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INSTITUTE

Tackling Childhood Obesity in Scotland

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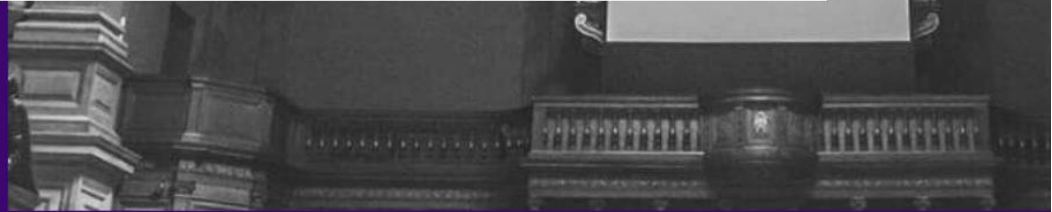


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Executive Summary

In Scotland, 26% of children are overweight, with 16% at risk of obesity (Scottish Government, 2018). Those from the most deprived socio-economic backgrounds are at greater risk of suffering from the consequences of health inequalities, primarily obesity. Obesity increases the risk of a number of health complications such as type 2 diabetes, high blood pressure and kidney diseases, with estimates of the cost of obesity to the NHS in Scotland being between £360-600 million annually (Obesity in Scotland, 2016).

The Scottish government has proposed and implemented a number of measures to tackle the issue of childhood obesity; however, these policies have proven insufficient thus far. The government currently provides Universal Free School Meals to pupils from Primary 1-3 (Health Scotland, 2021) i.e. between the ages of 5 and 7, which has been shown to improve nutrition (IRIS, 2021), reduce obesity (Vik et al, 2019) and even increase attainment levels (Gordon, 2018). During the Scottish election campaign, the incumbent Scottish National Party government pledged to extend free school meals to encompass all primary school students (BBC, 2020). In addition, their 2018 publication *'A Healthier Future: Scotland's Diet and Healthy Weight Delivery Plan'* focused on ways to change the food environment in Scotland to promote more healthy relationships with food (Scottish Government, 2018b). This included a proposal to increase restrictions on the advertisement of 'HFSS foods' ('**H**igh in **F**at, **S**ugar or **S**alt food and drink') while also acknowledging the importance of early interventions to develop healthy habits and reduce health inequalities in children, with the amount of sugar highlighted as a significant dietary issue. (ibid; Parnell et al, 2018).

The UK Government recently implemented the Soft Drinks Industry Levy (SDIL) which was targeted at decreasing the consumption of high sugar drinks (Triggle, 2018). This has been successful in helping to address some of these health inequalities; however, some products were not covered by the levy, such as flavoured milks, which have been shown to be equally unhealthy (Public Health England, 2018). With regards to the Free School Meals scheme, there is extensive research suggesting that up to 25% of those entitled to Free School Meals do not take them due to the stigma attached or lack of awareness (BBC, 2019). Despite attempts to address this issue, such as implementing the use of smart cards by schools, the cost of these measures for schools and a lack of uptake has led to widespread inaction (Woodward, et al, 2015). Evidence suggests that a reduction in sugar consumption reflects a deceleration in the increase in the annual rate of obesity, targeting the free sugar present in high sugar foods most accessible to children (e.g. cereals, confectionary, other breakfast foods) would result in around 150,000 fewer cases of obesity per year across the UK (DRWF, 2017). The government has also invested in active travel initiatives such as the Active Schools Programme to increase participation in physical activity (Sport Scotland, 2016), which is also effective in reducing obesity in the younger generation. This work should be continued with increased funding to



reduce disparities in activity levels across the population. We believe that more needs to be done to tackle both the overall problem of obesity and its skewed effect on children from the most deprived backgrounds. Furthermore, while there are various schemes in place helping deal with obesity, they are insufficient.

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To address these issues, this paper argues for the following policy recommendations to be implemented by the Scottish Government:

1. An extension of the free school meals programme with universal free school meals being available, at a minimum, for those in compulsory full-time education.
2. Healthy fruits to be provided at no extra cost to students in primary schools as an alternative to the usually available sugary, high in trans-fat snacks.
3. Following the success of the “Water Only Schools” policy in England, funding to be provided for the trial of the same program within Scottish schools where plain water and reduced fat milk will be the only allowed beverages in school.



