School Health Assistant delivery of an extended brief intervention for parents and carers of overweight children aged 4-5 years

Evaluation report

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UWE Bristol | University of the West of England

Bristol City Council

North Somerset Council

South Gloucestershire Council

Sirona care & health

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Executive summary

Introduction

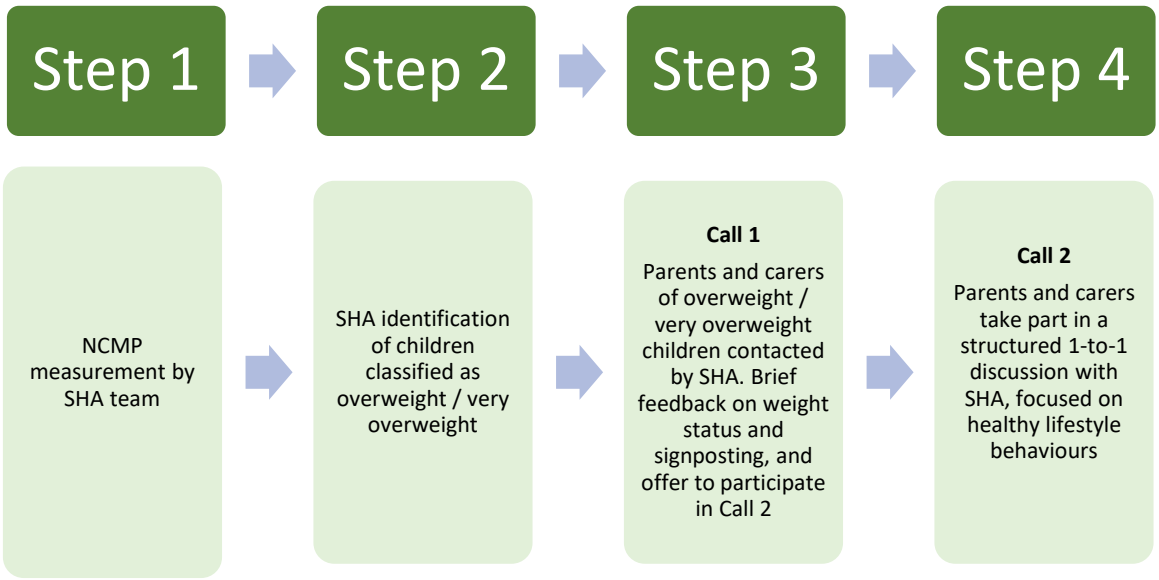
This is a report on the evaluation of a healthy weight extended brief intervention (EBI), a pilot project developed by Bristol City Council, North Somerset Council, and South Gloucestershire Council, with Sirona care and health, which ran from January to August 2023.

Briefly, the EBI was designed for parents (and carers with parental responsibilities) of children aged 4-5 years categorised as 'overweight' or 'very overweight' following 2023 measurements collated as part of the National Child Measurement Programme (NCMP). School Health Assistants (SHAs) working within the School Nursing Service delivered the intervention. The EBI aimed to:

1) Raise parent and carer awareness of overweight and obesity in their children and increase parents and carer understanding of the health consequences of overweight and obesity.
2) Promote healthy lifestyle behaviours and intentions – including diet, physical activity – and reduce screen time.

The EBI delivery pathway comprised of four steps (Figure 1).

Figure 1. EBI delivery pathway



Note. NCMP = National Child Measurement Programme; SHA = School Health Assistant.

The aim of our evaluation was to assess the impact of the EBI in achieving its aims, and to provide recommendations to guide its future development across Bristol, North Somerset, and South Gloucestershire local authority areas.

Methods

The evaluation adopted the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework (Glasgow et al., 1999), and involved the collection and analysis of survey, interview, and monitoring data.

Main learnings

1) Partial engagement with the EBI – i.e. initial contact made with a parent or carer (Call 1) – was achieved, with 83% of the target population (N=234). Contact was made with a total of 156 parents/carers in South Gloucestershire, 39 in Bristol, and 39 in North Somerset.
2) Full engagement with the EBI – i.e. initial contact made with a parent or carer (Call 1) AND participation in a second call (Call 2) – was low, reaching only 10% of the target population (N=29). Twenty-five calls were completed with parents/carers in South Gloucestershire, 3 in Bristol, and 1 in North Somerset.
3) The majority of those to partially or fully engage with the EBI described themselves as White British (80%), and approximately 90% participants were mothers.
4) Full engagement among parents/carers of children classified as 'very overweight' was low (N=1/29). **Note**: Eligibility in South Gloucestershire did not include children that were very overweight.

Factors identified as influencing full engagement with the EBI included:

- 'Shock'/'surprise' at the unsolicited nature of Call 1.
- Low levels of parent/carer awareness and concern about child's weight status.
- Desire for more comprehensive weight management support.
- Children aged 4-5 years are too young for parent/carer intervention.
- Lack of engagement with and support from schools.
- Limited time to participate in Call 2.

6) Although based on limited data, parent and carer concern about their child's weight status was higher among those that fully engaged with the EBI, compared with those that partially engaged. This is suggestive of increased awareness among parents and carers about the dangers of excess weight and may be linked to action.
7) Parent and carer reporting of their child's physical activity, screen time and healthy eating behaviours were all more favourable at follow-up (8-12 weeks after NCMP measurement).
    a. Parent/carer-reported physical activity was higher at follow-up.
    b. Parent/carer-reported screen time was lower at follow-up.
    c. Parent/carer-reported healthy eating was higher at follow-up.

Factors identified as influencing children's engagement with physical activity included:

- Limited time.
- Cost-of-living crisis affecting families' ability to participate in formal classes/clubs.
- Lack of enjoyment associated with being physically active.

Factors identified as influencing children's engagement with healthy eating included:

- Limited time to cook; ready meals are a quick alternative.
- Cost-of-living crisis affecting families' ability to buy healthy food.
- Presence of complex special educational needs and/or disability affecting child's engagement with and enjoyment of certain foods.

8) Parent and carer feedback on the EBI, including feedback on content and delivery, was more favourable among those that fully engaged with the EBI (took part in Call 1 and 2), compared with those to engage partially (took part in Call 1 only).
9) Overall, feedback suggested that the three local authority area teams worked well together in planning the EBI, with examples demonstrating sharing of expertise and learning.
10) Key challenges associated with EBI planning included:

a) Difficulty establishing consensus about the purpose and remit of the EBI in short timescale.
b) Cross-team working with sometimes conflicting priorities.
c) Need for one individual overseeing/leading pilot.
d) Lack of involvement with target population in developing the EBI.
e) Data collection issues / limited IT support.

11) Training for those involved in EBI delivery was provided though BeeZee Bodies, and this was broadly well received. Additional EBI-specific training, on call preparation and delivery and data collection processes, was limited and this was seen to be a key limitation of EBI planning.
12) EBI lesson plans were designed to support SHAs in delivering a consistent, evidence-based message to parents and carers during Call 2. Feedback indicated that lesson plans provided a useful starting point but were used inconsistently, with some SHAs drawing upon personal experiences as opposed to evidence and some feeling inadequately trained to provide specific evidence-based advice.
13) Recruitment of SHAs to the EBI delivery team was straightforward, with SHAs reporting that involvement provided a good opportunity for career development within the school nursing service.
14) Characteristics identified as important for those engaging with parents and carers included empathy, sensitivity and being non-judgmental.
15) Feedback obtained through this evaluation acknowledged 'teething' problems associated with EBI planning and delivery, but there was broad support to learn from experiences of the pilot and to continue to deliver the service. However, there was also recognition that the long-term sustainability of the service is difficult to predict in the current economic climate, where local authority public health budgets have been substantially reduced between 2015 and 2024 in real terms.

Recommendations

1) Take time to build upon existing partnerships and develop a shared vision for the future development and delivery of EBI. This should include early engagement with parents/carers and schools as key intervention stakeholders.

2) EBI planning discussions should include further consultation on the suitability of the 2-call approach of the EBI, the target audience (parents and carers of children aged 4-5 years), and consideration of how the intervention fits within the wider context of child weight management services provided by each local authority area.
3) Identify a key individual that will lead and 'champion' the EBI across local authority areas.
4) Ensure that project timescales are feasible and appropriate, and that reporting requirements are clear from the outset.
5) To promote more consistent implementation of evidence-based support, provide mandatory annual training for EBI delivery teams, specifically focused on EBI content (e.g. lesson plans) and communication skills, and provide frequent opportunities for those involved in delivery to share experiences and learning.
6) Given the numerous and complex social and cultural factors associated with overweight and obesity, ensure training content for EBI delivery teams covers, for example, the wider determinants of health and special educational needs and/or disability.
7) Ensure that those recruited to future EBI delivery teams demonstrate characteristics including empathy, sensitivity and that they are non-judgmental.
8) Consider sending out NCMP results letters to parents/carers in advance of EBI calls, informing parents that they can expect a follow-on call that will provide support and guidance. Evidence suggests that a combination of letter and telephone call is associated with fewer parent/carer complaints and higher parental engagement.
9) Ensure that EBI delivery teams have access to a wide range of signposting materials that can be shared with parents and carers as appropriate (e.g. recent publication of guidance for parents on talking to children of primary school age about weight).
10) Monitoring and evaluation of future EBI delivery efforts is essential to determine its impact and effectiveness. Ensure inclusion of evaluation support from the start of the intervention planning process, including time to prepare a baseline and follow-up data collection strategy. Linked to this, the creation of a more user-friendly data collection tool (e.g. REDCap) is recommended to minimise some of the data quality issues affecting this evaluation. Training in data collection methods should be provided to all EBI delivery teams.

Introduction

Background

Overweight and obesity in children is a global public health concern (WHO, 2022), with 1 in 3 children leaving primary school overweight and 1 in 5 classified as very overweight (DHSC, 2020). Excess weight is associated with an increased risk of a range of poorer physical (Paulis et al., 2014; Egan et al., 2013) and mental health (Griffiths et al., 2010) outcomes.

Levels of childhood excess weight are not experienced equally; analysis of 2021/2022 data revealed that obesity levels in children living in the most deprived areas of England were significantly higher than those living in the least deprived (31% vs 14%, respectively) (NHS Digital, 2022). Concerningly, those classified as overweight or very overweight in childhood are more likely to be very overweight in adulthood (Llewellyn et al., 2016), placing unsustainable health and financial pressure on service provision at the local and national level (Galbraith-Emami, 2013). Monitoring and tackling childhood excess weight prevalence has therefore become an identified priority of successive UK governments and has resulted in the publication of numerous policy drivers and strategies including, for example, *Childhood obesity: a plan for action* (HM Government, 2016) and *Tackling obesity: empowering adults and children to live healthier lives* (DHSC, 2020).

