02
Understanding multiple needs:
method notes

About the Fulfilling Lives programme

The Fulfilling Lives programme funds voluntary-sector led partnerships in 12 areas across England. The partnerships were awarded funding in February 2014 and began working with beneficiaries between May and December 2014. They are:

- Birmingham Changing Futures Together
- Fulfilling Lives Blackpool
- Fulfilling Lives South East Partnership (Brighton and Hove, Eastbourne and Hastings)
- Golden Key (Bristol)
- FLIC (Fulfilling Lives Islington and Camden)
- Liverpool Waves of Hope
- Inspiring Change Manchester
- Fulfilling Lives Newcastle and Gateshead
- Opportunity Nottingham
- Fulfilling Lives Lambeth, Southwark and Lewisham
- VOICES (Stoke on Trent)
- West Yorkshire – Finding Independence (WY-FI)

The National Lottery Community Fund commissioned CFE Research and the University of Sheffield to carry out a national evaluation of the programme.

This report provides further information on methods and data sources used to create the briefing: Understanding multiple needs.

About the data sources

A Common Data Framework (CDF) was developed at the start of the Fulfilling Lives programme to ensure consistent data is collected by all 12 partnership areas. The CDF comprises:

— demographic information on beneficiaries and their engagement with the programme
— six monthly assessments of need and risk (Homelessness Outcomes Star and New Directions Team assessment) – see page 4–5 for further information
— data on frequency of interactions with 18 different public services.

Local partnerships collect data in line with the CDF and submit this to the national evaluation team quarterly. Beneficiaries are recruited to the programme on a rolling basis.

This briefing mainly draws on the demographic data and initial assessments of need and risk carried out within the first three months of beneficiaries' engagement with the programme. We use this to show the baseline position as it gives an indication of people's behaviour before the programme has had time to have an impact. The data covers the period from the start of the programme (May 2014) until September 2018.

All beneficiaries are asked to provide informed consent for their data to be collected by partnerships and shared with the national evaluation team. This is refreshed every two years. Where beneficiaries do not agree to share their data we know only their start and end dates (so that we can count them as beneficiaries of the programme). In total, 3,480 beneficiaries have engaged with the programme and of these 2,913 consented to sharing their data with us.

Collecting information from people with multiple needs can be challenging. Data sets are not always complete; where data is missing we have excluded the case from our analysis. **As a result, base numbers vary**.

Homelessness Outcomes Star™

The Homelessness Outcomes Star™ is a tool for supporting and measuring change in people with multiple needs and is completed by beneficiaries with support from key workers. People agree a score from 1–10 on each area according to whether they are stuck (1–2), accepting help (3–4), believing (5–6), learning (7–8) or self-reliant (9–10). An increase in the score indicates progress towards self-reliance (so high scores are good). It covers the following ten outcome areas:

1. Motivation and taking responsibility
2. Self-care and living skills
3. Managing money
4. Social networks and relationships
5. Substance misuse
6. Physical health
7. Emotional and mental health
8. Meaningful use of time
9. Managing tenancy and accommodation
10. Offending

A total score is also calculated.

The Outcomes Star was developed by Triangle and St Mungo's as part of the London Housing Foundation Impact through Outcomes programme. The Outcomes Star is used under Licence from Triangle. Training was provided to Fulfilling Lives partnerships by Homeless Link and use of the Star is supported by a detailed user guide and other resources. For more information see http://www.outcomesstar.org.uk/using-the-star/see-the-stars/homelessness-star/

For the purposes of the national evaluation, the Star should be completed by beneficiaries with support from key workers within two months of them engaging with projects, and then at six monthly intervals thereafter.

New Directions Team Assessment

The New Directions Team assessment or NDT assessment is a tool for assessing beneficiary need. It focuses on behaviour across a range of areas to build up a holistic picture of need rather than the traditional demonstration of serious need in a specific area only (for example, mental health). It also explicitly measures involvement with other services, which is not routinely used as a measure of service eligibility otherwise. The result is an index which identifies chaotic people with multiple needs who, despite being ineligible for a range of services, require targeted support.

