Policy interventions to alleviate poverty at the end of life – a cost/benefit analysis

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Contents

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1 Introduction

This report builds upon previous work investigating the prevalence and patterns of poverty at the end of life in the UK.[1] The previous research estimated that in a given year, over 90,000 people are in poverty in the last 12 months of life. Importantly, the research showed that end of life is much more likely to be associated with poverty among people of working age than among pensioners, with 27% of people aged 20-64 who are in their last 12 months of life estimated to be in poverty – around 25,000 people. This difference is likely to be due to both the impact of loss of earnings among people of working age, and because out-of-work benefits are much less generous than post-retirement benefits.

These findings have informed a new campaign by Marie Curie calling for people who are at the end of life and are of working age, to be given access to the state pension, allowing them to benefit from a system that is meant to support people at the end of life but which those who die before reaching pension age are unable to draw upon.[2] In this report, we seek to quantify the potential impact and cost of this change, if it were to be implemented. We also look at how this impact varies by country/region and consider the value of giving working age people with terminal illness the same support for paying home energy costs as those of pension age.

To fully investigate the potential costs and benefits, we model a number of different options for implementing these potential policies.[3]

[1] Stone and Hirsch (2022) *Poverty at the end of life in the UK.* Marie Curie/Loughborough University. https://www.mariecurie.org.uk/globalassets/media/documents/policy/dying-in-poverty/h420-poverty-at-the-end-of-life-in-the-uk-2nd-pp.pdf

[2] https://www.mariecurie.org.uk/policy/poverty

[3] More detail regarding the methods used in the analysis can be found in the appendix.

2 Analytical approach

Table 2.1 shows the 2022/23 values for the full New State Pension, Pension Credit, and the Severe Disability and Carers elements of pension credit, and the standard Universal Credit amount. These were used to calculate the estimated entitlements, and the corresponding cost to the state, under each proposed system.

Table 2.1 Weekly values of key benefits, 2022/23

Benefit type	2022/23 values (weekly)
Pension credit (single)	£182.60
Pension credit (couple)	£278.70
Pension credit – severe disability element	£69.40
Pension credit – carers element	£38.85
New state pension	£185.15
Universal credit (standard allowance)	£76.99

The analysis addresses two key questions:

- How many people are lifted out of poverty in each scenario?
- How much would it cost the state, overall, to apply each scenario?

2.1 Means tested option

In this scenario, the National Insurance contributions (NICs) of people with terminal illness would first be considered, and they would be able to claim the New State Pension to the amount indicated by their NICs. If after receiving this additional income, their household income still fell below Pension Credit level, it would be topped up to meet this level. We model the impact of applying this system both with and without the addition of the Severe Disability element (single people) or the carers element (couples) of Pension Credit.

2.2 Universal option

Under this system, everyone with a terminal illness would be eligible to claim the full state pension with no means-testing. Means-tested working age benefits would be removed in this scenario.

For both the means-tested and the universal options, we model each scenario for all people in the last 12 months of life, and for a subgroup excluding certain causes of death[4], to attempt to identify more specifically those who died due to terminal illness.

[4] Excluded causes of death include accidents, deaths due to pregnancy/childbirth, certain infectious diseases, other external causes of death.

3 Main findings

3.1 Key findings

- Under a means-tested approach, topping up the income of working age people in the last 12 months of life, to pension credit level, could lift more than 10,000 people out of poverty
- The cost to the state using a means-tested approach would be between £1.3 and £3.2 million – a fraction of the nearly £2 billion existing expenditure, per week, on the state pension.
- Over 90% of people of working age, in the last 12 months of life, have made contributions to the National Insurance system, with around a quarter having contributed the full 35 years required to be eligible for the full state pension.
- Giving everyone of working age, who is in the last 12 months of life, the full state pension without any means testing would reduce the poverty rate in this group to as low as 3%. However, the cost would be much higher at up to £10 million per week.

3.2 Means tested approach

As outlined in the previous section, the means tested approach is based on people being entitled to both their state pension, based on accrued National Insurance payments, and a top-up to pension credit level if required. We also show the impact of producing the estimates with and without the inclusion of the carers element (for couples) or the severe disability element (for singles) of pension credit.