The National Child Measurement Programme (NCMP) was introduced in 2006 to measure the height and weight of children in Reception class (age 4-5 years) and year 6 (age 10-11 years) to monitor excess weight levels in primary schools across England (NHS Digital, 2022). The NCMP was originally set up as a surveillance tool, but many local authorities now use the NCMP as an opportunity to provide feedback to parents, via letter or phone call, about their child's weight and, in some cases, provide additional weight management support.

The NCMP is not without controversy. Studies have shown that the provision of feedback does not usually result in parents making changes to their child's/family's weight-related behaviours (Falconer et al., 2014; Park et al., 2014). There have also been reports of parental rejection of feedback (Ames et al., 2020; Gainsbury & Dowling, 2018), or more negative responses such as anger (Nnyanzi et al., 2016) or fear that discussing weight

with children may lead to eating disorder development (Gillison et al., 2013). A relatively recent systematic review of parents' experiences of receiving weight-related feedback about their child revealed that negative reactions may reflect low levels of self-efficacy and confidence among parents to address the issue of their child's weight (Ames et al., 2020). In response, steps have been taken recently to develop guidance for parents about how to talk to children about weight (Baber et al., 2023; Gillison et al., 2023).

The level of support provided to parents of overweight children following NCMP measurement differs according to local authority and ranges from:

- No further information
- Brief intervention
- Extended brief intervention (EBI)
- Referral to local Tier 2 weight management pathway.

Table 1 summarises the key features of early intervention strategies recommended in England.

Table 1. Key features of weight management early intervention strategies recommended in England

Strategy	**Key features**
Brief intervention	• Advice and signposting. • Opportunistic delivery by healthcare professional. • Typically lasting between a few minutes up to 30 minutes. (Thompson et al., 2017)
Extended brief intervention	• Minimum contact time of 30 minutes. • Taking place over 1 to 5 sessions. • Delivered at an individual level. • Involving at least one face-to-face or telephone/video call with intervention provider. (Grey et al., 2023)
Tier 2 weight management	• Community-based lifestyle weight management service. • Typically covers diet, nutrition, lifestyle, and behaviour change advice, normally in a group setting environment. • Limited time period (e.g. 12 weeks). (OHID, 2021)

Evaluations of weight management brief interventions have found limited evidence for their effectiveness on reducing children's body mass index (BMI) (Sim et al., 2016). In addition, the uptake of further support (more comprehensive weight management support) offered through brief intervention signposting and referral efforts, is also low

(Falconer et al., 2014). Sitting between brief interventions and Tier 2 weight management programmes, extended brief interventions or EBIs, offer more support than brief interventions and may have the potential to improve access to and uptake of more comprehensive weight management support (DHSC, 2022). However, guidance on developing and delivering EBIs is limited, and a recent rapid review of the efficacy of 19 studies of EBIs concluded:

> *"…there is currently insufficient evidence for EBIs to be adopted as part of CWM [child weight management] services."*
>
> Grey et al. (2023, p.1)

Grey and colleagues concluded that to improve the evidence base on weight management EBIs, future evaluations should seek to better understand EBI content effectiveness and how and by whom they should be delivered (Grey et al., 2023).

The extended brief intervention (EBI) for Bristol, North Somerset, and South Gloucestershire

Context

The combined population of Bristol, North Somerset, and South Gloucestershire (BNSSG) local authority areas is approximately 1 million people, and excess weight prevalence is recognised as a major public health challenge. The recent *Our Future Health* report from BNSSG's Integrated Care Board reports that there are more than 2000 overweight and very overweight children living in Bristol, North Somerset and South Gloucestershire, with higher prevalence among Black and Minority Ethic groups, and in children living in more deprived areas (Reeves et al., 2022).

In 2018/19, NCMP data revealed excess weight prevalence among Reception children (aged 4-5 years) living in Bristol, North Somerset, and South Gloucestershire, of between 19% and 25%. In response to these data, health and wellbeing strategies published by each council highlighted the importance of reducing unhealthy weight prevalence in this age group (Bristol City Council, 2020; North Somerset Council, 2021; South Gloucestershire, 2021). The development and pilot of an extended brief intervention was identified as one initiative to contribute to addressing the issue.

The most recent NCMP data (2022/2023) present a more promising picture, with the prevalence of overweight and very overweight in Reception children living in Bristol, North Somerset, and South Gloucestershire found to be lower than in 2018/19, ranging from 16% to 21%. This positive trend was also seen in the national data (NHS Digital, 2023). While these data are encouraging, excess weight prevalence is still too high and effective strategies are required to continue the downward trend and to address inequalities.

EBI development and delivery

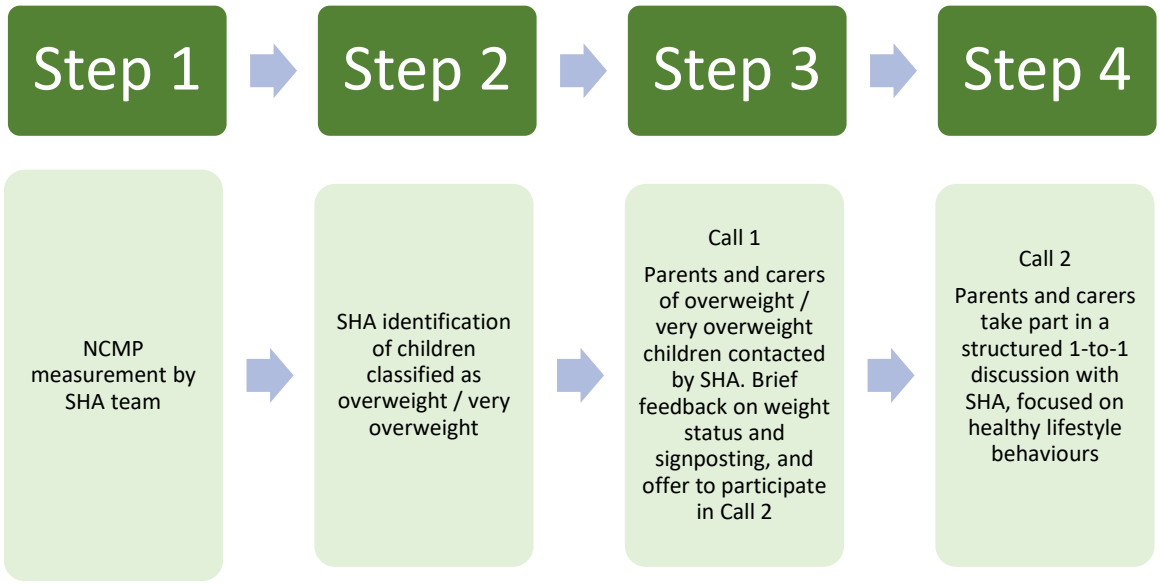
Bristol, North Somerset, and South Gloucestershire local authority public health teams commissioned *Sirona care and health* to develop and deliver a healthy lifestyle EBI for parents (and carers with parental responsibilities) of Reception aged children categorised as 'overweight' or 'very overweight' following 2023 NCMP measurement. EBI delivery was through School Health Assistants (SHAs) working within the School Nursing Service. SHAs deliver the National Child Measurement Programme and vision tests, and support School Nurses in delivering health promotion interventions.

The healthy lifestyle EBI aimed to:

1) Raise parent and carer awareness of excess weight in their children and increase parents' and carers' understanding of the health consequences of excess weight.
2) Promote healthy lifestyle behaviours and intentions – including diet, physical activity – and reduce screen time.

The EBI delivery pathway comprised of four steps (Figure 1) and is described in more detail below.

Figure 1. EBI delivery pathway



Note. NCMP = National Child Measurement Programme; SHA = School Health Assistant.

Call 1. Parents and carers of Reception children identified through the NCMP as overweight or very overweight were contacted via telephone by SHAs within two weeks of NCMP measurement. Call 1 was designed to provide feedback on child weight status in advance of receiving a weight status letter from the School Nursing Service and to signpost to other types of support (e.g. *Better Health North Somerset*). During Call 1 parents and carers were invited to complete a second call, 'Call 2'. Parent/carer engagement with Call 1 was considered **'partial engagement'** with the EBI.

Call 2. Call 2 offered parents and carers a longer and more structured 1-to-1 conversation with an SHA, lasting approximately 30 minutes. Call 2 encouraged parents and carers to seek further advice, support, and signposting following Call 1. Call 2 was designed to focus on one of three topic areas related to weight management: healthy plates (portion size, fruit and vegetable intake, sugar consumption); healthy choices (healthy snacks and drink choices), and physical activity (physical activity and screen time). The focus of Call 2 was chosen by parents and carers with guidance from the SHA. Call 2 took place within 2-6 weeks of NCMP measurement. 'Lesson plans' for each topic area were developed to support SHA delivery. Example lesson plans can be found in Appendix A. Parent/carer engagement with Call 1 and Call 2 was considered **'full engagement'** with the EBI.

To prepare for EBI delivery, SHAs were invited to attend training offered by *BeeZee Bodies*, an organisation which offers tier 2 weight management healthy lifestyles courses for families. BeeZee Bodies practitioner training focused on best-practice strategies for talking to parents and carers about health and wellbeing, and weight management strategies. Formal in-house training on the EBI specifically was not provided.

Local authority differences in EBI provision

EBI eligibility criteria. Reflecting differences in local authority priorities and needs, EBI eligibility differed according to local authority area:

> **Bristol**: Parents and carers of Reception children identified as 'very overweight' from 20 schools in 5 ward areas with highest excess weight prevalence and deprivation.
>
> **North Somerset**: Parents and carers of Reception children identified as 'overweight' or 'very overweight' from 8 schools in 3 wards with highest excess weight prevalence and deprivation.
>
> **South Gloucestershire**: Parents and carers of Reception children identified as 'overweight' from 89 schools across South Gloucestershire.

Notably, the potential reach of South Gloucestershire's EBI was much wider than Bristol and North Somerset, with a far higher number of schools eligible to take part.

Weight management provision. It is also important to recognise the presence of other individual-level intervention strategies provided in each local authority area, alongside the EBI.