Introduction

We are the Health Research project group at the Buchanan Institute and our goal is to improve dietary habits of Scottish children. The current system in place requires greater funding and has not been successful in preventing the recent increase in child obesity, hence a more extensive approach is needed. Within our team, we have drawn on various sources of evidence for drafting our policy recommendations, utilising academic research in combination with engagement with stakeholders who have supplemented our ideas. The aim of this team is to improve the lives of Scottish children in order for these individuals to experience a healthier adulthood as a result of better habits formed in early life.

Our team decided to focus on improving outcomes for the most vulnerable within Scotland, so we resolved to tackle the factors affecting health in children. The motivation behind our choice to focus our research on Scotland was twofold: firstly, the issue of childhood obesity has greater prevalence in Scotland than in the rest of the United Kingdom (Baker C, Bate A., 2016). Edinburgh is also where the Buchanan Institute is based, along with our shared University, hence why the health of the Scottish population is a highly valued problem to us as individuals. The most effective approach in terms of monetary value as well as high impact was to target obesity at an early age, to encourage children to form healthy habits which they will then carry forward into later life. Furthermore, the Scottish Government has often showed signs of approaching the obesity crisis with more creative solutions than their Westminster counterparts and therefore our team agreed that reaching out to Holyrood was an attainable goal, especially in light of the upcoming Scottish Elections in May (see example of Universal Free School Meals and Active Scotland initiative 2018). Within our team, we will all work tirelessly to achieve the reform to the childhood food policy within schools successfully.

It is the view of this report that the Scottish government has the ability to fundamentally transform the lives of thousands of children as a result of implementing the recommendations of this report.

We hope that you find this report interesting. We welcome feedback on our research and would appreciate any comments you may have be directed to:
tacklingobesity@buchananinst.org

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Research Methods

This policy report stemmed from an investigation into childhood obesity in Scotland. Preliminary research was focused on determining the policy landscape around this issue; this involved the consideration of relevant Scottish Government reports such as *Scotland's Diet and Healthy Weight Delivery Plan* (2018). This report pointed out that the prevalence of obesity was higher in deprived areas and focused on a range of actions to tackle health inequalities and improve the nation's diet. It proposed making 'population-wide interventions' (Scottish Government, 2018b) to change the food environment in order to help people to make better choices surrounding diet and health. One such measure involved limiting the advertising of HFSS foods. We also conducted research into other measures focused on improving health in schools including the Active Schools Network, which encourages increased pupil involvement in sports (Sportscotland, 2016).

This work on the policy landscape led to our focus on the extension of Universal Free School Meals to all primary school pupils. Research has shown that free school meals improve nutrition (IRIS, 2021), reduce obesity (Vik et al, 2019) and even increase pupil attainment levels (Gordon, 2018). Furthermore, *Scotland's Diet and Healthy Weight Delivery Plan* (2018) stressed the importance of encouraging the forming of 'healthy eating habits' early in life (Scottish Government, 2018b). We believe the provision of Universal Free School Meals will contribute towards this aim.

Our selection of our primary policy recommendation was also motivated by research into stakeholders. Drawing on organisations' press releases, we found that there were high levels of support within civil society for the extension of Free School Meals, from organisations such as the Child Poverty Action Group (CPAG). CPAG worked alongside organisations including The Poverty Alliance to campaign for Free School Meals across Scotland and this eventually prompted the government announcement that Universal Free School Meals would be introduced for pupils in Primary 1-3 in 2015 (SCVO, 2020). In addition to this, in September 2020 the CPAG released a briefing paper in support of the extension of Free School Meals to families receiving Universal Credit in England. They argue that free school meals should be a 'universal part of the school experience' (CPAG-FSM-briefing, 2020). The research process also involved investigating the stances of Scottish political parties on the issue of extending free school meals. We found a strong consensus of support across the political spectrum for such change. This was achieved through analysis of political manifestos ahead of the upcoming Scottish Elections in May 2021. Indeed, the Scottish Green Party has proposed 'Universal access to free school breakfast and lunch' (Scottish Green Party, 2020) while the Conservative Party has also shown support for free breakfast and lunches at primary school level (Williams, 2020). Scottish Labour also pledged to roll out the provision of Free School Meals to include all school years and extend this to cover during school holidays too, thus preventing 'holiday hunger' (Scottish Labour Manifesto, 2019: 41).



