Appendix A. Detailed methodology

Section A1. Rapid literature review – Phase 1

We conducted the rapid review of current academic and grey literature on school food interventions in secondary settings to answer the research question 'How can a Whole School Approach to Food (WSAF) be adapted to better suit the needs, preferences and priorities of secondary school settings?'. This review question was developed with input from the Steering Group (SG), and it was agreed to focus on UK-based studies only.

A rapid review is a pragmatic approach that brings together, analyses and summarises the results of different studies to answer a focused question which informs decision making and intervention approaches (1, 2). The rapid review is reported in full in a publicly available report (3). Seventeen academic papers and 16 reports that focused on a WSAF and/or interventions relating to specific components of a WSAF (food served, the dining experience, leadership, school culture, food education, pastoral care/food security, engagement and sustainability (4, 5)) and that were published since 2013 were included. Data on outcomes of the studies or recommendations relating to a WSAF were extracted from the included sources. A narrative synthesis was developed, identifying themes and sub-themes from the extracted data. These themes were then mapped to the elements of WSAF. Findings were discussed with Nourish delivery staff in a Learn and Share session, and with the SG, to consider their application to phase 3 of the research.

Section A2. Discovery interviews with Nourish Project Officers and a School Food Leader – Phase 2

To understand identified contextual constraints and facilitators of delivering the current Nourish programme, we conducted semi-structured interviews to collect the views, opinions and experiences of a small group of those involved in delivering or receiving Nourish in secondary schools. A convenience sample of three Project Officers (POs) with some experience of delivering Nourish in secondary schools, and one school staff member (the head of Personal, Social, Health and Economic (PSHE) education and the lead for school food) who had led the implementation of Nourish within their secondary school, took part in interviews. Participants provided informed

consent and were sent the interview topic guide in advance to allow them to prepare appropriately. Interview topic guides (Tables A1 and A2) were developed based on the elements of the Nourish programme, which are outlined in the term-by-term delivery model for Nourish (Figure A1), and aimed to explore the challenges of implementing or receiving the programme as well as the benefits and suggestions for future improvements or changes. Interviews were conducted by AD remotely via video call and lasted approximately one hour. Interviews were recorded and transcribed, and notes were also made by the researcher during the interviews.

A rapid analysis (RA) (6, 7) of the transcripts and researcher notes was conducted, and themes and sub-themes in the data were identified. RA is a pragmatic approach to qualitative analysis that can generate timely findings that align closely with those of thematic analysis, particularly in applied health contexts (7). In this study, RA was selected due to the need for timely integration of findings from phase 2 into planning for phase 3. These informed the planning of the workshops conducted in phase 3.

Table A1. Topic guide for Nourish Project Officers

	Question	Prompts
1	Tell me about your role and experience in relation to delivering Nourish?	• Length of time you have been delivering Nourish • How many schools you have been PO for • Prior experience in school food and intervention delivery
2	What is your understanding of the intervention and its purpose? (Alternative: How would you describe the intervention?)	• How is it run? • Your involvement • Why schools get involved
3	How have you found the local authority mapping? Does this change the approach at each school? How?	• More generally, what does LA support look like for secondary schools?
4	During the 'fact finding' day, are there any themes that seem to run throughout secondary schools?	• Willingness to talk to you about school food
5	How well are the surveys responded to for students and parents?	• Worse at secondary? • Kind of responses
6	Within an action plan, how many areas do you give schools to choose from and how to you come to decisions about what to focus on?	• Again, any themes for secondaries here • Elements secondary school consistently choose to/not to focus on?
7	What is your experience of the 4 days of in-person work in secondary schools? How well does it work? When providing the 4 days of in-person work in schools, are there any barriers to the work being done? What kind workshops tend to be run in secondary settings? How are they planned? How well do they work? What are the things that stop them working well?	• Staff availability and skills • Communication / interaction between SLT and catering • Student engagement
8	How well do schools perform/implement changes during the two terms following the training days? Why do you think that is?	• Things done well • Things schools struggle with • Requirements from staff/students • How well did stakeholders work together? Why do you think this was?
9	Do you have any evidence/experience of how well the legacy packs schools are left with are used?	• Policy templates • Job descriptions

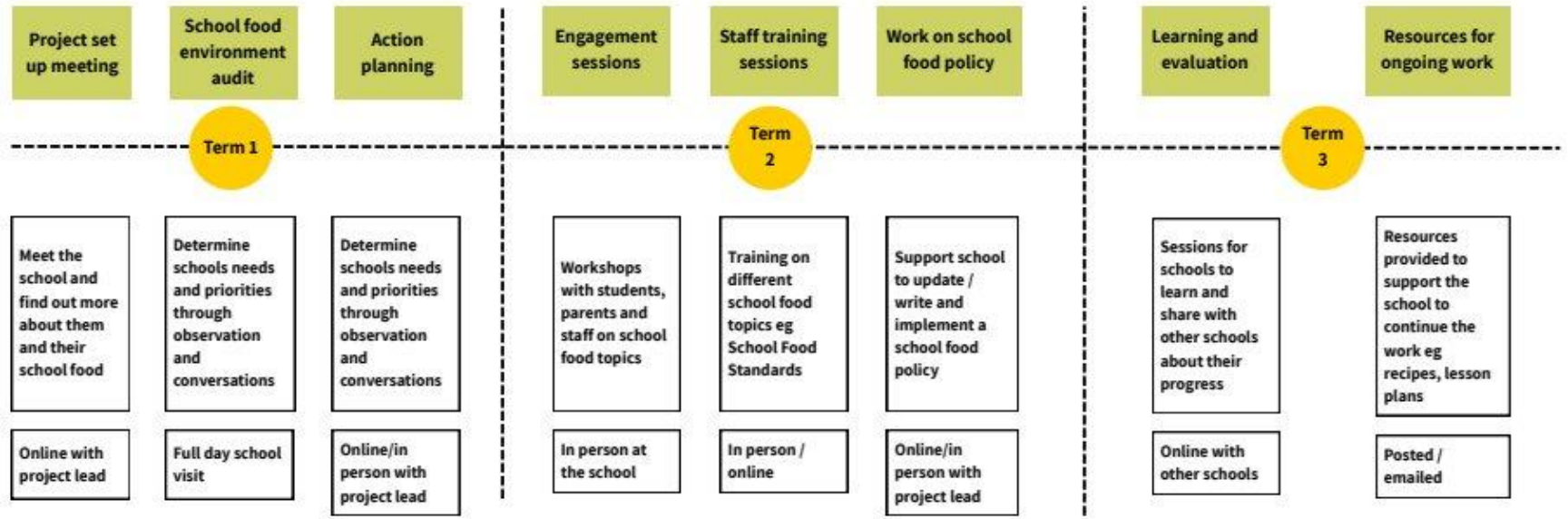
10	What is your experience / views on how schools implement a whole school policy on food? Why do you think it is so hard to get school to implement a whole school policy on food? Are there any key barrier to this in a secondary school setting?	• Time restrictions • Staff capacity • Complexity
11	What is the engagement with parents like at secondary level?	• Differences to primaries • Reasons for this
12	What feedback have you had from schools on the Nourish intervention? What do you think is the impact of the intervention on schools?	• Positive and negative • Immediate and long-term feedback • How this is collected.
13	Overall, what would you say are the most important facilitators to delivering nourish in secondary schools?	• Staff time • Enthusiasm • Willingness to change • Resources
14	Overall, what would you say are the biggest barriers to delivering Nourish in secondary schools?	• As above
15	Are there any elements of Nourish that you believe do not belong in the secondary context?	• Student autonomy • Education opportunities
16	What do you believe would improve Nourish's success in secondary schools? What changes would you make?	• Addition or removal of elements • Amount of direct engagement with schools • Funding? • Changes in policy

Table A2. Topic guide for schools receiving Nourish intervention

	Question	Prompts
1	Tell me about your role within your school and how it links to the food experience of your students?	• Length of time you have been within role • Food experience before Nourish • Prior experience in school food and intervention delivery
2	Why did your school want to take part in the Nourish intervention?	• Any Prior experience of receiving school food interventions • How did it differ to what you were already doing?
3	What is your understanding of the intervention and its purpose? How would you describe the intervention?	• How is it run? • Your involvement as a teacher • Why schools get involved
4	How did you feel about the 'fact finding' day? Was it thorough enough?	• Groups spoken to • Observations • Positive/benefits • Negatives/areas for change
5	What is your understanding of how well the students and parents of your school responded to any questionnaires as a part of Nourish?	• Did you get to see these responses?
6	How did you feel about the initial action plan that was developed for your school? What was the process like- did you want or need more/less involvement in this?	• Choice of actions to take • Understanding plans proposed
7	How did your find the 4 days of in-person work from School Food Matters in the school? How were the workshops planned? (Prompt: Did you get to help plan what workshops they delivered?) What worked well and not so well?	• Kinds of workshops delivered • Staff groups involved and their availability • Required input from staff • Student engagement
8	How did you find implementing changes following the first term of Nourish? What was the involvement of Project officers?	• Easier or harder than expected • Workload for school staff. What was required of staff? • How well did stakeholders work together? Why do you think this was?

		• What did colleagues and students think of the intervention?
9	Have you used the legacy pack that you were provided with at the end of the intervention? How have you used this? (Prompt: question on direct involvement with your Project officer.)	• Policy templates • Job descriptions • Guidance
10	What did the school get out of the intervention? To what extent di the Nourish programme impact on school policy and practice? How did it impact? (Prompt: Did the nourish intervention help you to implement a whole school policy on food?)	• If yes, what does it look like, how did nourish help? • If no, why? E.g. Staff capacity, complexity
11	How well did the parents of your school engage with the intervention and why do you think this is?	
12	How well did the intervention work in your setting?	• How did it fit within your existing work/activities/processes/goals?
13	Overall, what helped to facilitate the delivery and success of Nourish within your school? What were the most successful elements or changes that were made?	• Staff capacity • Willingness to change • Resources • Cost
14	Overall, would you say there were any key barriers to delivering Nourish in within your secondary school?	• As above
15	What changes would you make? Are there any elements of the Nourish intervention you received that you believe do not belong in the secondary school context?	• Addition or removal of elements • Amount of direct engagement with schools • Funding? • Changes in policy
16	Do you believe there is anything that could improve the success of the Nourish intervention within your secondary school?	• What feedback have you had from colleagues. Students, staff? • Would you do it again? Would you recommend it to other schools? • Are there any additional elements that you could see working well?

Figure A1: Term-by-term delivery model for Nourish



Section A3: Workshops with school food key groups – Phase 3

A series of workshops were held with key groups to understand their views, opinions and ideas of how to best adapt the Nourish programme for secondary schools. These key groups were: a) school students; b) parents; c) school staff (including Senior Leadership Team (SLT) members); d) caterers; and e) third sector, local authority (LA) and policy representatives related to secondary school food (referred to as 'sector representatives' from this point onwards). Two in-person workshops were conducted with school students, and 4 additional online workshops were held with each of the key group (parents, school staff/SLT, caterers and sector representatives). Workshops were designed and planned by the study team in an iterative manner. Questions to be posed in each workshop were informed by the Nourish programme term-by-term model of delivery (Figure A1) and the themes identified in Phase 2 were developed through discussion between the research team and SFM to identify the most salient issues for each group to consider. The study SG were also invited to input into the design of the workshops.

Recruitment: To access student participants, we recruited two schools. SFM used their existing connections to schools in London, whilst the research team focused on sampling schools in Midlands with no existing connections. These schools had varied geographies, and a higher-than-average free school meal (FSM) eligibility and proportion of students from non-White British ethnic groups, to allow for inclusion of diverse student perspectives. Participating schools included: a large community school in London with 37% students eligible for FSM, and 56% of students from minoritised ethnic groups; and a large sponsor-led academy in Leicester with 38% students eligible for FSM, and 80% from minoritised ethnic groups. The schools assisted in the recruitment of students from across secondary school year groups (Years 7-11). Researchers provided participant information sheets (PIS) to schools, which were then distributed students and parents. Parents were given the opportunity to opt their child out of the study if they did not wish for them to take part, by returning the opt-out form to the school at the start of the in-person pupil workshops, students were given the opportunity to ask researchers any questions before completing a written assent form and a demographic questionnaire. Recruitment of parents, SLT/school staff, caterers, and sector representatives was conducted by emailing contacts of the study team and the SG, and by advertising in SFM newsletters, on the SFM website and on LinkedIn. Those expressing an interest were emailed a study information sheet and asked to provide their informed consent to join an online workshop. Demographic information was collected from participants when they provided their consent/assent. We recruited 34 school students (53% female; 53% from minoritised ethnic

groups; 10% eligible for FSM) and 36 adult participants (17 sector representatives; 9 caterers; 5 parents; 5 SLT/school staff). Sector representatives included professionals with specialist roles in school food, public health and nutrition, including LA public health leads, Healthy Schools coordinators, school food officers, catering service managers, and senior leaders from multi-academy trusts. Further detail on participants' characteristics is provided in Table A3.

