

Who are the fuel poor?

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Summary

After April 2023 when the Energy Price Guarantee is raised from £2,500 to £3,000 and the £400 rebate to all households runs out, fuel poverty will rise. This paper shows who will be affected by fuel poverty after April, based on analysis of the ONS Living Costs and Fuel Survey. We use a threshold of households spending more than 20 per cent of their net income after housing costs on fuel. The analysis describes their characteristics, their fuel poverty rates, their fuel poverty gaps and which households in fuel poverty are not being helped by the mitigations for households receiving social security benefits.

There is clearly an association between fuel poverty and net income, with fuel poverty concentrated in the lower-income deciles, but some richer households also spend more than 20 per cent of their income on fuel and a third of households in fuel poverty are not income poor. Childless couple households are less likely than average to be fuel poor, and couples with two or more children and lone parent households are more likely to be fuel poor. Pensioner households are no more likely to be fuel poor.

If there had been no mitigations for social security recipient households, 27.1 per cent of households would be fuel poor from April 2023. The mitigations will reduce that by 5.5 percentage points or 20.3 per cent. 65.5 per cent of all fuel poor households are receiving cost of living payments but that leaves 34.5 per cent (or 2,596,000) of them not receiving the payments. Households with children are most likely to be at risk after mitigation. The social security mitigations reduce the fuel poverty gap by 22.3 per cent overall, but for those not eligible the mean fuel poverty gap is £34.40 per week.

Background

On 23 January 2023, Jonathan Brearley the Chief Executive of Ofgem said:¹

That is why today, as part of the further work on price regulation announced by government in autumn last year, we are calling for a serious assessment of a social tariff. This is a tariff that is set at a different rate for vulnerable customers and protects against the impact of extremely high prices. If it can be made to work, this could tackle the root cause of this issue and the distress that many customers are in this Winter.

Since August 2022, we have been producing papers on household fuel poverty based on the secondary analysis of the ONS Living Costs and Food Survey (LCFS).² Among these was a paper on social tariffs which compared the impact of a simple progressive social tariff (lower tariffs for smaller consumers paid for either by higher tariffs for larger consumers or by the taxpayer) with policies providing direct support by increasing the incomes of social security recipients. Broadly we concluded that enhancing social security incomes was a better strategy, though far from perfect.³

¹ J Brearley, '[Tackling inappropriate energy supplier prepayment meter practices](#)', Ofgem, 23 January 2023

² See J Bradshaw and A Keung, '[Rising fuel poverty](#)', *Poverty*, CPAG, 173, 2022, and A Keung and J Bradshaw, '[Fuel poverty estimates for April 2023 following the Autumn Statement, including social security mitigations](#)', CPAG, 9 December 2022

³ J Bradshaw and A Keung, '[Is a social tariff for energy feasible and effective?](#)', University of York, 2022

