

Investing in Children's Future: A Cost Benefit Analysis of Free School Meal Provision Expansion

Technical Appendix

October 2022

Technical Appendix

1.1 Description of CBA approach

The table below describes the methodology and source for each of the key parameters used within the Cost-Benefit analysis in Chapter 4 of the main report.

Table 1: Detailed description of approach used in the CBA

Parameters	Methodology	Sources
Number of eligible children for FSM		
Children eligible under the current FSM scheme (mean-tested and UIFSM)	The latest (2021-2022) figures for 'Known to be eligible for FSM' metric to estimate the number of eligible children for mean-tested FSM were used.	GOV.UK (2022) <i>Schools, pupils and their characteristics</i> . Available at: https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics (Accessed: 15 August 2022).
	The number of eligible children under the Universal Infant Free School Meals (UIFSM) for the two expansion scenarios (UC and UIFSM) were calculated.	<ul style="list-style-type: none"> UC scenario - Child Poverty Action Group (2022) UIFSM scenario - School Census (2022) Available at: https://explore-education-statistics.service.gov.uk/data-tables/fast-track/f5b778d1-1f0f-4f43-8d66-3ba77ee75ccc (Accessed: 22 August 2022)
Additional children eligible under the Universal Credit scenario	The number of children in households claiming Universal Credit as of 2022 with annual gross income greater than £16,190 was calculated.	Stat-Xplore (2022) <i>Households on Universal Credit</i> . Available at: https://stat-xplore.dwp.gov.uk/webapi/jsf/tableView/tableView.xhtml (Accessed: 20 July 2022)
Additional children eligible under the Universal Free School Meals scenario	<ul style="list-style-type: none"> The national pupil projections for state schools during 2022-2032 was used to determine the number of eligible children for FSM under the Universal Free School Meals scenario: <ul style="list-style-type: none"> For 2021-2022, figures are actual population figures. For 2022-2032, figures were projections with 2022 being the reporting year. 	<ul style="list-style-type: none"> GOV.UK (2021) <i>National pupil projections</i>. Available at: https://explore-education-statistics.service.gov.uk/data-catalogue/national-pupil-projections/2021 (Accessed: 15 August 2022) ONS (2022) <i>Zipped population projections data files, England</i>. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/z

	<ul style="list-style-type: none"> To forecast the estimates for 2033-2040, the growth rate per year for the national population projections was used. 	3zippedpopulationprojectionsdatafilesengland (Accessed: 15 August 2022)
Total number of eligible children for FSM	<p>To forecast the number of eligible children for the FSM scheme for 2025-2045 the following steps were taken:</p> <ul style="list-style-type: none"> For 2025-2032 the latest national pupil projections data for England was used. For 2033-2045, the national population projection in England grouped by age was used. 	<ul style="list-style-type: none"> GOV.UK (2021) National pupil projections. Available at: https://explore-education-statistics.service.gov.uk/data-catalogue/national-pupil-projections/2021 (Accessed: 15 August 2022) ONS (2022) Zipped population projections data files, England. Available at: https://www.ons.gov.uk/peopleopulationandcommunity/populationandmigration/populationprojections/datasets/z3zippedpopulationprojectionsdatafilesengland (Accessed: 15 August 2022)
Take-up rates	<ul style="list-style-type: none"> For the Universal Credit scenario, the median take-up rate estimate of 75% was used to form the basis of the results. For the sensitivity analysis, the results were compared with a higher take-up rate of 90%. These figures are based on mean-tested FSM take-up rates. For the Universal Free School Meals scenario, the median take-up rate estimate of 85% was used to form the basis of the results. For the sensitivity analysis, the results were compared with a higher take-up rate of 90%. These figures are based on the Universal infant FSM take-up rates. 	<p>Universal Credit take-up rates:</p> <ul style="list-style-type: none"> GOV.UK (2022) Schools, pupils and their characteristics. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics (Accessed: 15 August 2022). Covid Realities and Child Poverty Action Group (2021) Fixing Lunch: The case for expanding FSM. Available at: https://cpag.org.uk/sites/default/files/files/policypost/Fixing_Lunch.pdf (Accessed: 15 August 2022) <p>Universal FSM take-up rates:</p> <ul style="list-style-type: none"> GOV.UK (2022) Schools, pupils and their characteristics. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics (Accessed: 15 August 2022). Newham London (2022) We are Food Secure. Available at: https://mgov.newham.gov.uk/documents/s153700/Appendix%201%20-%20We%20are%20Food%20Secure%20Six-Months%20Up

		date.pptx.pdf (Accessed: 15 August 2022)
Costs of FSM		
Cost of meal provision	<ul style="list-style-type: none"> For the Universal Credit scenario, the Government's annual cost of meal provision of £480 per child was used. For the Universal Free School Meals scenario, the Government's daily cost of meal provision of £2.41 per child was used to derive an annual cost of £458 (assuming 190 days in an academic year). 	<ul style="list-style-type: none"> Department of Education (2022) The national funding formulae for schools and high needs. Available at: https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/1091988/2023-24_NFF_Policy_Document_.pdf (Accessed: 15 August 2022) GOV.UK (2022) Universal infant free school meals (UIFSM): conditions of grant 2021 to 2022. Available at: https://www.gov.uk/Government/publications/universal-infant-free-school-meals-uifsm-2021-to-2022/universal-infant-free-school-meals-uifsm-conditions-of-grant-2021-to-2022 (Accessed: 15 August 2022)
Capital expenditure ('CapEx')	<p>The Universal Credit scenario:</p> <ul style="list-style-type: none"> To calculate the annual CapEx estimate at school level, the number of state-funded schools for 2021/22 to the average CapEx spending per school was applied (£2,500 in 2010-prices). An annual CapEx estimate for Primary schools of £7.9m and for Secondary schools an estimate of £1.6m were used (both were based on 2022-prices). A lower CapEx was assumed for the Universal Credit scenario given the smaller pool of eligible children. In this case, 30% of the average CapEx spending per school was taken. The 30% weight was the proportion of additional children eligible under the Universal Credit scenario relative to the Universal Free School Meals scenario eligibility numbers (PwC analysis). <p>The Universal Free School Meals scenario:</p> <ul style="list-style-type: none"> To calculate the annual CapEx estimate at school level, the number of state-funded schools for 2021/22 was applied to the 	<ul style="list-style-type: none"> Department of Education (2012) Evaluation of the FSM Pilot. Available at: https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/184047/DFE-RR227.pdf (Accessed: 15 August 2022) GOV.UK (2022) Schools, pupils and their characteristics. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics (Accessed: 15 August 2022)