Data collection: Student workshops were held at the two participating schools and were approximately 60 minutes duration. After an introduction to the study team, Nourish programme and WSAF, a short ice-breaker activity was conducted. Students were then divided into three smaller groups according to their year group. Three key questions were shared with each group (see questions and prompts in Table A4) with 15 minutes allowed for discussion of each question. All other workshops (sector representatives, parents, SLT/school staff and caterers) were held on Microsoft Teams and were approximately 60-90 minutes long. After introduction of the study team, Nourish programme and WSFA, participants were placed in groups of 4-6 in breakout rooms and were asked to consider three key questions specific to the key group (Tables A5-A8), with approximately 15 minutes discussion allowed per question. In-person and online workshops were audio-recorded and transcribed.

Analysis: A thematic approach to analysis was taken, guided by the Framework Method (8). Following the initial stages of transcription and familiarisation, a working analytical framework was developed based on findings from the rapid review (Table A9). The coding team (AD, MM, ES) applied the coding framework to the transcripts, generating further codes if data were not captured in the existing framework. Data were charted into a framework matrix and coding summaries were written by MM, ES and ED. Coding summaries were reviewed and discussed by MM, ES, ED and EB to develop early interpretations of the data in relation to the research aims. A table was then generated which outlined the suggested adaptations to a WSAF to better suit the needs, preferences and priorities of secondary school settings, with short descriptions, illustrative quotes and an indication of key groups from which the data were derived (Appendix C; Table C1).

Ethics approval for Phase 2 and Phase 3 was granted by the University of Birmingham Research Ethics Committee on 28th May 2025 (ERN_4361-May2025) and 17th September 2025 (ERN_4506-Sep2025) respectively.

Section A4: Development of recommendations – Phase 4

This phase involved combining the findings of phases 1-3 and contextualising these within Nourish to identify conditions for successful delivery and key recommendations for adaptations

to the programme for secondary schools, in consultation with study advisors. We first incorporated key findings from phases 1-3 into a table (Appendix D; Table D1), mapping the findings to the WSFA pillars defined in the Nourish programme. The study team (ES, MM, MP) then held a workshop to explore similarities and differences of findings from each phase, making notes to summarise the key points. Initially, a set of core, underpinning principles for delivery of the Nourish programme in the secondary school context were identified. More specific recommendations were then identified and mapped to the elements and processes outlined in the Nourish term-by-term model of delivery (Figure A1).

Following this workshop, the draft recommendations were further developed and refined through consultation with three groups. First, a meeting with a Youth Panel from Bite Back was convened, in which the panel gave detailed feedback on the recommendations relating to student engagement and sustainability. Next, a Learn and Share session with SFM colleagues, including POs responsible for delivery of the Nourish programme, was conducted, in which attendees were asked to consider the draft recommendations and identify any issues (e.g. recommendation had been tried before and did not work, or recommendation did not fit with the ethos of the Nourish programme). Following this, the draft 'core principles' were presented to the SG for discussion and feedback. This aided further understanding in school food context and shaped further explanation of the conditions for success alongside changes such as wording alterations to highlight certain practices (e.g. meaningful student engagement). A near-final draft of the core principles and recommendations was developed after these consultations and was critically reviewed by the SFM team and several SG members with additional adaptations as needed. In particular, the SFM delivery team provided feedback on the feasibility of implementing the recommendations, and those that were deemed not to be feasible were adapted or removed.

The final output was an agreed set of conditions for success of the Nourish programme in secondary schools, an adapted model of delivery, and a resource for SFM delivery teams to use in their interactions with Nourish secondary schools.

Table A3 Participant characteristics

	Key group				
	Students	**Parents**	**Caterer**	**SLT/Staff***	**Sector representative**
	n=34	n=5	n=9	n=5	n=17
	n (%)				
Gender					
Male	16 (47)	0 (0)	3 (33)	2 (40)	4 (24)
Female	18 (53)	5 (100)	6 (67)	2 (40)	13 (76)
Other	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
I would rather not say	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Age (years)					
16-24	34 (100)	N/A	N/A	N/A	N/A
25-44	0 (0)	N/A	N/A	N/A	N/A
45-64	0 (0)	N/A	N/A	N/A	N/A
Over 65	0 (0)	N/A	N/A	N/A	N/A
FSM eligibility					
Yes	10 (29)	1 (20)	N/A	N/A	N/A
No	21 (62)	4 (80)	N/A	N/A	N/A
I don't know	3 (9)	0 (0)	N/A	N/A	N/A
Would rather not answer	0 (0)	0 (0)	N/A	N/A	N/A
Ethnicity					
Asian / Asian British	3 (9)	1 (20)	0 (0)	1 (20)	0 (0)
Black / African / Caribbean / Black British	6 (18)	0 (0)	1 (11)	0 (0)	0 (0)
Mixed / Multiple Ethnic groups	9 (26)	0 (0)	0 (0)	0 (0)	0 (0)
White	15 (44)	4 (80)	8 (89)	4 (80)	15 (88)
I would rather not say	0 (0)	0 (0)	0 (0)	0 (0)	1 (6)
Other ethnic group	1 (3)	0 (0)	0 (0)	0 (0)	1 (6)

*Gender demographic data missing (n=1)

Table A4 Workshop questions and prompts for students

Introduction	Frame around how important we think student engagement is (and not often done) and focus it on that, to avoid food preferences conversation. Use the student WSAF model without definitions (they can define themselves)
Broad question	How can students have meaningful input into their food and food environment at school?
Questions	**Prompts**
1. What would motivate you to be involved in change around school food? What kind of things do you want to have a say in?	• What would you like to change about school food? (relate to WSAF) • What kind of changes to the food served at school, the food environment, culture and education would you like to be involved in? • Has anyone ever asked you about school food? • How could you help your school to keep track of progress to improve school food? • When and what you can eat
2. How do you want to be involved in / asked about school food?	• What topic areas would you like to learn about related to food and nutrition • What is the best way to set up a school council on food? How would you like the school food council work with staff and caterers? • What lessons could include school food? • Ways to provide feedback (food council, suggestion box etc.), activities, discussions
3. What activities would encourage more students and those less motivated/interested to be involved in improving food in school?	• What kind of student commitments should be made within policies that most will be willing to follow- e.g. water only policies • Who to involve/ Who inspires you to live a healthier life- sports people etc? • Creative ways to promote any changes to school food / using technology in session

Table A5 Workshop questions and prompts for parents

Introduction	Introduce WSAF and show WSAF figure – which parts are you involved with? Would like to be involved with?
Broad question	How can parents become more involved in school food?
Questions	**Prompts**
1. To what degree do you want to be involved with your child's food at school? How much responsibility should the school have?	• School's role in their child's nutrition / food at school? • Opportunities to engage with parents and to better understand what the needs of parents • Equity- free school meals, access to water • Educating about the outside environment • Communication • Resources provided to parents • Improve relationships between parents and schools
2. What are you interested in learning about related to school food and your child(ren)?	• Parents evenings, coffee mornings, running events/workshops on food (cooking), Online sessions • Events and opportunities, engagement sessions • Sleep and food etc. • Development opportunities • Engaging with young people about their food choices within and outside of school environment • Involving nutritionists
3. What best practice have you seen in your children's schools in relation to school food and engaging parents?	• Catering • Free School Meals/breakfast/after school • Food provision, environment, culture and education

Table A6 Workshop questions and prompts for caterers

Introduction	More of an exploratory framing – as we haven't engaged with them before so don't know much about how to work collaboratively with the group
Broad question	How can caterers be best engaged in the Nourish intervention? Framing around money and profit.
Questions	**Prompts**
1. How can caterer's aims for school food be included in the goals of the Nourish intervention/a WSAF?	• Caterer's roles • Increasing uptake • Monitoring changes made • Ways of communicating • Types of activities / inputs • Using student feedback on food • Using nudging a strategy (don't have to make large changes to provision) • Supporting contract management • Engaging marketing teams in driving uptake
2. What training or professional development opportunities could the Nourish intervention offer to you as a caterer/catering team?	• What training opportunities do caterers/kitchen staff need/want? • Food education with students • Joint workshops with student/parent/staff? • Who needs to be involved? • Ways to increase school food uptake • Midday supervisors • Topics, how it is delivered etc.?
3. What would an ongoing relationship with School Food Matters look like to ensure changes are evaluated and contact is kept up?	• 1 year programme • Methods of communication • Timelines to see change • Being part of a WSAF working group • For external caterers – Communication with central catering teams • Removing conflict with profit margins

Table A7 Workshop questions and prompts for sector representatives

Introduction	Frame with WSAF to food
Broad question	Based on your experience, what levers can be used to improve secondary school engagement with the Nourish intervention and who/what (or how can you (LA/MAT)) can influence this?
Questions	**Prompts**
1. How can people outside of the school community support their local schools with a WSAF to food/ stages of the Nourish intervention?	• LA/MATs/charities/universities • Recruitment to the nourish intervention • Engaging the students, parent, school staff and caterers • Who else could be involved? • Socio-demographic picture of a school/borough: levels of deprivation, ethnicity, FSM% etc to help tailor parts of the programme • School food audit and action planning • Related to food provision, environment, culture and education
2. What are you currently doing with the new school food policies in your work and how can we support schools to work on these policies?	• Breakfasts, extended FSM, school food standards review in secondaries • Which aspects of implementing these policies are most challenging? How might these be addressed? • What activities/inputs are needed? • Engaging the students, parent, school staff and caterers
3. How can the learning and evaluation and providing resources to schools at the end of the intervention be supported by SFM, LAs and MATs to ensure long term changes?	• Sharing learning opportunities (cohort model) • Food provision, environment, culture and education • Monitoring and evaluation. • SFS monitoring • School policy development

Table A8 Workshop questions and prompts for school staff/SLT

Introduction	Frame with WSAF to food mapped with Nourish elements
Broad question	What would improve whole school engagement in the Nourish intervention?
Questions	**Prompts**
1. What would make/encourage your school to initially engage with the Nourish intervention?	• Wanting to make changes in food provision, environment, culture and education • Tangible outcomes • Potential focus of the intervention • What are the facilitators or barriers to sign-up? What might overcome the barriers? • Marketing, promotion, influencers, levers
2. How can schools be encouraged/facilitated to engage with all elements of the intervention? What is a good timeline for the programme during the academic year?	• Engaging the students, parent, school staff and caterers in audit, planning, training, sustaining • Which aspects of the intervention are most challenging, and how can these be adapted to better suit your setting / address the challenges? • What staff should be involved: pastoral lead, extracurricular/enrichment leads, PE leads, SEND Coordinators • Barries to timelines: exams • Extending beyond a year
3. What can be done during the project, to ensure it continues beyond the end of the programme? What does a legacy look like following the intervention?	• Sharing learning opportunities (cohort model?) • Engaging with implemented policies • Working group for long term WSAF • Policy changes- how long is needed for these to be implemented?