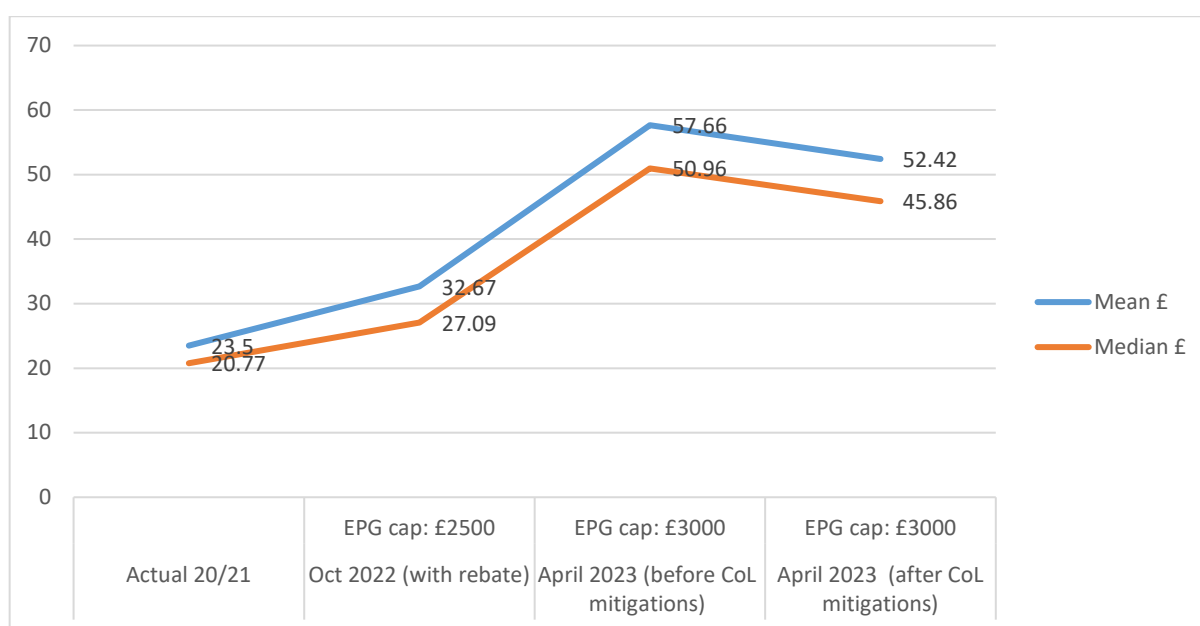
To summarise: the problems are that not all the fuel poor are small consumers; not all social security recipients are in fuel poverty; not all households in fuel poverty are social security recipients; and neither the government nor fuel providers know who the ‘vulnerable customers’ are.

In this paper we extend and update our previous analyses to identify who the fuel poor will be after April 2023.

Methods

Fuel poverty is driven by low income and high energy costs. The latter can be further attributed to high unit cost of energy and poor thermal efficiency of some dwellings. In order to identify which households are most affected by fuel poverty, we use the latest available household data from the ONS Living Costs and Food Survey 2020-21. Chart 1 below shows a significant upward trend of the average energy costs to UK households between 2020 and 2023.

Chart 1: Average energy costs to UK households



Own analysis of LCFS 2020/21 weighted data

There is no single agreed measure of fuel poverty. Our earlier analyses used a variety of thresholds based on the percentage of net equivalent income spent on fuel (10 per cent, 20 per cent, 25 per cent and 30 per cent). Following convention, we tended to focus on those spending more than 10 per cent on fuel. However, using this definition our analysis revealed that 65 per cent of UK households in April 2023 would be classified as fuel poor in the context of distorted high energy costs. The End Fuel Poverty Coalition has suggested that these households should be more accurately be referred to as living in ‘fuel stress’, and that fuel poverty should be limited to a higher threshold. In this paper we decided to adopt the 20 per cent definition, using this higher threshold to differentiate the relatively less impacted ‘fuel stress’ households from the more impacted ‘fuel poor’ households.

On 17 November 2022, the Chancellor announced that the Energy Price Guarantee (EPG) would be raised from £2,500 to £3,000 from April 2023 when the £400 per household energy rebate would also end. He also announced that social security benefits and pensions would be uprated by 10.1 per cent and there would be a new set of costs of living payments: £300 for all pensioner households, £150 for disability benefit recipients and £900 for recipients of means-tested working-age benefits.

For this analysis we have increased net household income by 10 per cent. This is an attempt to adjust for improvements in net income between September 2020 and April 2023. We have to acknowledge it is only an

estimate. Household incomes will have been affected by Covid during 2020/21, especially the £20 per week uplift in universal credit (UC). There were upratings of benefits in April 2021 (by 0.5 per cent) and 2022 (by 3.2 per cent), and they will increase again in April 2023 (by 10.1 per cent). Also the minimum wage has been increased faster over this period than general increases in earnings. ONS estimates show that nominal earnings grew by 1 per cent in the year ending April 2020, 5.5 per cent in the year ending April 2021 and 6.9 per cent in the year ending April 2022. But all those increases will have been offset by the £20 per week reduction in UC and/or increases in taxation. Remember we are dealing with net household income.