In addition to our primary policy focus on the extension of Free School Meals, we decided to conduct research into the possibility of introducing secondary policies which would also focus on the improvement of pupil health and the reduction of health inequalities. We identified a necessity for improvement in policy governance relating to the provision of free fruit in schools. After the Scottish Government's Free Fruit in Schools Initiative ended in 2005, local authorities were given autonomy in using government funds to continue such initiatives in their schools (Bradley, 2015). Evidence suggests considerable variation in the successful implementation of these schemes. A 2015 study showed that only 11 of 32 local authorities were providing free fruit for any age group within primary education (McArdle, 2018). The British Medical Association of Scotland has called for increased provision of free fruit in school to help tackle the issue of obesity (McArdle, 2018). Moreover, Southwark Council is trialling a water and milk only policy in schools within its area, which is also expected to lead to a reduction in childhood obesity (Sugar Smart UK, 2020). We believe a trial of such a scheme in Scotland could be beneficial in improving the health of Scotland's children.

In November 2020, the SNP announced a pledge to extend the provision of free school meals to all primary school children if they remained in power after the Scottish elections in May 2021 (BBC News, 2020). This development led to a reassessment of our primary policy recommendation. We adapted our recommendation to the extension of free school meals for all pupils in compulsory full-time education. There is an increased disparity between entitlement and uptake of Free School Meals at Secondary Schools, with 40% not taking them, hence our desire to broaden the Scottish Government's policy (BBC, 2019). This encompasses some secondary school pupils as it reaches children up to the age of 16. Our research suggests that extending free school meal provision to secondary schools could improve the diet of the school population. Research found that 'two thirds of pupils' in Scotland were buying lunch outside school premises with an even higher rate in areas of deprivation (Macdiarmid et al., 2015). A further study of five secondary schools in Glasgow has suggested that such lunches are 'of poor nutritional value' (Crawford et al., 2017). The following section explores our findings when conducting research into each of our policy recommendation areas.

Discussion

Key Findings

Food bank use is increasing in Scotland with 237,225 three-day food parcels distributed by the Trussell Trust between in the year 2019/2020, almost double what it was in 2014/15 (Trussell Trust, 2020).

An estimated 1 in 10 children in the UK in households experienced food insecurity (Pererira, 2017). Research by Kitchen et al. (2013) found that no data was produced to support that increasing the entitlement for free school meals increased take up in a pilot area.

School meals have been viewed as a potential policy to reduce the likelihood of children experiencing overweight and obesity, particularly since the introduction of standards around the nutritional quality of foods and meals that can be served (Morgan and Sonnino, 2008).

Overweight and obesity in childhood leads to increased risk of hypertension, type 2 diabetes and asthma (Waters et al, 2011). If this weight is continued into adulthood these individuals are at increased risk of cardiovascular diseases, osteoarthritis and cancers (Nathan & Moran, 2008) as well as numerous other health conditions, as can be seen in Figure A.

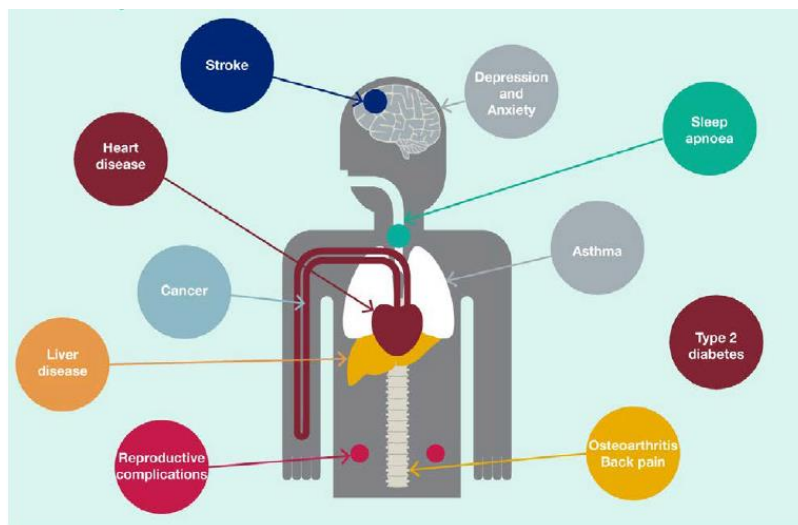


Figure A (Obesity Action Scotland, 2020a).