Tables 3.1 and 3.2 show the extent to which these interventions could lift people out of poverty in the last 12 months of life, and how much this would cost the state on a weekly basis. In Table 2.1, giving people additional income based on a combination of the state pension and pension credit, would lift just under 5,000 people out of poverty and reduce the poverty rate from 27.5% to 22.2%, costing the state around £1.5 million per week. With the addition of the severe disability and carers elements of pension credit, the number lifted out of poverty more than doubles to over 10,000, and the poverty rate reduces to just 15.9% - similar to the rate seen for people of pension age.

Table 3.1 Cost/benefit analysis for people aged 20-64 who are last 12 months of life: means-tested approach

	No intervention			Without severe disability/carers element			With severe disability/carers element		
Age group	***20-44***	***45-64***	***Total***	***20-44***	***45-64***	***Total***	***20-44***	***45-64***	***Total***
Poverty rate for those in last 12 months of life (*%*)	26.2	27.8	27.5	22.8	22.1	22.2	16.9	15.7	15.9
Number in poverty *(thousands)*	4.4	20.5	24.9	3.8	16.3	20.1	2.8	11.6	14.4
Number lifted out of poverty *(thousands)*	-	-	-	0.6	4.2	4.8	1.6	8.9	10.5
Weekly cost to the state *(£millions)*	-	-	-	£0.2	£1.3	£1.5	£0.4	£2.8	£3.2

Table 3.2 shows what happens to these results if we restrict the analysis to exclude those whose cause of death is unlikely to be a terminal illness. The initial poverty rate before any intervention is now slightly lower at 26%, and the number of people in poverty falls to around 19,000 due to the smaller overall sample size. The impact is similar to that seen for the overall sample of people at the end of life, with around 9,000 people lifted out of poverty, with the poverty rate falling to 19% without and with the additional pension credit elements, respectively. The cost to the state is, however, lower at £2.2 million per week.

Table 3.2 Cost/benefit analysis for people aged 20-64 who are last 12 months of life, restricted to subset of causes of death: means-tested approach

	No intervention			Without severe disability/carers element			With severe disability/carers element		
Age group	***20-44***	***45-64***	***Total***	***20-44***	***45-64***	***Total***	***20-44***	***45-64***	***Total***
Poverty rate for those in last 12 months of life (%)	27.7	25.7	26.0	23.0	18.4	19.0	14.5	14.1	14.1
Number in poverty *(thousands)*	2.5	16.4	18.9	2.1	11.8	13.8	1.3	9.0	10.3
Number lifted out of poverty *(thousands)*	-	-	-	0.4	4.7	5.1	1.2	7.4	8.6
Weekly cost to the state *(£millions)*	-	-	-	£0.2	£1.1	£1.3	£0.3	£1.9	£2.2

3.2.1 Breakdown of costs

In this section we break down the total cost to the state into the different elements included in the means-tested option. The first element is the state pension, based on accrued NICs. Tables 3.3 and 3.4 show the average years of NICs for working aged people who are in the last 12 months of life. Table 3.3 shows that overall, only 8% of people aged 20-64 have not made any contributions, and more than a quarter have contributed the 35

years necessary to be eligible for the full state pension. On average, they have accrued 24 years of NICs by the time they reach the last 12 months of life. Table 3.4 shows a similar picture for the sample restricted by cause of death.

Table 3.3 Average years of National Insurance Contributions (NICs) among people of working age who are in the last 12 months of life

Years of NICs	Age group		
	20-44	45-64	Total 20-64
No NICs	12.9%	7.4%	8.1%
<5 years	20.2%	14.3%	15.1%
5-9 year	27.4%	7.7%	10.4%
10-19 years	27.6%	11.7%	13.9%
20-29 years	12.0%	17.1%	16.4%
30-35 years	0.0%	11.0%	9.5%
>35 years	0.0%	30.9%	26.6%
Overall mean years' NICs	*10.7*	*25.5*	*23.5*

Table 3.4 Average years of National Insurance Contributions (NICs) among people of working age who are in the last 12 months of life, restricted to a subset of causes of death

Years of NICs	Age group		
	20-44	45-64	Total 20-64
No NICs	5.2%	6.9%	6.8%
<5 years	0.0%	16.3%	15.3%
5-9 year	32.5%	8.0%	9.6%
10-19 years	17.8%	10.8%	11.2%
20-29 years	44.4%	16.2%	18.0%
30-35 years	0.0%	12.5%	11.7%
>35 years	0.0%	29.3%	27.5%
Overall mean years' NICs	*17.8*	*24.8*	*24.4*