> **Bristol**: In addition to the EBI, parents and carers of Reception children identified as 'very overweight' from 20 schools in 5 ward areas with highest excess weight prevalence and deprivation were offered tier 2 weight management *BeeZee Families*, a 12-week healthy lifestyles programme for 5-15 year olds and their families. Parents and carers were able to choose which intervention, if either, they would prefer to take-up.
>
> **North Somerset**: EBI is the only weight management early intervention strategy provided in North Somerset at present.

South Gloucestershire: Reception children identified as 'very overweight' as part of NCMP delivery were not eligible to participate in the EBI project. Instead, they were signposted to a locally commissioned tier 2 weight management programme for 5–17-year-olds identified as above a healthy weight and their families. This is a 12-week healthy lifestyles programme delivered by leisure centre partners.

Purpose of this report

This is a report on the evaluation of the heathy weight extended brief intervention, a pilot intervention delivered across Bristol, North Somerset, and South Gloucestershire local authority areas between January and August 2023.

The evaluation

Evaluation aims

In January 2023, Bristol City Council, North Somerset Council and South Gloucestershire Council jointly commissioned a team from UWE Bristol's Centre for Public Health and Wellbeing to evaluate its pilot EBI. The aim of the evaluation was to assess the impact of the pilot and to provide recommendations to guide its future development across Bristol, North Somerset, and South Gloucestershire local authority areas.

Evaluation methods

Study design

The evaluation adopted the RE-AIM framework (Glasgow et al., 1999), which allows researchers to better understand the impacts of an intervention, and to identify the barriers and facilitators associated with real-world intervention implementation.

To generate evidence on each dimension of the RE-AIM framework, a mixed methods approach was adopted similar to that adopted in a previous study (Bird et al., 2019). Evaluation data were collected between January and August 2023, from a range of sources including questionnaires, qualitative interviews, and monitoring data (see Table 2). Ethical approval for this evaluation was granted by UWE Bristol's Faculty Research Ethics Committee (Ref: HAS.23.01.054).

Questionnaires

Three cross-sectional questionnaires were administered at various points of the EBI delivery pathway: 'partial engagement questionnaire', 'full engagement questionnaire', and 'Follow-up questionnaire'.

Partial engagement questionnaire. At the start of the Call 1, School Health Assistants asked parents and carers to consent to completing a brief questionnaire that was designed by intervention deliverers, *Sirona care and health*. The questionnaire recorded information on child's ethnicity, number of siblings, weight classification, and parent and carer concerns about their child's NCMP weight classification. Weight management interventions typically measure changes in participants' weight status as a primary outcome measure (Grey et al., 2023). However, in recognition of the fact that the EBI pilot is a relatively 'brief' EBI and as such unlikely to lead to significant changes in children's BMI during the 12-week EBI delivery period, it was agreed with evaluation commissioners that it would not be appropriate or feasible to measure weight status.

Table 2. The RE-AIM framework as applied to the healthy lifestyle EBI evaluation

RE-AIM dimension
Reach • Number (% target population) of parents/carers eligible to engage in EBI pilot, total and by LA. • Number (% target population) of parents/carers to engage with SHA at Call 1, total and by LA ('partial engagement'). • Number (% target population) of parents/carers to express interest in Call 2 participation, total and by LA. • Number (% target population) of parents/carers to participate in Call 1 and Call 2, total and by LA ('full engagement'). • Parent/carers characteristics, by participation.
Effectiveness • Differences in parent/carer concern about child's weight. • Differences in parent/carer-reported children's physical activity, screen time, diet behaviours, and behavioural intentions. • Parent/carer reported barriers to and facilitators of children's participation in healthy lifestyle behaviours (e.g. physical activity, healthy eating).
Adoption • Number of School Nursing teams and SHAs involved in EBI delivery.
Implementation • Planning and delivery of the EBI as intended. • Parent/carer perceptions of the EBI.
Maintenance • Plans for the sustainability of the EBI.

Note. SHA = School Health Assistant, LA = Local Authority, EBI = extended brief intervention.

Full engagement questionnaire. Parents and carers engaging with Call 1 and Call 2 were invited to complete a second questionnaire during the Call 2. This questionnaire, also developed by *Sirona care and health*, contained items on parent and carer concerns about their child's weight classification, family medical history, physical activity and screen time behaviours, food availability and eating habits and questions related to their child's general health and wellbeing.

Follow-up questionnaire. Parents and carers that had any contact with an SHA were invited to complete a follow-up online questionnaire developed by the UWE evaluation

team. The follow-up survey built upon the earlier questionnaire items, including questions on parent and carer concerns about their child's weight classification, physical activity and screen time behaviours, food availability and eating habits, parent and carer physical activity, and questions related to their child's general health and wellbeing. It also included new items on perceived barriers to physical activity participation and healthy eating, as well as parent and carer experiences of the EBI overall. At the end of the follow-up questionnaire, parents and carers were asked to indicate their willingness to participate in a follow-up telephone interview. Follow-up questionnaire invitations were distributed via email by SHAs involved in EBI delivery approximately 8-12 weeks after NCMP measurement.

Interviews

To encourage feedback from those involved in different aspects of the EBI development and pilot delivery, and to ensure representation from each local authority, a purposive sample of stakeholders was invited to take part in a semi-structured interview.

An interview guide was developed to include questions tailored to capture the perspective of each stakeholder group, including positive and negative aspects of the EBI pilot. Interviews were conducted online via MS Teams with audio data subsequently transcribed verbatim. Data were explored using thematic analysis (Braun & Clarke, 2006) with the coding process based predominantly on mapping data against each of the RE-AIM dimensions.

Twenty interviews were conducted as part of this evaluation. A total of 23 EBI development and delivery-focused stakeholders were approached for interviews, of whom 18 agreed to be interviewed: School Health Assistants (N=9), School Nurses (N=2), Clinical/Locality Leads for School Nursing (N=4), and Public Health commissioners with responsibilities for promoting healthy weight (N=3). Six parents and carers that engaged fully with the EBI (i.e., participated in both Call 1 and 2) expressed interest in completing an interview, but only two individuals were contactable at the time interviews were conducted. To ensure anonymity and protect confidentiality of participants, quotes included in the Findings section of this report are not directly attributed to an individual role/locality area.

Monitoring data

We analysed routine monitoring data collected by *Sirona care and health* Business Intelligence team to determine the number of individuals eligible to participate in the EBI, and the number of partial and full engagement EBIs delivered according to local authority area.

A note on questionnaire data quality and completeness

Questionnaire response rates were reasonable but item completion within questionnaires was lower than anticipated:

- Partial engagement questionnaires were completed by 191 parents and carers (82% of those eligible). Many individual items within these questionnaires were incomplete, ranging from 20% to 80% completion.
- Full engagement questionnaires were completed by 23 parents and carers (73% of those completing Call 1 and 2). Many individual items within these questionnaires were incomplete, ranging from 48% to 100% completion.
- Follow-up questionnaires were completed by 26 parents and carers overall (11% of possible respondents). Completion was much higher than for partial and full engagement questionnaires, ranging from 96% to 100%.
    - 14 follow-up questionnaires were completed by those that partially engaged with the EBI (6% of possible respondents)
    - 12 follow-up questionnaires were completed by those that fully engaged with the EBI (5% of possible respondents).

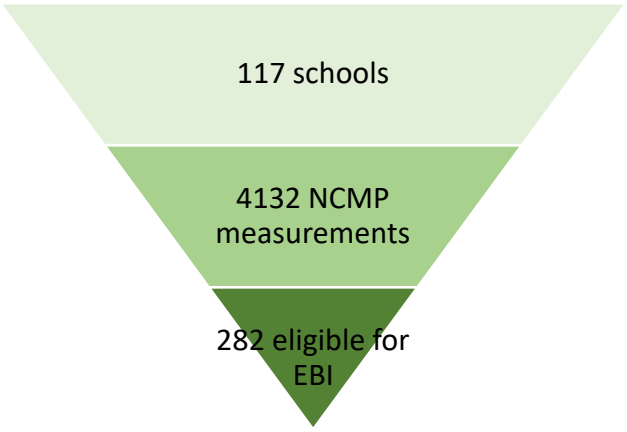
As there was evidence of incomplete data, questionnaire data reported below are presented purely for descriptive purposes and should not be used to make generalisations to the wider population.

Findings

EBI eligibility

Following 4,132 NCMP measurements carried out in 117 schools across Bristol, North Somerset, and South Gloucestershire in early 2023, a total of 282 parents and carers were identified as eligible for the EBI (Figure 2). Available data indicated that ~80% of eligible parents/carers had children classified as 'overweight' and ~20% were 'very overweight'. Reflecting its wider eligibility criteria, the vast majority of eligible parents and carers were located in South Gloucestershire (N=193, 68%), followed by Bristol (N=47, 17%), then North Somerset (N=42, 15%).

Figure 2. EBI eligibility across Bristol, North Somerset, and South Gloucestershire local authority areas.

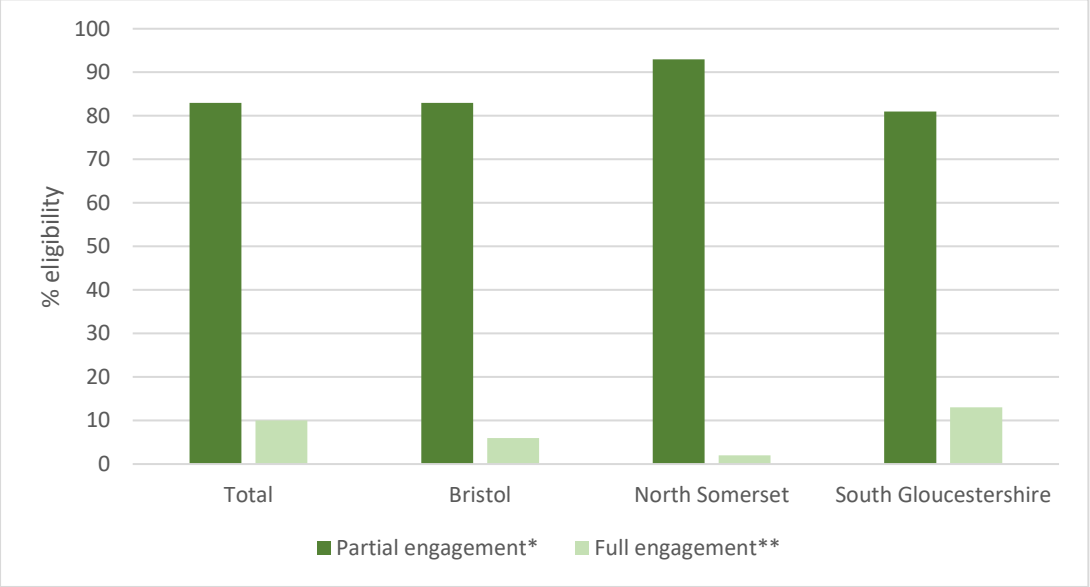


Reach

Partial engagement (Engagement with Call 1 only). SHAs attempted to contact all 282 eligible parents and carers. Of these, 234 had direct contact with an SHA (83% of the target population) (Figure 3). Contact was made with a total of 156 parents/carers in South Gloucestershire, 39 in Bristol, and 39 in North Somerset. Monitoring data indicated that 6 individuals (out of 234 where contact was established) from Bristol requested more intensive support than the EBI could offer, and were instead referred to tier 2 programme, *BeeZee Families*. The remaining 48 parents and carers could not be reached (17%). No data were available on parents and carers where contact was not established.