“Childhood obesity is a **significant international public health challenge** and with one of the highest levels of childhood obesity amongst OECD countries, it is a **particularly significant challenge for Scotland.**” (Scottish Government, 2018)

As seen in Figure B, rates of childhood obesity has stagnated since 2010 at around 16% which is still very high, however there are great disparities between financial backgrounds, with children from more disadvantaged circumstances more likely to be overweight or obese than

those in advantageous circumstances (Scottish Government, 2018). For example, the 2017 results show that 30% of children living in the 20% most deprived areas in Scotland were at risk of overweight and obesity compared with 22% of those living in 20% least deprived areas (ibid).



Figure B (Obesity Action Scotland 2020b).

School is the best place to tackle this; analysis by Mead et al. (2016) showed that 19% of children of healthy weight at age 5 had become overweight or obese at age 11; 63% of children who were overweight at age 5 remained so at age 11, including 32% who became obese; and 68% of children obese at age 5 were also obese at age 11.

Obesity has implications for Scottish society with labour related costs such as lower productivity estimated to cost the Scottish economy **between £0.9-£4.6 billion per year** (SPICe, 2015).

The Scottish government's 2018 report *A Healthier Future – Scotland's Diet and Health Weight Delivery Plan* aims to halve childhood obesity by 2030. The plan aims to tackle childhood obesity from pre-pregnancy through to adolescence. Our recommendations are focused on tackling childhood obesity through improving the food environment in schools so that childhood can have access to nutritious food, irrespective of their income, throughout their compulsory schooling and will establish healthy habits in their most formative years such as eating fruit regularly and drinking plenty of water which will then be taken through into adulthood.

Reducing Health Inequalities

Vik et al. (2019) conducted a yearlong study assessing the impact of Universal Free School Meals, which found that serving one free school meal a day increased the uptake of



healthy food for those from the lowest socio-economic background and concluded that Universal Free School Meals should be a way forward to reduce health inequalities.

When access to Free School Meals is means-tested, it can lead to pupils that are eligible not taking them out of lack of knowledge of how to do this, difficulty in the registration procedures and even the stigma of being on Free School Meals. Various measures have been implemented to overcome these challenges such as greater awareness of Free School Meals programmes, information on how to sign up and experimenting with various payment methods that obscure who is on Free School Meals. The effectiveness of these methods remain weak and the UK's evaluation of several Universal Free School Meals pilots supports this by saying:

“It is only through universal provision of free school meals... that outcomes have improved.”

(Department for Education, 2013)

They note that the principal beneficiaries of the scheme, in terms of take up, are children from less affluent families. Given the improved effects on diet and nutrition Universal Free School Meals assists in decreasing health inequalities in children.

Improved Educational Efforts

A study by Gordon (2018) in the US showed that Universal Free School Meals have a positive effect on student attainment and that the effect of such programmes improve the outcomes of the lowest achievers, thus helping to reduce educational inequalities. The same study also saw a modest reduction in suspension rates of students after Universal Free School Meals were introduced.

Bartfield et al, 2020 found that the introduction of Universal Free School Meals in Wisconsin improved attendance, with the greatest effect being to those from lower-socio economic backgrounds.

“This adds to a growing body of evidence that school meal programs can have a wide range of beneficial impacts on children” (Bartfield et al, 2020, p216)

The outcomes of the two year pilot by the UK Department for Education showed significant increases in attainment in areas with Universal Free School Meals (Department for Education, 2013). The increase is also value for money as the price per pupil of Universal Free School Meals was £220 per year. The educational improvement associated with this was a 1.9% increase in the proportion of pupils reaching the expected level in reading at Key Stage 1, a 2.2% increase for maths at Key Stage 1, a 4.0% increase for English at Key Stage 2 and a 5.5% increase for maths at Key Stage 2. At a cost of around £223 per pupil per year, this suggests that it has cost £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.