	<p>average CapEx spending per school (£2,500 in 2010-prices).</p> <ul style="list-style-type: none"> An annual CapEx estimate for Primary schools of £26.6m and for Secondary schools an estimate of £5.5m were used (both were based on 2022-prices). 	
Benefits of FSM		
Increased cost savings to schools	<ul style="list-style-type: none"> The annual cost saving from reduced absenteeism is based on cost savings from education support staff needed for each school phase. The annual cost savings were multiplied with the take-up estimate for eligible children. 	<ul style="list-style-type: none"> GOV.UK (2022) Find and compare schools in England. Available at: https://www.compare-school-performance.service.gov.uk/download-data (Accessed: 15 August 2022)
Increased lifetime earnings & contributions	<ul style="list-style-type: none"> To derive the increased lifetime earnings and contributions, the average marginal lifetime benefit of achieving 5+ GCSEs was multiplied with the number of eligible 15-year old children that take up meals at the time of successfully completing their GCSEs. 	<ul style="list-style-type: none"> Greater Manchester Combined Authority (2019) Cost Benefit Analysis - Unit Cost Database. Available at: https://www.greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/ (Accessed at: 16 August 2022) See the source above for the number of eligible children for FSM.
Increased savings on food costs for families	<ul style="list-style-type: none"> To calculate the annual household savings on food cost, the average weekly household saving per child of £10 was multiplied with 38 weeks (number of weeks in an academic year). For total household savings on food costs, the annual household savings on food cost were aggregated with the number of eligible children that take-up FSM. 	<ul style="list-style-type: none"> Sellen, P. Huda, N., Gibson, S. and Oliver, L. (2018) Evaluation of Universal Infant FSM, Education Policy Institute. Available at: https://epi.org.uk/wp-content/uploads/2018/01/UIFSM-evaluation-7.compressed.pdf. pp. 10 and 118.
Increased NHS savings (childhood obesity)	<ul style="list-style-type: none"> To derive the NHS spending on treating childhood obesity, the proportion of under 16s obesity-related admissions (0.76%) was applied to the total NHS spending on treating obesity related illness in a year (£6.1bn for 2014/15). To estimate the childhood obesity cost saving per child, the NHS spending on treating childhood obesity was divided by the forecasted number of eligible children that take-up the meals who would be less likely to be obese. 	<ul style="list-style-type: none"> NHS Digital (2021) Statistics on Obesity, Physical Activity and Diet, England 2021. Available at: https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/england-2021/part-1-obesity-related-hospital-admissions (Accessed at: 3 August 2022) Holmes, J. (2021) Tackling obesity - The role of the NHS in a whole-system approach, The King's fund. Available at: https://www.kingsfund.org.uk/sites

		<p>es/default/files/2021-07/Tackling%20obesity.pdf pp. 2 and 13.</p> <ul style="list-style-type: none"> See the source above for the number of eligible children for FSM.
<p>Increased GVA in the wider economy</p>	<p>To derive the total direct GVA impact from additional catering staff needed for the expansion scenarios, the following steps were calculated:</p> <ul style="list-style-type: none"> The total number of catering staff needed in a local authority ('LA') on average using the average number of catering staff in an LA by school phase for 2011/12. This was multiplied with the total number of LAs in England (333). The total additional catering staff needed was then derived by applying a 30% uplift on catering staff for UFSM and 9% for UC. The 30% uplift is based on evidence within the study for Universal Infant provision. The 9% uplift for UC was derived based on the weight of additional eligible children under the UC scenario relative to the UFSM scenario (of 31%) applied to the 30% uplift. The total additional catering staff was multiplied by the average GVA per head in England (£27,949 in 2017-prices) to estimate the direct GVA impact. <p>To estimate the indirect GVA impact attributed from supply chain activities, the GVA Type I multiplier for the Food and Beverage industry of 1.62 was used (2018-price based figure).</p>	<ul style="list-style-type: none"> Nelson, M. et al (2012) Seventh annual survey of take up of school lunches in England, School Food Trust. Available at: http://cft-staging-cdn.core-clients.co.uk.s3.amazonaws.com/2015/06/seventh_annual_survey2011-2012_full_report.pdf. Table 32, p.42. GOV.UK (2021) Local Government structure and elections. Available at: https://www.gov.uk/guidance/local-Government-structure-and-elections#:~:text=In%20total%20the%20are%20333,unitary%20authorities (Accessed at 1 August 2022) Rahim, N. et al (2012) Implementing the FSM Pilot, Department of Education. Available at: https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/184037/DFE-RR228.pdf. Pp.4 and 17. ONS (2018) Regional gross value added (income approach). Available at: https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedincomeapproach. (Accessed at: 1 August 2022) ONS (2022) UK input-output analytical tables - industry by industry. Available at: https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/datasets/ukinputoutputanalyticaltablesindustrybyindustry (Accessed at: 1 August 2022)

1.1.1 Assumptions

The table below describes the assumptions taken for each of the key parameters used within the CBA in Chapter 4 of the main report.