In this analysis, we have also taken account of the cost of living payments that will be paid through the social security system in 2023-24, though we should acknowledge some limitations: there is a well-known underreporting of benefit receipt in survey data; only around 5 million households received the means-tested benefits eligible for the cost of living payment in the LCFS 2020-21 dataset and the government predicts 8 million will be eligible in 2023-24; there were only around 3 million people in receipt of disability benefits in LCFS 2020/21 and the government predicts 6 million people will be eligible in 2023-24. This discrepancy can also partly be explained by the lack of data in the LCFS on the following eligible disability benefits: Scottish disability benefits, armed forces independence payment, constant attendance allowance, and war pension mobility supplement. However, there does not seem to be any difference between the LCFS and government estimates for pensioner households. The social security mitigations are going to increase income rather than reduce expenditure for those eligible, but for analytical reasons, in order to see their impact on fuel poverty we have adjusted fuel expenditure in the following analysis.

The results show that 27.1 per cent of households (7.5 million) in the UK in April 2023 will be classified as fuel poor as they will spend more than 20 per cent of their net income after housing costs on their energy bills (before any mitigations).

Results

The first analysis is an exploration of the household characteristics of the fuel poor – what is the composition of households spending more than 20 per cent of net income on fuel? Table 1 shows the composition if there had been no social security mitigations, and after the mitigations.

Table 1: Frequencies distribution of the fuel poor households on key variables, April 2023

Key variables		Fuel poor before mitigations		Fuel poor after mitigations		All households	
		Count (000s)	%	Count (000s)	%	Count (000s)	%
Income decile							
	1	2,399	31.9	2,016	33.6	2,810	10
	2	1,697	22.6	1,262	21.0	2,810	10
	3	1,143	15.2	860	14.3	2,797	10
	4	818	10.9	598	10.0	2,813	10
	5	519	6.9	415	6.9	2,812	10
	6	380	5.1	345	5.8	2,799	10
	7	237	3.1	206	3.4	2,810	10
	8	187	2.5	173	2.9	2,811	10
	9	109	1.4	104	1.7	2,808	10
	10	30	0.4	22	0.4	2,808	10
Total		7,517	100	6,001	100	28,079	100
Household type (brief)							
	Single	1,163	15.5	917	15.3	4,426	15.7
	Couple	820	10.9	697	11.6	5,312	18.8
	Households with dependent children	2,440	32.5	1,981	33.0	6,743	23.9

