

Institution: Newcastle University		
Unit of Assessment: UoA		
Title of case study: Improving school food standards and introducing universal free school meals for infants		
Period when the underpinning research was undertaken: 2005-2014		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Professor Ashley Adamson Dr Suzanne Spence Dr Lorraine McSweeney Miss Phoebe Orango	Principal Investigator Co-Investigator Assisted with data collection Placement student, assisted with data collection and entry	September 1994-present October 2007-present April 2013-present May 2018
Professor John Matthews Professor Martin White Ms Jennifer Bradley Ms Elaine Stamp	Statistical guidance Professor of Public Health Research assistant Statistician	March 1987-present March 1990-October 2014 January 2008-present May 2006-June 2018
Period when the claimed impact occurred: 2014-present		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>A good diet is especially important in children for optimum development and to promote lifelong healthy eating habits. Newcastle found that school lunches were more nutritious than packed lunches, and that restricting children's choices promoted healthy eating. These findings, along with the expertise of Newcastle researchers, provided the basis for the School Food Plan. This recommended two initiatives: the introduction in 2014 of free school meals for all Key Stage 1 children, and simplified food standards across all maintained schools in 2015. A large-scale independent review found take-up rates of over 72% across all providers and that 89% of caterers ensured children were served a balanced meal. Nearly half of schools reported a general increase of healthy eating as a direct result. The introduction of universal free school meals and standards allows substantial financial savings to families and ensures that young children eat a healthy lunch.</p>		
2. Underpinning research		
<u>Background: history of Newcastle research into school food and children's diets</u>		
<p>Obesity stems from two main factors: insufficient physical activity and a poor diet. Therefore, measures to tackle the obesity crisis must address the importance of diet. This is especially true for children, since a good childhood diet is not only vital for development but also promotes lifelong healthy eating habits.</p>		
<p>Established in 1994, the Human Nutrition Research Centre at Newcastle University has a long history of research into public nutrition, including childhood diets and school food. The Centre performed a study for the Public Health Research Consortium (R2, with data later published as R4-6) to investigate the effect of a 2006 Government initiative to improve school food. This study examined the diets of 1662 pupils in two groups, 4-7 year olds and 11-12 year olds, via direct recording of dietary intake by trained observers in schools and food diaries followed by interview, respectively. The diets were then coded to obtain the nutritional composition. In the younger group, children who ate a school lunch showed positive improvements in their total diet, i.e. what they ate both at school and at home. These children now had lower percentage intakes of energy from fat and saturated fat, and higher intakes of vitamin C and fibre than children who ate a home-packed lunch. In 11-12 year olds consuming school lunches, there was a reduction in sodium and energy intake from fat and saturated fat. Of note, children consuming a home-packed lunch had no significant positive change in these nutrients. The study concluded that the initiative had been successful and school lunches had an overall higher nutritional quality than a packed lunch. The study also highlighted that children should be guided or restricted in their choice of food to facilitate and normalise healthy eating, and that the best vehicle for this is to provide a school lunch to all children regardless of social background.</p>		

Newcastle research and expertise informed the School Food Plan

The [School Food Plan](#) (SFP) was written by the LEON restaurant chain and published in July 2013, under the auspices of the Department for Education, to provide clear and practical steps for a range of bodies to improve children's diets in school. The SFP was informed throughout by Newcastle research (R2, later published as R4-6), and specifically on page 48, where R2 is cited as evidence for the improvement in school food. Moreover, the expert panel which drove the SFP included Professor Adamson, whose unique understanding and insights from her research informed the entire SFP. Professor Adamson was invited to join the expert panel in 2012 on the recommendation of The Department of Health and Social Care due to her highly relevant expertise and experience in this field, represented by R1 and R3-6. The invitation and vital contributions of Professor Adamson are confirmed in a letter co-signed by the Department of Health and Social Care and the Department for Education (EV1), as well as a letter from the co-founder of LEON (EV2).

The value of these inputs is described on page 48 of the SFP:

"[Professor] Adamson... and her team began their researches by standing in school dining halls making notes of what children actually ate (as opposed to what they put on their plates)... What they found is that, by almost every nutritional measure, the quality of what our children are eating in schools has improved (R2)."