The NDT assessment covers ten areas as follows:

1. Engagement
2. Intentional Self Harm
3. Unintentional Self Harm
4. Risk to Others
5. Risk from Others
6. Stress and Anxiety
7. Social Effectiveness
8. Alcohol or Drug Abuse
9. Impulse Control
10. Housing

Each item in the assessment is rated on a 5-point scale with 0 being the lowest possible score and 4 being the highest. Risk to others and risk from others are double weighted, with a high score of 8. The highest possible NDT score is 48 and the lowest 0. Low scores denote lower needs (so low NDT assessment scores are good).

The NDT assessment was originally devised by the New Directions Team in Merton as part of the Adults Facing Chronic Exclusion pilots. It was designed to identify people who would benefit from the programme.

For the purposes of the national evaluation, the NDT assessment should be completed by key workers as soon as possible after the service user engages with the Fulfilling Lives programme and then at six monthly intervals.

For more information see: http://www.meam.org.uk/wp-content/uploads/2010/05/NDT-Assessment-process-summary-April-2008.pdf

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Analysis

Data provided by Fulfilling Lives partnerships is collated in an SQL database then exported to SPSS for analysis.

Descriptive statistics

Descriptive statistics were used to summarise trends in the dataset using measures of central tendency (means), proportions and frequencies. Only statistically significant results are reported, using the 95 per cent confidence level ($p < .05$). This means we can be reasonably confident that the results would be found in the wider population of Fulfilling Lives beneficiaries and not just in our sample. Chi-squared and column proportion tests were calculated to explore significant associations for a range of variables.

Regression

Multiple regression analysis (22 models) was carried out to explore the individual characteristics of beneficiaries that are associated with Homelessness Outcomes Star and NDT scores and each domain of these measures at baseline. Predictor variables included in the regression models included age (in years), sex (male/female), ethnicity (white British/other ethnicity), disability (disabled/not disabled) and presence of each of the four needs (homelessness, reoffending, substance misuse, mental ill-health). Due to partial data, the regression models were computed using data from 1,761 beneficiaries for the NDT assessment and 1,611 beneficiaries for the Homelessness Outcomes Star.

Regression analysis in this context provides a useful tool to identify the individual characteristics that are associated with levels of need and risk as measured by the Homelessness Outcomes Star and NDT scales, and whether characteristics are associated with higher or lower levels of need and risk. The regression models should not be used as evidence of a causal relationship or of the direction of influence. For example, high levels of need in relation to alcohol and substance abuse may lead to homelessness as well as the reverse. Further, there are likely to be unobserved factors that influence both the explanatory variables and the outcome.

Cluster analysis

Cluster analysis was performed to identify groups of beneficiaries that share common behaviours. The final cluster analysis contained the following variables: NDT domain scores, Homelessness Outcomes Star domain scores, sources of unsafe and insecure income and percentage of time spent in each accommodation type. Demographic characteristics were not included but explored once groups were created. Variables in the model were transformed to ensure the analysis was carried out using standardised continuous scales ranging from 0 to 10. Standardisation ensures no one variable influences the analysis more than another. Principal Components Analysis (PCA) was carried out to test for multicollinearity between the variables in the model and highly correlated variables were merged. The analysis was repeated using different clustering methods and on sub-samples to check results could be replicated. The final cluster model presented was undertaken using k-means clustering.