Table A9 Coding framework

No.	Code	Description
1	**Whole School approaches**	**Approaches that detail multiple stakeholder involvement in school food improvement across the whole school**
1a	Actions over time	Step-by-step approaches used by schools, LAs or caterers to improve school food over time
1b	Monitoring and evaluating	Ways that schools can evaluate the changes made during intervention/ implementing a WSAF
1c	Recognition of changes and progress	Ways schools can recognise change and be motivated to improve. School food awards.
1d	Multiple stakeholder involvement	Within school or external to the school
1e	Sustainability of intervention	Long-term sustainability of policies that are implemented (e.g. how do they last?)
1f	Other	
2	**Food served**	**Food served across the school day**
2a	Nudges	Small changes made to nudge children towards buying healthier food (positioning, availability, marketing, portability, grab-and-go)
2b	Labelling	Labelling of food so students are aware of the nutritional content of the food, making informed choices
2c	Tasting opportunities	Opportunities to try new foods (occasionally/ on a regular basis), and their impact on uptake
2d	Price	Changes in pricing to make food more affordable/accessible to students, meal deals
2e	Menu design	Suggestions, wishes, preferences and changes to food and drinks served, what's provided in the menu, portion sizes
2f	Catering models in schools	Catering arrangements, considering alternative provision, tendering process
2g	Other	
3	**The dining experience**	**Creating a positive dining experience, comfortable for students, ensures the most is made of their lunch times**
3a	Queueing	Reducing queue length, waiting time or behaviour within
3b	Dining space	Changes that could be made to create a better dining environment which is a calm, comfortable and enjoyable place to be
3c	Food service changes	Use of more than one canteen/food outlet, changes to the layout, hygiene, e.g. having food at breaktimes so children at clubs can eat too
3d	Social aspects of dining	Time, noise, sociable eating etc.
3e	Other	

4	**Leadership**	**Leadership within schools relating to food or WSAF**
4a	School Leadership Team	Engaging in a WSAF and school food, how best to get them involved, learning opportunities, governors, delegation/named school food lead
4b	Within kitchen	Leadership from within the kitchen and catering companies/providers, how caterers drive forwards a healthy and nutritious food agenda, focus/strategy
4c	Other	
5	**School culture**	**The culture around food in schools and recognition of importance related to academic and health outcomes**
5a	Social norms	Ways social norms are changed by students and other stakeholders within the school (teachers, role modelling)
5b	Peer-led intervention	Students leading interventions and how these can work, student council, food ambassadors
5c	Incentives	Ways students can be rewarded through food or being involved with improving food at school
5d	Kitchen staff involvement	Kitchen staff contribute to school food culture and encouraging nutritious choices
5e	Policies	Policies related to WSAF to food using a structured approach, not sustainability, including foods brought in from home
5f	Other	
6	**Food education**	**Curriculum and non-curriculum**
7	**Pastoral care, food security and equity**	**Ways that food can support children and families in a pastoral way and ensure all students can have equitable access to meals and food in school**
7a	Food service cost	Ways that food cost can be reduced for students e.g. subsidies
7b	Students on FSM	Policies / actions relating to FSM
7c	Students experiencing hunger/food insecurity	Policies/practices related to improving food insecurity and children experiencing hunger when attending school. E.g. breakfast clubs
7d	Student dietary requirements	Sensory needs (e.g. SEND), cultural and religious, including people with intolerances and allergies and special diets
7e	Other	
8	**Engagement**	**Engagement of school community in WSAF**
8a	Staff involvement	Ways for staff to be involved that is within their capacity and improves food in school (training, working group)
8b	Student engagement	Ways for students and student voice to be included in a WSAF, Student involvement on a regular basis.

8c	Caterers/kitchen staff	Caterers' engagement and being part of school community, dialogue/shared objectives with school
8d	Parent engagement	Ways for parents to become involved in a WSAF and school food in general
8e	External engagement to school	LAs, Third sector, MATs, businesses, government, etc.
8f	Other	
9	**Sustainability**	**Ways for schools to make school food and actions around school food more sustainable for the environment**
9a	Food served	Vegetarian and Vegan options, meat free days, ways to reduce food waste in school kitchens
9b	Water uptake	Ways that water up take could be improved in schools
9c	Other	

Appendix B: Discovery interview findings

Table B1. Current issues and barriers to the Nourish Programme in secondary schools reported through discovery interviews

Theme	Sub theme	Consequences
Engaging secondary schools in the project	• Schools start then drop out of the programme • Engagement with SLT and whole staff is poor at secondary level	• Intervention ends up being driven by one individual which negates how a WSAF should be implemented
Time and resource constraints for secondaries to undertake the intervention	• Timetable restrictions • Staff restrictions and capacity • Engagement with all staff	• Whole school approach is very hard to achieve in the yearlong intervention • A very specific group of students end up engaging in the intervention • Workshops with staff are hard to hold as staff are unable to attend
Lack of communication between schools and caterers	• School caterers treated as a separate entity • Not engaged in policy decisions	• Fractured or lack of relationships with kitchen/food staff and SLT • Incorrect offering of nutritional provision for students • Lack of understanding by SLT of restrictions at a central/higher level for food provision
Resistance to change in food offer	• Catering companies- central restrictions to ingredients and recipes • Ensuring profit margins • Reducing food waste	• Unable to implement policies such as water only • Weak relationships between leadership and caterers
Breakfast and breaktime offer	• High up-take of breaktime and breakfast food where nutritional offering is poor (sausage rolls, bacon baps, pizza, cookies, cakes)	• Young people are regularly eating a diet high in fat, salt and sugar, and it is seen as the social norm to do so.
Dining environment	• Problems with queueing • Small spaces for preparation, serving and consumption of food • Short lunch times	• Chaotic and uninviting for students • Restricts what caterers can provide • uninviting and busy
Whole school food policy	• Willingness to change • Governors/MAT being barriers	• The whole school food policy element of the intervention rarely implemented and school

	• Too time consuming/overwhelming to fulfil/enact for schools	cherry pick elements they would like to work on rather than changing the whole school environment
Parent engagement	• Parents don't engage with food at secondary schools • Only enthusiastic parents engage	• Unable to facilitate workshops with these groups of parents as numbers are too low, this means assumption of parent involvement is void • Not able to strengthen relationships between schools and home
Suitable resources/workshops for secondary level	• Student resources/workshops • Policy documents for secondary schools	• Don't enhance student's learning, or don't inspire them to make changes. • Policy templates don't feel appropriate to secondary settings
Establishing sustained changes	• Schools unclear on how to sustain changes long-term • No way for schools to currently feedback to SFM	• Unable to quantify if the intervention has had a positive long-term effect or further changes have been implemented following programme

Table B2. Current positives and strengths of the Nourish Programme in secondary schools reported through discovery interviews

Theme	Sub theme	Consequences
Student engagement	• Students willing to engage and comment on school food offering and education during observation days • Engagement days with students are successful	• Gives PO's plenty of knowledge and understanding of the current school environment • Student voices can be amplified in the school settings, act as role models to peers, changes in social norms towards food
Student knowledge of food and health	• High knowledge of nutritious diet and exercise delivered through education at school	• Students know how to consume nutritious food but find this hard in the school environment
Engagement from Lead in school	• One lead person in school leads the project with the PO	• PO has a direct and clear link with the school
Schools having clear goals and direction		• Can tailor the programme to meet the schools' needs and priorities
SFM facilitation	• Action plans • Provides resources • Provides workshops	• Able to educate students effectively in the engagement days • Resources are used in legacy packs and are useful when used with the support of a PO
Recruitment	• Using borough by borough approach • LAs recruiting schools	• Can create a cohort of schools across a borough that experience the intervention at the same time and can collaborate on similarities between the approaches in each setting • LA can recruit schools they recognise as the most in need of the interventions
Funding	• Gaining funding from corporate organisations and charities to fund food initiatives within schools	• Senior leadership can observe a tangible impact of the programme which may help encourage further buy in- doesn't impact school budgets.

Table B3. Improvement ideas for the Nourish Programme, including details and the potential consequences of their implementation in secondary schools, reported through discovery interviews

Improvement Ideas	Details	Potential Consequences
Duration and phasing:	• Give the school a longer period of time to implement smaller steps towards a WSAF e.g. split down into sections to tackle each term	• Can work towards a whole school approach and changes to whole school improvements/policy development at a more appropriate rate • Better engagement as less time pressure to squeeze in intervention elements
Flexibility within a clear and structured approach	• Having a clearer offer of what Nourish will involve rather than being too malleable • Give schools the autonomy to choose the direction and support they receive but make the bounds of the intervention smaller • Having tangible outcomes for schools to work towards e.g. gaining funding for a school food project	• To ensure it still focusses on a WSAF • Demonstrates a success to the school within the short period of the intervention. Changes to students' health may be harder to recognise
Policy development activities	• Take focus away from a 'whole school 'policy and break down changes into smaller areas • Give policy templates and changes that schools can make gradually to the whole policy which would result in a positive whole school food policy over an extended period.	• Builds capacity within a team and allows workload to be lower overall, still produce positive outcomes • Improvements across multiple areas and small changes adding up over time
Project officer support	• Create a relationship with school, staff and students by being present across the school year on a regular basis • A SFM member being present once a week in a school to build trust and relationship	• Improved trust between PO and school could lead to bigger changes across the school • Better engagement in programme and more time to provide support/workshops/activities to the school
Inclusive practices	• Update the food offering within workshops i.e. Improving the cultural relevance and interest in food offerings made within workshops	• Recognises the access and exposure that students have to food and food environment.

Tailored resources	• Improving resources for secondary schools or offering for them • Improving policy templates to better suit secondary schools	
Learning and sharing activities	• Host a competition between schools within a cohort related to food-based changes and behaviours	• Increase engagement from both schools and students as an extrinsic motivator. Would have to establish how this can encourage long term behaviour change and action within the schools
Student engagement	• Secondary school focus needs to be on agency, empowerment and knowledge of the students • Ensure that resources and workshops focus on this for students collaborate with sector representatives in this area e.g. BiteBack	• Helping young people to navigate their food environment and to try and encourage choices that will benefit their health

Appendix C: Workshops findings

Table C1 Workshop findings: Detailed table of solutions mapped on to WSAF framework, with illustrative quotes

WSAF element	Solution	Examples	Illustrative quote
1) Key features of WSAF intervention	**Set-up**	• Schools, caterers and wider school community working collaboratively (SR, C, St) • Including discussions/engagement with leadership to build case for school food (C)	"*I think some people have an impression of caterers which isn't necessarily right or wrong depending on who the caterer is, but that's the challenge we are finding is it's not necessarily the head teachers who want to follow the school food guidelines or want to change the food to be healthier as we are trying to push along*." Caterers *"I think we're all trying to achieve the same thing, but to ensure Nourish can achieve its aims it actually needs to work with the caterers."* – Caterer *"So I feel that caterer, school leaders and catering team and students involved, and parents if you can get them, would be… would need to be part of that group, because you want to get buy-in as well from all levels"* – Caterer *"Embedding the programme throughout a group of people is definitely important and making sustainable changes so that then if one part of that cog leaves then the rest of it's still spinning I guess."* – Sector representative *"in the past it's been harder to get a hold of head teacher, and it's only when you actually start to talk*

			the language of outcomes that suddenly they're more engaged" – Caterer "Interviewer: *Maybe, that's always a problem with surveys, my question is going to be who should write the questions?* *"The students"* Student
	Duration and staging	• Bring key groups together for regular meetings (e.g. support schools setting up SNAGs) (C)	*"It's called a SNAG group, schools nutritional action group. So we did something similar with that where all stakeholders were involved, and that was really successful. Everything to do with food and growing was discussed, and the students had a central part in that."* Caterers
	Structured approach	• Goals should be achievable and not too complex (SR, C, SLT)	"*How easy are we making this for people that are already very stretched and low resourced, and I don't know if that could be helping identify who decision makers and influencers are, showing case studies from other schools, and really simplifying what they did and how that could be replicated, and communicating the step by step process and the impact that those had <…> And how can we communicate how simple something might be if it's simple, and if it's not simple then how can make it simpler?"* Sector representatives *"If you keep it that simple, keep it specific, and then you can come back and review those commitments…"* Caterers *" Any changes that we agree as part of this intervention needs to be realistic, because very often I have seen change management in schools especially*

			they become very lofty at the time of implementation, but over a period of time they just die a natural death because it's not sustainable or it's not practical." – SLT and school staff
	Monitoring and evaluation	• Engage caterers and/or use existing catering data to support monitoring and evaluation of WSAF (C) • Have a broad range of outcomes to measure that are important to the school community (e.g. track uptake of nutritious/plant-based foods as well as SFS i.e. by tracking sales) (C)	*"What would be really nice to see is actual site visits, because I think sometimes what we miss is the real on the ground feedback and viewing of that and what's actually happening. <…> 1) have the changes been on-boarded and actually happening? And 2) if they have, what impact has that had?"* Caterers *"So I think just that transactions, sales, free school meal uptake, would be really good to track to see if any of these are having a positive impact or negative impact." Caterers*
	Sharing / collaborating	• Share progress with the whole school and celebrating progress (St, SR) • Link with other schools to share good practice/Develop communities of practice (SR)	*"Have an assembly. Or posters on the walls or something"* Students *"I think it's really important when we've been trying to work with schools, is actually giving some acknowledgement to what they've already done in that area, and it not feeling like this is what we've got left to do, and this really big project, because capacity is an issue. So, it's about saying actually we know you've done all of this work and that's really positive, let's take a moment to celebrate that."* – Sector representative *"So if you can have case studies or really emphasise they did the Nourish programme and this impacted for example attendance, and that increased, then I imagine 1) it might get engagement from other schools, and 2) it might convince the school to*

			continue long term with doing this thing, because that's a massive driver for them." Sector representatives
	Resources	• Engage with existing school food programmes / initiatives (e.g. Local Authority Healthy Schools Teams) to support specific aspects of the WSAF (SR)	*"I would definitely say through recruitment I think it works really well. A lot of us, especially if you're a healthy schools lead, will have really good relationships already with schools, so to be able to then put the project officers in direct contact makes the whole process a lot smoother and engages local authorities then with the process <…> So make it more of that collaborative approach to ensure it's got the legacy once the project officer does leave and we can follow up with compliance checks."* Sector representatives *"I think that's a key thing is actually just getting the message out there about things that are available to schools is really important, and they don't always necessarily know what's out there."* – Sector representative
2) Foods and drinks served	**Nudges**	• Use of nudge strategies to prompt selection of certain foods e.g. fruits and vegetables (C)	*"I put plant based meals at the top of the menu and the vegetarian option, obviously the option that happens to contain no meat is always first. The veg is always at the front, the fruit is always prominent, all that kind of thing. We also put on our menu chosen by you or chef's favourite, or popular, that kind of thing. They seem quite popular."* Caterers *"So it's how we give people that pride as saying, right okay presentation, and then the students coming in and having that wow factor and wanting to be able to eat it."* Caterers