“The universal entitlement pilot delivered better value for money (in terms of higher attainment of pupils on average) **than some educational interventions**, but worse value for money than others.” (Department for Education, 2013)

Although not a panacea for educational attainment improvement, Universal Free School Meals do prove their effectiveness and value for money as an educational intervention. When



also accompanied by improvements in nutrition and health, it is clear that Universal Free School Meals represent a relatively cheap way to simultaneously improve educational outcomes and reduce health inequalities.

Reduced Pressure on Health Services

The British Medical Association (BMA) is calling for Universal Free School Meals to be extended due to the positive impact it evidently presents across the board (IRIS, 2021). The BMA says that a poor diet in individuals is increasingly a concern for doctors due to the significant ill health it causes constituting a considerable drain on health resources (ibid). The BMA notes how important establishing healthy eating patterns is when people are young and that Universal Free School Meals support the establishing of these patterns.

Sipping Through

All children in Funded Early Learning and Childcare can get free lunches from Primary 1-3. On top of this, Free School Meals are also provided if a parent / guardian receives:

- Universal Credit (where your monthly earned income is not more than £610)
- Income Support
- Income-based Job Seeker's Allowance
- Income-based Employment and Support Allowance
- Support under Part VI of the Immigration and Asylum Act 1999
- Income below £16,105

Children may also be able to get free school lunch if at any point from aged 2 they have:

- A Kinship Care Order
- A Guardianship Order

(MyGov.com, 2021).

Sahota's 2014 study on English schools found that even when families are eligible for Free School Meals, a lack of knowledge about how to sign up inhibits those that are in most need from receiving them. REF

However even with these criteria, many that would significantly benefit do not receive one due to ineligibility, stigma or the gap between being eligible and actually receiving Free School Meals. There is also an administration cost when Free School Meals are means-tested. This money may in fact be better spent at making the policy universal for all ages rather than just students below Primary 3. Given the positive findings of both providing free school meals and making them universal, there is a strong case for the further extension of Universal Free School Meals.



Current Landscape

Obesity in Scotland

The UK has one of the highest levels of obesity among OECD countries, with the most acute problems found in Scotland. (Public Health Scotland, 2021).

Free School Meals

In 2014/15, Universal Free School Meals were introduced in Scotland for the first three years of primary school, Primary 1-3 (Chambers et al., 2020). As Scotland has devolved powers over Education and Health, the Scottish government is able to diverge on their approach to Universal Free School Meals. It is clear that the SNP-led government views Universal Free School Meals as an important policy as in November 2020; Deputy First Minister John Swinney announced that the Universal Free School Meals would soon be extended to all primary school children in Scotland (BBC News, 2020). Mr Swinney also stated that the scheme would run in the school holidays not just in term time, preventing 'holiday hunger'.

Mr Swinney said that Scotland was facing a **“tsunami of child poverty”** and that it **“is not just an issue for the very poorest”**; “This is an issue for working families, forced to feed children from food banks or go hungry themselves.” (Swinney quoted in BBC News, 2020).

The cost of the scheme was estimated to be £230 million per annum, and will be implemented by 2022. This policy extension has been a subject of both praise and criticism. The Scottish Conservative leader, Douglas Ross, welcomed that the SNP had followed their lead after announcing the same policy in September but also criticised the delayed timeframe of the policy and stated that there was no reason to wait two years for the implementation. However on the other side of the political spectrum, the education spokesperson of the Scottish Greens, Ross Greer, said that the policy was only a “half” adoption of their Universal Free School Meals programme. Mr Greer went on to say

“Hunger doesn't stop when a child goes to high school, which is why we have always insisted that free school meals should be provided to all children and young people, at every stage of their education.” (Greer in BBC News, 2020).