Results

Beneficiary profile

Table 1: Age group

	Frequency	Percent
16–19	60	2
20–29	544	21
30–39	878	33
40–49	790	30
50–59	318	12
60 or older	55	2
Total	2,645	100

Table 2: Sex

	Frequency	Percent
Male	1,727	65
Female	925	35
Total	2,652	100

Table 3: Ethnicity

	Frequency	Percent
White British	2,102	84
White other	128	5
Mixed	113	4
Asian/Asian British	44	2
Black/African/Caribbean/Black British	112	4
Other	18	1
Total	2,517	100

Table 4: Disability

	Frequency	Percent
Disabled	947	41
Not disabled	1,356	59
Total	2,303	100

Table 5: Literacy

	Frequency	Percent
Is not a problem	1,155	67
Is a problem	577	33
Total	1,732	100

Table 6: Level of highest qualification

	Frequency	Percent
No qualification	635	62
Entry level	88	9
GSCE	210	21
A Level	47	5
University/equivalent	30	3
Total	1,019	100

Table 7: Economic status

	Frequency	Percent
In employment/self employed	38	2
Unemployed and seeking work	247	12
Student/on training scheme	2	1
Retired	15	1
Unable to work	1,408	70
Other	288	14
Total	1,998	100

Table 8: Number of defining needs

	Frequency	Percent
Two	158	6
Three	1,211	42
Four	1,481	52
Total	2,850	100

Table 9: Accommodation type and sex (people spend time in more than one so results do not sum to 100%)

Accomodation type	Male		Female		P value
	Frequency	**Percent**	**Frequency**	**Percent**	
Friends and family*	284	21	215	29	<.0001
Rough sleeping*	392	29	148	20	<.0001
Temporary accommodation (e.g. hostels)	344	26	176	23	NS
Supported accommodation	331	25	183	24	NS
Own tenancy (social housing)*	154	11	130	17	<.0001
Own tenancy (private)	145	11	100	13	NS
Shared property	27	2	11	1	NS
Prison*	104	8	39	5	.027
Other	202	15	101	13	NS

* Chi-squared tests indicating a statistically significant difference between males and females.

Table 10: Accommodation type and disability (people spend time in more than one so results do not sum to 100%)

Accomodation type	Disabled		Not disabled		P value
	Frequency	Percent	Frequency	Percent	
Friends and family*	156	21	283	25	.048
Rough sleeping*	139	19	313	28	<.0001
Temporary accommodation (e.g. hostels)*	206	28	257	23	.012
Supported accommodation	192	26	256	23	NS
Own tenancy (social housing)*	125	17	128	12	.001
Own tenancy (private)	77	11	144	13	NS
Shared property*	6	1	26	2	.015
Prison	46	6	84	8	NS
Other	104	14	158	14	NS

* Chi-squared tests indicating a statistically significant difference between people who are disabled and not disabled.

Table 11: One or multiple accommodation types and ethnicity

Accomodation type	White British		Other ethnicity		P value
	Frequency	Percent	Frequency	Percent	
One type*	1,027	62	231	69	–
Multiple types*	625	38	103	31	–
Total	1,652	100	334	100	.016

*Chi-squared test indicating a statistically significant difference between ethnic groups.

Table 12: Beneficiaries who have their own tenancy and spend time in other accommodation types

Spending time in own tenancy	Frequency	Percent
Only spend time in own tenancy	415	74
Spend time somewhere else in addition to own tenancy	148	26
Total	563	100

Table 13: Receipt of an insecure income and sex

Insecure income type	Male		Female		P value
	Frequency	Percent	Frequency	Percent	
Friends and family*	99	11	74	15	.02
Begging	167	18	71	15	NS
Illegal activities	141	16	71	15	NS
Sex work*	7	1	78	16	<.0001

* Chi-squared tests indicating a statistically significant difference between males and females.

Table 14: Receipt of at least one welfare benefit and sex

Benefits accessed	Male		Female		P value
	Frequency	Percent	Frequency	Percent	
No benefits accessed*	191	15	72	11	–
Accessed at least one benefit*	1,053	85	606	89	–
Total	1,244	100	678	100	.004

* Chi-squared test indicating a statistically significant difference between males and females.

Table 15: Four defining needs and disability

Four needs	Disabled		Not disabled		P value
	Frequency	Percent	Frequency	Percent	
Homelessness	687	74	966	73	NS
Offending*	738	80	1,141	86	<.0001
Substance misuse	893	97	1,292	97	NS
Mental health*	893	97	1,215	91	<.0001

* Chi-squared tests indicating a statistically significant difference between people who are disabled and not disabled.