Table 3.5 shows how these average contributions translate into pension entitlement, and how this contributes to the overall amount people would be eligible to receive under the means-tested system, broken down by age group. The two age groups require a similar amount of additional income to reach pension credit level, at £90 for those aged 20-44 and £92 for those age 45-64. However, while for the older age group their state pension entitlement would, on average, fully cover this amount[5] for the younger age group – who have had less time to build up NICs – the state pension would only cover around two-thirds of the pension credit top-up. The additional amount added for the severe disability and carers elements of pension credit would on average add around £62 to the top-up, giving a total of around £154 overall. The value is lower for the younger age group because they are more likely to be partnered, and will therefore receive the carers element, which is of lower value than the severe disability element. Restricting the analysis to a subset of causes of

[5] Where state pension entitlement exceeds the amount required to reach pension credit level, we assume that the excess will be deducted from Universal Credit entitlement, so the additional income received will still only be at pension credit level.

death shows a similar outcome overall, but the younger age group are initially slightly worse off than in the overall sample, and therefore require a slightly larger top-up of £97.

Table 3.5 Breakdown of estimated entitlements and additions for working age people in the last 12 months of life

Average weekly values	Age group		
	20-44	45-64	Total 20-64
Amount required to reach pension credit level	£90.14	£92.12	£91.90
State pension entitlement	£56.86	£120.80	£112.35
Severe disability/carers element	£52.13	£62.83	£61.65
Total weekly addition	£142.28	£154.95	£153.55

Table 3.6 Breakdown of estimated entitlements and additions for working age people in the last 12 months of life, restricted to a subset of causes of death

Average weekly values	Age group		
	20-44	45-64	Total 20-64
Amount required to reach pension credit level	£97.10	£90.83	£91.62
State pension entitlement	£65.60	£115.53	£109.93
Severe disability/carers element	£53.43	£62.53	£61.39
Total weekly addition	£150.53	£153.36	£153.00

3.2 Universal approach

The second option that we consider is a universal approach where all people in the last 12 months of life would be eligible for the full state pension with no means-testing. In this scenario, means-tested working-age benefits such as the standard allowance of Universal Credit would be withdrawn, to be replaced by the state pension.

Table 3.7 shows the costs and benefits of this approach for people aged 20-64. Giving everyone the full state pension would mean that the overwhelming majority of people at the end of life would be lifted out of poverty – the rate falls from 27.5% with no intervention, to just 3.5%. However, the cost to the state is much higher than with the means-tested option, at over £10 million per week. When the analysis is restricted by cause of death (Table 3.8), the results again look similar, with the poverty rate among those at the end of life reduced to just 3%, with a weekly cost of £7.6 million.

Table 3.7 **Cost/benefit analysis for people aged 20-64 who are last 12 months of life: universal approach**

	No intervention			With universal state pension		
Age group	***20-44***	***45-64***	***Total***	***20-44***	***45-64***	***Total***
Poverty rate for those in last 12 months of life (%)			27.5	1.0	4.2	3.5
Number in poverty *(thousands)*			24.9	0.2	3.0	3.2
Number lifted out of poverty *(thousands)*			-	4.2	17.5	21.7
Weekly cost to the state *(£millions)*			-	£1.9	£8.3	£10.2

Table 3.8 **Cost/benefit analysis for people aged 20-64 who are last 12 months of life, restricted to subset of causes of death: universal approach**

	No intervention			With universal state pension		
Age group	***20-44***	***45-64***	***Total***	***20-44***	***45-64***	***Total***
Poverty rate for those in last 12 months of life (%)			26.0	3.0	3.0	3.0
Number in poverty *(thousands)*			18.9	0.3	1.9	2.2
Number lifted out of poverty *(thousands)*			-	2.2	14.5	16.7
Weekly cost to the state *(£millions)*			-	£0.9	£6.7	£7.6

4 Regional breakdown

Table 4.1 shows how the means-tested and universal options for providing people in the last 12 months of life, with the state pension, would look for the different regions and countries of the UK. The estimates for the means-tested option include the severe disability allowance, and all estimates are for the full population of people in the last 12 months of life, unrestricted by cause of death.