	Pensioners	2,247	29.9	1,651	27.5	8,878	31.5
	Other multi-unit	848	11.3	755	12.6	2,839	10.1
Total		7,517	100	6,001	100	28,198	100
Household type (detailed)							
	Single	1,163	15.5	917	15.3	4,426	15.7
	Couple	820	10.9	697	11.6	5,312	18.8
	Couple with 1 child	521	6.9	442	7.4	2,029	7.2
	Couple with 2 children	768	10.2	682	11.4	2,524	9.0
	Couple with 3 children	427	5.7	335	5.6	843	3.0
	Couple with 4 or more children	115	1.5	92	1.5	186	0.7
	Lone parent with 1 child	231	3.1	174	2.9	532	1.9
	Lone parent with 2 or more children	378	5.0	255	4.2	629	2.2
	Pensioner, single	961	12.8	671	11.2	3,860	13.7
	Pensioner couple	1,039	13.8	785	13.1	4,268	15.1
	Other pensioner (i.e. pensioner only with children or pensioners living in multi-unit)	247	3.3	195	3.2	750	2.7
	Other (multi-unit)	848	11.3	755	12.6	2,839	10.1
Total		7,517	100	6,001	100	28,198	100
Region							
	North East	423	5.6	301	5.0	1,238	4.4
	North West and Merseyside	772	10.3	546	9.1	3,132	11.1
	Yorkshire and the Humber	759	10.1	589	9.8	2,503	8.9
	East Midlands	456	6.1	385	6.4	2,255	8.0
	West Midlands	562	7.5	438	7.3	2,444	8.7
	Eastern	756	10.1	619	10.3	2,594	9.2
	London	955	12.7	789	13.1	3,363	11.9
	South East	769	10.2	643	10.7	3,739	13.3
	South West	685	9.1	527	8.8	2,433	8.6
	Wales	407	5.4	346	5.8	1,260	4.5
	Scotland	713	9.5	589	9.8	2,505	8.9
	Northern Ireland	261	3.5	229	3.8	734	2.6
Total		7,517	100	6,001	100	28,198	100
Ethnic origin of head of household							
	White	4,403	88.2	3,453	57.5	17,013	90.9
	Mixed race	89	1.8	73	1.2	254	1.4
	Asian or Asian British	243	4.9	178	3.0	855	4.6
	Black or Black British	122	2.4	107	1.8	300	1.6
	Other ethnic group	133	2.7	124	2.1	303	1.6
Total		4,990	100	3,935	65.6	18,726	100
Tenure type							
	Local authority	921	12.3	681	11.3	1,831	6.5
	Housing association	1,030	13.7	735	12.2	2,189	7.8
	Private rented	1,661	22.1	1,355	22.6	5,063	18
	Owned/ mortgaged/ outright	3,791	50.4	3,135	52.2	18,770	66.6
	Rent free	114	1.5	96	1.6	345	1.2
Total		7,517	100	6,001	100	28,198	100
Income poverty							
	No (i.e. >=60% median income)	2,479	33.0	2,022	33.7	20,208	72
	Yes (i.e. < 60% median income)	5,038	67.0	3,979	66.3	7,871	28
Total		7,517	100	6,001	100	28,079	100
	1 Means-tested CoL* only	1,965	26.1	1,266	21.1	3,035	10.8

	2 Disability CoL only	203	2.7	192	3.2	599	2.1
	3 Pensioner CoL only	1,614	21.5	1,270	21.2	6,789	24.1
	4 Means-tested + disability CoL	507	6.7	295	4.9	1,018	3.6
	5 Means-tested + pensioner CoL	268	3.6	139	2.3	587	2.1
	6 Disability + pensioner CoL	267	3.5	195	3.2	1,083	3.8
	7 Means-tested + disability + pensioner CoL	98	1.3	48	0.8	419	1.5
	Not receiving mitigations	2,596	34.5	3,405	56.7	14,668	52
Total		7,517	100	6,001	100	28,198	100

*Cost of living payment

Table 2 presents fuel poverty rates for each household type before and after the social security mitigations. There is clearly an association between fuel poverty and net income, with fuel poverty concentrated in the lower-income deciles, but some richer households also spend more than 20 per cent of their income on fuel and a third of households in fuel poverty are not income poor. Childless couple households are less likely than average to be fuel poor, and couples with two or more children and lone parent households are more likely to be fuel poor. Pensioner households are no more likely to be fuel poor. Fuel poverty is more common than average in the North East, Yorkshire and Humberside, Eastern Region, London, Wales, Scotland and Northern Ireland. It is also more common in all non-white ethnic groups and in all rented tenures.

If there had been no mitigations for social security recipient households, 27.1 per cent of households would be fuel poor from April 2023. The mitigations will reduce that by 5.5 percentage points or 20.3 per cent.

Table 2: Fuel poverty rates before and after mitigations, April 2023

Key variables		Fuel poor before mitigations		Fuel poor after mitigations	
		Count (000s)	%	Count (000s)	%
Income decile					
	1	2,399	88.9	2,016	74.7
	2	1,697	61.1	1262	45.4
	3	1,143	41.5	860	31.2
	4	818	29.3	598	21.4
	5	519	18.7	415	15.0
	6	380	13.7	345	12.4
	7	237	8.5	206	7.4
	8	187	6.7	173	6.2
	9	109	3.9	104	3.7
	10	30	1.1	22	0.8
Total		7,519	27.1	6,001	21.6
Household type (brief)					
	Single	1,163	27.5	917	21.7
	Couple	820	15.6	697	13.2
	Households with dependent children	2,440	36.6	1,981	29.7
	Pensioners	2,247	25.5	1,651	18.8
	Other multi-unit	848	30.6	755	27.3
Total		7,518	27.1	6,001	21.6
Household type (detailed)					
	Single	1,163	27.5	917	21.7
	Couple	820	15.6	697	13.2
	Couple with 1 child	521	25.8	442	21.9
	Couple with 2 children	768	30.5	682	27.1
	Couple with 3 children	427	51.9	335	40.8