Table 2: Detailed description of assumptions used

Parameters	Assumptions
Number of eligible children for FSM	
Children eligible under the current FSM scheme <i>(mean-tested and UIFSM)</i>	The analysis undertaken assumes the forecast of children eligible under the current FSM scheme is aligned to national pupil and population projections.
Additional children eligible under the Universal Credit scenario	<ul style="list-style-type: none"> Assumes those with 5+ children in households claiming Universal Credit have only 5 children. Assumes no additional maintained nursery children are eligible under the Universal Credit scenario as the current scheme is only provided to those in Reception and above.
Total number of eligible children for FSM	<ul style="list-style-type: none"> Assumes those in maintained nursery school are 3 years old, primary school children are 4-10 years old and secondary school children are 11-15 years old. As above, assumes the forecast of children eligible for FSM is aligned to national pupil and population projections. Assumes no drop-out of children from school in the forecasts.
Costs of FSM	
Cost of meals provision	<ul style="list-style-type: none"> Assumes the cost of funding FSM remains static overtime and is at a constant price-base year of 2022. Assumes the cost of meal provision for the Universal Free School Meals scenario to be relatively lower than for the Universal Credit scenario, to account for the economies of scale from a larger production of meal provision.
Capital expenditure ('CapEx')	<ul style="list-style-type: none"> For the Universal Credit scenario, the analysis assumes a 1-year roll-out is needed for this level of expansion, so the capital expenditure needed should be made in a year. For the Universal Free School Meals scenario, the analysis assumes a 2-year roll-out is required for this level of expansion, so the capital expenditure needed should be made in full within 2 years. Both scenarios assume a 10-year depreciation horizon for capital investment; this is evident in the study by the ISER¹ For this reason, for every 10 years a new top-up of CapEx is implemented over the 20-year time horizon for the analysis. Assumes the capital expenditure remains static overtime and is at a constant price-base year of 2022.
Benefits of FSM	

¹ Holford, A. and Rabe, B. (2020) Impact of the Universal Infant FSM policy. Institute for social and economic research. Available at: <https://www.iser.essex.ac.uk/files/uifsm-impact.pdf>. p.34.

Increased cost savings to schools	<ul style="list-style-type: none"> Assumes that eligibility for FSM results in 1.2 fewer days of absences within every academic year, evidenced by a study by the ISER.²
Increased lifetime earnings & contributions	<ul style="list-style-type: none"> Assumes that a child needs at least 1 year on FSM to accrue the lifetime benefits from completing their GCSEs. Assumes those pupils who are 15 years old at the year of implementation (2025) will have had 1 year of FSM and are therefore at the start of their academic year (Year 11). Assumes lifetime benefit is equally distributed over the average lifetime of 51 years. This is based on the difference between the state pension age of 67 years and the age of children completing their GCSEs (16 years). Assumes a 16.3% improvement in GCSE attainment for those on FSM due to a reduction in absence rate from 5-10% to 0-5%, evidenced by the Department of Education.³
Increased savings on food costs for families	<ul style="list-style-type: none"> Assumes average weekly household savings from food costs are constant over time at £10 (2017-prices).
Increased NHS savings (childhood obesity)	<ul style="list-style-type: none"> Assumes constant annual growth of childhood obesity cost of 1.7% derived from NHS childhood obesity spending in 2015 relative to projected spending by 2050.⁴ The number of eligible children obese over the 20-year horizon was forecasted by assuming a constant 2.5% annual growth rate of under 16 obesity population (2019 and 2040).⁵ Assumes a constant 0.7% reduction in childhood obesity for those who take-up FSM across the different school phases.⁶ Assumes the NHS childhood obesity cost savings is the same across the different ages. Assumes that a child needs at least 1 year on FSM to then experience the 0.7% reduction in childhood obesity and NHS cost savings associated with it.
Increased GVA in the wider economy	<ul style="list-style-type: none"> Assumes for the UFSM scenario it would take 2 years to roll-out FSM provision. Therefore for the analysis a step change in additional catering staff is assumed for the first two years (i.e. In Year 1, a 15% uplift in catering staff is assumed and in year 2 it finally reaches the 30% uplift). The 2-year roll-out is based on the

² Holford, A. and Rabe, B. (2020) Impact of the Universal Infant FSM policy. Institute for social and economic research. Available at: <https://www.iser.essex.ac.uk/files/uifsm-impact.pdf>. pp. 4 and 18.

³ Department of Education (2016) The link between absence and attainment at KS2 and KS4. Available at: https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/509679/The-link-between-absence-and-attainment-at-KS2-and-KS4-2013-to-2014-academic-year.pdf. p.15.

⁴ Holmes, J. (2021) Tackling obesity - The role of the NHS in a whole-system approach, The King's fund. Available at: <https://www.kingsfund.org.uk/sites/default/files/2021-07/Tackling%20obesity.pdf> pp. 2 and 13.

⁵ Cancer Research UK (2022) New analysis estimates over 21 million UK adults will be obese by 2040. Available at: [https://news.cancerresearchuk.org/2022/05/19/new-analysis-estimates-over-21-million-uk-adults-will-be-obese-by-2040/#:~:text=New%20analysis%20estimates%20over%2021%20million%20UK%20adults%20will%20be%20obese%20by%202040,-Category%3A%20News&text=The%20results%20of%20an%20analysis,UK%20adult%20population%20\(36%25\)](https://news.cancerresearchuk.org/2022/05/19/new-analysis-estimates-over-21-million-uk-adults-will-be-obese-by-2040/#:~:text=New%20analysis%20estimates%20over%2021%20million%20UK%20adults%20will%20be%20obese%20by%202040,-Category%3A%20News&text=The%20results%20of%20an%20analysis,UK%20adult%20population%20(36%25)). (Accessed at: 16 August 2022)

⁶ Holford, A. and Rabe, B. (2020) Impact of the Universal Infant FSM policy. Institute for social and economic research. Available at: <https://www.iser.essex.ac.uk/files/uifsm-impact.pdf> . pp.4, 13 and 34.