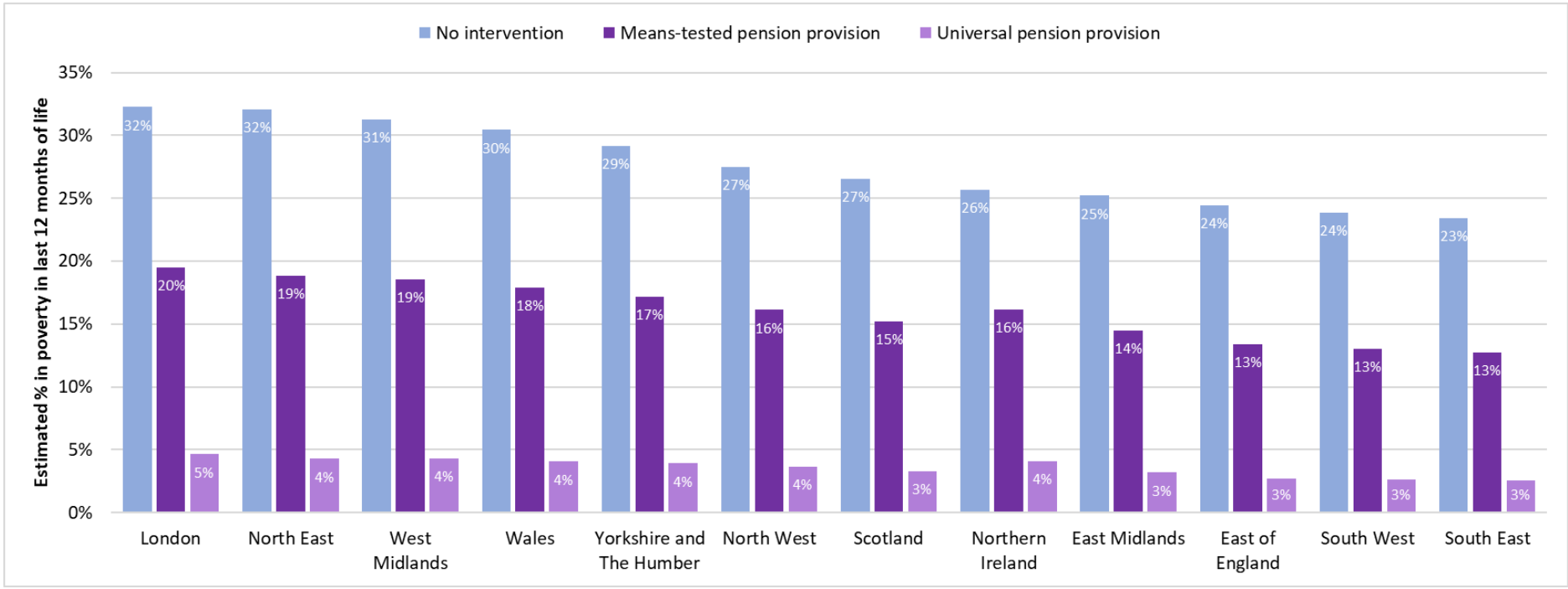
In relative terms, the greatest improvements are seen in the South East, where the poverty rate is estimated to fall by 45.7% (from 23.5% to 12.8%) with the means-tested option, and by 89.2% (from 23.5% to 2.5%) with the universal pension option.

However, the results show that if the means-tested option is applied, in absolute terms, the greatest gains from providing working age people at the end of life with pension-age benefits are observed in the North East, with the estimated percentage of people in poverty falling by 13.2 percentage points compared with no intervention. The results are similar with universal state pension provision for working age people at the end of life – the North East again shows the greatest absolute improvement, with the poverty rate falling by 27.8 percentage points. The gap between the highest and lowest regional poverty rates (in London and the South East, respectively) also narrows from 8.8 percentage points with no intervention, to 6.8 percentage points with the mean-tested option, and just 2.1 percentage points with the universal option. This narrowing of the inequality between regions is demonstrated in Figure 4.1.