	Couple with 4 or more children	115	61.8	92	49.7
	Lone parent with 1 child	231	43.9	174	33.1
	Lone parent with 2 or more children	378	62.5	255	42.1
	Pensioner, single	961	25.2	671	17.6
	Pensioner couple	1,039	24.4	785	18.4
	Other pensioner (i.e. pensioner only with children or pensioners living in multi-unit)	247	33.7	195	26.6
	Other (multi-unit)	848	30.6	755	27.3
Total		7,518	27.1	6,000	21.6
Region					
	North East	423	35.3	301	25.1
	North West and Merseyside	772	24.8	546	17.5
	Yorkshire and the Humber	759	30.5	589	23.7
	East Midlands	456	20.5	385	17.3
	West Midlands	562	24.0	438	18.7
	Eastern	756	29.2	619	23.9
	London	955	29.1	789	24.1
	South East	769	20.9	643	17.5
	South West	685	28.8	527	22.1
	Wales	407	32.3	346	27.5
	Scotland	713	28.9	589	23.8
	Northern Ireland	261	36.1	229	31.7
Total		7,518	27.1	6,001	21.6
Ethnic origin of head of household					
	White	4,403	26.3	3,453	20.6
	Mixed race	89	36.3	73	29.9
	Asian or Asian British	243	28.7	178	21.0
	Black or Black British	122	40.5	107	35.7
	Other ethnic group	133	48.4	124	44.9
Total		4,990	27.1	3,935	21.4
Tenure type					
	Local authority	921	51.2	681	37.9
	Housing association	1,030	48.3	735	34.5
	Private rented	1,661	34.2	1,355	27.9
	Owned/ mortgaged/ outright	3,791	20.3	3,135	16.8
	Rent free	114	39.6	96	33.2
Total		7,517	27.1	6,002	21.6
Income poverty					
	No (i.e. >=60% median income)	2,479	12.4	2,022	10.1
	Yes (i.e. < 60% median income)	5,038	65.5	3,979	51.7
Total		7,517	27.1	6,001	21.6
COL payment recipient group					
	1 Means-tested CoL only	1,965	65.8	1,266	42.4
	2 Disability CoL only	203	34.5	192	32.7
	3 Pensioner CoL only	1,614	23.9	1,270	18.8
	4 Means-tested + disability CoL	507	52.5	295	30.6
	5 Means-tested + pensioner CoL	268	47.1	139	24.4
	6 Disability + pensioner CoL	267	24.7	195	18.0
	7 Means-tested + disability + pensioner CoL	98	24.4	48	12.0
	Not receiving mitigation	2,596	18.0	2,596	18.0
Total		7,518	27.1	6,001	21.6

Who is not eligible for cost of living payments but is fuel poor?

This is an important question because it is an indication of the limits of using the receipt of social security benefits to mitigate fuel poverty, and suggests which might be the types of household that need to be targeted in other ways, including by some kind of social tariff.

48 per cent of all households receive some mitigation of their fuel costs via the social security system. It can be seen in Table 3 that most of these (66 per cent) are pensioners.

Table 3: Recipients of cost of living payments

	Count (000s)	%
1 Means-tested CoL only	3,035	22.4
2 Disability CoL only	599	4.4
3 Pensioner CoL only	6,789	50.2
4 Means-tested + disability CoL	1,018	7.5
5 Means-tested + pensioner CoL	587	4.3
6 Disability + pensioner CoL	1,083	8.0
7 Means-tested + disability + pensioner CoL	419	3.1
Total	13,530	100

65.5 per cent of all fuel poor households are receiving cost of living payments but that leaves 34.5 per cent (or 2,596,000) of them not receiving the payments. Who are they? Table 4 provides an analysis of their composition.