Full engagement (Engagement with Call 1 and call 2. Thirty-one parents and carers expressed interest in taking part in Call 2 (11% of those eligible), with 29 going on to participate (10% of those eligible) (Figure 3). Call 2 was delivered mostly to parents and carers in the South Gloucestershire local authority area (N=25; 13% of those eligible in that local authority), with 3 calls delivered in Bristol (6% of those eligible in that local authority) and 1 in North Somerset (2% of those eligible in that local authority).

Figure 3. EBI engagement



Note. * = Engagement with SHA at Call 1. ** = Engagement with SHA at Call 1 and Call 2.

Parent and carer demographics characteristics were broadly similar when comparing those engaging partially (Call 1 only), and those engaging fully with the EBI (Call 1 and 2) (Table 3).

Eighty per cent of parents and carers completing Call 1 alone had children classified ‘overweight’ and 20% ‘very overweight’. Full engagement among parents and carers of children classified as ‘very overweight’ was low (5%) – representing only 1 parent – with 95% classified as ‘overweight’.

Table 3. Comparison of parent and carer characteristics, by participation level

Characteristic	**Partial engagement (N=168) ***		**Full engagement (N=23) ****	
	N	**Valid %^**	**N**	**Valid %^**
Ethnicity				
White British	64	84.2	15	83.3
Other White background	4	5.3	-	-
White and Asian	3	3.9	-	-
Pakistani or British Pakistani	2	2.6	-	-
Other Black background	1	1.3	1	5.6
White and Black Caribbean	1	1.3	-	-
Other	1	1.3	1	5.6
Relationship to child				
Mother	109	93.2	19	90.5
Father	5	4.3	2	9.5
Carer with parental responsibilities	3	2.6	0	-
Weight classification				
Overweight	109	81.3	16	94.1
Very overweight	25	18.7	1	5.9

Note. * = Engagement with SHA at Call 1. ** = Engagement with SHA at Call 1 and Call 2. Participant characteristics collected via Sirona care and health questionnaire during Call 1. ^ = based on those where data were not missing.

Interviews with those involved in EBI development reported that Call 1 was designed to share NCMP results with parents in advance of their receiving a formal NCMP feedback letter in the post. The idea was to make *"a friendly outgoing telephone call to families before their letter arrives, to give the news verbally in a much more friendly, humanistic way then the letters. It gives a human voice to the service"* (Participant 17).

In general, feedback from those involved in Call 1 delivery indicated that the calls *"went well"* and that families had, on the whole, *"welcomed the call"* (Participant 11).

> *"I would say 99% of people are not annoyed. They understood why we're calling. And even if they declined to go forward [to Call 2], they appreciated the fact that we had made the telephone call. So that was really positive"*.
>
> (Participant 4)

However, feedback from some SHAs indicated that the unsolicited nature of the first call and provision of information on child's weight status was uncomfortable and / or surprising for some parents.

> *"It was quite challenging to start…making these sorts of unsolicited calls to families to tell them that their child was overweight. I mean that is not a nice way to start…Calling someone out of the blue. As a parent [myself], how would you feel receiving that call?"*

(Participant 3)

One of the parents interviewed expressed a similar view:

> *"We had no prior warning that this was happening. We didn't have time to prepare for it. It can be quite a sore subject for people"*.

(Participant 19)

Interviews identified a range of factors which contributed to low uptake of Call 2. Limited time, a lack of parental awareness about their child's weight status, limitations associated with the 2-call EBI 'offer', and wider system-level factors including limited engagement with schools. Many respondents reported that some parents were disappointed with the level of support offered through the EBI:

> *"Uptake was low. But I think that was because what we were offering wasn't enough"*.

(Participant 14)

This is supported by feedback from Bristol, where tier 2 intervention *Beezee Families* was offered to parents and carers as well as the EBI. It was felt by some to have impacted upon EBI uptake, with some parents opting for the more comprehensive face-to-face 12-session programme:

> *"What we've found is that because we offered BeeZees [as well as the EBI], the uptake of the EBI was a lot less, a lot lower than we were expecting."*

(Participant 16)

Interviews also revealed that many parents and carers were not aware of or concerned by their child's weight status, and as such, did not feel it necessary to accept the offer of weight management support:

> *"Speaking to parents, there's a lot of denial about what they see…There's a lot of not recognising that there might be a problem"*.
>
> (Participant 1)

One parent stated:

> *"We're all big boned, we have no concerns. He is just a bit short for his age"*.
>
> (Participant 19)

Low awareness and/or levels of concern were also related to age of children targeted by the EBI (aged 4-5 years). Some felt that there was *"a lot more time to address any concerns they had with their child's weight"* (Participant 7), with some suggesting that *"Reception's maybe too early to be offering EBI"* (Participant 17). One interviewee commented:

> *"Reception. It just felt like it didn't work. I don't know how you can make it work when it's the parents who just don't recognise the issue"*.
>
> (Participant 8)

Some SHAs expressed that involving school leadership teams in the development and delivery of the EBI might have helped to increase uptake among parents, as schools could promote the intervention and provide parents and carers with reassurance about the service offered:

> *"We haven't had any conversations with schools about the EBI. I don't think they're even aware that we're doing it."*
>
> (Participant 2)

It was suggested that increasing the 'visibility' of school nursing teams in school settings could have increased EBI uptake.

"I'd like to see School Nursing as part of the school workforce and involved in schools. Not just doing drop-ins or 'we're here if you need us'. It would help target the right audience [for EBI]".

(Participant 17)

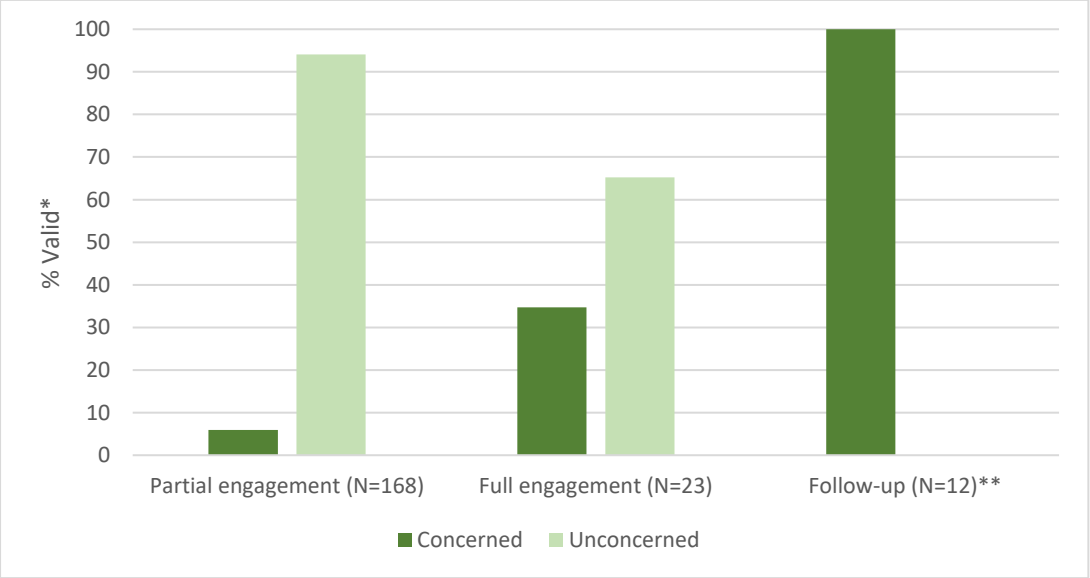
Effectiveness

Differences in levels of parent and carer concern about their child's weight status were compared, as well as differences in physical activity levels, screen time, diet behaviours, and behavioural intentions, according to degree of EBI engagement (partial or full).

Differences in parent and carer concern about child's weight

Approximately 6% of partially engaged respondents (Call 1 only) expressed concern regarding their child's weight classification. The proportion reporting concern was much higher in those that fully engaged with the EBI (35%) and was higher again at among fully engaged participants at follow-up (100%) (Figure 4).

Figure 4. Parent and carer concern about child's weight classification



Note. *Valid % = based on those where data were not missing. **Follow-up responses from fully engaged participants.