	Labelling	• Ingredients and nutrition labelling on school food to support student decision making (St) • Transparent naming of dishes so students are clear on ingredients* (St) **Contrasting view: prefer using appealing labelling e.g. 'chef's choice', 'chosen by you' (C)*	*"We should know what's the energy levels and calories and things, because we don't really know what we're eating."* Students
	Tasting opportunities	• Tasting days to help increase school meal uptake (SR, C, St) • Tasters of dishes ("try before you buy") to increase exposure to new foods (SR, C)	*"Well I think that they should be every single body, everybody comes in and tried at least one thing, and if they don't like it then at least they've tried it."* Students *"<…>they've engaged staff first so that the staff and the teachers in school are now promoting the food to the students, because kids do listen to their teachers. So first day of term free food for all staff, tasters, what do you like? What works? So we had it an executive conference, all the leaders came in, all the heads were made aware of our expectations as a Trust, how the caterers were meeting those promotions."* Sector representatives *"I get unusual fruits and vegetables and stuff and put it out, and just try and encourage as many children to try it during lunchtime as possible. Kumquats and dragon fruit are wildly popular, unbelievable. It just goes completely straight away 2"* Caterers

	Pricing	• Actions to reduce price of school food to students and incentivise selection of healthier options (C, St)	*"I would make school food a bit cheaper, because I think it's not fair on anyone that they have to pay what £4 a day just to have school at break and lunch"* Students *"There should be a proper meal deal, discounts and something if you get this you also get this.* *And I think you should do if you get a sandwich you get a milk or a water for free with it."* Students
	Menu design	• Healthier options available at breakfast and mid-morning break (SR, C, Pa, St) • Menu options to mimic street food (C) • Wider menu with greater diversity of interesting cuisines (C, St) • Hidden vegetables/fruit to increase intakes of fruit/veg (C) • Adaptable portion sizes to meet wide range of nutritional needs (e.g. age-related) (Pa, St) • More self-serve/build-your own options to give students control (Pa, St) • More appealing and unusual F&V options (Pa, St) • Improving the grab-and-go / off-menu options i.e. higher nutritional quality (SR, Pa)	*"We do a sub sector of our main meal menu at break to make sure they're getting the quantity… the grain and the protein. That's what we're trying to do is make it rather than something we would consider poor quality choice."* Caterers *"for us to have English food every day, it's like you want to experience other cultures, and not for it be washed."* Students *"We're trying to do that hidden nutrition stuff as well, because it's all about accessibility. It's all about them picking something that they feel comfortable with a lot of the time."* Caterers
	Menu visibility	• Improve menu visibility/communication of menu to support student decision-making (e.g. broadcasting lunch service) (C, St)	*"You always have to guess, and then you wait in the line for so long, you don't see what's there and there's nothing.* *And then a cross could go through it when it's run out. You can go and look what's out."* Students

			"What we were finding when the children were queuing was that they... although they saw something on the menu they didn't exactly know what he looked like. So what we've done is we've got a camera over the hot plate where we're serving, and it's projected onto the back wall, so as the children come in they can see what's being served. So they go oh, that's the lasagna, that's the hotpot, or whatever it is, and that's proved quite popular. We recorded it as well and used it for the open evening so that when parents came in Excel this is actually what happens at lunchtime, and this is what gets served. That was quite successful." Caterers
	Promotional activities	• Theme days to increase appeal/make school food more interesting and intercultural events (C, SR)	*"We had a secondary who took an approach where they had theme days <...> as well as doing a chilli they'd do a vegetarian version, a bean chilli, and then they would have tacos, and you could create your own Mexican food. So as well as rice there'd be tacos, there'd be salads, there'd be cheese, there'd be all different things, and young people could create their own dining experience within that theme, and that worked really well and that was in a secondary school."* Sector representatives
3) The dining experience	**Queuing**	• Change food service layout / process to decrease queuing times (and ensure hot food) (C, St) • Increase queue monitoring to improve levels of disruptive behaviour (e.g. control older students pushing in) (St)	*"So you go up and choose your food and then go to a till. So rather than standing in a linear queue one behind each other, actually if you're only there for a piece of fruit, you don't need to stand behind everybody else who's waiting for their main meal, or waiting for the salad bar, or whatever it is. Grab your bit of fruit, go straight to the till and go through. So it's*

			taking them off the counter and looking at that layout" Caterers *"Then I would make the lines better, so people don't have worse one at the end. So if you come a bit late because the teacher's hold you back and it's not your fault, you're at the back of the line and you don't get anything for your whole break and you're just standing there. So I would make two lines of food."* Students *"I remember being in year seven and then the year tens or year eights or year nines they will abuse the fact that they're older. So they would just go in front, push in front, and we couldn't say anything bad. So that also needs to change because it's not fair."* Students
	Dining space	• Actions to improve physical dining space to increase appeal of school food and dining experience (e.g. wow factor, additional information about the food on the walls) (C, St)	*"I think it's just giving people that wow factor and making it really appealing for them, and then if we can get them through really quickly by changing the layout, then that can help do that. <...> nd then we do look at the environment. So when we talk about environment, painting the walls, or additional information on the walls around food provenance, or anything along those lines, so that again it makes students feel like they can sit and enjoy their meal."* Caterers
	Food service changes	• Restructuring / positioning of mealtimes across school day to reduce hunger / improve students' decision making (C, St)	*"Then it's back to that point before, the student's been out since half eight, it's now half 11, and they're buying pizza paninis because they're starving at that time, and then they've still got to wait until half one for lunch. So we have some schools who have flipped*

		• Longer breakfast period and distribution of leftovers to increase access to breakfast (St)	*around lunchtime and break. So they have lunch at half 11 to half 12, or half 11 until quarter past 12, and then an afternoon break".* Caterers
	Social aspects of eating	• Enhancing social aspects of dining to make it a more enjoyable experience (SR)	*"The [academy Trust] have a big family dining model where the students have quite an influence on the meals. They sit down and they eat the meals together, and they really look at the food environment and they talk about the food that they're eating, and the staff eat with the children as well, and that's been a real success."* Sector representatives
4) Leadership	**SLT**	• Having a lead/liaison for school food / WSAF on the SLT (e.g. someone with high-level of engagement and understanding the value of school food) (SR, C) • Better dialogue between school and caterers on school food constraints (e.g. costs, allergy management) (C) • Review catering contract/arrangements and consider what is the best fit for the school (C, SLT)	*"I know for instance from my understanding of school structures, that these are the people who when I speak to them they're saying, "Yeah I encourage parents of students to take up their free school meal, or I help them to get enrolled on the free school meal… on a free school meal government programme," or so on, they're the people who are pushing it, because they know how beneficial it is. So anyone I'd say… any pastoral leaders, another touchpoint might be that when you have… when you get to senior leadership in schools you'll have different hierarchies, and usually for people who are looking to break into senior leadership roles they'll be given senior leadership style projects, of which sometimes food can be one of them."* Caterers *"Quite often as caterers we get overlooked in that decision-making. So, we don't usually get invited to the meetings where they decide how they're going to… how much time they're going to allocate for lunch and breaks and things like that."* - Caterers

			"There has to be a level of control around ingredients and the menu that we know is out there, so that we can manage that with individual schools. So yes but it would be very naive to think that's not the priority. <…> and sometimes head teachers just want to make choices because they like the taste of certain things, that's not practical to be honest within those constraints." Caterers
	Kitchen	• Catering Manager actions to increase motivation and quality in school catering teams (C)	*"So I've inherited teams that have been there for 20 odd years. So actually getting them excited and passionate about food has been quite a key thing for me over the last four and a half years. But we had a big group training day last January where we bought loads of people, different suppliers in, and they were doing all sorts of different food, and that has been the biggest motivator for them."* Caterers
	Wider leadership/Systems leaders	• MAT leadership on school food (e.g. gather relevant data on school food and its impact on students to engage CEOs of Trusts) (SR) • Actions to engage school Governors in school food improvement (SR)	*"if you're going to engage CEOs of Trusts or the equivalents, then people need to know why it matters, and certainly data statistics, because I collected that myself in my own setting, and I'm really clear on the impact that food can have on academic attainment, on attendance. CEO's, big Trusts are going to be interested if you have data that will let them understand clearly why in that world of competing priorities, why actually focusing on this does make a difference to the stuff that they are accountable for"* Sector representatives
5) School food culture	**Social norms approach**	• Use food messaging that resonates with young people (SR, Pa)	*"<…> if we can put it to them that oh if you're training and doing X amount of hours in the gym you need this*

		• Use credible role models / influencers to support messaging around nutritious eating (e.g. peers in school) (St)	*much protein, and this has got X amount in, and just breaking it down for them in a different way to hook them into it a bit more and thinking about what they're eating a bit more."* Parents *"Just in your year or other years, because if it was somebody your age can do it you would think that you could do it as well, so yeah."* Students
	Peer-led approaches	• Students to create / share own recipes to build sense of belonging/share different cultures (Pa, St)	*"Yeah, we could have in ready day we could bring food from our country, original food from our country, and we could do a competition, or we have food judges, and we could see which one the judge would be each year. Yeah, it would be really nice."* Students
	Staff involvement	• Staff/student involvement in school food e.g. eating in school dining hall, supervision (C, St); Food and nutrition training for school staff, including School Food Standards (C)	*"There was this one time [at lunch] where they would sit with us and play games sometimes, because we'd get cards from home and we'd play games, we'd play Uno and the teacher joined in with us last time. It was really fun."* Students *"Sometimes we have to have those conversations with heads though. We actually have to say there are standards we follow, and that's why the menu is like this."* Caterers
	Catering teams	• Developing kitchen staff skills and passion for food through training and resources (C) • Integration of kitchen teams into school life / greater presence in day-to-day school life (C, Pa)	*"Maybe during dinner times they're able to engage with the dinner staff there who are more knowledgeable about what the food contains and how it like I said benefits, what nutritions, vitamins, and would that not be a way that the children can then see what they can and what would be beneficial for them to eat?"* Parents

		• Improved kitchen facilities/equipment / Appropriate kitchen equipment for fresh food (C, St) • Caterers can provide work experience for students (C) • Focused and informed conversations with head teacher about importance of students' food/nutrition (C)	*"I think understanding what's in food, especially because a lot of our staff are two/three hours on the serving hatch, and they just see a vegetable and bean lasagne etc, but they don't understand why we're doing the vegetable and bean lasagne, what's the proteins in there, taking away meat protein etc, they just see as I'm coming in for two hours a day, and all I'm going to do is serve the children, follow the allergen matrixes, wash it up and then go home. It would be lovely to have the time, the effort and the support to increase their knowledge of what's in the food and why are we serving that food, for what reason for the children"* Caterers *"where the child is on their journey, whether that's being fed or whether that's actually moving them up through the nutritional levels, and that we've discovered that helps focus concentration and therefore attendance, and we could prove the link, therefore, we can have more informed conversations with head teachers and actually what it allows us to talk about is the quantity of time left for lunch"* Caterers
	Policy	• Clear policy on foods brought from home so aligns with school's approach to food (St) • Aligning packed lunch and school meal timings/rules to ensure fairness (St) • Apply same rules to teachers for fairness (e.g. drinks policies) (St)	*"They [teachers] probably have a packet of crisps themselves, but if they saw us with that then they would get really angry."* Students *"If you have your own packed lunch then why would you have early lunch? Why would you need to go early, and try and get something? So that to me isn't*