Also criticised were its timeframe of implementation and its comprehensiveness. This is an issue where there is much common ground across the political spectrum in Scotland. Since 2014/15 the political parties have recognised the impacts that Universal Free School Meals are having and the potential of these positive effects to be multiplied, the more students it covers.

Marcus Rashford's Campaigning

During the Covid-19 pandemic, Manchester United and England Footballer Marcus Rashford campaigned for the extension of Free Schools Meals to be continued throughout the summer holiday in England. Although our policies are focused on the Scottish political system,



this national campaign has had a sizable impact on the free school meals debate and has helped to shine a light on the vital importance of Free School Meals to millions of families.

Initially, the Conservative UK government rejected calls to continue the £15 a week food vouchers for low income families over the summer holidays, before Rashford successfully campaigned and prompted the government to continue providing the vouchers (Siddique, 2020). Rashford also campaigned successfully for a £170 million winter grant scheme to help low income families during the pandemic. Rashford has successfully placed food poverty at the forefront of the political conversation, even during these politically saturated times. Rashford is continuing his fight against food poverty, stating:

“There is still so much more to do, and my immediate concern is the **approximate 1.7 million children who miss out on free school meals**, holiday provision and Healthy Start vouchers because their family **income isn’t quite low enough.**” (Rashford in Siddique, 2020).

The attention drawn to the fact that when free school meals are not universal, they miss out the people who would benefit significantly from the policy, is a cornerstone of our policy recommendations.

What This All Means

This situation and the issue of childhood obesity and the inability to form healthy habits at an early age has resulted in several major health issues. With consistent issues within the last ten years regarding NHS funding, the evidence suggests that tackling the issue of obesity with a long-term approach is a more cost-effective issue, rather than the potential band-aid policies present within the government now. The cost of obesity within Scotland is currently estimated at between £360 million and £600 million (Obesity Action Scotland, 2016). This is a multifaceted issue which affects all aspects of the healthcare system and as a result the costs may be far greater. Reducing obesity within Scotland will result in a reduced demand on the NHS. This is a particularly crucial issue amid the COVID-19 crisis, as obesity, amongst other factors, has been shown to exacerbate the effects of the virus and therefore reducing population obesity will result in a decreased effect in the future.

“As **deprivation increases the number of children at a healthy weight decreases**, and the number of children measured as overweight or obese increases.” (The Royal College of Paediatrics and Child Health, 2021)

There is a clear reflection of both the factors which affect the poorer children of Scotland and that there is a major obesity crisis. The recommendations we have suggested will go some way to address the socio-economic disparity in relation to obesity. There is also a clear influence between the reduced obesity levels and education, leading to improvements in the education within Scotland.



Recommendations

1. Extension of Universal Free School Meals

In addition to the Free School Meals programme being offered to Primary 1-3 students, we endorse the widely supported recommendation for the extension of Free School Meals being available, at minimum, for those in compulsory full-time education. Concerning the improvement of the school food environment for all students, the new school food, drinks and other remaining standards were introduced to the Scottish Parliament in May 2020 and are expected to be implemented by April 2021 in all schools. Nevertheless, an upward trend in unprocessed or minimally processed foods and a reduction in red or processed meat is already observed (Obesity Action Scotland, 2020).

Chambers et. al (2020), examining the implementation of Universal Free School Meals in Scotland, found that for successful implementation of policy in a way that ensures that the policy is normalised and embedded into routine practice, the policy needs to effectively engage with multiple stakeholders. None of the stakeholder groups had a homogenous view of the purpose or value of the Universal Free School Meals policy, leading to the divergence in the understanding of the benefits of the policy. Educational stakeholders were less willing to engage with the policy beyond operational issues due to a lack of understanding of the long-term necessity and benefits of Universal Free School Meals. Educational stakeholders sometimes resented the politicized nature of Universal Free School Meals and questioned its need during a time when they were facing extensive cuts to their budgets, feeling a perceived loss of educational quality as focus shifts towards nutritional quality. However, they also saw the ability of the policy to reach those who were previously ineligible for assistance as a great benefit. Catering stakeholders were more enthusiastic as they observed a direct benefit to their daily work through facility upgrades and job security and received additional resources for the delivery of the policy. They also perceived that the school meals helped to establish healthier eating habits, and greater overall nutritional benefits than packed lunches. Where catering stakeholders felt that they played a legitimate role in the delivery of the policy, educational stakeholders did not, feeling that they were necessary only for the management, but not for the active provision of the policy. The study recommended that policymakers work to increase buy-in from educational stakeholders towards the policy to ensure its long-term success, especially as educational stakeholders play such a huge role.

