Our role in the

WHOLE SYSTEMS APPROACH TO DIET AND HEALTHY WEIGHT EARLY ADOPTER PROGRAMME

An internal evaluation



November 2022



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Introduction

Whole Systems Approaches (WSAs) are increasingly valued as influential in responding to the complexity of public health problems, such as obesity (Bagnall et al. 2019). The 2019 Scottish Health Survey found that two in three adults and one in three children live with overweight or obesity in Scotland (Scottish Government, 2020). The Scottish Government initiated the WSA Early Adopter Programme as a key part of Scotland's 2018 Diet and Healthy Weight Delivery Plan to support the ambition of halving childhood obesity by 2030.

The default narrative that overweight and obesity is the sole responsibility of individuals does not stand up to scrutiny. We now understand obesity to be a result of a complex web of interrelated factors, many of which lie beyond the control of individuals (Butland et al., 2007; Rutter, 2018). Although the academic evidence centres around interventions at an individual level, more is needed to address the wider determinants which contribute to obesogenic environments. A WSA embraces this complexity, acknowledging that there is no 'silver bullet'. Instead, we need to take steps at the micro-local to international level to address our increasingly obesogenic environments. WSAs are an important mechanism for delivering change across the system.

Eight local authority areas in Scotland were chosen as early adopters (EAs) to introduce a local WSA to healthy weight and diet. Obesity Action Scotland (OAS) was involved in the WSA programme in two main ways. They hosted the National Co-ordinator post through funding from the Scottish Government, and were a National Partner in the programme, of which the OAS Programme Lead worked alongside the Scottish Government, Public Health Scotland (PHS) and Food Standards Scotland (FSS), who all introduced key partners and set key expectations for the programme. OAS drafted and the National Partners agreed upon a job description for the National Co-ordinator post to be hosted within OAS.

OAS decided to undertake an Internal Evaluation, despite a larger/ wider evaluation being undertaken concurrently by Social Marketing Gateway, in order to reflect and assess their own role in the programme. It was hoped that this would assist with, strengthen and shape any future WSA work or to help guide any future OAS projects building upon and adhering to the new knowledge and information which had emerged. Alongside this, it was also hoped to benefit the readership of OAS team members, in addition to OAS stakeholders such as the National Partners. Therefore, thematic analysis of WSA information was undertaken to identify multiple themes, which could be categorised broadly under Strength, Weakness, Opportunity, and Challenges (SWOC).

This report aims to understand the role of OAS in adopting a WSA in the EAs. It provides a background on WSAs and the programme's conception before detailing a timeline of key events and summarising key learning, with a focus on OAS activity. This report, and the other evaluations of the programme, will aid planning for any future WSA working in Scotland and how OAS may be involved moving forward. An acronym buster is attached as Appendix 1.

To situate this report and provide context, it is useful to define key terms. Skivington et al. (2021) published an updated framework for the development and evaluation of complex interventions. For the first time, systems approaches were included and the framework provide the following relevant definitions for systems-related terminology:

Complex Intervention	An intervention is conceived to be complex either (1) because of the characteristics of the intervention itself, for example multiple components or mechanisms of change, and/or (2) because how the intervention generates outcomes is dependent on external factors, including the characteristics of recipients, and/or the context or system within which it is implemented.
Intervention	An 'action or programme that aims to bring about identifiable outcomes' (Rychetnik L, Hawe P, Waters E, Barratt A, Frommer M. A glossary for evidence based public health. J Epidemiol Comm Health2004; 58:538–45). This term is used for everything from medical treatment to changes in policy; it could be something developed and implemented by the research team, for example a surgical procedure, or something beyond the researchers' control, for example a change in welfare policy, such as the implementation of universal credit. In some interventions, the main aim is not necessarily to bring about health outcomes, but the intervention may indirectly lead to changes in health. Interventions can be thought of as interruptions in or changes to a system.
Soft System Methodologies	A set of methods used to engage stakeholders and create conceptual models about issues or problems to consider 'real-world' solutions.
Stakeholders	Those who are targeted by the intervention or policy, those who are involved in its development or delivery or, more broadly, those whose personal or professional interests are affected (i.e. who have a stake in the topic). This includes patients and members of the public as well as those linked in a professional capacity.
System	A set of things that are interconnected in such a way that they produce their own pattern of behaviour over time (Meadows DH. Thinking in Systems: A Primer. White River Junction, VT: Chelsea Green Publishing; 2008).
System Boundary	A boundary used to define the set of elements that comprise a system of interest to make research on that system tractable. It is not always feasible, necessary or desirable to consider the whole system in evaluative research. Nonetheless, it is important to be aware of the wider system and to justify the choice of boundaries. Boundaries are dependent on the problem and research question, and can be set in different ways, for example based on geography or concept.
System Map	A conceptual visual representation of the components within a system. Creating a system map should involve discussion between a multidisciplinary team to identify the components in the system and how they interact.
Systems Thinking	A holistic way of thinking about complex systems, focusing on the interactions between entities that comprise a system and between those entities and their environment, rather than assuming that a system can be understood by breaking it down into its individual entities and studying each part separately.