Informed by Newcastle research and expertise, the SFP underpinned the development of two schemes to further improve school food: the 2014 introduction of universal infant free school meals (UIFSM) and the 2015 revised School Food Standards. These initiatives and their impact are described below.

3. References to the research

SciVal field-weighted citation impact (FWCI) as of December 2020. Newcastle researchers in **bold**.

- R1. Anderson AS, Porteous LEG, **Foster E**, Higgins C, Stead M, Hetherington M, Ha M-A, **Adamson AJ**. (2005) The impact of a school-based nutrition education intervention on dietary intake and cognitive and attitudinal variables relating to fruits and vegetables. *Public Health Nutrition*. 8(6):650-6. DOI: 10.1079/PHN2004721. FWCI: 0.79.
- R2. **Adamson A**, **White M**, Stead M. (2011) The process and impact of change in school food policy on food and nutrient intake both in and outside of school. Department of Health: Public Health Research Consortium. Available on request.
- R3. **Adamson A**, **Spence S**, Reed L, Conway R, Palmer A, Stewart E, McBratney J, Carter L, Beattie S, Nelson M. (2013) School food standards in the UK: Implementation and evaluation. *Public Health Nutrition*. 16(6):968-81. DOI: 10.1017/S1368980013000621. FWCI: 2.18.
- R4. **Spence S**, **Delve J**, **Stamp E**, **Matthews JNS**, **White M**, **Adamson AJ**. (2013) The impact of food and nutrient-based standards on primary school children's lunch and total dietary intake: A natural experimental evaluation of government policy in England. *PLoS ONE*. 8:e78298. DOI: 10.1371/journal.pone.0078298. FWCI: 1.04.
- R5. **Spence S**, **Delve J**, **Stamp E**, **Matthews JNS**, **White M**, **Adamson AJ**. (2014) Did school food and nutrient-based standards in England impact on 11-12y olds nutrient intake at lunchtime and in total diet? Repeat cross-sectional study. *PLoS ONE*. 9(11):e112648. DOI: 10.1371/journal.pone.0112648. FWCI: 0.55.
- R6. **Spence S**, **Matthews JNS**, **White M**, **Adamson AJ**. (2014) A repeat cross-sectional study examining the equitable impact of nutritional standards for school lunches in England in 2008 on the diets of 4-7y olds across the socio-economic spectrum. *International Journal of Behavioral Nutrition and Physical Activity*. 11:128. DOI: 10.1186/s12966-014-0128-6. FWCI: 0.13.

4. Details of the impact

Unmet need

One of the main causes of childhood obesity is an unhealthy diet, and since obesity has been found to track from adolescence to adulthood, improving children's diets is crucial. However, a major barrier to healthy eating is cost. As stated in the SFP, the main reason that parents chose a packed lunch over a school meal was the expense: an average school meal cost £2 whereas a packed lunch can cost less than 50p. Therefore, improving the quality of a school meal and making it free to those who most need it is crucial to tackling childhood obesity and the consequent risk of lifelong obesity.

Impact on Government policy: free school meals for infants

The best way to ensure that children eat a healthy school meal is to provide these for free. As highlighted in the SFP, increasing take-up of school meals also offers financial benefits to the school via economies of scale. Providing a nutritious meal at school also normalises healthy eating and helps to establish this as a lifelong habit.

The SFP recommends on pages 12 and 127 that "Government should embark upon a phased roll out of free school meals for all children in all primary schools." As a result, the Department for Education announced in September 2013 that all infant school pupils (4-7 year olds in Key Stage 1) in state-funded schools in England would be eligible for a free school meal from September 2014 (EV3). To aid implementation, the Government provided online guidance (EV4) for local authorities and schools, which links to advice on the SFP website. Although UIFSM was threatened during the November 2015 Spending Review, the clear benefits it offered resulted in its continuation (EV5). Similarly, the Government continued to fund schools to cover UIFSM in term time during the COVID-19 pandemic (EV6).