Table 4.1 Estimated number and proportion of people in poverty in the last 12 month of life in countries/regions of the UK in 2019

	No intervention		Means-tested pension provision		Universal pension provision	
Country/region	*Number*	*%*	*Number*	*%*	*Number*	*%*
England	19848	27.5%	11462	15.9%	2536	3.5%
North East	1434	32.1%	842	18.9%	191	4.3%
North West	3166	27.5%	1856	16.1%	420	3.6%
Yorkshire and The Humber	2319	29.2%	1366	17.2%	312	3.9%
East Midlands	1619	25.2%	931	14.5%	205	3.2%
West Midlands	2462	31.3%	1462	18.6%	338	4.3%
East of England	1768	24.4%	969	13.4%	196	2.7%
London	2957	32.3%	1789	19.5%	426	4.6%
South East	2463	23.5%	1341	12.8%	267	2.5%
South West	1660	23.9%	906	13.0%	181	2.6%
Northern Ireland	699	25.7%	439	16.2%	112	4.1%
Scotland	2801	26.5%	1605	15.2%	348	3.3%
Wales	1512	30.4%	888	17.9%	201	4.0%

Figure 4.1 **Estimated proportion of working age people in poverty in the last 12 months of life in countries/regions of the UK in 2019, by proposed policy intervention**



5 Winter fuel payments

Home energy costs are a particularly pressing issue for people at the end of life. People living with terminal illness may often experience worsening symptoms if they are unable to stay warm, and many will need to keep their heating on for much of the day. Specialist equipment related to their illness may also significantly increase household energy consumption.

In addition to the state pension, people of retirement age are also universally eligible to receive an annual Winter Fuel Payment of £200. However, this is not currently available for people of working age who have a terminal illness. Those receiving pension credit or who have a low income can claim an additional £150 to be subtracted from their winter fuel bill via the Warm Home Discount.

Here we model the impact on poverty rates if working age people in the last 12 months of life were automatically eligible for both of these benefits.

Table 5.1 shows that, largely because the weekly gain is relatively small (£6.71 per week), the impact on poverty rates is much less pronounced than that associated with providing working age people with pension credit or the New State Pension. However, nearly 1,000 people would still be lifted out of poverty at the end of life, with a negligible cost to the state of just £0.6 million per week.

Table 5.1 Cost/benefit analysis for people aged 20-64 who are last 12 months of life: impact of winter fuel payments

	No intervention	With fuel payments
Poverty rate for those in last 12 months of life (%)	27.5	26.6
Number in poverty *(thousands)*	24.9	24.0
Number lifted out of poverty *(thousands)*	-	0.9
Weekly cost to the state *(£millions)*	-	£0.6

6 Summary and conclusions

The analyses presented here show that giving working age people with terminal illness access to the state pension could be a highly effective policy to reduce the risk of poverty among these individuals and their households. Even with a means-tested approach, thousands of people could be lifted out of poverty at the end of life, with a relatively minimal cost to the state in the context of the welfare budget.

The analysis shows that both the gains in lifting people out of poverty and the costs to the state would be much more pronounced for those aged 45-64 years than for those in the younger age group (20-44) – largely because mortality rates are higher in the older age group. Among those aged 45-64, nearly a third of those in the last 12 months of life have already accrued the full 35 years NICs required to receive the full state pension; therefore for many of these people, they are simply claiming a benefit to which they would have been fully entitled post-retirement. Moreover, only 8% of people aged 20-64 in the last 12 months of life have contributed no National Insurance payments. Therefore, in many cases the cost to the state is simply being shifted to an earlier date rather than strictly being an additional cost.

Analysis of regional variation further shows that these interventions would be particularly beneficial in geographical areas such as the North East where poverty rates are high at a population level. Furthermore, even the relatively modest measure of providing people with the winter fuel payment and warm home discount at the end of life would help lift some people out of poverty. It is therefore clear that providing people of working age with pension-age benefits at the end of life could be an extremely valuable and cost-effective approach to alleviating poverty for people at a time when they are vulnerable, both personally and financially.

A1 Technical appendix

As noted above, this analysis builds upon previous work to estimate the number of people in poverty at the end of life in the UK. An overview of the method used to produce these estimates can be found in that report.[6] We used the Social Metrics Commission (SMC) definition of poverty as the basis for the estimates, and this is also the case in this report.

In this latest analysis, we use the same core method to produce the estimates, but with some additional stages, to allow evaluation of the potential costs and benefits of the different policy options described. These include different approaches to supplementing the income of people at the end of life, and applying this to a subset of causes of death.