Table 16: Literacy problems and sex

Literacy problems	Male		Female		P value
	Frequency	Percent	Frequency	Percent	
No*	652	63	408	73	–
Yes*	387	37	152	27	–
Total	1,039	100	560	100	<.0001

* Chi-squared test indicating a statistically significant difference between males and females.

Table 17: Literacy problems and disability

Literacy problems	Disabled		Not disabled		P value
	Frequency	Percent	Frequency	Percent	
No*	378	63	614	71	–
Yes*	221	37	255	29	–
Total	599	100	869	100	<.0001

* Chi-squared test indicating a statistically significant difference between people who are disabled and not disabled.

Table 18: Literacy problems and ethnicity

Literacy problems	White British		Other ethnicity		P value
	Frequency	Percent	Frequency	Percent	
No*	882	70	151	57	–
Yes*	386	30	113	43	–
Total	1,268	100	264	100	<.0001

* Chi-squared test indicating a statistically significant difference between ethnic groups.

Table 19: Economic status and ethnicity

Economic status	White British		Other ethnicity		P value
	Frequency	Percent	Frequency	Percent	
In employment/self-employed	21	1	7	2	NS
Unemployed and seeking work*	165	11	62	20	<.0001
Student/on training scheme	2	2	0	0	Not run due to low numbers
Retired	12	1	2	1	NS
Unable to work*	1,051	72	208	67	.042
Other	205	14	34	11	NS

* Column proportion tests indicating outcomes with a statistically significant difference between ethnic groups.

Table 20: Economic status and disability

Economic status	Disabled		Not disabled		P value
	Frequency	Percent	Frequency	Percent	
In employment/self-employed	8	1	22	2	NS
Unemployed and seeking work	79	12	145	14	NS
Student/on training scheme	1	0	1	0	NS
Retired	7	1	6	1	NS
Unable to work*	514	78	663	66	<.0001
Other*	52	8	173	17	<.0001

* Column proportion tests indicating a statistically significant difference between disabled and not disabled.

Table 21: Insecure income and age group

Insecure income type	16–19		20–29		30–39		40–49		50–59		60 or older	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Friends and family*	1	4	45	16	61	14	48	12	11	6	2	6
Begging	3	13	40	14	86	20	73	18	29	16	4	12
Illegal activities	5	21	51	18	68	16	59	14	25	14	1	3
Sex work	0	0	23	8	33	8	20	5	5	3	0	0

* Column proportion tests indicating a statistically significant difference where the 20–29 age group are significantly more likely to be receiving income from family and friends compared to the 50-59 age group (p=.026).
Due to low numbers, the age groups '16–19' and '60 or older' were excluded from the column proportion test for the 'Sex work' insecure income type.

Table 22: Economic status and age group

Economic status	16–19		20–29		30–39		40–49		50–59		60 or older	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
In employment/ self-employed	0	0	10	3	9	2	6	1	2	1	0	0
Unemployed and seeking work*	17	41	58	16	77	13	59	11	19	10	1	2
Student/on training scheme	0	0	1	0	0	0	0	0	1	1	0	0
Retired	0	0	0	0	0	0	0	0	0	0	14	34
Unable to work*	14	33	233	65	420	70	421	78	158	76	21	54
Other	11	26	57	16	94	16	55	10	26	12	4	10

* Column proportion tests indicating statistically significant differences where the 16–19 age group are significantly more likely to be unemployed and seeking work than those aged 20–29 (p=.001), 30–39 (p<.0001), 40–49 (p<.0001) and 50–59 (p<.0001).

* Column proportion tests indicating statistically significant differences where the 16–19 age group are significantly less likely to be unable to work than those aged 20–29 (p<.0001), 30–29 (p<.0001), 40–49 (p<.0001) and 50–59 (p<.0001).