	<p>number of years it took the pilot study of universal primary school provision in Durham and Newham.⁷</p> <ul style="list-style-type: none"> ● Assumes for the UC scenario a 1 year roll-out (i.e. In year 1, an immediate 9% uplift in additional catering staff was expected). ● Assumes no catering facilities/services in maintained nursery schools as the likely benefit would be marginal. ● Assumes the average number of additional catering staff across all LAs and by school phases are the same. ● Assumes the estimated GVA per head for 2017 and GVA Type I multiplier for 2018 is representative of FSM-related economic activities. ● Assumes the 2011/12 average number of catering staff in LA has remained the same.
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1.2 Additional supporting evidence

1.2.1 Literature review

FSM Provision and Costs

1.9m (22.5%) children are currently eligible for FSM in England. This is an increase of 160,000 pupils since last academic year showing that more children are living in households on very low incomes. New CPAG analysis estimates that 1 in 3 school-age children in England living in poverty (800,000) are missing out on FSM. A survey commissioned by The Food Foundation in April found that 19% of households with children had experienced food insecurity in the past month.⁸

The Government recognises that affordable, accessible food is a key element to tackling poverty in the UK, particularly as households across the country grapple with managing the impact of cost-of-living pressures. With the cost of agricultural commodities linked to global gas prices, which had seen significant increases in 2022, concerns about the cost of food globally and in the UK have grown, and the Government has looked to long-term measures to support a food system that can offer access to healthy and sustainable food for all.⁹

Children in England are subjected to the strictest eligibility criteria for FSM and holiday provision out of all the devolved nations in the UK. Scotland and Wales have both committed to expand eligibility for FSM to all children in primary school regardless of income and are in the stages of rolling this out. Wales also has a discretionary FSM fund which allows schools to provide a free meal to pupils who come to school hungry regardless of their eligibility. Northern Ireland's income threshold for eligibility for FSM is almost twice as high as in England (£14,000 annual earnings), and they are exploring options for expanding this further.¹⁰

At least £117m in funding is needed to support the pre-COVID numbers of FSM-eligible children over the summer break. The Food Foundation assumes the cost of continuing to provide FSM at £15/child/week for the 6-week summer

⁷ Kitchen, S., Crawford, C., Purdon, S. et al (2012) Evaluation of the Free School Meal Pilot. Available at: https://assets.publishing.service.gov.uk/Government/uploads/system/uploads/attachment_data/file/184047/DFE-RR227.pdf

⁸ <https://foodfoundation.org.uk/news/children-missing-out-free-school-meal/>

⁹ <https://www.gov.uk/Government/publications/Government-food-strategy/Government-food-strategy>

¹⁰ <https://foodfoundation.org.uk/news/children-missing-out-free-school-meals>

holiday. Between 16 March to the end of April, DWP reported having received more than 1.8m claims for Universal Credit. Data gathered by the Food Foundation on food insecurity levels during the UK Covid-19 lockdown showed that, among households with children, the prevalence of food insecurity has increased from 5.7% to 11.0% (not including food insecurity resulting from shortages in supermarkets).¹¹

It is estimated that 2.4 pupils in every class in England and Wales will arrive at school hungry at least once a week. If a child arrives at school hungry, teachers say they lose one hour of learning time a day. If a child arrives at school hungry once a week they would lose 8.4 weeks of learning time (70 percent of a term) over the whole of their primary school life. The grip of hunger could potentially cost the English economy at least £5.2m a year through teachers losing teaching hours to cope with the needs of hungry children.¹²

As part of its National School Breakfast Programme, DfE announced in July 2021 that all participating schools would receive a 100% subsidy for breakfast club provision until the end of July 2022. The subsidy would then be reduced to 75%, allowing schools to contribute 25% from other funding streams, with pupils offered breakfast supplies at no cost. Schools in disadvantaged areas were eligible for the programme if they had 40% or more pupils in bands A-F of the income deprivation affecting children index (IDACI).¹³

The Mayor of London, Sadiq Khan has called on the Government to extend provision of healthy FSM to all primary school children as the cost of living crisis worsens. Research shows that making FSM universal helps reduce stigma and therefore boosts take up among families who need them most. The Mayor is also asking ministers to restore the meal voucher scheme for those currently eligible for a FSM across the summer holiday and in all future school holidays. Schools currently receive £2.34 per meal for infant children – the funding level was set at £2.30 in 2014, increased by just 4p (1.7%) in 2020, and was then frozen again. According to official Government figures, the proportion of all pupils eligible for FSM increased over the last 12 months from 20.8 per cent in January 2021 to 22.5 per cent in the same month this year.¹⁴

UIFSM in England were reported to have a running cost of around £400 per pupil/year, plus £0.18bn of capital spending in the first three years. Since 2011, schools have received additional ‘pupil premium’ funding, currently £1,320 per year, for each child registered for means tested FSM.¹⁵ The estimated cost of Extension of Universal FSM to all primary school children was around £0.85bn per year starting in 2024.¹⁶

In another evaluation of UIFSM, the Education Policy Institute found that in a central modelling scenario, the estimated economic resource costs of the UIFSM were smaller than the value of financial and time savings for families (by an estimated NPV of £0.9bn, over a 10-year period). The study found that UIFSM would thus be potentially cost-effective. The public sector costs were found to be substantial, estimated at £5.6bn over a 10-year period, and the policy’s effectiveness would be dependent on policymakers finding value in improving the living standards of households with infants who were not already eligible for FSM, and on the potential longer-term health and social

¹¹ <https://foodfoundation.org.uk/publication/parliamentary-briefing-free-school-meal-holiday-provision-england-2020>

¹² https://www.kelloggs.co.uk/content/dam/europe/kelloggs_gb/pdf/R2_Kellogg_A_Lost_Education.pdf

¹³ <https://www.gov.uk/guidance/breakfast-clubs-programme-2021-2023>

¹⁴ <https://www.london.gov.uk/press-releases/mayoral/mayor-calls-for-universal-free-school-meals-0>

¹⁵ <https://www.iser.essex.ac.uk/2020/12/02/final-report-published-on-the-impact-of-universal-infant-free-school-meals-policy>

¹⁶ <https://ifs.org.uk/publications/14631>

benefits of the policy. Future cost inflation, however, may cause the current funding rates applied by the DfE to become insufficient, potentially undermining expected benefits. The policy was also found to affect Pupil Premium funding for infants, which may have an impact on the same children in later years. 31% of school leaders surveyed reported that take-up of FSM for pupil premium purposes had decreased, 15% reported that it had increased and 38% reported that it had stayed the same due to UIFSM.¹⁷