		• Consistent food messaging, provision and policies across school and year groups e.g. sixth form versus younger students (e.g. sixth form is sometimes disregarded in SFS compliance checks and in engagement on food education - despite potential for this to be impactful for transition to adulthood) (SR) • Consequences for bringing in noncompliant food (St)	*completely fair, because I see people with their own sandwiches, but they get to go earlier, whereas I or some other students who don't have it and we need to get in the line, we need to actually run for the line. So I feel like it doesn't make sense and it should be the other way round"* Students *"Really when you're getting into sixth form, these are young people who are looking to move away from home and they're looking to go to university, they're looking to start catering for themselves and feeding themselves. So really personally I feel that there should be even more of an input on healthy eating and how to cook and how to feed yourself and nutrition, and what nutrition actually looks like, and trying to remove that reliance upon Uber Eats and takeaways*. Sector representatives
6) Food education	**Practical food education / cooking**	• More opportunities for practical cooking (e.g. having after school clubs for cooking) (Pa, St, SLT) • Linking with school catering teams to deliver food education (e.g. school allotment, supporting teaching (GCSE cooking) (C, SLT) • Engaging food education – Topics of interest (SR, Pa, St) • Engaging food education - showcasing different cultures (St) • Engaging food education – using multimedia (St) • Integrating school food improvement with food education (Pa)	*"The caterers themselves have numerous solutions. They are commercial people, they have lots of knowledge on food and how to present and everything*. " SLT and School staff *"Also I like to see how bread is made, because how that thing is made is absolutely crazy. To see how yeast how it builds up, I just want to learn how it gets made, and I want to see how they make it so soft and everything, it seems so cool."* Students *" if we can put it to them that oh if you're training and doing X amount of hours in the gym you need this much protein, and this has got X amount in, and just breaking it down for them in a different way to hook*

		• Student incentives as a motivator in food education (St) • Engaging with external organisations to support food education activities (St, SLT)	*them into it a bit more and thinking about what they're eating a bit more."* - Parent *"PE is not an option it's mandatory, and the same with religious studies, I think also maybe cooking should be as it's a life skill that you should learn. So it would be good if we could have just got that as well."* Students *"Get them [students] the experience of consulting with both the school catering staff and the catering companies that provide the food. They could work out the budgets, and obviously with the systems, it wouldn't all fall on them, but they could look at the budgets, they could work out how to plan those meals, and they could see from a student's perspective what was available, what the budget was, and how to make the best from that."* Parents *"They could do competition, maybe just say oh go home, make something and bring it to school the next day, and the one that wins gets a voucher like we are getting, a £20 voucher."* Students *"Engagement sometimes can be a lot better when you get someone external in, because it's a different face and it's a different voice to what they're hearing on a daily basis".* - SLT and school staff *"On one of our [introductory days] we should get somebody from a food place to come in and talk to us*

			about careers in food…Or cook food, because talking about food and not doing it is bad." - Student
	Nutrition	• Use sector representatives to deliver engaging nutrition education (St, SLT) • Teachers to reiterate nutrition messaging in practice (St) • Embed food/nutrition in the PSHE and wider curriculum (SLT) • Incorporate learning about 'how' to make nutritious choices (behaviour change theory) (SLT)	*"We could have a teacher who would focus on nutritious food, we could have another subject about nutritious food because we did nutritious food so that we can grow up, because we're still children, so sometimes on DT teachers can go in and talk about food."* Students *"We could do a 'ready day', and then there could be someone to come in and talk about your hygiene, with… and when you're cooking if you know what you're doing, and if you know what's good and bad about doing it. So if you don't know then you could practice and learn how to do it, so then you don't get sick sort of thing. <…> On one of our ready days we should get somebody from a food place to come in and talk to us about careers in food. <…> Or cook food, because talking about food and not doing it is bad."* Student *"I think ultimately other than funding what would help us is if we can change the view of our children so that they make better choices, because we do have healthy options, and our children aren't making those choices because they don't want those healthy options. So I think it would be good if there were some workshops, or some kind of, I don't know, sessions where you guys come in and our children think well actually I'm going to choose the mango rather than the cookies. I think that would be useful, because then they will make the healthier choices, so yeah."* SLT and School staff

			"Something that I'm looking at is would Nourish be somebody who would come and do a piece of work within the school in terms of creating awareness about why food matters with the school students <…> our food department they do it and they make awareness, but it goes on dead ears." SLT and School staff
7) Pastoral care, food insecurity and inequity	**Special diets**	• Review of menus to ensure there are a range of options available for student with special diets (C) • Training for staff involved in food preparation on allergens and food issues relating to SEND (C) • Transparency of ingredients so students on special diets can assess whether they can eat it (St)	*"I think you have to caveat to that as well as it's recruiting now as well, because we class that as probably a specialised area of the SEND schools etc, the intolerances, and which we all understand hospitality/food education isn't the highest paid <…> trying to recruit for those schools it's increasingly difficult, and we try and do our own in-house training etc, but again with limited resources to do that as well."* Caterers *"People should have access to meals and access to the same as what their friends are having. But that's becoming more and more increasingly difficult to manage, and it's… and you don't want to be that caterer who a child with an allergen gets fruit every day or gets a jelly every day because it's a safe option, you want to be able to give them the treat that everybody else is having or the same that everyone else is having. So I feel that is a problem we need to deal with."* Caterers
	Free school meals	• Supporting eligible families to enrol for FSM (C)	*"So as well as the stigma barrier around applying for free school meals and uptake and so on, there's also*

		• Review policy on how FSM allowance can be spent to ensure equity (C)	*literally the language barrier as well, as I understand it can be quite challenging to be able to apply for them. <…> support this is how you do it, this how you fill in this part of the form or whatever, that kind of thing with parents. So removing some of the stigma"* Caterers
	Hunger/food insecurity	• Free or subsidised school food (E, C, St) • Free or subsidised breakfast to address issue of hunger (SR, C, SLT) • Redistribution of surplus breakfast food to classes to increase reach (St) • Sensitive approaches for supporting children/families experiencing food insecurity (St)	*"Obviously we have safeguarding and all these different roles that the teachers have, if one day somehow if there obviously was we could encourage them anonymously, because obviously we don't know who they are, maybe to try and talk to a teacher about it, about their situations. Because there are options available for obviously people that can't afford to have the lunches all the time, so maybe if we could try and encourage people to reach out."* Students
8) Engagement with the school community	**Students**	• Students involved in leadership on school food and decision making (C, SLT) • Student-led school food improvement activities; Dedicated student group/forum/council for food and peer-to-peer activities (SR, C, Pa, SLT) • Engage the wider student population in school food in varied ways e.g. surveys, forums) (C, Pa, St) • Feedback to students on how their input has been actioned - including addressing student concerns around food hygiene (St) • Student incentives for engagement in school food improvement tasks (e.g.	*"Actually just by engaging with a group of students and doing that in a structured planned way, and involving our caterers made a bit of a difference actually."* SLT and School staff *"The school can listen but if they don't actually do anything it doesn't change anything [inaudible] the students are not happy with the food, but are you actually going to do something about it?"* Students *"They (the students) think well actually you really are trying to make an effort here, and I think they feel valued."* Caterer *"I think that's one of the key elements in terms of effectiveness and ensuring it meets the needs of*

		including 'ambassador' experience in their CV) (St) • Use existing events in school calendar to promote school food (St)	*children and young people in the schools. We ran a school food ambassadors programme when I worked in [region], again that was just with primary schools, but that was really good in terms of getting students themselves to be the school food ambassadors, and they reviewed the school menu and they looked at the school dining room experience, and they fed back to the school. That was a really good tool to get it higher on the agenda for senior leadership teams"* Sector representatives *"We have mental health ambassadors and anti-bullying, and attendance and stuff. Every form. But there's no food ambassador, because if there was food or nutritious ambassador you could talk more about food and food options."* - Student *"I think also with that it should be say one student from each year, and that student sees the common opinion of everyone in their year, and then says that, and gets everyone's opinion first, and then speaks on their behalf."* - Student
	Parents	• Involve parents in decisions around school food (Pa) • Engagement with parents to increase uptake of school food (C, St, SLT) • Better communication on school food pricing (Pa)	"*I wonder if there could be something similar but with a little group of parents potentially in each school. A bit like when governors and people like that, school governors do things like that, but a little brigade of food parents, something like that maybe, but that they can then send surveys home potentially."* Parents "*I must say some of the things that we found quite popular around we always do free parents, round about September, new parents coming in, students coming in, part of that sell of the school to new*

			parents, and we do know uptake is higher usually around year seven, isn't it? It's when they're coming in all bright eyed and bushy tailed. So spending that time then is important, and trying to contribute to what they're trying to achieve as well, because the food's a big part of the sell to the parents. *We do tasting sessions with parents, and also the parents sometimes can be the blocker there as well."* Caterers
	Wider school community	• Engaging with external organisations for training kitchen staff (C) • Funding school food initiatives (C, SR, SLT) • Support with school food improvement and procurement (SR) • Inspiring students (St, SLT)	"*We've explored lots of different routes to do training for our teams, but based on our results I would probably go somewhere else, because you've only got limited resource."* Caterers *"We need that expertise because we don't have that. We can learn from that, but we need that expertise to hold our hands and to work alongside us and to nudge things along a bit*." - SLT and school staff
9) Environmental sustainability	**Menu design**	• Review / adapt menus with sustainability in mind (i.e. eco-conscious menu) (St) • Ensuring school food is appealing to minimise waste (St)	*"I think right now they do no meat Mondays, I feel like they should do days where it's no meat, could be gluten free days, and maybe dairy free."* Students
	Food waste	• Redistribution of food leftovers to minimise waste (Pa) • Re-purposing leftover fruit (St)	*"Offer probably some juices, because those are also very healthy. It depends what juice you pick, or even smoothies, smoothies are definitely healthy for sure if it was made from the canteen, and they are always bringing out free fruit that no one eats, so you can just make it into a smoothie because then it's less of a waste, if they were concerned about waste."* Students

			"the amount of food is literally thrown away, I would like to know where it goes to, if that makes any sense? So thinking back on the other question as well, if that food does get thrown away, as some of the other ladies have said, why don't we offer it to parents obviously after school, send that general email out, or a text message or something, or if not obviously give it to a food bank or a charity or something like that." Parents
	Packaging	• Reusable water bottles and reusable cups (St)	*",you have a cup and you choose a juice you want, and you can just use it instead of having to buy bottles. Because we used to use bottles a lot, now we've reduced that by a lot, so now we have cups where they wash it, then they let other people use it."* Students
	Food education	• Sustainability in lessons (St)	*"And the plastic packets, they just throw it on the floor. <…> We could learn about that in geography, because of plastic waste, pollution, the landfills, because if we [had food] that had no packaging, like plastic, we wouldn't have a lot of pollution."* Students
	Energy use	• Utilising eco-energy (e.g. solar panels on the school roof) (St)	N/A
10) Wider context	**Programme design**	• Flexibility is needed in WSAF programme – including timeline (e.g. adequate preparation/lead-in time) and in adapting to school's needs (SR, C, SLT)	"*I think part of this programme is actually looking about okay how can you make this as easy for schools, and actually change some of the structures and thinking within the school by actually giving them some dedicated time? And then you can start to setup"* Sector representatives