A1.1 Data preparation

A1.1.1 Means-tested approach

For the means-tested option, we calculate eligibility for the state pension and pension credit top-up, and the amount received, using the following process:

1. First, we calculate state pension entitlement based on National Insurance Contributions (NICs). This is not measured directly in Understanding Society. However, as part of the survey, respondents complete a detailed employment history[7] so we are able to make an informed estimate of their contributions based on their years in employment. For cases where employment histories were missing, NICs are estimated based on age.
2. We then adjust total household income to exclude benefits that are disregarded under means-testing for pension credit, and to take account of savings at a rate specified by DWP (every £500 over £10,000 is counts as £1 per week income).
3. If this adjusted household income falls below pension credit level, it is topped up to this level (with singles and couples given the respective pension credit values).[8]
4. Household income is further adjusted by additionally including the severe disability element (for singles) or the carers element (for couples) of Universal Credit.
5. The total increase in income, via pension credit, is added to 'total resources available' under the Social Metrics Commission definition.
6. For those in rented accommodation, housing costs are assumed to be covered by housing benefit and this is also added to their total income in addition to the pension credit top-up.
7. The adjusted measure of 'total resources available' is then compared with the threshold for being in poverty, producing a new poverty indicator.

Note that we assume that households will continue to receive any additional elements of Universal Credit to which they are entitled (over and above the standard allowance). For

[6] https://www.mariecurie.org.uk/globalassets/media/documents/policy/dying-in-poverty/h420-poverty-at-the-end-of-life-in-the-uk-2nd-pp.pdf

[7] Construction of the employment histories was aided by code kindly made available by Dr. Liam Wright. See: Wright, L. (2021, August 27). Producing Working-Life Histories in the UKHLS and BHPS. https://doi.org/10.31235/osf.io/g6exr

[8] In some cases this would be partly accounted for by state pension entitlement, but any excess over the pension credit level would be lost due to being deducted from their Universal Credit entitlement.

example, those with children would still receive the child element(s) of UC if eligible, rather than being given the child element of pension credit (these are essentially identical in value).

The Understanding Society data run from 2010/11 to 2019/20, therefore the benefit levels used to adjust income are specific to each year in the initial analysis, and are uprated to 2022 prices for final calculations of cost to state.

A1.1.2 Universal approach

In the Universal approach, all people of working age who are in the last 12 months of life, are given the full New State Pension. This is applied in two stages:

1. Means-tested working age benefits are removed from income (Universal Credit standard allowance or equivalent legacy benefits - job-seekers allowance, income support, working tax credits).
2. The New State Pension is added to total household income
3. As above, the net increase in income is added to 'total resources available' and compared with the threshold for being in poverty.

This approach is also used to model the impact of the winter fuel payments; while the warm home discount is means-tested, for simplicity our model assumes that this would also be a universal benefit for those at the end of life.

A1.1.3 Cause of death

To provide further insight into the more specific relationship between terminal illness and poverty, the analyses above are repeated for a subset of the population at the end of life. In the population-level mortality statistics, causes of death that are unlikely to be linked to terminal illness are excluded – these include accidents, deaths due to pregnancy/childbirth, certain infectious diseases, and other external causes of death. In the Understanding Society data, the analysis is restricted to those who are in the last 12 months of life and also report that they are affected by a health condition.

A1.2 Statistical modelling

The statistical analysis to estimate the relationship between poverty and being in the last 12 months of life, applies the same model specification as in the previous report. In brief, the relationship between poverty and mortality was modelled using the Understanding Society data, applying mixed-effects binary logistic regression to estimate the probability of an individual being in poverty in a given year, based on their age, whether they were in the last 12 months of life, and the interaction between these variables. The estimates were converted to a risk ratio comparing poverty rates for those in the last 12 months of life/not in the last 12 months of life, that could be used to adjust the population-level data on poverty rates and mortality rates.

For the present analysis, this model was repeated substituting the original poverty measure with the new indicator incorporating the top-up from either the means-tested or universal approach. For the subgroup analysis restricted by cause of death, two additional

adjustments were made. In the regression model, an additional explanatory variable was now included to indicate the presence of a self-reported health condition, and its interaction with age group and being in the last 12 months of life. The risk ratios were then calculated restricting the population of interest to those in the last 12 months of life who also reported a health condition. For each set of estimates, the number in poverty was calibrated to the numbers to the actual totals in poverty for each age group, based on the FRS estimates (but subtracting the number predicted to be lifted out of poverty by each proposed policy intervention).