Total running cost of a DfE pilot of FSM provision was estimated to be £12.1m in area A (Newham) and £16.6m in area B (Durham) (the universal entitlement areas) and £2.0m in area C (the extended entitlement area), over two years. These figures are equivalent to around £220 per primary school pupil per year in areas A and B and just under £40 per pupil per year in area C. Deadweight cost (cost of providing school meals for pupils whose parents would have paid for them in absence of pilot) - Figures are equivalent to around £220 per primary school pupil per year in areas A and B and just under £40 per pupil per year in area C. Fixed costs of pilot smaller than running costs. Report estimates £2500 per school to upgrade kitchen and dining facilities and around £150,000 per local authority to promote and support the pilot.¹⁸

An evaluation of FSM trials in Scotland found that the costs of the trial varied widely from £1.79 per additional meal in Fife to £4.65 at the Scottish borders. Costs tended to be higher in areas with a higher percentage increase in uptake, i.e. Where more fundamental changes needed to be made to staffing and equipment levels. Costs also tended to be lower in areas where the total number of additional meals served was higher – perhaps where there was more scope for economies of scale to reduce some of the costs.¹⁹

A study by CPAG reported that one in four North East children living below the UK poverty line (over 35,000 children) are not currently eligible for FSM, and therefore miss out on the many proven benefits associated with the policy. £38.1m to expand FSM to all households in the North East receiving universal credit (or equivalent benefits) on top of the current status quo. This would benefit an additional 83,000 school children, many of whom live in poverty. It estimated that a fully universal approach to FSM in NE would cost an additional £74.4m. The study further estimated that the take-up rate in the North East was 89 per cent (116,000 eligible pupils with only 103,000 claiming) and that this could be improved through UIFSM.²⁰

The same study reported that schools receive pupil premium funding for every child that claims FSM or has claimed FSM in the last six years (£1,345 for every primary age pupil, or £955 for every secondary age pupil). The National Funding Formula (money to each state school in England each year) was partly calculated on the number of pupils eligible for FSM within the past 6 years. The study estimated schools across the North East were losing £15m in pupil premium funding per year because not all families take up FSM even though they are entitled to them. In some schools, the money, intended to provide children with lunch, is being taken away if pupils do not use their full allowance each day. Research found that between £65m and £88.3m per year was being diverted from the poorest school pupils across the country.

In Newham, where take-up of FSM is predicted to shortly be back to pre-pandemic levels of around 90%, pre-COVID data showed 91% of KS2 pupils having a school meal, compared to 60% in comparable boroughs without a scheme,

¹⁷ <https://epi.org.uk/publications-and-research/evaluation-universal-infant-free-school-meals/>

¹⁸ <https://www.gov.uk/Government/publications/evaluation-of-the-free-school-meals-pilot-impact-report>

¹⁹ <https://dera.ioe.ac.uk/9515/>

²⁰ <https://cpag.org.uk/policy-and-campaigns/briefing/cost-missing-lunchtime-briefing-free-school-meals-north-east>

and 45% before the scheme began. By 2022, 50% children were estimated to be in poverty, but only approximately 30% qualified for FSM. Only 1.6% (nationally) of packed lunches were reported to meet the Government's school meals nutritional standard. New data shows that 31.5 % of secondary school age young people in Newham are now accessing FSM as a result of the council's £5.89m in school meal provision.²¹

Figure 1: Breakdown of costs over the period 2025 - 2045 for the provision of FSM under the Universal Credit expansion scenario (left) and the Universal Free School Meals expansion scenario (right).

	Cost of Provision (Millions)	CapEx (Millions)	Total costs (Millions)		Cost of Provision (Millions)	CapEx (Millions)	Total costs (Millions)
2025	£467	£10	£477	2025	£1,750	£32	£1,782
2026	£444		£444	2026	£1,671	£31	£1,702
2027	£422		£422	2027	£1,592		£1,592
2028	£400		£400	2028	£1,513		£1,513
2029	£379		£379	2029	£1,437		£1,437
2030	£360		£360	2030	£1,367		£1,367
2031	£343		£343	2031	£1,301		£1,301
2032	£327		£327	2032	£1,236		£1,236
2033	£313		£313	2033	£1,176		£1,176
2034	£300		£300	2034	£1,121		£1,121
2035	£287	£7	£294	2035	£1,072	£23	£1,095
2036	£276		£276	2036	£1,029	£22	£1,051
2037	£266		£266	2037	£991		£991
2038	£257		£257	2038	£956		£956
2039	£248		£248	2039	£923		£923
2040	£240		£240	2040	£892		£892
2041	£232		£232	2041	£861		£861
2042	£225		£225	2042	£833		£833
2043	£218		£218	2043	£807		£807
2044	£211		£211	2044	£782		£782
2045	£205	£5	£210	2045	£758	£16	£774
Total	£6,421	£21	£6,442	Total	£24,069	£124	£24,193

FSM Uptake

Uptake challenges were highlighted by various studies. On March 8, 2021, the Scottish Government announced its intention to deliver the phased introduction of FSM for all primary pupils in Scotland by August 2022. Evidence from Scotland shows that not every child who is entitled to a FSM gets one. There can be a range of reasons for this; for example, family immigration status, or families may not be aware they can qualify for FSM, and in some instances there can still be stigma attached to getting a FSM.²² Although school meal provision is substantial, around one-half of children in Scotland do not present for a school dinner on a typical school day (50.9% did not have a school meal on the census day in 2020). However, there appears to be greater uptake of school meals in the Primary school phase than in Secondary school.