		• Ensure programme is engaging with a mixture of in-person and online sessions (SR) • Consider alignment with existing schemes such as Healthy Schools Award and compliance / monitoring schemes (SR) • Link with LA, MATs and Catering organisations to support recruitment (SR) • Work with MATs to develop strategic framework/policy that impact upon multiple schools (SR) • Ensure information about the project is easy for schools to engage with (SR) • Facilitate sharing of good practice/links between schools i.e. Implement Flagship schools/ Provide schools with case studies (SR, C) • Provide caterers with an award for completing programme (SR) • Celebration activities for schools (SR) • Keep schools updated on changes to national policies (SR)	*"There's never an ideal timeline for the schools. There's always something or the other that happens. But I think you need to consider not being very pedantic about this timeline, and sometimes tailor making it to each school in each context"* – SLT and school staff *"I think no two secondary schools are the same, everyone needs a little bit of flexibility and adaptability to whatever programme."* – SLT and School staff *"Having the person to go and be part of it, and I think that's so helpful and important to have a physical person that goes and be with the school. Because I think the school goes thankfully somebody's here to help me, rather than here's the latest stuff that you can do, because I think they don't have the time to do the stuff that they can do."* Sector representatives "Do *webinars for school staff on different health and wellbeing topics, and a lot of… they're only like 20 minutes long, that's what schools have suggested, just short snippets. I think that time and ease is really, really important, and actually that really tangible actions."* Sector representatives *"I suppose a flagship in each borough. You've got a great example of a primary, you've got great example of a secondary and a special school… and then going forward having points throughout the academic year where you can not only hear from*

			those schools, but you've got interventions." – Sector representative *"Could you make the schools that have gone through the programme like for want of a better word, a flagship school, and then you can point other schools in that area to that school, and say "Look, go and talk to them, this is their experiences, this is what they've achieved." So, it keeps them… the standard high, and it will keep them on board for longer maybe*." – Caterer *"There are many trusts now that are blueprint trusts, whereby all the schools do the same thing, and actually I'd suggest with all the different competing agendas at the moment that's probably the place to target."* – Sector representative "*Linking with local authority leads maybe to help facilitate some of that sending resources to schools. We know schools receive loads of information through their various newsletters on lots of different things all the time"* Sector representatives *"The healthy schools awards is a useful tool, because it's something that schools are quite motivated by"* – Sector representative "H*ow do you ensure that the offers are really clear and specific, and we don't end up losing people by trying to talk about too many different offers, and people thinking I've already got this award, so why should I talk about this with you when I'm resource low and time low?"* Sector representatives

			"When you've got really overstretched schools, and they are… anything that you can be doing the work in the background to make that clear communication helps make it more achievable, break it into steps, and just be alongside them to support." – Sector representative *"Building that cohort where you've got a group of schools that have done the programme, some that really stand out in different areas. So say you've got one school that excels on the food education side, and then they can share that learning in the teaching, and I think and then going forward having points throughout the academic year where you can not only hear from those schools, but you've got interventions. Whether for instance we've got a school food policy webinar next week, which will be recorded and can be shared in future years. It's a really easy way just to bring everyone on-board"* Sector representatives *"So again, it's making sure that they're aware of the policies, any changes, communicating that. I guess that's where we see our role, and letting them know what they can do and resources they can access to implement those policies and develop their own ones, especially those whole school approach ones."* – Sector representative
	Local authorities:	• Support schools through signposting, resources and procurement support (SR)	*"We've [the local authority] now come down to this accountability policies where all schools will have to come to commit to it. I'm not saying we're going to get more up to healthy lives, bronze, silver or gold, but*

		• Provide opportunities to share good practice across schools and/or benchmark schools (SR, C) • Support schools to improve compliance with the SFS (SR)	*we'll at least have a level of which schools will be compared with one another, and that seems to work. So last year when we put up the results of the secondary school evaluation, one of the schools that was showing the lowest in compliance on a table, they didn't like it at all, and they came out of the meeting and immediately contacted the consultant and said, "What do I do to get my compliance up? What do I need to do to not be bottom of the rung? Because I don't want to be there again." And it had an immediate impact."* Sector representatives *"If there are audits that need to go on then we can invite local authorities into those school settings to take part as well. So make it more of that collaborative approach to ensure it's got the legacy once the project officer does leave and we can follow up with compliance checks."* – Sector representative *"I think that's a key thing is actually just getting the message out there about things that are available to schools is really important, and they don't always necessarily know what's out there or having to comb through all the information when they do a Google search, actually if you've got it all in one place then you're able to streamline that."* – Sector representative
	Catering organisations	• Catering organisations to engage with school leadership to build case for school food (C) • Having a strategy to improve school food (C)	*"A big part is about food and nutrition, and making sure we continue improving on food and new nutrition. A second part is about thriving people and communities, and a big KPI for us in there is driving student participation, increasing free school meal uptake as part of our social impact."* Caterers

		• Dedicate part of social impact fund to fund school improvement work (C)	*"each school has an investment [from a social impact fund], and they can make a choice over what's important to them, whether that be something around environment, whether that be something about their community, and whether that be something around engaging students and their parents in food..." - Sector representative*
	Food systems partners	• Better coordination between schools and local food systems to clearly understand what schools require and their demands for Farming/field to plate to match with local producers (SR)	*"I think it's for me food as well as other things, physical activity being one of them, the value isn't necessarily put on it by the schools that we would want the value to be there, and I think that comes from system leaders as well. So I think to really get that buy-in and that wider from whether it's a local authority, academy, Trust, whatever, and really get them to understand what lunch and what food experiences and the time around eating should be like. <...> If you talk to students why they're not taking lunches, and that is they don't get through. <...> and it's just like that's not really what we want. So how we can influence the system more, that then can have influence on the school."* Sector representatives
	National government	• More funding for high quality school food provision (SLT) • External, in-person monitoring of school food (C) • Automatic enrolment for FSM (SR, C)	*"We have £150 million of unclaimed benefits, and we recognise that the system doesn't always pick up children who may be eligible or in receipt of a free school meal. So we worked with some local authorities such as [region], who have taken on auto enrolment, to understand how they did it, and to work with our teams to try and get that in [region]. It did prove quite challenging because of our revs and bens team, but we managed to find a real advocate within revs and bens who has supported [region] to take on*

			an opt out. So they did some canvassing and found families that were eligible for free school meals but weren't currently on role for them, and we did a three week opt out period, and only 11 families from over 1,300 families opted out in that time. So we managed then to enrol over 1,300 families on free school meals, which was really positive. We're working to look at how we can support those who have this big unclaimed benefits gap, and recognising that when the new changes do come in we'd like to be ready to ensure that all children who will be in receipt of a free school meal in the future can claim one." Sector representatives
	General	• Working directly with schools to find practicable solutions; Surveying schools to understanding problems faced (SR)	*"We really found that when we've wanted to work with schools and we have representatives from our Primary Heads Association and our Secondary Heads Association on our working group, that they've really said if you want to engage you need to be addressing some of the problems that the schools have, so that what are they going to get out of doing this? And so that's something that we're really working on at the moment, is surveying schools and trying to just understand from their perspective what their particular challenges are around food, and then how we can address those."* Sector representatives

Notes: SR: Sector representatives; C: Catering; Pa: Parents; St: Students; SLT: Senior leadership team and school staff

Appendix D: Development of recommendations - findings

Table D1 Merged findings phases 1-3

Theme	**Sub-theme**	**Phase 1** – Rapid review	**Phase 2** – Discovery interviews	**Phase 3** - Workshops

WSAF programme / Nourish	**Essential WSAF design elements**	• Understanding and developing: Policy and leadership, food and sustainability, education and learning, and community and partnership • Multi-component and guided by theory • Flexibility, creativity and experimentation • Equity focus	• Student agency, empowerment and engagement; Flexibility within a structured approach	• Collaborative working and leadership; community and partnership; Student agency, empowerment and engagement; Flexibility within a structured approach
	Recruitment		• Clearer offer of what Nourish will involve • Using borough-by-borough approach • LAs recruiting schools	• Ensure information about the project is easy for schools to engage with • Link with LA, MATs and Catering organisations to support recruitment
	Who to involve	• Engage all key groups in a WSFA / Working group (caterers, families, staff, governors) • Caterers' involvement in the WSAF (included in decision making) • Have a shared vision and understanding of school food • Involved in decisions about WSAF food policy, invited to participate in school food experiences, and become		• Schools, caterers and wider school community working collaboratively; discussions /engagement with leadership to build case for school food • Work with MATs to develop strategic framework/policy that impact upon multiple schools

		part of the WSAF working group		
	Structure	• Use funded programmes to improve school food; Identifying synergistic interventions • Identifying and utilising school assets; development plan • Audit / self-assessment of current approach to school food; Flexibility and tailoring of interventions	• Autonomy to choose the direction and support schools receive • Action planning should include tangible outcomes for schools to work towards	• Goals should be achievable and not too complex • Flexibility is needed in WSAF programme - including timeline, adapting to school's needs • Provide caterers with an award for completing programme
	Duration and phasing	• Compiling small actions over time	• Longer period of time to implement smaller steps towards a WSAF	• Adequate preparation/lead-in time
	Staffing and support	• Setting regular meetings; Give staff the capacity to participate in a WSAF and account for staff changes; school project officer / student ambassadors; reimbursing schools the cost of substitute teachers when training fulltime staff; delegate responsibilities	• One lead person in school leads the project with the PO; regular presence from PO to support delivery	• Bring key groups together for regular meetings; a mixture of in-person and online sessions
	Policy development	• A step-by-step guide for policy development	• Take focus away from a 'whole school' policy and break down changes into smaller areas; use policy templates, extended period	

	Monitoring and evaluating	• Robust evaluation of effectiveness of changes; reflection opportunities; Use expert knowledge to make sure that actions are monitored and evaluated; focus outcomes on improving the students' academic success, over the focus of improving health.		• Engage caterers / Use existing catering data to support monitoring and evaluation of WSAF • Have a broad range of outcomes to measure, beyond SFS
	Learning and sharing	• Review, reflect on and refresh action plans, celebrate successes	• Host a competition between schools within a cohort related to food-based changes and behaviours	• Share progress with the whole school • Link with other schools to share good practice/ Develop communities of practice • Facilitate sharing of good practice/links between schools i.e. Implement Flagship schools/ Provide schools with case studies • Celebration activities for schools
	Sustaining a WSAF	• On-going support, training and communication		• Keep schools updated on changes to national policies
	Programme materials	• Offer workshops and training opportunities; Provision of Recipe books; toolkit containing self-assessment matrix, policy	• Improving resources for secondary schools, • Tailored policy templates; offering workshops and training opportunities	• Engage with existing school food programmes / initiatives (e.g. Healthy Schools Award) to support

		examples; editable versions of resources		specific aspects of the WSAF
	Linking with other programmes	• Use of recognised schemes to motivate schools		• Consider alignment with existing schemes such as Healthy Schools Award and compliance / monitoring schemes
Leadership	**SLT**	• Engage school leadership in a WSAF; engage in food training; consider alternative catering models		• Having a lead/liaison for school food / WSAF on the SLT • Dialogue between school and caterers • Review catering contract/arrangements
	Leading school staff	• Give staff the capacity to participate in a WSAF, account for staff changes		
	Leading kitchen staff			• Catering Manager actions to increase motivation and quality in school catering teams
	Wider leadership	• Training for governors on their role and responsibilities in relation to food		• MAT leadership on school food; Actions to engage school Governors in school food improvement (SR)
Food across the school day	**Nudges**	• Nudge strategies including proximity and positioning / placement; visual appeal, price and promotion; portability.		• Use of nudge strategies to prompt selection of certain foods e.g. fruits and vegetables
	Labelling	• Physical activity calorie equivalent (PACE) and traffic light systems;		• Ingredients and nutrition labelling on school food to support student decision

		sensitive to unintended consequences relating to disordered eating		making; Transparent naming of dishes so students are clear on ingredients
	Menu planning / food available	• Improving breaktime / snack offer; offering nutritious breakfasts, offering at least two portions of fruit and vegetables per meal; reduced soft-drink availability; installation of new water fountains / free drinking water; nutritious food/drinks in vending machines; Popular food available at all sittings		• Healthier options available at breakfast and mid-morning break; Menu options to mimic street food; Wider menu with greater diversity of interesting cuisines; Hidden vegetables/fruit to increase intakes of fruit/veg; Adaptable portion sizes to meet wide range of nutritional needs (e.g. age-related); More self-serve/build-your own options to give students control; More appealing and unusual F&V options; Improving the grab-and-go / off-menu options i.e. higher nutritional quality
	Menu visibility	• Improved information accessibility, menu availability whilst in queue		• Improve menu visibility/communication of menu to support student decision-making
	Tasting opportunities	• Tasting opportunities, including feedback opportunities; for students and parents		• Tasting days to help increase school meal uptake; Tasters of dishes (“try before you buy”) to

				increase exposure to new foods
	Price and incentives	• Make portions of healthy food larger; Encouraging healthier food choices by reducing the cost of food; Rewards for nutritious food choices e.g. house points etc.; special offers; Gamify food choices		• Actions to reduce price of school food to students and incentivize selection of healthier options
	Promotional activities	• Themed days		• Theme days to increase appeal/make school food more interesting / Intercultural events
The dining environment	**Queuing**	• Actions to keep queues short; Pre-ordering systems		• Changes to food service layout / process; Increase queue monitoring
	Dining experience	• Improving dining space and social experience of eating		• Actions to improve physical dining space to increase appeal of school food and dining experience; Enhancing social aspects of dining to make it a more enjoyable experience
	Food service changes	• Multiple spaces to serve food; adaptation of outlets to showcase and only sell healthier foods		• Restructuring / positioning of mealtimes across school day; Longer breakfast period
Positive relationship with food: Food education	**Food education resources**	• Making use of resources that are already available e.g. websites, training programmes		