This indication of a shift in weight-related concern during EBI conversations with an SHA was recognised by one interviewee:

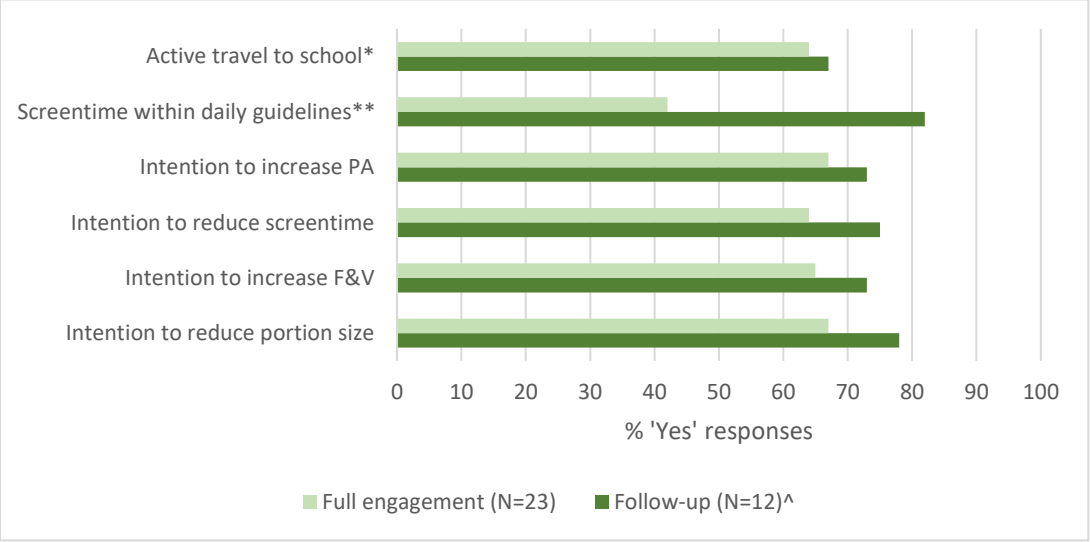
> *"I think [the parent/carer] wasn't overly concerned [at the start of Call 1]. But then…she found that [her child] was on the 95th percentile. She said 'Oh, I didn't realise it was that high'. And then she was thinking about [making changes to] his [diet]."*

(Participant 2)

Differences in physical activity, screen time, diet behaviours, and behavioural intentions

During Call 2 parents and carers were asked whether their child participated in physical activity, screen time, and diet-related behaviours, and whether parents/carers had any intentions to change these. These questions were repeated in the online follow-up questionnaire (Figure 5). Importantly, follow-up response rates were low among those taking part in Call 1 and 2 (N=12). However, parent and carer responses were more favourable on each behaviour and behavioural intention at follow-up than at Call 2.

Figure 5. Physical activity, screen time, and diet behaviours, and behavioural intentions



Note. PA = physical activity; F&V = fruit and vegetables. * = e.g. walk, cycle, scooter; ** = WHO guidelines 2019. ^ = Follow-up responses from fully engaged participants.

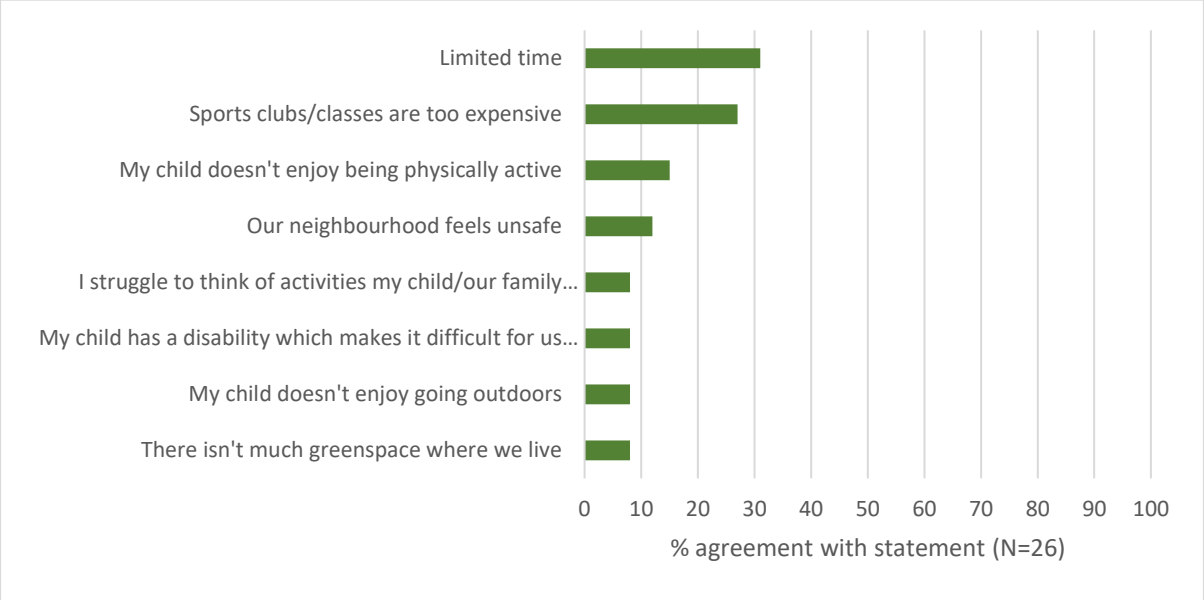
In summary:

- The proportion of children reportedly traveling to school using active methods (e.g. walk, cycle, scooter) was marginally higher at follow-up than at Call 2 (67% vs. 64%, respectively).
- The proportion of children reportedly meeting screentime guidelines was much higher at follow-up than at Call 2 (82% vs. 42%, respectively).
- Parent and carer intentions to INCREASE children's weekly physical activity levels were marginally higher at Call 2 than at follow-up (73% vs. 67%, respectively).
- Parent and carer intentions to REDUCE daily screentime were higher at follow-up than at Call 2 (75% vs. 64%, respectively).
- Parent and carer intentions to INCREASE daily fruit and vegetable consumption were higher at follow-up than at Call 2 (73% vs. 65%, respectively).
- Parent and carer intentions to REDUCE mealtime portion size were higher at follow-up than at Call 2 (78% vs. 67%, respectively).

Barriers to engaging in regular physical activity

At follow-up parents and carers were asked to reflect upon factors which affect their child's ability to participate in regular physical activity. The top three factors were 'Limited time' (31%), 'Sports clubs/classes are too expensive' (27%), and 'My child doesn't enjoy being physically active' (15%) (Figure 6). Interviews explored potential barriers in more depth and identified additional barriers such as fear of experiencing weight stigma and poor weather.

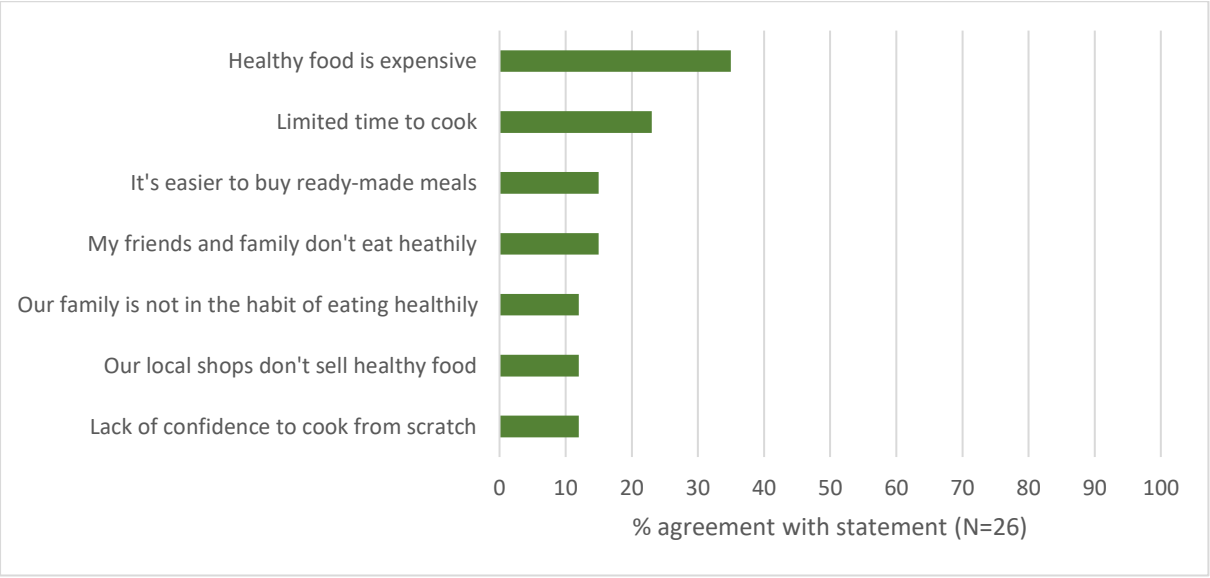
Figure 6. Barriers to engaging in regular physical activity



Barriers to healthy eating

The follow-up survey also asked parents and carers to identify factors affecting their child's ability to eat healthily. The top three factors were 'Healthy food is expensive' (35%), 'Limited time' (23%), and 'It's easier to buy ready-made meals' (15%) (Figure 7).

Figure 7. Parent and carer-identified barriers to supporting healthy eating in the home environment



Interviews highlighted some of these barriers in more depth. The cost-of-living crisis was a prominent issue discussed by all interviewees. For example:

> *"Lots of stuff was raised in the [EBI] conversations like the cost of living and how expensive the healthy options are and supermarkets"*.
>
> (Participant 6)

> "*There's a lot more manufactured, processed, fast foods that are readily available, and often those foods are more affordable than healthy foods. So, I do think that the current economic crisis has a lot to do with how people eat and what people choose [to eat]"*.
>
> (Participant 5)

Another factor making it difficult for parents and carers to support their child to eat healthily was the presence of special educational needs and/or disability. SHAs reported that many parents and carers that did not go on to engage with the EBI fully cited such difficulties and felt that more focused and intensive support was needed to deal with the complexity of their individual situations. For example:

> *"There was a big theme running through for me, and that was children with special educational needs, particularly autism. The parents were just constantly battling with their kids, because the kids had such rigid behaviours around their food and rigid habits, or they would only eat certain types of foods"*.
>
> (Participant 8)

Adoption

There were four school nursing leads involved in overseeing EBI preparation and delivery, based across the three local authority areas. A total of 12 SHAs volunteered to deliver EBI, with many taking on extra paid hours to contribute. Interviews with SHAs highlighted that the EBI offered them a chance to extend their role beyond existing requirements (i.e. the measurement of children's weight and height via the NCMP) and engage with families directly, and as an opportunity for career development.

"Personally, I just think embrace the opportunity, you will learn a lot. And you can help a lot. Even if it's in a really short moment of time, you might be making a world of difference to those families".

(Participant 4)

Interviews revealed that some SHAs volunteered for the EBI, specifically because of their personal struggles with weight and a desire to share their insights with the families they were assisting. In South Gloucestershire SHAs were overseen by a registered School Nurse who was responsible for speaking with parents and carers should more 'complex' calls arise; it was noted that this required extra time and resources but was seen as beneficial to the overall delivery in that local authority area.

Commissioners and school nursing leads articulated the need for SHAs to hold specific qualities, emphasising traits such as empathy and a non-judgmental demeanour:

"I think they've just got to be very sensitive. If parents are upset or angry then you just don't pursue it. And then you just keep very calm and kind of step back".