In a 2021 report, Covid Realities and Child Poverty Action Group (CPAG) analysis showed that, despite a rise in the number of children claiming FSM between March 2020 and March 2021, there are still one million school-aged children in poverty who miss out on any form of FSM provision because of restrictive eligibility criteria. Participants

²¹ <https://mgov.newham.gov.uk/documents/s153700/Appendix%201%20-%20We%20are%20Food%20Secure%20Six-Months%20Update.pptx.pdf>

²² <https://povertyinequality.scot/wp-content/uploads/2021/03/SPIRU-Report-Free-School-Meals.pdf>

highlighted three key areas where there were problems: (1) Restrictive eligibility criteria. (2) Increased financial pressures during the holidays and patchy holiday provision. (3) Barriers to FSM take-up, and the need for universal FSM provision. The key recommendations, developed with research participants, were:

1. Work towards the long-term goal of universal FSM provision for all children across the UK, which would cost £1.8bn.
2. In the short term, increase eligibility to every family on Universal Credit (or equivalent benefits), which would only cost £0.7bn. Eligibility should also be extended to all families with no recourse to public funds (NRPF).
3. Following the Scottish Government's lead, extending FSM to all primary school children across the UK at a cost of £0.8bn.
4. Support family finances throughout the year by addressing the inadequacy of the social security system. As a first step, the planned £20 cut to universal credit must be abandoned.

To reduce the stigma associated with FSM, children must be able to consume the same food as their friends, paid for in the same way and eaten in the same space. CPAG further highlighted that providing universal FSM would help ensure no child missed out on or felt embarrassed about receiving food at school.²³

In a process evaluation of Universal FSM (UFSM) provision by Public Health Scotland, parents were found to be supportive of UFSM policy. Parents whose children were eligible and those who were ineligible under the existing non-universal policy agreed that universal FSM provision would help reduce any stigma associated with FSM. While parents were identified in the ToC as key to the uptake of UFSM (driven by cost, perceived nutrition of meals and increased convenience for parents), in some families uptake was driven by the child. Child preferences were centred on menu choices, what their friends were doing, and having enough time to play; packed lunches were associated with less queuing time and could also be eaten more quickly.²⁴

Parents generally perceived that school meal uptake among P1–P3 children had increased since the introduction of the policy, with universal FSM provision influencing perception of social norms among participants (normalising school meals). There were concerns around the impact of progression into P4 especially for those who would no longer be eligible for FSM. Potential unintended consequences of UFSM that were considered included: an effect on claims for other benefits (e.g. clothing allowance) due to administrative links with FSM; other aspects of school life suffer (e.g. PE, breakfast clubs); school meal quality suffers or improves; increased inequalities; P4–P7 and other siblings are put off having school meals or encouraged to take up school meals; food waste increases; and parents' time freed up.

In a study of UIFSM in the UK, the University of Essex found that take-up of school meals by not FSM-registered pupils had risen from a consistent 30-35% in the eight years preceding the policy to approximately 85% in the UIFSM period (a 50 percentage point increase), and for FSM-registered pupils (for whom there was no change in the financial incentive to take a school lunch) from about 84% to 87%.²⁵

²³ https://cpag.org.uk/sites/default/files/files/policypost/Fixing_Lunch.pdf

²⁴ <http://www.healthscotland.com/documents/26326.aspx>

²⁵ <https://www.iser.essex.ac.uk/2020/12/02/final-report-published-on-the-impact-of-universal-infant-free-school-meals-policy>

An evaluation of a FSM pilot commissioned by DfE found that around nine in ten primary school pupils were taking at least one school meal per week, compared to 60% in comparison areas. Take-up increased in the universal pilot areas for pupils who were not previously eligible for FSM and also for pupils who were already eligible for FSM. The extended entitlement pilot (including working tax credit HH) did not significantly increase take-up of school meals among secondary school pupils. Take-up of school meals was lower for newly entitled pupils in the extended entitlement area than for pupils in the universal entitlement areas, due to the universal pilot decreasing stigma attached to FSM and parents who were unaware of eligibility under the extended entitlement scenario.²⁶

In a study at Northumbria University, the introduction of UIFSM resulted in take up of FSM reaching a record high of 86%, with the greatest take up from families living on low incomes as the universality of provision reportedly reduced the stigma associated with FSM. It was considered that newly eligible parents/carers gained the most, saving around £11 per week/£380 per annum per child. Primary school children who paid for school meals were found to typically pay £2.20 per day, although amounts vary between schools. State of the Market Survey 2018.). In Northern Ireland, the price for school meals is set at £2.60 for primary school children and £2.80 for post-primary children. In England, the amount of money that secondary children receive seems to vary between £1.90 and £2.30.²⁷

DfE allocates to English local authorities around £440 per year per pupil currently eligible for and claiming FSM through the national funding formula. For 2018-19, information from the DfE showed that local authorities collectively allocated £0.51bn for means tested FSM. The total value of FSM claimed but not taken up in 2016-2017 across England was approximately £88.3m. In the academic year 2017-2018, DfE spent £0.65bn delivering free meals for all infant children in reception, year 1 and year 2 in state funded schools through the universal infant FSM policy.

FSM Benefits

Evidence points towards multiple short, medium, and long term benefits that can result from FSM, particularly under universal FSM scenarios. In a CBA analysing global case studies of FSM provision, the World Food Programme calculated that every US dollar invested gave an economic return of 3 to 10 USD from improved health and education among school children and increased productivity when they become working adults. Five key benefit drivers considered in the CBA were:

1. Value transfer to the household - on average, 21% of the overall benefit consists in the transfer of additional income to the household, including the value of the food received and the healthcare expenditures avoided due to the children's better health.
2. Return on Investment on Saved Assets - The value generated by these assets corresponds to 4% of the overall benefit on average.
3. Increased Productivity of the Beneficiary - On average, the lifetime NPV due to improved productivity represents 67% of the overall benefit. Two thirds of this is attributable to increased wages due to better cognition, and one third to increased wages due to better education. Schools that are part of school meals programmes show higher enrollment rates (+8%), higher attendance rates (+6%), and lower dropout rates (-4%), leading to better results on tests.