Background

We adopt Public Health Reform's (2019) definition of a WSA as applying systems thinking and processes that enables "an ongoing, flexible approach by a broad-range of stakeholders, to identify and understand current and emerging public health issues where, by working together, we can deliver sustainable change and better lives for the people of Scotland" (Public Health Reform, 2019). The approach advocates for a shift in perspective, moving away from individuals and health problems, towards systems, organisations and environments (Hodgins and Griffiths, 2012).

WSAs are increasingly valuable in responding to the complexity of public health problems, as identified in Bagnall et al.'s (2019) systematic review. Of the 65 included articles, 33 studied WSAs relating to obesity in the UK, Canada, USA and Australia and found that a WSA promoted systems thinking and was associated with improved "health behaviours, BMI, parental and community awareness, community capacity building, nutrition and physical activity environments" (Bagnall et al. 2019:1). What constitutes a 'whole systems approach' can differ substantially and further research is required on operationalising a WSA for obesity (Bagnall et al., 2019). Amsterdam's Healthy Weight Approach (AHWA), initiated in 2012 is an example of a long-term commitment to child healthy weight and is an example of a WSA which involved collaborating in an integrated, multi-level, multi-sectoral way, with a variety of stakeholders from within and outside the field of public health (UNICEF, 2020). It was this work that sparked Public Health England's interest in WSAs. More recently, a review of NIHR research acknowledges the need for whole systems working (NIHR, 2022) and the UK government has recently published guidance on systems thinking for civil servants (Government Office for Science, 2022). Scotland's Early Adopter (EA) programme is a valuable contribution to test how WSAs are operationalised and the evaluations will contribute to this growing evidence base.

Public Health England (PHE), in partnership with Leeds Beckett University, devised a toolkit and guidance package for implementing a local WSA. According to PHE (2019, p9), an effective whole system approach requires a clear aim and "recognition of the reality of the challenges and opportunities facing local authorities." Although time and commitment are needed to implement the approach, the benefits and support it brings to a local authority area, such as linking to a variety of stakeholders to co-ordinate thinking and adopt systems approaches, has been evidenced within the Public Health England (2019) WSA rollout. This toolkit advocates nine systems behaviours which work together to achieve a whole systems approach (Figure 1).

Public Health Reform (PHR) was set up in 2019 as a partnership between Scottish Government and the Convention of Scottish Local Authorities (COSLA). The aim was "to challenge our current ways of working, put more decisions directly in the hands of citizens and provide support to local communities to develop their own approaches and solutions to local population health challenges." PHR were committed "to support different ways of working to develop a whole system approach to improve health and reduce health inequalities". To operationalise this, PHR developed a set of nine characteristics of a whole system approach for Scotland (Figure 2), working with partners across the system and building on learning from others, including Leeds Beckett and their work with Public Health England (PHR, 2019). A fundamental commonality in PHE and PHR's characteristics is systems thinking and associated methods and practices to understand the problem and support the identification and testing of actions to address it. Both groups of characteristics also recognise that system change is a long-term endeavour, delivered collaboratively with many partners through incremental steps across the system.

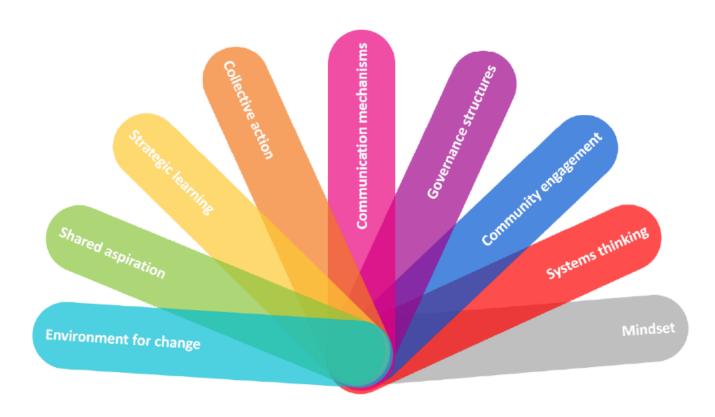


Figure 1 - Systems Behaviours (Public Health England, 2019)



Figure 2: Nine core characteristics of a Whole System Approach (Public Health Reform, 2019)

NHS, Integration Joint Boards (IJBs), Community Planning Partnerships, local authorities and other national and local partners may already work collegiately on diet and healthy weight. However, barriers to eating well and having a healthy weight continue to persist and are concentrated in areas of socio-economic deprivation. For example, the most recent Primary 1 data indicated that children from the most deprived backgrounds are almost three times more likely to be at risk of obesity than their peers from the least deprived areas (although the COVID-19 pandemic hampered data collection as schools were closed and children could not be measured) (Public Health Scotland, 2022).