Impact on improving children's diets via the School Food Standards

As well as being free for pupils, it is important that school dinners are good quality and nutritious. One of the key actions given in the SFP was the simplification of food-based standards for all schools. This is discussed in Chapter 8 (pages 90-99), which states the steps required to implement these standards and assigns responsibility to the Department for Education. The approach to revising the standards is given in Appendix B (pages 141-145) and provides a guide to portion size and frequency. These standards directly informed the Government legislative document "Requirements for School Food Regulations" (EV7) which was laid before Parliament in June 2014 and came into force in January 2015. Compliance with School Food Standards is mandatory for all maintained schools and applies to pupils of all ages.

The 2014 legislation fed into a July 2016 Department for Education document "School Food in England" (EV8) which sets out how legislation applies to food provided within schools in England. The document also links to the SFP website and the practical advice available there, stating: "The School Food Plan website draws together best practice and organisations that can support schools and the sector." Although the advice in the document mainly concerns the revised School Food Standards, it also emphasises that every infant is now entitled to a free school meal (pages 4 and 5).

Uptake and impact of free school meals and school food standards

In 2013, uptake of school meals was only 43% (EV9) although this was rising. In 2015/16 it had increased to 76%, decreasing slightly the following year but then rising again to 80% in 2018/19 (EV10).

A large-scale independent review of UIFSM in 2018 (EV11) included 10 case study visits to schools, surveys of 327 schools and over 500 parents and 17 qualitative interviews with suppliers. The key findings were: 1) all local authorities reported take-up rates of over 72%; 2) 89% of caterers ensured children were served a balanced meal; and 3) 41% of school leaders reported a general increase of healthy eating as a direct result of UIFSM. UIFSM also allowed substantial financial savings, with parents reporting a median weekly saving of £10. In addition, parents

reported that free school meals not only removed the stigma of claiming free meals but also saved nearly an hour of meal preparation time, allowing them to spend longer with their family.

Summary

The 2013 School Food Plan, informed throughout by Newcastle research and expertise, is a set of practical steps for Government, local authorities and schools to improve school food. This led to two initiatives: the 2014 introduction of universal free school meals for infants and the 2015 revision of the School Food Standards. These schemes are helping to improve children's diets and contribute towards reducing the obesity epidemic.

5. Sources to corroborate the impact

EV1. Letter co-signed by the Department of Health and Social Care and Department for Education.

EV2. Letter signed by the co-founder of LEON restaurants.

EV3. Department for Work and Pensions December 2013 release Free school meal entitlement and child poverty in England.

www.gov.uk/government/uploads/system/uploads/attachment_data/file/266587/free-school-meals-and-poverty.pdf

EV4. Government webpage: guide to UIFSM for local authorities and schools.

<https://www.gov.uk/guidance/universal-infant-free-school-meals-guide-for-schools-and-local-authorities>, updated April 2020.

EV5. HM Treasury 2015 Spending Review and Autumn Statement. See page 44, paragraph 1.164.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/479749/52229_Blue_Book_PU1865_Web_Accessible.pdf

EV6. Government webpage: Providing school meals during the coronavirus (COVID-19) outbreak. <https://www.gov.uk/government/publications/covid-19-free-school-meals-guidance/covid-19-free-school-meals-guidance-for-schools>

EV7. The Requirements for School Food Regulations 2014.

https://www.legislation.gov.uk/uksi/2014/1603/pdfs/uksi_20141603_en.pdf

EV8. Department for Education July 2016 School Food in England.

https://www.eqfl.org.uk/sites/default/files/Facilities/Health_safety/School_food_in_England-July2016.pdf

EV9. The School Food Plan, page 7. www.schoolfoodplan.com

EV10. School Meal Uptake Research November 2019.

<https://laca.co.uk/sites/default/files/attachment/news/SMU%20Research%20Report%202019.pdf>

EV11. Sellen et al. January 2018. Evaluation of Universal Infant Free School meals.

<https://epi.org.uk/wp-content/uploads/2018/01/UIFSM-evaluation-7.compressed.pdf>