The study also recommended that data be more rigorously collected on nutritional benefits to children as well as on reduction in inequalities for children and their families, rather than primarily on uptake as it has been usually done so. Uptake is an intermediary outcome, while the former are indicators of the long term aims of the policy. Feedback from children and parents was also lacking considering that they are main beneficiaries of the policy. For the long-term sustainability of the policy, there needs to be a greater focus on communication between all stakeholders, thus increasing investment from all stakeholders in the policy.

In terms of costing for our policies, the central policy of free school meals for all secondary costing would cost in the region of £215m, which would provide free school meals to secondary and primary school pupils (I News, 2020). We feel that the cost of this would be excellent value and provide great aid to the education sector as well as address the obesity problem within Scotland.



2. Provision of Free Fruit

The national Free Fruit in Schools Initiative aimed to provide one portion of fruit, three times a week during the term for all Primary 1 and Primary 2 students in all the publicly funded schools in the 32 authorities of Scotland. The initiative was provided with 2 million pounds per year, during the periods of 2003-2004 and 2005-2006 (MacGregor and Sheehy, 2005). In 2005, 20 of the 32 local authorities had some form of the scheme in place, however, the program was ended and it became the responsibility of local authorities to decide when and how the free fruit scheme would be implemented. The number of local authorities offering any fruit reduced to 16 in 2014, and further down to 11 in 2015 (Bradford, 2015). An evaluation of the Initiative by Macgregor and Sheehy (2005) of the Scottish Executive found that most local authority members and school staff members found that the Initiative caused an increase in fruit consumption and an improvement in healthy dietary behaviours for students from various school sizes, urban and rural settings, across different socioeconomic statuses.

During the Initiative, fruits varied in who they were supplied to and distributed by local fruit or fresh produce wholesalers, community food initiatives, housing association, and local shops or green grocers, with mostly local authorities, not schools choosing the suppliers/distributors. The quality of the fruit varied, with most being satisfied, and some needing to pay more before receiving satisfactory fruits. The most important issues were with the ripeness and quantity of the fruits, causing logistical issues in storage. The most popular fruits were grapes, melon, bananas, apples and strawberries, with the larger fruits being favorable when served in smaller pieces, in disposable packaging. Least popular fruits included tomatoes, big oranges, big apples, carrots, other vegetable sticks, and anything unfamiliar to the children, as children did not like tomatoes, and found the others difficult to eat (eg. peeling oranges). The choice of fruit also depended on budget restrictions, seasonality, whether fruits were organic (most were not), and the time it took for fruit preparation. Schools also received no formal guidance on minimising food miles or dealing with fruit waste.

Despite the logistical difficulties, the program was effective in introducing sustained healthy eating habits and increased fruit consumption amongst all students. We posit that the program be reintroduced with an extension to all primary school students and focus be given towards reducing logistical errors. Guidance should be provided to the authorities and schools on: choosing appropriate suppliers, taking into account food miles; deciding how often fruit needs to be delivered; fruit preparation; choosing fruits that are healthy, not too sugary, and easy to prepare and eat; storage protocols and the extent to which fruit ripeness matters when receiving fruits from suppliers; procedures for preventing fruit waste, expired and leftover fruits; ensuring that all schools have access to quality fruits without having to allocate greater funds; and reducing disposable waste created due to fruit packaging. The Free Fruit initiative would be costed at around £2m per year, with adjustment for inflation (MacGregor and Sheehy, 2005: 5).

3. Scottish Trial/Pilot of “Water Only Schools” Policy

The Mayor of London, in partnership with Public Health England and London’s Child Obesity Taskforce, has launched a “Water Only Schools” policy that serves to increase access to drinking water, by ensuring that only water and plain reduced fat milk (skimmed, semi skimmed, lactose free, and soya milk) are available drinks in schools and in school canteens (unless other beverages are needed for medical reasons, or if children are under 5) (2020).