Due to low numbers, column proportion tests were not conducted to compare age groups for 'In employment/self-employed', 'Student/on training scheme' and 'Retired'.

Table 23: Multiple linear regression analyses for the NDT showing Beta coefficients and levels of significance

Variables and reference groups (where needed)	NDT total	Enga-gement	Intentional self-harm	Uninten-tional self-harm	Risk to others	Risk from others	Stress and anxiety	Social effectiveness	Alcohol or drug abuse	Impulse control	Housing
Age	-0.025	0.000	-0.016**	0.007**	-0.022**	0.005	-0.001	0.004	0.007**	-0.005	-0.004
Sex Ref group: Female	1.837**	0.048	0.225**	0.299**	-0.204	1.552**	0.043	-0.122*	0.056	-0.024	-0.036
Ethnicity Ref group: Other ethnicity	-2.065**	-0.127*	-0.295**	-0.180**	-0.253	-0.574**	-0.125*	-0.060	-0.193**	-0.169*	-0.088
Disability Ref group: Disabled	0.414	-0.049	0.153**	0.082	-0.053	0.215	0.091*	0.131**	-0.014	-0.025	-0.117*
Homelessness	1.048**	0.047	-0.114	0.093	-0.062	0.140	0.033	-0.042	0.055	-0.011	0.910**
Offending	3.532**	0.200**	0.059	0.126	1.434**	0.211	0.261**	0.238**	0.218**	0.561**	0.225**
Substance misuse	5.791**	0.547**	0.277	0.724**	0.841**	0.896**	0.124	0.204	1.669**	0.235	0.274*
Mental health	1.612*	-0.202*	0.378**	-0.106	0.385	0.316	0.443**	0.281**	-0.035	0.328**	-0.176
n	1,761	1,761	1,761	1,761	1,761	1,761	1,761	1,761	1,761	1,761	1,761
R-squared	0.072	0.028	0.052	0.043	0.082	0.108	0.031	0.023	0.121	0.039	0.165

Asterisks indicate significance level: ** $p < 1\%$, * $p < 5\%$.

Table 24: Multiple linear regression analyses for the Homelessness Outcomes Star showing Beta coefficients and levels of significance

Variables and reference groups (where needed)	Outcomes Star total	Motivation & taking responsi-bility	Self-care & living skills	Managing money	Social networks & rela-tionships	Sub-stance misuse	Physical health	Emotional & mental health	Mean-ingful use of time	Managing tenancy & accom-modation	Offending
Age	-0.044	-0.003	-0.018**	0.005	-0.005	-0.003	-0.034**	0.001	-0.001	-0.003	0.018**
Sex Ref group: Female	0.726	0.034	0.198	0.024	0.019	0.060	-0.157	-0.020	-0.008	0.191	0.384**
Ethnicity Ref group: Other ethnicity	2.030*	0.301*	0.297	0.165	0.041	0.485**	0.320*	0.090	0.292*	-0.027	0.067
Disability Ref group: Disabled	-1.985**	-0.173	-0.265*	-0.131	-0.229*	-0.143	-0.501**	-0.238**	-0.123	-0.001	-0.179
Homelessness	-4.710**	-0.337**	-0.546**	-0.454**	-0.180	-0.464**	-0.185	-0.200*	-0.277**	-1.052**	-1.014**
Offending	-5.754**	-0.306**	-0.373*	-0.362**	-0.416**	-0.381**	-0.168	-0.272*	-0.410**	-0.652**	-2.414**
Substance misuse	-11.435**	-0.907**	-1.092**	-0.142**	-0.334	-2.844**	-1.549**	-0.669**	-0.562*	-0.893**	-1.441**
Mental health	-0.345	-0.006	0.031	0.155	0.151	0.032	0.153	-0.674**	-0.070	-0.046	-0.165
n	1,611	1,611	1,611	1,611	1,611	1,611	1,611	1,611	1,611	1,611	1,611
R-squared	0.062	0.024	0.038	0.027	0.014	0.079	0.066	0.026	0.021	0.062	0.131

Asterisks indicate significance level: ** $p < 1\%$, * $p < 5\%$.