(Participant 18)

One school nursing lead noted that SHAs are well-placed to deliver EBI-style health promotion because:

"They all do display [specific qualities] anyway. Going into school, working with children and young people, working with teachers... They've already got those core skills. They're amazing".

(Participant 15)

Implementation

EBI planning

There was broad consensus among interviewees that the experience of working across three local authority areas with a large project team during EBI development was largely positive.

One interviewee felt that the planning process had been very successful:

> "*We had tools regarding what the enhanced brief intervention involved, what we were going to deliver, we had a document that show[ed] the whole process"*.
>
> (Participant 14)

Another commented:

> *"Because Sirona were keen to have this intervention across the patch that they work on, we were also in touch with our counterpart public health colleagues [in other LA areas], which was great. We were able to share expertise and learning."*
>
> (Participant 17)

However, challenges arising during the planning stage were also identified. For example, one individual noted that agreeing the purpose and remit of the EBI was not easy:

> *"Understanding the definition of an EBI, that took a little while to iron out. Things would change at the last minute, [and the] goalposts changed a bit."*
>
> (Participant 16)

Interviewees indicated that the direction of the EBI changed at various points, sometimes creating confusion. For example, one interviewee highlighted changes to the target population that were made after the original plan to provide a universal service had been agreed:

> *"One minute we were doing one thing and were having universal reach. Next, Bristol and North Somerset were having a targeted reach. So, it did make it quite complex.*
>
> (Participant 13)

Relatedly, other interviewees commented on challenges associated with differences in each local authority's requirements and priorities for the EBI:

> *"There were so many changes all the time. Because of the complexities of trying to work across three different commissioning bodies, it didn't feel as slick as it could have been."*
>
> (Participant 15)

> *"We worked with three different local authorities, and they all wanted different things. It is difficult to work across multiple organisations. I think it would have been good to have one [person] taking ownership".*
>
> (Participant 10)

According to some, this challenge was made more difficult because there was limited time to prepare for the EBI to ensure planned roll-out timescales were met.

> *"It was such a quick process. The bid was decided very quickly, and then we needed to roll it out."*
>
> (Participant 1)

One interviewee remarked that there was no involvement of parents and carers in the EBI planning stage and suggested that *"co-production would have interesting. It would be interesting to know from families what they wanted and what might have made them more likely to take up the intervention"* (Participant 16).

Training

All SHAs received training from BeeZee Bodies, covering strategies for talking to parents and carers about health and wellbeing generally, and weight management strategies more specifically. Interviewees were complimentary about the training received, with one noting *"we've upskilled a proportion of the workforce"* (Participant 17) in how to best communicate with parents and carers about healthy weight.

Another interviewee remarked:

> *"[BeeZee Bodies training] certainly gave me confidence in talking to parents about health and using the right kind of language and anticipating what sort of reaction you might get."*
>
> (Participant 1)

Most interviewees expressed disappointment about the lack of EBI-specific training, and indicated that this may have affected their ability to deliver the EBI as effectively as they had hoped:

> *"More training would be beneficial, or some clear guidelines on what is expected of us. Some [SHAs] were quite shy about doing the phone calls. I just don't think you have the competence to do it. It felt like some [SHAs] needed more support."*
>
> (Participant 7)

One interviewee noted a desire to provide more training to SHAs involved in delivery, but resource constraints meant this was not possible:

> *"[We wanted to] give them the actual skills [for delivery]. I guess it was investment really; we didn't have any additional funds. It would have been useful to have some motivational interviewing training for [SHAs]."*
>
> (Participant 13)

However, others felt that the BeeZee Bodies training alone was sufficient. This was often linked to an SHA's experience in the role; the more experienced the SHA, the less training was deemed to be required:

> *"I think I was as prepared as I probably could be. I've been in school nursing for 20 years... making phone calls to the parents of children that were overweight or underweight used to be part of my remit. So, I certainly wasn't worried about making calls."*
>
> (Participant 11)

EBI delivery

School nursing teams worked with commissioners on the development of a formal plan of activities for the duration of the pilot with clear milestones and timescales. The plan was for each SHA to contact parents and carers of Reception children identified through the NCMP as overweight or very overweight within two weeks of NCMP measurement. Call 1 was designed to provide feedback on child weight status and signposting to relevant support services.

Given the sensitive nature of Call 1, some SHAs had anticipated that parents and carers might be combative about the feedback or upset to receive the news. As described earlier, there were some parents and carers that were unaware of the implications of the results and others that were unconcerned. Of the two parents to participate in an interview, one interviewee explained that the experience had been distressing for the family.

> *"It made my wife quite upset. She struggled with weight control, and she's tried to lose weight and so she's been very conscious of it. And been bullied a lot when she was younger. So, it brought back a lot of childhood memories"*.
>
> (Participant 19)

However, another parent was more positive about the experience, although did have some reservations about content covered:

> *"She was very polite, and it was lovely. At times, maybe a little bit patronising. It felt like a bit of a tick box exercise. I feel like she had a script to follow. Pushing that I should engage with portion control and manage what he eats, and that we should lead an active lifestyle, despite having described to her the activities that we take part in"*.
>
> (Participant 20)

Feedback from SHAs indicated that Call 1 was broadly well-received by parents and carers:

> *"Quite a lot of people were actually really thankful for the call. Some people were a bit surprised that we were ringing about their child's weight. But I think because they knew the screening was taking place, they obviously knew that their child had been measured recently. They were thankful for the call because I guess it's a bit more personal"*.

(Participant 6)

Call 2 was designed to provide parents with a longer and more structured conversation, lasting approximately 30 minutes. During Call 1, parents/carers were invited to choose a topic area for discussion at Call 2: healthy plates (portion size, fruit and vegetable intake, sugar consumption); healthy choices (healthy snacks and drink choices), and physical activity (physical activity and screen time). 'Lesson plans' for each topic area were given to SHAs to deliver a consistent, evidence-based message to parents and carers (see Appendix A). One interviewee remarked:

> *"Whatever information is imparted to families, it needs to be factual, [and] it needs to be informative. It needs to be accurate and not anecdotal."*

(Participant 16)

Twenty calls reportedly focused on the 'healthy plates' lesson plan and 2 followed the 'healthy choices' lesson plan. The topic area covered in the remaining 7 sessions were not recorded. Topic guide lesson plans were welcomed by those that had experience of leading Call 2, as they were useful for guiding conversations with parents and carers. However, SHAs reported that topics covered in each call were wide ranging, and as such lesson plans focused on one topic did not reflect this broad remit:

> *"[Lesson plans are] quite simple. Once you start going through each call, it quickly becomes more and more complex... I think the boundaries got a little bit blurred as to what advice we can give. I think [lesson plans] were a little bit woolly."*

(Participant 3)

Some interviewees reflected that lesson plan content was not consistently delivered and not always evidence based:

> *"I think a lot of what we [delivered], we learned ourselves as mothers. I felt that we all had a different idea, and [the] message wasn't always consistent. Although we had the key messages [through lesson plans], sometimes you would just get caught up in what you were doing."*

(Participant 2)

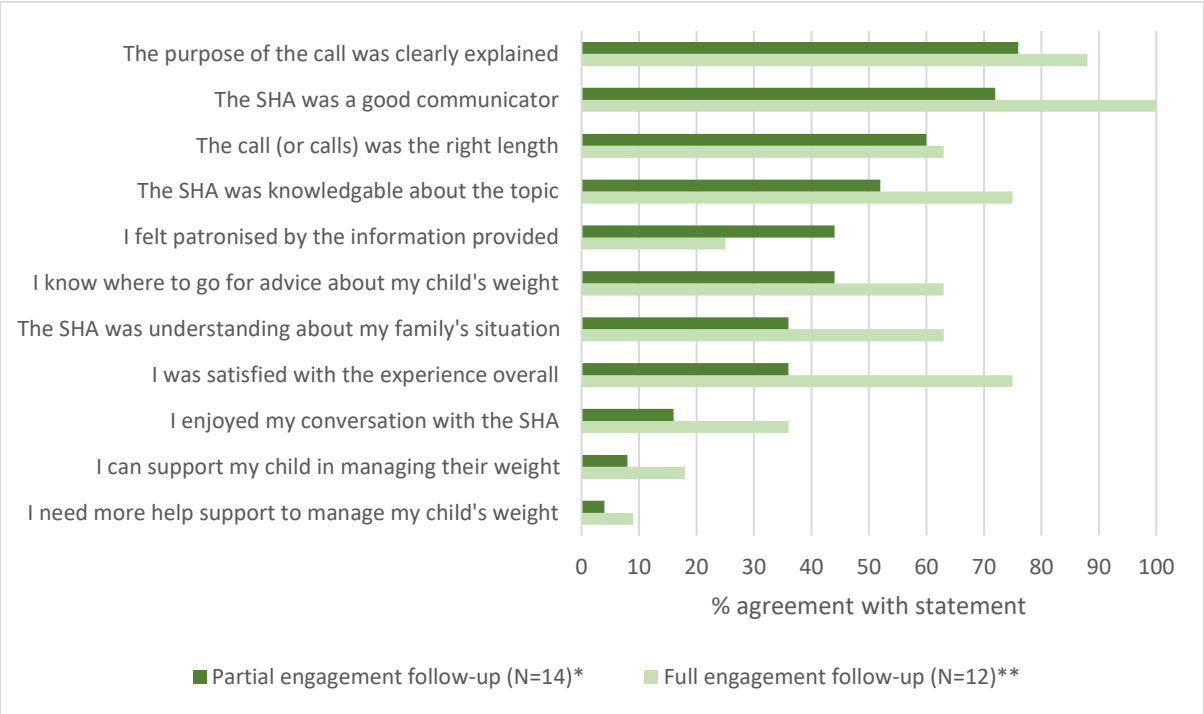
Another interviewee reported feeling unsure about how to advise a parents and carers when specific advice was sought:

> *"What is the correct amount of fluid a child should have? And why is that? What is the message nowadays? Are we talking about how much saturated fat a child has? Is it actually more important that we talk about how much sugar a child is eating instead? I felt that we all had a different idea, and the message wasn't always consistent."*

(Participant 1)

A total of 26 parents and carers to have had any contact with an SHA completed the follow-up questionnaire. As part of this questionnaire they were asked to indicate their level of engagement with the EBI (i.e. 'partial' or 'full'). Fourteen parents and carers reported partial engagement, with 12 respondents reporting full engagement. As shown in Figure 8, feedback from fully engaged parents and carers was more favourable on every item compared with responses of those completing Call 1 alone.