Some schools ensure that other drinks are unavailable during events, or for fundraising purposes.

We propose that this program be piloted in select Scottish schools as well, providing a holistic, healthy food environment in schools when combined with our other two proposed recommendations. As the current policy has not yet been evaluated, we reinforce existing guidelines set by the Mayor of England, Public Health England and London's Child Obesity Taskforce (2020) that state that school environments need to have water easily accessible. This includes the strategic placement of water fountains and ensuring that water fountains be installed if needed. Due to COVID-19, care must also be given to ensuring that water fountains are thoroughly and frequently disinfected. Promoting the use of multi-use water bottles would be an added reduction in the expected single-use beverage bottles waste and reduces the amount of shared surfaces during the pandemic and beyond.



Next Steps

The necessary next steps in this process involve gaining support for our recommendations through directly engaging with a wide range of interested gatekeepers, who we feel will be able to add to our current research and help drive forward the implementation of our proposed policy reforms. The first step in the next stage is to launch our policy project at the Buchanan Institute's Annual Exhibition, held on the 25th March, remotely via buchananinst.org, which will allow the public to interact with our ideas and start to build new relations with new gatekeepers. Further engagement with gatekeepers can enable substantial change to be enacted quickly and efficiently, allowing future reform to build on this work. This will promote the discussion around reforms needed in this area, hopefully leading us closer to achieving the formal government support needed for reform in this area. Change must be implemented at both a local and national level across Scotland, with reforms paying particular attention to the areas most affected by child obesity and with the highest rates of free school meal use. Promotion of schemes such as the Water Only Schools policy can increase awareness of the far-reaching benefits of similar policy routes. Ultimately, a review of the current national framework around dietary education and food policy is necessary, prioritising policies that work towards the reduction of child obesity in Scotland.

Furthermore, by discussing our research more widely on social media and through various forums, we aim to encourage the public discussion around child obesity, both in Scotland and further afield, and the methods the government can take to reduce this societal issue before it becomes a nation-wide epidemic. By bringing this issue to the forefront of public discussion, individuals can express their own opinions and ideas which we will then listen to and engage with, ensuring that our policy proposals reflect the experiences of the wider population which are too often ignored in the policymaking process.

Through this work, we wish to challenge the current disparities experienced across various areas around Scotland. We wish to drive forward the policy reform to reduce child obesity at a national level. Our main aim of implementing this policy is to reduce inequality and obesity in Scotland through universal Free School Meals to all children in compulsory full time education, to provide all children in compulsory education with a piece of fruit at breaktime, and to fund a pilot of several schools trialing a water and milk only policy on school grounds. Through communication and working with gatekeepers, we feel that our work can reduce obesity rates in Scotland quickly to make a real change in children who are living in poverty.



Conclusion

Scotland suffers from extensive health inequalities in adults and children driven by a socially stratified rate of obesity, poor diet and inadequate nutrition.

These policy recommendations will help to improve on the current shortfall of the means tested system of testing free school meals after P3, as well as improving the fruit and vegetable intake, reducing sugar consumption within schools and increasing water consumption, which are all key for a myriad of health outcomes. In combination these policies will help to improve the healthiness of the school food environment and assist in establishing healthy habits early in life – an easier task than attempting to alter behaviour later on in the life course.

As several pilots and examples from countries adopting Universal Free School Meals show us, the greatest impact of the policy is found on the children who previously had the worst health outcomes. This policy is not only a well targeted, effective and relatively cheap intervention for improving health in comparison to other interventions, but it also has clear benefits on educational attainment.

Scottish children currently lag behind those of their English counterparts, as judged by the OEDCs Programme for International Student Assessment (PISA) (MacMahon, 2019). Universal Free School Meals have been shown to improve educational outcomes when fully implemented. Therefore this is a way to not only close this gap but to move towards becoming a healthier, more egalitarian and prosperous nation as a whole. We hope that the Scottish Government will soon choose to address the pressing issue of obesity in the younger population with use of our aforementioned recommendations.



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