	Practical food education / cooking	• Link with school kitchen to deliver food education; link with external organisations for practical hands-on cooking activities; school gardens / gardening clubs; use food tech lessons to research and suggest new menu items		• More opportunities for practical cooking; Linking with school catering teams to deliver food education; Engaging food education – Topics of interest, showcasing differe nt cultures, using multimedia; Integrating school food improvement with food education; Student incentives as a motivator in food education
	Nutrition education	• School food improvement within food education; Consistent food messaging; nutritious eating posters / signage / activities	• Students know how to consume nutritious food but find this hard in the school environment	• Use sector representatives to deliver engaging nutrition education; teachers to reiterate nutrition messaging in practice; Embed food/nutrition in the PHSE and wider curriculum; Incorporate learning about 'how' to make nutritious choices (behaviour change theory); Consistent food messaging
	Food themes	• Learning through doing- cooking, growing, social marketing to peers, mindful eating, integrated throughout different subjects, themed weeks	• Nutrition and exercise	

Positive relationship with food: School culture	**Social norms approach**	• Social marketing of healthier food designed by students		
	Peer-led approaches	• Buddies/peer led intervention to increase knowledge, understanding and self-efficacy of food and nutritious approaches • Sharing of food from different cultures to improve food diversity		• Students to create / share own recipes to build sense of belonging/share different cultures; student led school food improvement activities; student ambassadors; peer role modelling/messaging
	Staff involvement	• Upskill staff across the school to improve the food culture		• Staff involvement in school food e.g. eating in school dining hall, supervision; Food and nutrition training for school staff, including School Food Standards
	Catering team involvement	• Caterers provided with training that benefits their skills, knowledge and development; involvement in intervention/education in canteen; integration of caterers into the school community; Working with students; Ensuring communication between cooks and caterers, schools and students		• Developing kitchen staff skills and passion for food through training and resources; Integration of kitchen teams into school life / greater presence in day-to-day school life; Improved kitchen facilities/equipment / Appropriate kitchen equipment for fresh food; Caterers can provide work experience for students; Focused and informed conversations with head teacher about

				importance of students' food/nutrition
	Food policies	• Engaging with current and existing national policy to improve school food such as the SFS. Improving student engagement and awareness of school food policies; Breaking down policies into smaller elements (water, packed lunches, education); policy on food from home/outside; water-only policies		• Clear policy on foods brought from home so aligns with school's approach to food; Aligning packed lunch and school meal timings and rules; Apply same rules to teachers; Consistent food messaging, provision and policies across school and year groups; Consequences for bringing in noncompliant food (St)
Equity and dignity	**Improving access to school food**	• Giving students re-usable bottles, installing/updating water fountains;		• Free or subsidised school food; Free or subsidised breakfast
	Food insecurity support	• Opportunities for families experiencing food insecurity		• Redistribution of surplus breakfast food to classes to increase reach; Sensitive approaches for supporting children/families experiencing food insecurity
	Free school meals	• Allowing unused FSM budget to roll over to the next day so that students have increased autonomy and choice		• Supporting eligible families to enrol for FSM; Review policy on how FSM allowance can be spent
	Special diets; food diversity	• Offering enough vegetarian, vegan and Halal options;		• Review of menus to ensure there are a range of options

		Increasing cuisine/cultural options		available for student with special diets; Training for staff involved in food preparation on allergens and food issues relating to SEND; Transparency of ingredients so students on special diets can assess whether they can eat it; Wider menu with greater diversity of interesting cuisines
Engagement	**Students**	• Students are engaged in food, consulted and listened to- from the start of their secondary school journey • Build student voice within a WSAF e.g. student council, student surveys; Student teaching about food systems and advocacy, Involve students as much as possible in changes and interventions e.g. social action project, co-designing menus; Integrate peer led and student-centred interventions	• Develop agency, empowerment and knowledge of the students in a WSAF; Engagement days; Ensure that resources and workshops focus on student engagement; Involve students in school food audits, collaborate with sector representatives in youth engagement	• Students involved in leadership on school food and decision making; Student-led school food improvement activities; Dedicated student group/forum/council for food; Engage the wider student population in school food in varied ways; Feedback to students on how their input has been addressed; Student incentives for engagement in school food improvement tasks; Use existing events in school calendar to promote school food

	Parents	• Invite to participate in school food experiences / parent information sessions; nutrition newsletter		• Involve parents in decisions around school food; Engagement with parents to increase uptake of school food; Better communication on school food pricing
	Wider school community	• Staff wellness days; Health events/festivals	• Gaining funding from corporate organisations and charities to fund food initiatives within schools	• Engaging with external organisations for training kitchen staff; Funding school food initiatives; Support with school food improvement and procurement; Inspiring students
Sustainability	**Sustainability in policies**	• Packaging of food; reusable water bottles and suitable fountains		• Reusable water bottles
	Sustainable menu design	• **I**ncreasing food choices to include more sustainable options which students can be educated on, increasing offer of vegetarian and vegan meals,		• Review / adapt menus with sustainability in mind; Ensuring school food is appealing to minimise waste
	Food redistribution / food waste			• Redistribution of food leftovers to minimise waste; Re-purposing leftover fruit (St)
	Sustainability education			• Sustainability in lessons
Wider context	**Local authorities**		• LAs support recruitment	• Support schools through signposting, resources and procurement support;

				Provide opportunities to share good practice across schools and/or benchmark schools; Support schools to improve compliance with the SFS
	Catering organisations	• Give schools/catering managers some flexibility around suppliers or menu/recipe design		• Catering organisations to engage with school leadership to build case for school food; Having a strategy to improve school food; Dedicate part of social impact fund to fund school improvement work
	Food systems partners			• Better coordination between schools and local food systems to clearly understand what schools require and their demands for Farming/field to plate to match with local producers
	National government	• Protect, resource and extend formal food education in schools; Build a national progression framework for food education; Connect food education to wider national priorities		• More funding for high quality school food provision; External, in-person monitoring of school food; Automatic enrolment for FSM
	General			• Working directly with schools to find practicable solutions; Surveying schools to

				understanding problems faced

Table D2. Question prompts for SFM delivery teams to discuss with schools when developing their action plans, engagement and training activities, and policy[1]

WSAF Aspect	Action planning
Leadership –participation from school leaders in a WSAF, developing an overall vision and strategy for food, and putting plans and policies in place to drive the WSAF forward.	**1. Who needs to be involved in leading the WSAF and how will the school involve them? Consider:** a. A WSAF lead – this should be a staff member (preferably SLT) with an interest in and passion for improving school food. b. Involving a member of SLT (if not the WSAF lead), who can ensure the work is appropriately resourced and integrated into wider school strategies/systems. SLT involvement is essential to delivery of the Nourish programme. c. A named liaison within the catering team. Who is most able to enact change within kitchen? d. A school governor representative. e. Student representative(s) – could students be involved as "Food Ambassadors"? f. A parent representative g. A representative from the MAT or LA – are they needed to support discussion on the strategic approach/resources? h. An area / regional catering manager – should they be invited to allow realistic discussion about possibilities and constraints relating to catering provision? i. How often should contributors meet to reflect on progress? j. What time and resource commitment is required from each of these contributors? Do they need protected time to carry out their activities? **2. What activities would support the school's WSAF?** a. Does the school have a shared vision or commitment to a WSAF that aligns with the school ethos? Has the SLT committed to school food improvement? b. Has the school agreed a set of expectations for a WSAF? Is there a balance between ambition and achievability? Have SLT, student and catering priorities been considered? c. What training is needed and for whom? d. What are the relevant outcomes for the school and potential data sources for measuring progress? This could include e.g. school meal uptake, FSM registration, school food standards compliance, student satisfaction, attendance, etc.

	e. Where appropriate, could the school review the catering arrangements in place? What scope is there for change? Is an alternative catering model an option? Is there any support or opportunity for re-drafting the contract e.g. from LA, MAT? **3. What school food policies need to be developed?** a. Does food feature in any existing school policies? Is there a need for a new standalone policy or integration into existing policies? Is a single whole school food policy appropriate or is there a need to focus on one policy aspect at a time? If so, what should be prioritised? b. Does the MAT have an existing school food policy? Does the MAT need to be involved in creating one? c. Could a template policy be used e.g. from the LA or other schools that have taken part in Nourish? How will the school ensure consistency with existing local or national policies? d. Who will the school involve in policy development? How will SLT, caterers and other key groups (e.g. students, governors) be involved? e. What are the policy priorities identified by different groups within the school? f. How will the school communicate the new policy across the school community? Consider how non-compliance with the policy will be handled - *Note: to avoid feelings of stigma, fear or anxiety, providing guidance rather than policing and having school food rules might work better for parents/families.* g. What plans are in place to review and revise the policy over time, and who will be responsible for this? **4. How can school leadership be engaged in the WSAF?** a. How can schools regularly report back on progress to the SLT, governors, MAT leaders and catering area/regional managers for continued support and dialogue? b. Have school leaders been invited to eat in the school canteen? **5. Could the school benefit from networking with other schools?** a. Would the school like to link with other Nourish schools to share good practice?
Food across the school day – the work done to improve the food/drink available to students over the school day, including	1. **What changes can the school make to the food service?** a. What strategies could be put in place to prompt selection of certain foods and improve nutritional uptake for students? E.g. positioning plant-based items at top of menu, serving vegetables first, positioning vegetables/plant-based options in more prominent positions, kitchen staff using verbal prompts to encourage healthier selections.

breakfast, breaktime and lunch.	b. How could the school improve transparency and decision making through food labelling? E.g. nutrition labelling (energy), ingredient lists for menu items, simple names of dishes that clearly outline what is in it. c. How can the school improve menu visibility/communication of the menu to support student decision-making? E.g. making menus visible during the queue so students can make a choice in advance, with live information on what has run out; live camera broadcasting of lunch service for realistic food representation. 2. **How are mealtimes positioned throughout the day?** a. Could mealtimes be restructured to reduce hunger / improve students' decision making? E.g. More/alternative nutritious snacking options through the day to avoid hunger. b. Is the lunchtime duration adequate? Could the school make lunchtime longer and more prominent? How does the lunchtime/club offer impact upon students' eating behaviours? 3. **What changes could be made to the menu/food offer?** a. What options are available at breakfast? Consider hot options, low sugar cereals, wholegrain breads, fewer spreads. Has the school asked students what they would like to see on the breakfast menu? b. What options are available at breaktime? Consider sources of protein and wholegrain options, make lunch-time options available (for those involved in clubs); ensure it is varied (i.e. not just pizza). c. What grab-and-go / off-menu options are available? What nutritious alternatives could be offered? Could grab and go options that are low nutritional quality be removed from the food offer? d. How diverse is the school menu? Does the menu represent the diversity of the school? Are the different cuisines offered authentic? e. What inspiration could be taken from street food to increase the appeal of school food and drive uptake? f. What fruits and vegetables are on offer over the day/week? Is there a variety? Could two portions of fruit or vegetables be served as the default at lunch time as part of the set meal? g. How appealing and interesting are the fruit and vegetables options? Consider fruit-based items rather than fruit as a standalone item; and regular "new/unusual fruit" promotions. h. How could students be given more self-serve/build-your own options to give students greater control? Consider e.g. salad bar to add to grab-and-go options; build your own sandwich stations (pittas, baguettes, wraps, burritos); a seasoning/sauce table and/or a wider selection of condiments due to different spice level preferences.