²⁶ <https://www.gov.uk/Government/publications/evaluation-of-the-free-school-meals-pilot-impact-report>

²⁷ https://feedingbritain.org/wp-content/uploads/2019/06/Hungry-for-Change_Final_Version_GD-002.pdf

4. Healthier and Longer Life - On average, 8% of the overall benefit is due to a longer life thanks to additional education and income as well as to reduced Disability Adjusted Life Years (DALYs).
5. Externalities - Additional benefits not related to FSM beneficiaries (e.g. lower costs for Government or community benefits).²⁸

An evaluation of a FSM pilot commissioned by the DfE found that a universal entitlement pilot delivered better value for money than an extended entitlement pilot, which did not significantly improve any of the outcomes considered in its evaluation. Most pupils in the universal pilot areas took up the offer of FSM. In the universal pilot areas, the increased take-up of school meals led to a shift in the types of food that pupils ate at lunchtime. The extended entitlement pilot had little impact on children's diet and eating habits.²⁹

Additionally, CPAG found that UFSM could boost children's learning and attainment, supporting health through balanced meals, benefit from social experiences, relieve pressures on household budgets (freeing up money for other living costs) and reduce stigma associated with entitlement.³⁰ Evidence further suggests that improvements in educational, social, and health outcomes are linked to improved mental health and wellbeing for children and adults in the medium to longer term.³¹

Health & nutrition

A meta analysis found that among 19 studies conducted in OECD countries (18 peer-reviewed and one Government report, including the UK, Denmark, Norway, Japan, Greece, and New Zealand), 13 found improvements in students' dietary outcomes and three found no association. Of the three studies that examined food insecurity, two studies found improvements and one found no association. Of the studies examining dietary outcomes that were considered to have a low risk of bias, the majority (6 out of 7) found improvements in dietary outcomes.³²

There is also strong evidence that increasing the take up of school meals improves the nutritional balance of food consumed during the school day, with only 1.6 percent of primary children's packed lunches meeting the nutritional standards set for their classmates eating school lunches. One study found that children who had a packed lunch consumed on average 11.0g more total sugars and 101mg more Sodium over the whole day. Conversely, children who received a school meal consumed, on average, 4.0g more protein, 0.9g more fibre and 0.4mg more Zinc.³³

Evidence suggests that this contributes to improved dietary choices and habits into adulthood, which can decrease the incidence of adult obesity and reduce diet-related disease and disability at the population level, helping to decrease the pressure on health services and saving costs for the NHS over the longer term.³⁴ There is also strong evidence that increasing the take up of school meals improves the nutritional balance of food consumed during the

²⁸ <https://docs.wfp.org/api/documents/WFP-000038422/download/>

²⁹ <https://www.gov.uk/Government/publications/evaluation-of-the-free-school-meals-pilot-impact-report>

³⁰ <https://cpag.org.uk/policy-and-campaigns/briefing/cost-missing-lunchtime-briefing-free-school-meals-north-east>

³¹ <https://foodfoundation.org.uk/news/children-missing-out-free-school-meals>

³² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8000006/pdf/nutrients-13-00911.pdf>

³³ <https://eprints.leedsbeckett.ac.uk/id/eprint/3308/1/impact-of-school-lunch-type-on-nutritional-quality-of-english-children-s-diets.pdf>

³⁴ <https://pubmed.ncbi.nlm.nih.gov/26696565/>

school day, with only 1.6 percent of primary children's packed lunches meeting the nutritional standards set for their classmates eating school lunches.³⁵

Additionally, by providing children with FSM, lower income households face lower costs for food provision and reduced financial pressures, which can increase their ability to purchase more nutritious food.³⁶ Having a child become entitled to UIFSM results in a saving on food expenditure among not-FSM-registered households, of approximately £20 per month in total for a household with two adults and two children.³⁷ This, along with the anticipated reductions in diet-related disease and disability, can help to improve overall household food security in the medium term, which in turn can contribute to a reduction in reliance on welfare and disability assistance in the longer term.³⁸

In an evaluation of UIFSM, parents cited significant financial benefits as a result and reported appreciating the time that had been saved from not having to make packed lunches, Saving an average of 50 minutes and £10 each week. Additionally, school leaders believed UIFSM had improved the profile of healthy eating across their school, and parents felt it has encouraged their children to try new foods and eat more fruit and vegetables: 41% of school leaders reported that the general profile of healthy eating across the school had improved as a direct result of UIFSM. The evaluation estimated consumer benefits from UIFSM at £0.5bn in 2017-18, or £4.4bn in NPV terms over the period.³⁹

Social

Evidence suggests that a more standardised approach to school food provision and uptake can further promote a more inclusive eating environment, which increases the opportunity to socialise between children from different social backgrounds. Evidence further suggests that this can help reduce the social differences between children, and can increase opportunities for positive social interactions during eating times at school, contributing to improved social skills into adulthood and improving social capital in the medium-to-longer term. This is expected to contribute to improved social cohesion at the community level in the longer term.⁴⁰

Education & employment

Stemming from the nutritional and social improvements that can result from the expansion of FSM provision and uptake, particularly under universal scenarios, children are expected to have improved school/cognitive functioning and improved attendance. Approximately two thirds of absences in primary school are due to illness and medical appointments, and UIFSM was found to improve absence rates for FSM-registered infants. The effect size was found to be equivalent to missing 1.2 fewer whole days at school over the academic year in total. Approximately 60% of this effect was accounted for by reduced absences for illness or medical appointments.⁴¹

³⁵ <https://eprints.leedsbeckett.ac.uk/id/eprint/3308/1/impact-of-school-lunch-type-on-nutritional-quality-of-english-children-s-diets.pdf>

³⁶ <https://commonslibrary.parliament.uk/research-briefings/sn04195/>

³⁷ <https://www.iser.essex.ac.uk/2020/12/02/final-report-published-on-the-impact-of-universal-infant-free-school-meals-policy>

³⁸ <https://pubmed.ncbi.nlm.nih.gov/32634356/>

³⁹ <https://epi.org.uk/publications-and-research/evaluation-universal-infant-free-school-meals/>

⁴⁰ <https://foodandnutritionresearch.net/index.php/fnr/article/view/7702>

⁴¹ <https://www.iser.essex.ac.uk/2020/12/02/final-report-published-on-the-impact-of-universal-infant-free-school-meals-policy>