- 59 per cent are from the bottom 3 income deciles
- 40 per cent are families with children
- 62 per cent are living in owned/ mortgaged houses
- 55 per cent are income poor

Table 4: In fuel poverty but not eligible for cost of living payments, April 2023

		Not eligible for CoL		Fuel poor total	
		Count (000s)	%	Count (000s)	%
Income decile					
	1	688	26.5	2,399	31.9
	2	397	15.3	1,697	22.6
	3	440	16.9	1,143	15.2
	4	344	13.3	818	10.9
	5	174	6.7	519	6.9
	6	227	8.7	380	5.1
	7	128	4.9	237	3.1
	8	121	4.7	187	2.5
	9	58	2.2	109	1.4
	10	19	0.7	30	0.4
Total		2,596	100	7,517	100
Household type (brief)					
	Single	569	21.9	1,163	15.5
	Couple	538	20.7	820	10.9
	Households with dependent children	1,020	39.3	2,440	32.5
	Pensioners	0	0	2,247	29.9

	Other multi-unit	469	18.1	848	11.3
Total		2,596	100	7,517	100
Household type (detailed)					
	Single	569	21.9	1,163	15.5
	Couple	538	20.7	820	10.9
	Couple with 1 child	274	10.6	521	6.9
	Couple with 2 children	460	17.7	768	10.2
	Couple with 3 children	189	7.3	427	5.7
	Couple with 4 or more children	8	0.3	115	1.5
	Lone parent with 1 child	57	2.2	231	3.1
	Lone parent with 2 or more children	32	1.2	378	5.0
	Pensioner, single	0	0	961	12.8
	Pensioner couple	0	0	1,039	13.8
	Other pensioner (i.e. pensioner only with children or pensioners living in multi-unit)	0	0	247	3.3
	Other (multi-unit)	469	18.1	848	11.3
Total		2,596	100	7,517	100
Region					
	North East	114	4.4	423	5.6
	North West and Merseyside	270	10.4	772	10.3
	Yorkshire and the Humber	217	8.4	759	10.1
	East Midlands	171	6.6	456	6.1
	West Midlands	144	5.5	562	7.5
	Eastern	288	11.1	756	10.1
	London	376	14.5	955	12.7
	South East	286	11.0	769	10.2
	South West	253	9.7	685	9.1
	Wales	138	5.3	407	5.4
	Scotland	255	9.8	713	9.5
	Northern Ireland	85	3.3	261	3.5
Total		2,596	100	7,517	100
Ethnic origin of head of household					
	White	1,503	88.1	4,403	88.2
	Mixed race	20	1.2	89	1.8
	Asian or Asian British	63	3.7	243	4.9
	Black or Black British	48	2.8	122	2.4
	Other ethnic group	72	4.2	133	2.7
Total		1,706	100	4,990	100
Tenure type					
	Local authority	180	7.0	921	12.3
	Housing association	149	5.8	1,030	13.7
	Private rented	629	24.2	1,661	22.1
	Owned/ mortgaged/ outright	1,611	62.1	3,791	50.4
	Rent free	26	1.0	114	1.5
Total		2,596	100	7,517	100
Income poverty					
	No (i.e. \geq 60% median income)	1,162	44.8	2,479	33.0
	Yes (i.e. $<$ 60% median income)	1,434	55.2	5,038	67.0
Total		2,596	100	7,517	100

What happens to the fuel poverty gap?

The fuel poverty gap is an indication of how far below the fuel poverty threshold those who are in fuel poverty are. It is an indicator of the severity of their fuel poverty. Table 5 presents the fuel poverty gap after April 2023, both before and after mitigations. The social security mitigations reduce fuel poverty by 22.3 per cent on average and of course are of greater value for those eligible. For those not eligible the fuel poverty gap is £34.40.