Figure 8. Parent and carer feedback on EBI delivery



Note. * = Follow-up responses for participants completing Call 1 only. ** = Follow-up responses for participants completing Call 1 and Call 2; SHA = School Health Assistant.

Data collection challenges

SHAs involved in Call 1 and Call 2 delivery were required to collect survey data using an online spreadsheet developed by Sirona care and health. Almost all interviewees commented on data collection challenges, which appears to have contributed to the data quality/completeness issues reported earlier on in this report.

Interviewees indicated that the spreadsheet used to collect data was *"clunky"* (Participant 12), and *"complicated"* (Participant 7), and there was feedback that data collection required knowledge and application of many computer software programmes which were *"a lot to get your head around"* (Participant 4). Some interviewees suggested that the questionnaire was too long, resulting in some parents and carers becoming disengaged with the support offered. There was broad agreement that training on data collection tools and procedures would have been beneficial.

One interviewee indicated that it would have been useful to have a dedicated individual overseeing the data collection and wider project management, as SHAs found the data collection process challenging and burdensome:

> *"It would be better [to have] project management support, in terms of the correct IT systems to support the programme. I think if we had a project manager that [EBI] would get off the ground. Really make sure all the I's were dotted and the T's crossed"*.
>
> (Participant 15)

Maintenance

Feedback unanimously recommended the need for mandatory training if EBI is to be continued. The interviewees highlighted that training was essential for the delivery of a consistent message and provision of clear guidelines. Those who were new to the job also expressed that more training would increase their confidence and reduce anxiety when delivering such a sensitive message to parents.

> *"It should be annual training, if EBI was to continue. It would need to be part of our annual training plan, because things change"*.
>
> (Participant 14)

Interviewees expressed a desire to expand the EBI and extend its reach to other schools beyond those that were targeted in this pilot. However, despite enthusiasm for continuing the EBI in some format, interviewees reflected on uncertainty regarding council budgets made it difficult to predict the long-term sustainability of the EBI, with one individual commenting:

> *"It will be interesting to see what happens next year, because last year, we had pots of funding. We're all struggling for funding. We're trying to do a lot with what little we've had. It feels like a last-minute scramble to find money"*.
>
> (Participant 17)

Main learnings and reflections

This report presents the findings from an evaluation of a pilot healthy lifestyle extended brief intervention (EBI) delivered across Bristol, North Somerset and South Gloucestershire local authority areas between January and August 2023. The EBI targeted parents and carers of children aged 4-5 years identified as overweight or very overweight through the National Child Measurement Programme (NCMP). The evaluation utilised a mixed methods approach, based on the RE-AIM framework (Glasgow et al., 1999), and involved the collection and analysis of survey, interview, and monitoring data.

Main learnings

- Partial engagement with the EBI – i.e. initial contact made with a parent or carer (Call 1) – was achieved, with 83% of the target population (N=234). Contact was made with a total of 156 parents/carers in South Gloucestershire, 39 in Bristol, and 39 in North Somerset.
- Full engagement with the EBI – i.e. initial contact made with a parent or carer (Call 1) AND participation in a second call (Call 2) – was low, reaching only 10% of the target population (N=29). A total of 25 calls were made to parents/carers in South Gloucestershire, 3 in Bristol, and 1 in North Somerset.
- The majority of those to partially or fully engage with the EBI described themselves as White British (approx. 80%), and approximately 90% participants were mothers.
- Full engagement among parents/carers of children classified as 'very overweight' was low (N=1/29). **Note**: Eligibility in South Gloucestershire did not include children that were very overweight.

The main factors identified as influencing full engagement with the EBI included:

- 'Shock'/'surprise' at the unsolicited nature of Call 1.
- Low levels of parent/carer awareness and concern about child's weight status.
- Desire for more comprehensive weight management support.
- Children aged 4-5 years are too young for parent/carer intervention.
- Lack of engagement with and support from schools.
- Limited time to participate in Call 2.

- Although based on limited data, parent and carer concern about their child's weight status was higher among those that fully engaged with the EBI, compared with those that partially engaged. This is suggestive of increased awareness among parents and carers about the dangers of excess weight and may be linked to action (Gillison et al., 2013).
- Parent and carer reporting of their child's physical activity, screen time and diet-related behaviours and behavioural intentions was more favourable at follow-up.

The main factors identified as influencing children's engagement with physical activity included:

- Limited time.
- Cost-of-living crisis affecting families' ability to participate in formal classes/clubs.
- Lack of enjoyment associated with being physically active.

The main factors identified as influencing children's engagement with healthy eating included:

- Limited time to cook; ready meals are a quick alternative.
- Cost-of-living crisis affecting families' ability to buy healthy food.
- Presence of complex special educational needs and/or disability affecting child's engagement with and enjoyment of certain foods.

- Feedback on the EBI from parents and carers was more favourable among those that fully engaged with the EBI (Call 1 and 2), compared with those to engage partially (Call 1 only).
- Overall, feedback suggested that the three local authority area teams worked well together in planning the EBI, with examples demonstrating sharing of expertise and learning.

- Key challenges associated with EBI planning included:
    1. Difficulty establishing consensus about the purpose and remit of the EBI in short timescale.
    2. Cross-team working with sometimes conflicting priorities.
    3. Need for one individual overseeing/leading pilot.
    4. Lack of involvement with target population in developing the EBI.
    5. Data collection issues / limited IT support.
- Training for those involved in EBI was provided though BeeZee Bodies, and this was broadly well received. However, additional EBI-specific training, on call preparation and delivery and data collection processes was limited, and this was seen to be a key limitation of EBI planning.
- EBI lesson plans were designed to support SHAs in delivering a consistent, evidence-based message to parents and carers during Call 2. Feedback indicated that lesson plans provided a useful starting point but were used inconsistently, with some SHAs drawing upon personal experiences as opposed to evidence and some feeling inadequately trained to provide specific evidence-based advice.
- Recruitment of SHAs to the EBI delivery team was straightforward, with SHAs reporting that involvement provided a good opportunity for career development within the school nursing service.
- Characteristics identified as important for those engaging with parents and carers included empathy, sensitivity and being non-judgmental.
- Feedback obtained through this evaluation acknowledged 'teething' problems associated with EBI planning and delivery, but there was broad support to learn from experiences of the pilot and to continue to deliver the service. However, there was also recognition that the long-term sustainability of the service is difficult to predict in the current economic climate, where local authority public health budgets have been substantially reduced between 2015 and 2024 in real terms (LGA, 2024).

Evaluation strengths and weaknesses

This evaluation used the RE-AIM framework (Glasgow et al., 1999) to assess the impact of the EBI pilot and to provide recommendations to guide its future development across Bristol, North Somerset, and South Gloucestershire local authority areas. The broad

approach allowed for the collation and triangulation of quantitative and qualitative data from a range of sources. It also enabled reporting on EBI planning, uptake, and implementation; evidence that is not always well reported in the EBI literature (Grey et al., 2023).

Survey and monitoring data quality and completeness was a major challenge in this evaluation, making it difficult for the evaluation team to generalise findings to the wider population. For example, the EBI pilot specifically targeted communities with high levels of deprivation, but incomplete data mean that no specific conclusions can be drawn about the 'reach' or EBI's 'effectiveness' in relation to those living in more deprived areas and those from Black and Minority Ethnic groups, where obesity prevalence is known to be higher (Reeves et al., 2022).

The UWE evaluation team was commissioned after the EBI service had been developed, at a time when it was too late to provide meaningful contributions to discussions on data collection methods. Good quality baseline and follow-up data is essential for evaluation, and it is therefore recommended that any future EBI planning involves evaluation support from the outset.

Recommendations

1) Take time to build upon existing partnerships and develop a shared vision for the future development and delivery of EBI. This should include early engagement with parents/carers and schools as key intervention stakeholders.
2) EBI planning discussions should include further consultation on the suitability of the 2-call approach of the EBI, the target audience (parents and carers of children aged 4-5 years), and consideration of how the intervention fits within the wider context of child weight management services provided by each local authority area.
3) Identify a key individual that will lead and 'champion' the EBI across local authority areas.
4) Ensure that project timescales are feasible and appropriate, and that reporting requirements are clear from the outset.
5) To promote more consistent implementation of evidence-based support, provide mandatory annual training for EBI delivery teams, specifically focused on EBI content

(e.g. lesson plans) and communication skills, and provide frequent opportunities for those involved in delivery to share experiences and learning.

6) Given the numerous and complex social and cultural factors associated with overweight and obesity, ensure training content for EBI delivery teams covers, for example, the wider determinants of health and special educational needs and/or disability.
7) Ensure that those recruited to future EBI delivery teams demonstrate characteristics including empathy, sensitivity and that they are non-judgmental.
8) Consider sending out NCMP results letters to parents/carers in advance of EBI calls, informing parents that they can expect a follow-on call that will provide support and guidance. Evidence suggests that a combination of letter and telephone call is associated with fewer parent/carer complaints and higher parental engagement (Brennan Research Ltd 2023; Hughes and Timpson, 2014).
9) Ensure that EBI delivery teams have access to a wide range of signposting materials that can be shared with parents and carers as appropriate (e.g. recent publication of guidance for parents on talking to children of primary school age about weight, Baber et al., 2023/Gillison et al., 2023).
10) Monitoring and evaluation of future EBI delivery efforts is essential to determine its impact and effectiveness. Ensure inclusion of evaluation support from the start of the intervention planning process, including time to prepare a baseline and follow-up data collection strategy. Linked to this, the creation of a more user-friendly data collection tool (e.g. REDCap) is recommended to minimise some of the data quality issues affecting this evaluation. Training in data collection methods should be provided to all EBI delivery teams.

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Appendix A

<u>Healthy Choices Session:</u> Healthy Snacks and Drink Choices Lesson Plan

Time: 30 mins

Key Concepts:

- To have an awareness of what constitutes healthy snacks and the importance of healthy drinks
- To know the impact of unhealthy snacks and drinks
- To learn about increasing the intake of healthy snacks and drinks

Resources:

- Family Snack Challenge leaflet (Better Health, Healthier Families website)
- Easy Meals App (sign post to ONE YOU website)
- Food Scanner App – Healthier Families
- Healthier food swaps (Better health, healthier families website)

Contents:
Choosing healthy snacks and reducing sugary drinks will help your child to maintain a healthy weight and healthy teeth by reducing tooth decay. Encouraging those healthy snacks and drinks will lead to healthier outcomes long term.

