should be split into three parts:

- 1. What does this tell us?
- 2. What are the caveats?
- 3. What are the recommendations?



## What does this tell us?



In terms of referrals to social prescribing services in Newham in the last 12 months compared to the overall population, The 'Black' ethnic categories and the 'White British' category are overrepresented, and that the 'Other ethnic group' and 'Other White' group are underrepresented. Ethnic breakdown of social prescribing contacts in Newham for whom ethnicity was recorded in the last 12 months





### What are the caveats?



The caveats are the same as the data issues identified before:

- 1. White Roma was not included as an option in the Joy dataset.
- 2. The social prescribing data is missing ethnicity on a lot of entries.

3. There is a small sample size for some ethnicities.

4. There are some data misclassifications.

Displaying these issues visually can help to show how they impact the results:

Proportion of social prescribing referrals with ethnicity recorded over the last 12 monts

Not recorded Recorded



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### What are the caveats?



You should also explain how each caveat impacts the data.

In the case that around 90% of people did not have their ethnicity recorded, this could skew our data. It is known that incorrect, incomplete, or inconsistent recording of ethnicity is more common in ethnic minorities [1], so some of these groups may be much more underrepresented that the data suggests and the White British group may not be as overrepresented as the data suggests.

[1] Shiekh, Suhail I., et al. "Completeness, agreement, and representativeness of ethnicity recording in the United Kingdom's Clinical Practice Research Datalink (CPRD) and linked Hospital Episode Statistics (HES)." *Population Health Metrics* 21.1 (2023): 3.

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### What are the recommendations?



There are usually two kinds of recommendations you can gather from this kind of comparison:

- 1. Improving the data quality (ie. Addressing the issues you noted).
- 2. Making the service more representative.

One way you might address the second recommendation is to consider what the barriers to accessing a service might be. You can do this by using our ART framework.



### **Our tools - The ART Framework**



### The ART Framework



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The aim of the ART framework is to **shift agency** for accessing and using health promoting services from current/potential service users to providers.

ART recognises that accessibility, relevance and trust are three key elements that encourage people to use our services, and that the absence of these elements can create a barrier to uptake.



# **Using the DILLN tool**



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If you have any questions and want some support – please get in touch with the Newham Health Equity Programme team: <u>health.equity@newham.gov.uk</u>

Pack author – Jack Burnett.

**DILLN tool** - Adeola Agbebiyi and Ben Bezuidenhout.