Table 5: Mean and median fuel poverty gaps before and after mitigations

Key variables		Fuel poverty gap before mitigations		Fuel poverty gap after mitigations	
		Mean £ per week	Median £ per week	Mean £ per week	Median £ per week
Income decile					
	1	36.16	27.79	27.15	18.10
	2	29.93	20.21	21.12	10.55
	3	25.27	16.47	19.47	11.55
	4	23.51	16.16	18.68	9.98
	5	31.77	15.84	25.88	9.77
	6	28.84	16.60	25.08	15.36
	7	40.98	16.43	36.89	12.88
	8	46.94	14.32	44.26	14.32
	9	60.46	46.30	55.26	40.53
	10	37.48	40.09	36.74	40.09
Household type (brief)					
	Single	29.20	21.85	22.62	11.87
	Couple	25.09	18.15	21.11	12.99
	Households with dependent children	38.15	23.48	29.79	14.53
	Pensioners	28.03	19.40	20.54	10.80
	Other multi-unit	33.77	26.79	27.62	17.56
Household type (detailed)					
	Single	29.20	21.85	22.62	11.87
	Couple	25.09	18.15	21.11	12.99
	Couple with 1 child	41.70	28.21	35.36	18.95
	Couple with 2 children	36.40	20.90	30.48	14.22
	Couple with 3 children	39.21	21.99	31.39	15.68
	Couple with 4 or more children	71.00	42.55	55.20	34.63
	Lone parent with 1 child	27.80	23.39	17.87	11.90
	Lone parent with 2 or more children	31.99	22.37	18.53	10.87
	Pensioner, single	24.66	17.70	16.89	9.18
	Pensioner couple	29.52	20.90	23.18	12.83
	Other pensioner (i.e. pensioner only with children or pensioners living in multi-unit)	34.86	23.70	23.61	9.10
	Other (multi-unit)	33.77	26.79	27.62	17.57
Region					
	North East	27.19	17.45	19.36	6.90
	North West and Merseyside	27.10	18.80	19.96	9.28
	Yorkshire and the Humber	29.19	23.86	21.61	13.69
	East Midlands	35.93	18.60	30.93	14.09
	West Midlands	33.96	25.90	25.66	15.97
	Eastern	32.37	20.65	26.34	15.77

	London	37.19	24.53	29.35	16.60
	South East	32.15	22.42	25.89	14.94
	South West	28.16	20.71	21.20	14.94
	Wales	27.74	20.90	20.22	9.48
	Scotland	32.06	19.41	25.66	14.07
	Northern Ireland	42.26	28.18	34.27	17.95
Ethnic origin of head of household					
	White	31.69	21.47	24.64	13.82
	Mixed race	37.39	40.52	28.31	29.29
	Asian or Asian British	31.77	23.73	20.80	10.89
	Black or Black British	33.31	32.14	24.52	19.40
	Other ethnic group	33.07	32.14	27.50	22.74
Tenure type					
	Local authority	30.96	23.90	20.28	11.45
	Housing association	30.53	22.42	19.60	10.93
	Private rented	31.18	23.73	23.01	15.12
	Owned/ mortgaged/ outright	32.29	19.55	27.62	13.70
	Rent free	44.29	22.40	35.96	15.82
Income poverty					
	No (i.e. >=60% median income)	31.64	17.00	27.25	11.95
	Yes (i.e. < 60% median income)	31.91	23.46	23.49	14.22
COL payment recipient group					
	1 Means-tested CoL only	31.62	25.96	17.38	8.65
	2 Disability CoL only	30.88	19.49	27.96	16.61
	3 Pensioner CoL only	28.40	18.60	23.25	12.83
	4 Means-tested + disability CoL	36.62	23.48	20.94	3.26
	5 Means-tested + pensioner CoL	28.39	23.25	10.80	0.17
	6 Disability + pensioner CoL	22.92	18.38	15.19	9.01
	7 Means-tested + disability + pensioner CoL	34.77	25.06	17.12	0
	Not receiving mitigation	34.40	20.20	34.40	20.20
All		31.82	21.60	24.73	13.63