	4. **What changes could be made to pricing to increase affordability to students, whilst maintaining quality?** a. Has the school reviewed pricing with the catering team and business manager? Are nutritious options competitively priced to avoid this being a barrier to selection? b. Are there any options for reducing the price of school food to students overall (e.g. subsidies)? c. Could the school/caterer offer incentives or rewards for selection of nutritious options? E.g. rewards, free/reduced piece of fruit and/or salad, meal deals to include water or milk. d. Does the school have a plan for regularly reviewing the cost/pricing of school meals? 5. **Are the portion sizes appropriate for all students?** a. Has the school reviewed portion sizes? Encourage schools to work with catering teams to offer adaptable, age-related portion sizes to meet the wide range of nutritional needs. 6. **How does the school monitor the school food standards?** a. What support is available for monitoring? E.g. LA, through the MAT, an independent agency or self-assessment? Is monitoring carried out in-person and across the whole school day to ensure the full food offer is assessed?
Dining environment – improvements to food service, and the physical and social eating environment.	**1. What changes need to be made to the food service arrangements?** a. What is the student experience of the food service? How is the food service area laid out? How could queuing times be decreased? E.g. more queue lines; separate nutritious grab-and-go and main meal options, especially for students going to clubs; taking tills away from the counter. b. Could a system of pre-ordering be introduced to reduce queuing and improve student choices? c. What queue monitoring is in place to deal with disruptive behaviour if needed? 2. **What changes need to be made to the physical space?** a. How could the physical dining space be improved to increase the appeal of school meals, drive uptake and enhance the social dining experience? E.g. creating a "wow" factor; painting the walls; additional information on the walls around food provenance. Consider noise and sensory aspects when reviewing. b. What spaces are available to students for eating? Are there multiple types of dining spaces to suit varied student needs? E.g. quieter and/or outdoor spaces. c. How many food outlets are there? Are any additional ones needed to enable a range of choice of where to purchase from and to reduce crowding and queues?

	3. How could the social experience of lunch be enhanced? a. Would an alternative model of dining work to improve opportunities for lunchtime socialising across the school community? E.g. family dining model. b. How could peer role modelling be built into mealtimes? E.g. through the presence of student 'Food Ambassadors' in dining areas.
Positive relationships with food – how to develop a positive food culture and consistent positive messaging around food.	**1. What messages do students receive about food?** a. Has the school reviewed policies and education materials and spoken to students about the food messaging they receive across the school day? How can the school improve the consistency of food messaging, provision and policies across year groups including sixth form? (Recognising the sixth form as an impactful stage for transitioning into adulthood). b. Does the food messaging resonate with young people? Who are the credible role models for students at the school? E.g. food/nutrition sector representatives, influential peers or teachers. How can they support delivery / reiteration of messages? c. Is food framed holistically and not just in relation to health? d. Could staff benefit from training on consistent messaging on food? E.g. talking to students about food, language and terminology, how to encourage selection of nutritious options, etc. **2. How is food/nutrition positioned in teaching and learning activities?** a. Has the school reviewed where and how food/nutrition is taught across the curriculum? Which education teams need to be involved? E.g. PSHE, PE, Science, Geography etc. What 'food themes' could be integrated through curriculum? b. What additional opportunities are available to deliver food education across the school day? c. Does the school support students in thinking critically about food? E.g. about sustainability in the food systems, food advocacy, food marketing? 3. **How engaging is food education?** a. What recipes are taught? Do recipes showcase different cultures? Are recipes "on trend"? b. How is cooking linked to other subjects (e.g. science) to engage more students? c. Could the school introduce student-level incentives as a motivator in food education? E.g. rewards for good effort in food preparation/cooking lessons; badge or postcard home to celebrate student achievements; competition with rewards for the best creations.

	d. Could food education teachers link with the catering team to support delivery food education? E.g. school allotment, supporting teaching GCSE cooking, linking themed food days in the canteen to wider school food education; filming the catering team doing daily work, for example following veg from delivery to plate, as an education piece. e. What external resources could the school access to support food education? E.g. from nutrition organisations / charities. 4. **What opportunities are there for students to experience practical cooking?** a. Has the school reviewed access to / opportunities for all year groups to engage in practical cooking? How could the school increase the number of opportunities delivered across the year? b. Do food preparation / cooking lessons feature practical skills (e.g. budgeting, using leftovers) and allow students to be challenged (e.g. measuring, using knives etc.)? c. Are there any additional opportunities to feature cooking through the school day? E.g. at breakfast, lunchtime and after school clubs. 5. **Does food education include any opportunities to broaden students' tastes?** a. Has the school considered using external organisations to provide engaging tasting activities that aim to increase exposure and experimentation with a range of foods? E.g. Eat Curious.
Equity and dignity – supporting equitable and dignified access to nutritious school food for families with low-income or food insecurity, and those with special diets or with SEND.	**1. How does the school support students eligible for free school meals or from low-income families?** a. Does the school support eligible families to enrol for FSM? Consider options for language support / translation for parents with English as an additional language to encourage FSM registration. b. What policies does the school have in relation to how students can spend their FSM allowance? Do any changes need to be made to ensure fairness and reduce the potential for stigma? Does the school allow roll over of unspent allowance to the next day? c. Does the school have a budget for covering ingredients costs for cooking lessons for students from families with low incomes? **2. Does the school offer any support for students experiencing food insecurity?** a. Could the school offer free or subsidised breakfast or snacks for some or all students? (*Note: a universal offer provides a stigma-free approach*). Could the school link with charities / funded initiatives where available to support this? b. Are approaches to supporting food insecurity sensitive and do they aim to minimise stigma? Have families been asked about the acceptability of actions to reduce food insecurity?

	c. Are there any opportunities for a food redistribution model for kitchen surplus/leftovers to help address food insecurity and reduce waste? This could be within the school (e.g. distributing to classrooms) or to families/the local community. d. Can all students access free water? Do all students have access to reuseable water bottles/cups? **3. How does the school ensure equitable access to nutritious school food for students with special diets?** a. What options available for students with special diets, e.g. allergies or intolerances, religious restrictions, vegetarian and vegan diets? Is there an adequate range? Are these interesting and nutritious? b. How transparent are the ingredients in meals, to support students with special diets to assess their suitability? Could this be improved through better labelling or naming of dishes? **4. Does the school celebrate diversity through food?** a. How could students and parents be involved in celebrating food diversity? E.g. in creating and sharing traditional recipes to build sense of belonging and to share different cultures.
Engagement – work done to engage relevant groups in school food and the WSAF.	**1. What whole-school engagement activities could be implemented?** a. How will schools share WSAF progress with the whole school at multiple time points to maintain momentum and motivation? E.g. posters, assemblies, launch days and celebrations days, developing recipe books. b. Has accessibility been considered in planning engagement activities? E.g. having a range of activities in different formats. **2. How can the catering team engage in the WSAF?** a. Have catering teams been asked for their ideas on improving the school food offer? Have they been consulted about the feasibility of actions to improve the food offer? b. If using an external catering provider, does the catering provider have a strategy relating to school food improvement and/or a 'social impact fund' that could be accessed for Nourish project activities? c. How adequate are the school's kitchen facilities? Consider options for improvement E.g. seeking additional funding, approaching the catering provider. d. How can catering teams support long-term delivery of ongoing WSAF engagement and training activities? Examples include facilitating / judging student cooking competitions with winning dishes being added to the menu; sharing recipes cards or delivering cooking clubs / cook-along; providing food at parents' evenings; or delivering cooking/food training sessions for staff.

	e. How can catering teams be better integrated in the day-to-day life of the school? E.g. attending staff meetings etc. **3. How can school staff support the WSAF?** a. How are school staff involved in school food? E.g. eating in the school dining hall, mealtimes supervision. b. How can school staff be better engaged? E.g. offering a taster day to staff to increase their use of the school canteen and create a sociable 'family lunch' feel to encourage/model to students. **4. How can students be best engaged in the WSAF in the school?** a. How are students informed about the WSAF? Ensure the wider student body receive communication on school food, e.g. in assemblies, tutor time. Use engaging activities to ensure this is delivered in an age-appropriate way, e.g. games. b. How are students consulted on school food? Have students been asked about what nutritious food they would like to see on the menu? Have they been asked for feedback on new menus? E.g. students voting on preferred dishes, or invited to sample new menu items and provide feedback. Have students been asked about the eating environment/experience and consulted with on how to improve this? c. What WSAF activities could students lead, to increase buy-in from other students and to empower the student body? E.g. creating new menus, designing posters, competitions, student-led surveys. What opportunities are there for peer-led interventions? E.g. Social Norms Approach or buddy system. Consider establishing student 'Food Ambassadors' or champions who lead on canvassing the wider student population. d. How could school food improvement / Nourish activities be integrated into food education? E.g. having a "school food improvement" project/coursework. Could incentives be offered to students for engagement in school food improvement tasks? e. What opportunities are there for students to be involved in decision making on school food? How could existing frameworks be used, e.g. School Council? Is a new group needed, e.g. School Nutrition Action Group? f. How inclusive are the student engagement activities? How can the school ensure that a diverse range of students are heard from, including those eligible for FSM, from low-income families, with special diets, or with SEND, and that student engagement activities reflect the ethnic and cultural diversity in the school? (e.g. when selecting student ambassadors / champions). Are students from all year groups included?

	g. Who is best placed to lead engagement activities with students to build motivation and excitement? E.g. passionate teachers, or student role models. **5. How can parents/families be engaged in the WSAF?** a. How are parents informed about school food? What communication approach works best for parents at the school, based on previous experience, e.g. via the school website, app, newsletters? Parents may be particularly interested in information on menus, special diets, allergens, and pricing. b. How are parents consulted on school food? Seek input from parents on school food where possible - parents may be especially interested in inputting to school food policies and school food pricing. c. What activities would support parents in continuing the positive messaging achieved from a WSAF at home? E.g. recipes, cook-along activity. d. What opportunities are there for parents to be involved in decision making on school food? E.g. membership on a Nourish project working group. **6. How could the school engage with external organisations in the wider community?** a. What options are there to gain funding from corporate organisations and charities to fund food initiatives within the school? E.g. accessing national funding to improve school dining spaces. b. What other initiatives / interventions exist that can support delivery of aspects of the action plan outside of the Nourish offer? c. What campaigns could the school link with (e.g. Healthy Eating Week) to raise the profile of food in school? d. What community assets exist around the school? How can the school integrate with local family hubs, and voluntary or community organisations in their WSAF? e.g. supporting breakfast and after-school clubs; food education; linking with external organisations or speakers to engage and motivate students around school food improvement. e. What does the local food system look like around the school? Could links be made with local food producers, suppliers or businesses to identify opportunities for coordination or collaboration? E.g. farming/field to plate to match with local producers. f. How can the school link with LAs or the local community to address the food environment surrounding schools? E.g. restricted advertising on foods/drinks around schools, healthy zones around school schemes. g. How can strong relationships be built with these groups/organisations for continued support?

	h. Could the school host an event to engage students with members of the local community? **7. What work can be done to increase school meal uptake?** a. Could the catering team allow students to have tasters of dishes ("try before you buy") to increase exposure to new foods? E.g. taster pots of dishes at a low cost, unusual fruits for students to taste. b. Are there opportunities for tasting days/theme days to help increase school meal uptake and make school food more interesting? c. Could the school offer free school food promotional days so students that don't usually eat school food can try at no cost, as a way of increasing school meal take-up? d. Could tasting opportunities be offered to parents? E.g. parents' evenings to showcase the food, get parents on board and obtain feedback.
Sustainability – relates to the environmental sustainability of school food and enhancing awareness of food sustainability.	**1. How sustainable is the school's current food offer?** a. Could more plant-based options be offered? Could any meat-free initiatives be introduced? What is acceptable to catering teams, students and parents and what other ideas do they have? b. How is school food served or packaged? Can single-use containers be minimised? c. What external organisations or campaigns could the school link with for support? E.g. Full of Beans, Soil Association. d. Do catering teams need any training on sustainable food practices? e. What links do caterers have with local food suppliers for locally sourced food? 2. **How does the school minimise waste?** a. What drinks are on offer? Consider offering reusable water bottles or reusable cups to increase water uptake and decrease plastic usage/go plastic-free. b. How do catering teams deal with food waste? Could surplus food be re-purposed? E.g. leftover fruit used for making smoothies or made use of within food education activities. c. Are there any opportunities for redistribution of surplus food to reduce food waste? E.g. offering it to families or food banks, setting up a school food pantry. 3. **How does food sustainability feature in teaching and learning activities?** a. Is food sustainability taught in a range of topics / lessons?

[1]Note: These questions are intended to prompt discussion and thinking on schools' action plans, engagement and training activities, and policy development. The answers and solutions will vary across schools. Therefore, the questions should facilitate a flexible approach, enabling adaptation of the programme to the school's context. The questions have been organised by the WSAF framework to support POs in covering all aspects of a WSAF, or in focusing on specific aspects depending on the school's priorities.

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