An evaluation of a universal pilot by DfE showed that it had a significant positive impact on attainment for primary school pupils at Key Stages 1 and 2, with pupils in the pilot areas making between four and eight weeks' more progress than similar pupils in comparison areas. Results tended to be strongest amongst pupils from less affluent families and amongst those with lower prior attainment. Neither the universal nor extended entitlement pilot had any effect on the amount of time pupils were absent from school. This suggests that the increases in attainment evident in the universal pilot areas must arise as a result of improvements in productivity whilst at school.⁴²

The evaluation further found that at a cost of around £223 per pupil per year for UFSM provision, this suggests that it costs £100 to £120 to obtain a 1% increase in attainment at Key Stage 1 and £40 to £60 to obtain a 1% increase in attainment at Key Stage 2. Evidence suggests that this results in improved educational attainment in the short-to-medium term, leading to improved productivity and employment in the medium-to-longer term, contributing to improved lifetime earnings and contributions in the longer term.⁴³

School food economy

As a knock-on effect, if FSM are catered for locally or more widely, increased demand for catering is expected to result in the expansion of employment opportunities in the school food economy (catering/provision). This can increase employment opportunities as a result and can help strengthen local and wider economies around school food provision.⁴⁴

One study found that in Nottinghamshire, spending for school meals locally within a FSM framework had generated over £5m in value each year. The share of ingredients spent on seasonal, local produce had risen by £1.65m per year, returning £3.11 in social, economic and environmental value for every £1 spent. In Plymouth, the study valued the change in spending on seasonal, local produce at £384,000 per year. This spending into the local economy was found to generate £1.2m of value per year, a return of £3.04 for every £1 spent.⁴⁵ Another study in Scotland calculated a £6 return to the local economy for every £1 spent on school meal procurement using the Social Return on Investment (SROI) method.⁴⁶

Environmental

Evidence further suggests that increased demand for locally catered school food is further expected to lead to increased demand for more sustainable produce. This will reduce importing of produce and increase consumption of sustainable produce in the medium term, reducing emissions and improving sustainability in the school food supply chain as a result in the longer term.⁴⁷

⁴² <https://www.gov.uk/Government/publications/evaluation-of-the-free-school-meals-pilot-impact-report>

⁴³ <https://www.econstor.eu/bitstream/10419/177038/1/dp11234.pdf>

⁴⁴ <https://www.rockefellerfoundation.org/wp-content/uploads/2021/11/True-Cost-of-Food-School-Meals-Case-Study-Full-Report-Final.pdf>

⁴⁵ https://www.foodforlife.org.uk/~/_media/files/evaluation%20reports/fflp-nef---benefits-of-local-procurement.pdf

⁴⁶ <https://vbn.aau.dk/en/publications/balancing-competing-policy-demands-the-case-of-sustainable-public>

⁴⁷ <https://bmjopen.bmj.com/content/7/4/e013840>

1.2.2 Sensitivity analysis

A sensitivity analysis was conducted to illustrate the potential range for the costs and benefits. The sensitivity analysis has been conducted on the basis of a take-up rate range (i.e. high and medium take-up rates). This analysis aims to provide comfort to stakeholders of the potential level of impacts. The total cost and core benefits for the additional number of children eligible under the Universal Credit and Universal Free School Meals scenarios has been provided below.

Universal Credit scenario

For the Universal Credit scenario, mean-tested take-up rates from a composite of data were used as a proxy for universal credit expansion in the CBA. Using this approach, the total cost and core benefits under the high take-up rate of 90% is estimated to be 1.2x greater than the median take-up rate of 75%.

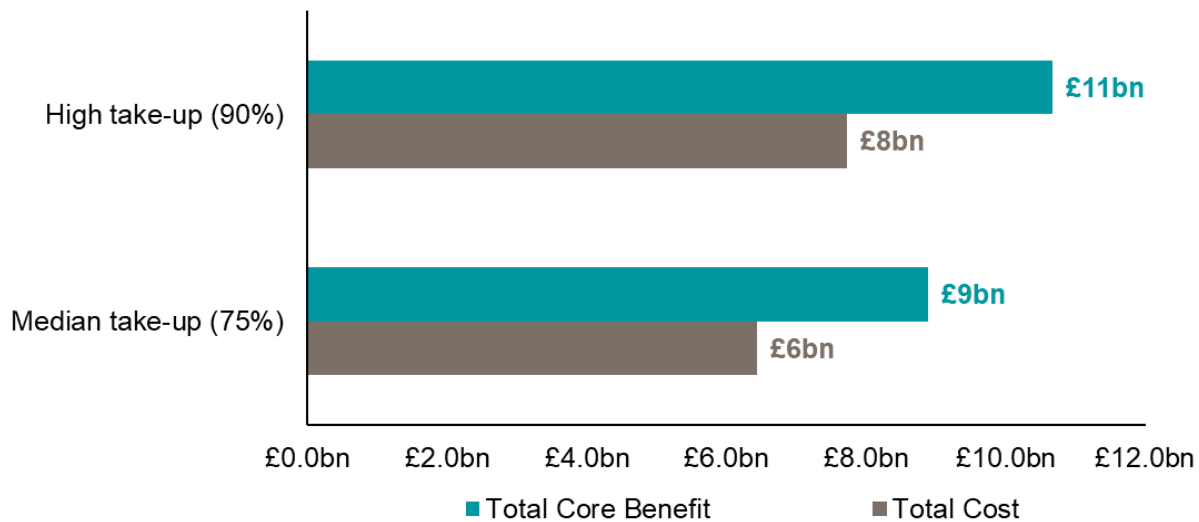


Figure 2: Sensitivity analysis for take-up rates for the Universal Credit scenario (discounted, 2025-2045)

Universal Free School Meals scenario

For the Universal Free School Meals scenario, the Universal Infant FSM take-up rates from a composite of data were used as a proxy for universal state education provision in the CBA. Using this approach, the total cost and core benefits under the high take-up rate of 90% is estimated to be 1.1x greater than the median take-up rate of 85%.

Figure 3: Sensitivity analysis for take-up rates for the Universal Free School Meals scenario (discounted, 2025-2045)