Table 25: Beneficiary groups showing the mean average values for each variable used to form the groups

Variables and mean average values for each	Beneficiary group					
	1	2	3	4	5	6
Homelessness Outcomes Star (score from 1–10)						
Motivation and taking responsibility	5.72	2.79	2.52	6.02	3.00	3.54
Self-care and living skills	6.64	2.85	2.55	7.10	3.24	4.19
Managing money	5.60	2.19	2.30	6.07	2.59	3.53
Social networks and relationships	5.34	2.61	2.24	5.46	2.56	3.44
Drug and alcohol misuse	6.55	2.36	2.29	5.99	2.64	3.21
Physical health	6.33	3.15	2.75	6.71	3.64	4.11
Emotional and mental health	4.94	2.49	2.24	4.95	2.36	3.02
Meaningful use of time	5.09	2.09	2.04	5.03	2.39	3.02
Managing tenancy and accommodation	6.06	2.28	2.15	5.62	2.85	4.29
Offending	7.99	3.25	3.01	7.20	3.64	6.81
NDT (score from 0–4)						
Engagement with frontline services	1.19	3.09	3.09	2.72	2.82	2.66
Intentional self-harm	0.73	1.72	2.05	1.80	2.09	2.03
Unintentional self-harm	0.76	3.11	3.02	2.98	2.97	2.84
Risk to others (score from 0–8)	1.28	4.06	4.67	4.41	4.15	3.77
Risk from others (score from 0–8)	2.03	4.72	4.79	4.76	4.88	5.30
Stress and anxiety	1.69	2.98	3.15	3.24	2.86	3.07
Social effectiveness	0.94	2.21	2.29	2.23	2.06	2.12

Variables and mean average values for each	Beneficiary group					
	1	**2**	**3**	**4**	**5**	**6**
Alcohol/Drug abuse	1.01	3.72	3.48	3.29	3.55	3.43
Impulse control	0.81	2.52	2.69	2.79	2.52	2.34
Housing	1.46	3.19	3.02	2.80	2.62	2.29

Unsafe income (percentage within each group)

Friends and family	33%	17%	9%	12%	32%	5%
Begging	1%	100%	0%	7%	0%	0%
Illegal activities	4%	46%	0%	5%	100%	0%
Sex work	4%	13%	5%	5%	23%	2%

Accommodation type (average amount of time spent in each type of accommodation)

Friends and family	12%	12%	18%	21%	17%	6%
Rough sleeping	4%	39%	16%	14%	7%	1%
Temporary accommodation	21%	13%	15%	12%	31%	27%
Supported accommodation	20%	20%	11%	7%	16%	35%
Own tenancy (social housing)	32%	5%	11%	15%	10%	15%
Own tenancy (private)	1%	3%	13%	12%	6%	11%
Shared property	0%	1%	1%	0%	0%	1%
Prison	1%	4%	6%	5%	6%	1%
Other	9%	1%	8%	14%	7%	3%

Table 26: Demographic characteristics of each beneficiary group (these variables were not used to form the groups)

Demographic characteristics				Beneficiary group		
	1	2	3	4	5	6
Sex						
Male	51%	67%	66%	56%	58%	61%
Female	49%	33%	34%	44%	42%	39%
Ethnicity						
White British	75%	77%	87%	79%	82%	88%
Other ethnicity	25%	23%	13%	21%	18%	12%
Disability						
Not disabled	68%	64%	57%	63%	65%	52%
Disabled	32%	36%	43%	37%	35%	48%
Literacy						
No problems	41%	44%	71%	71%	51%	64%
Problems with literacy	59%	56%	29%	29%	49%	36%
Age group						
16–29	28%	20%	19%	36%	41%	19%
30–39	37%	39%	32%	27%	30%	30%
40–49	23%	27%	30%	26%	17%	32%
50 or older	12%	14%	19%	11%	11%	20%