Keypoints:

1. Fruit and Vegetables: These are always the best snack. This will increase your childs intake of fibre and other nutrients. They count towards your 5 a day. They help your child feel full for longer and prevents snacking on unhealthy food.
2. Cut down on eating unhealthy snacks in between meals: Snacking in between meals would increase the intake of sugar, salt, and fat. Ask if the child is hungry after a meal or if they are bored? Is the child upset or angry?
3. When choosing packaged snacks for your children, remember two (100 calories) a day is the maximum guidance. This would help to keep an eye on how much children are having over the day. Remember to look at sugar content and go for the low sugar ones. E.g when buying biscuits, look at how much sugar is in per 100gm. A plain biscuit has less sugar and saturated fat than a chocolate biscuit.
4. Keep limited stocks of unhealthy snacks in the cupboards - Children do need occasional treats and we do need to keep some in the cupboards. Offer healthy snacks (fruit or rice sticks or rice cake) when they are hungry.

5. Drink water instead of juice, soft drink or cordial. Plain drinking tap water is free of calories and satisfies thirst better than other drinks. If a child doesn't like the

taste of plain water, try offering cold water or with ice or add slices of their favourite fruit.

6. Swap sugary fizzy drinks or squash with sugar-free or no added sugar drinks. Keep smoothies, fruit and vegetable juice to meal time only. Limit fruit juice and smoothies to 150ml a day. Drink low fat milk (semi-skimmed or skimmed) instead of sugary drinks.

To Summarise:

Reducing sugary drinks intake will help your child to maintain a healthy weight, it will reduce tooth decay, protect against diabetes type 2, improve mood and behaviour, and help your child to concentrate better.

Pick snacks with more green and amber on the food labels and cut down on those that are red on food labels. Children may look healthy on the outside but a diet high in sugar, saturated fat and salt can cause harmful changes on the inside and may lead to high blood pressure and heart diseases later in life.

Compiled by Rachel Halder, Bristol SHN team. Resources- NHS choices-Advice for parents of children who are overweight, Eat well guide, Change4Life, Bristol Dietician resources, Training material from SHINE

Appendix B

Healthy Plate Session: Portions size, Fruit & Vegetable intake, Sugar consumption Lesson Plan

Time: 30 mins

Key Concepts

- To know what constitutes a healthy, balanced diet and reducing sugar consumption
- To understand the importance of 5 a day in our diet
- To understand the importance of food portion control and how it can impact on health
- To know the ways to encourage food portion control in children while eating a balanced diet

Resources

- Eat well guide booklet
- Easy Meals App (sign post to One You website – better health)
- 8 for a healthy weight sheet
- Sugar Swaps leaflet (sign post to One You website – better health)
- Pictoral hand portion guide
- Portion guide for overweight children
- Food groups chart

Contents

Eating at least 5 portions of a variety of fruit and vegetables every day gives us plenty of vitamins, minerals, fibre, and other essential nutrients which are important for our health.

Foods that are generally low-fat, low-calorie foods may help to keep a healthy weight and help reduce the risk of heart disease, stroke, and some cancers.

There is very little official guidance on precisely how much food children require, so you will need to use your own judgement. A good rule of thumb is to start meals with small servings and let your child ask for more if they are still hungry. Eat sitting down, sociably, and slowly.

Keypoints:

1. Your 5 portions should include a variety of fruit and vegetables, this includes fresh, frozen, chilled, canned, 100% juice and dried fruit and vegetables. Encourage your childs 5 a day habit early. Potatoes do not count towards your 5 a day.
2. 1 portion is the amount that fits into the palm of your child's hand e.g. 4-6 strawberries, 2-3 tablespoons of raw/cooked vegetables. Be mindful of the number of fruits your child is consuming as fruits contain natural sugars.

3. Offer guided choices – offering two healthy choices, such as an apple or an orange. This gives them freedom to choose and helps to choose a healthy option.
4. Sugar provides 'empty' calories – it is pure energy with no additional nutritional value. Food and drinks that have added sugar usually contain lots of calories but not many nutrients, so it is best to cut down on foods that have lots of added sugar such as:
    - Sugary fizzy drinks
    - Sweets and biscuits
    - Cakes, pastries and puddings
    - Some breakfast cereals
5. Be persistent and don't give up to soon – giving a tiny taste every day for 2 weeks increases the liking and intake of vegetables and fruits in young children.
6. Be creative in cooking and dishing out – offer rainbow colours of food in every meal, snacks and packed lunches.
7. Keep fruit and vegetables available and accessible – within easy reach of children.
8. Having good portion control and only eating the recommended amount will help to keep our weight in control. We all need different amount of energy (or calories) from food to be a healthy weight. How much you need depends on many factors including how active you are. Whenever we eat more than our body needs, we put on weight. This is because we store the energy we don't use as fat.
9. Only eat as much food as you need - If you are eating a good balance of the different food groups and you are of healthy weight, then you are probably eating the right amount.
10. Measure portion sizes – use spoons and cups to measure while offering food e.g. encourage children to use a serving spoon or cup while taking out breakfast cereal rather than just tipping straight from the cereal box into the bowl as this can result in dishing out a big portion. An easier way is to use your hand. If you are serving your child, then use the child's hand as a portion.
11. Be mindful of the food portion when serving a child who is not very active that day or a child with additional needs who has limited activities. You can increase/decrease the portion size dependent on how active they have been throughout the day.
12. Try serving food on smaller plates or bowls – it helps to eat less. The same amount of food looks bigger and more filling on a smaller plate/bowl.

To Summarise:

- **Try to choose a variety of different foods from each group to get a wide range of nutrients, achieving your 5 a day. This will help us feel our best and make a big difference to our long term health, reducing the risk of heart diseases, high blood pressure, Type 2 Diabetes and high cholesterol.**
- **Cutting down on sugar reduces the risk of obesity and tooth decay**
- **A healthy diet isn't just about what you eat- it is also about how much you eat.**
- **Remind children to drink plenty of water – at times children may ask for food even after a full meal and it could be that they are thirsty. It is not always about food when children say they are hungry.**

Compiled by Rachel Halder, Bristol SHN team. Resources- NHS choices-Advice for parents of children who are overweight, Eat well guide, Change4Life, Bristol Dietician resources, Training material from SHINE

Appendix C

<u>Physical Activity Session:</u> Amount of screen time and physical activity Lesson Plan

Time: 30 min

Key Concepts:

- Awareness of parental choices and how these can impact the child
- Understanding the health benefits of being physically active
- Awareness of the guidance around screen time and the links to health outcomes

Resources:

- Family Snack Challenge leaflet (Better Health, Healthier Families website)
- Easy Meals App (sign post to ONE YOU website)
- 8 for a healthy weight
- Food Scanner App – Healthier Families
- Healthier food swaps (Better health, healthier families website)
- Positive parenting – Need to know guide NSPCC

Keypoints:

1. Encourage parents and carers to model a healthy lifestyle: Children are influenced by their parental lifestyles including what they eat, how they eat and their activity levels. Explore with parents if they are confident and knowledgeable in making changes e.g. provide information around food smart, portion size, local activity groups, parenting and if required signpost to Beezee Bodies if parents need further support).
2. Support parents and carers develop confidence in implementing changes e.g. being firm but warm and accepting to shaping their children's lifestyles. This involves:
    - Setting limits/boundaries (let the child know that they are allowed one hour of computer games)
    - Establish routine (Give clear instructions about mealtimes/play time/screen time/sleep time)
    - Discipline
    - Give lots of praises
    - Family rewards
    - Enjoyment
3. Encourage parents and carers to take a whole family approach: Involve the other siblings and whole family when making any lifestyle changes. Including the extended family may also bring benefits. E.g. if trying to reduce the intake of sweet cereals, make sure the siblings are also not having them at the same time whenever possible. Encourage activities together as a family for e.g., walking the dog together with the child or family swimming session.

4. Encourage positive family mealtimes: Involve the children in meal planning and preparation. Try to eat together as a family whenever possible without any TV or distraction. Encourage the child to eat but not pressured. Understand child's fullness cues and saying 'eat up all on your plate' does not help.
5. Find alternatives to food for comfort and encourage good behaviour: It is helpful to understand the mood of the child when they are eating. Positive attention promotes positive behaviour.
6. All children and young people from the age of 5-18 years need to do moderate to vigorous intensity physical activity (MVPA) for at least 60 minutes and up to several hours every day. It doesn't have to be all at once. Several short 10-minute bursts of activity throughout the day can be just as good as an hour long stretch.
7. Encourage the activities that your child enjoys. Swap car journeys to school by walking if you can or parking the car further away from school and walk to school.
    - Explore local leisure activities or clubs that your child may be interested in. Find out about breakfast activity clubs or after school activity clubs. Understanding how being active builds self-confidence and social skills.
8. Moderate intensity physical activities - These make the children get warmer, breathe harder and their hearts to beat faster but they would be able to talk but not sing E.g. bike riding, playground activities. Vigorous intensity physical activities will cause the children to get warmer, breathe much harder and their hearts to beat rapidly while having difficulty talking without pausing. E.g. running fast, swimming, football. Vigorous intensity activities including those that strengthen muscles and bones should be included at least 3 days a week. Bone and muscle strengthening activities involve using body weight or working against a resistance for e.g. swinging on playground equipment, hopping skipping, gymnastics, tennis. Evidence shows us that physical activity has a positive impact on concentration and learning.
9. All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods. Children need to reduce the time spent on any screen (includes TV, computer, phone, video games, ipad). No more than 2 hours of screen time is recommended each day. When physically possible break up long periods of not moving with a light physical activity.. Encourage your child to get up after an hour e.g. making a drink, doing the dishes.

Summarise

- **The health benefits of being physically active will help your child to maintain a healthy weight, will improve their sleep and improve their cardiovascular and bone health.**
- **A whole family approach is likely to bring positive benefits, if your child sees there parents/carers and siblings being more physically active, having less screen time, and making those healthier choices this will have a more**

positive impact on the whole family and this is likely to result in long lasting behaviour changes and healthier outcomes long term.

Compiled by Rachel Halder, Bristol SHN team. Resources- NHS choices-Advice for parents of children who are overweight, Eat well guide, Change4Life, Bristol Dietician resources, Training material from SHINE