In June 2018, the Scottish Government and COSLA decided upon six national public health priorities, designed to support national and local partners across Scotland co-operate to improve healthy lives and reduce health inequalities (Table 1) (Public Health Scotland, 2021). Therefore, the Scottish Government's Diet and Healthy Weight Delivery Plan committed to working with EAs to develop and test a WSA to diet and healthy weight.

Table 1: Six national Public Health Priorities (Public Health Scotland, 2021).

Priority 1	A Scotland where we live in vibrant, healthy and safe places and communities
Priority 2	A Scotland where we flourish in our early years
Priority 3	A Scotland where we have good mental wellbeing
Priority 4	A Scotland where we reduce the use of and harm from alcohol, tobacco and other drugs
Priority 5	A Scotland where we have a sustainable, inclusive economy with equality of outcomes for all
Priority 6	A Scotland where we eat well, have a healthy weight and are physically active

Eight local authorities were included as Early Adopters: Dumfries and Galloway, Dundee, North Ayrshire and five areas subsumed within the East of Scotland Partnership for the Prevention and Remission of Type 2 Diabetes (Fife, East Lothian, Midlothian, Scottish Borders and West Lothian). All EAs were supported by a National Co-ordinator, employed by OAS and a board of National Partners. Figure 3 details this current governance structure, as decided by the Scottish Government and Public Health Reform. As stated by Public Health Scotland (2021), adopting a WSA is a long-term endeavour, 'requiring new partnerships between a broad-range of stakeholders' to improve health outcomes, and therefore, the stakeholders within the governance structure had an important role to play in successfully delivering the public health priorities using a whole system approach.

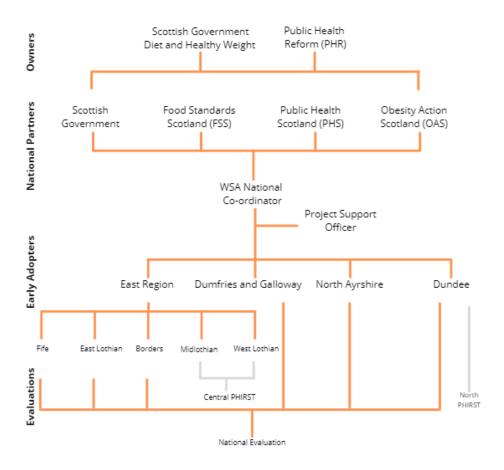


Figure 3: Scotland's Whole System Approach to Diet and Healthy Weight Governance Structure

From 2019 to 2021, EAs were asked to:

- Test a whole system approach to diet and healthy weight.
- Explore a wide range of levers and opportunities to influence local policies and partnerships
 to implement innovative approaches to addressing the problem, demonstrating what is
 possible within these existing frameworks.
- Identify barriers to local action; generating learning which can be shared across Scotland; and potentially informing change to government policy.

More specifically, EAs were asked to:

- 1. Identify a Programme Lead and Senior Sponsor in local government and NHS Board (four in total).
- 2. Commit to working together and in collaboration with other local partners to test a whole systems approach.
- 3. Identify and agree a local problem to tackle.
- 4. Establish appropriate working arrangements, with senior leadership engagement.

The initial Logic Model is shown in Figure 4.

INPUTS	ACTIVITIES	SHORT-TERM OUTCOMES (Yr1-5)	MEDIUM-TERM OUTCOMES (Yr5-10)	LONG-TERM OUTCOMES (yr10-)	•
support and growth and commitment for collective/whole system approach (WSA)	government partners provide leadership to engage stakeholders, including communities, and to support whole system action det Data, intelligence and insights Sysi	Community are engaged in the approach	Improvement in intermediate markers of health and inequalities (diet	Improved diet and healthy weight in child and adult populations in	Assumptions - Scottish
		Action is taken to address the upstream drivers and	and physical activity)	local areas.	
		determinants of health	Systems behaviours embodied by the local	Contribution to reduction in associated health	Government and UK Government
vsights		Systems thinking practice is	partner agencies.	in associated health inequalities.	policy enables and aligns with local actions. Systems change will impact on population health outcomes. Local delivery and implementation will be tailored to local needs and context.
artnership & ollaboration across	are gathered to make the case for change and to identify local priority issue(s) to focus on.	entify local local partnership. Collaborative working acro	Collaborative working across departments and	Learning is being captured and shared.	
local system	A shared understanding of the	Collaborative working across departments and organisations.	organisations.		
Suitable accountability and governance structures to support	causes of obesity in the local system is developed through gathering multiple perspectives and applying system thinking		Transferable workforce sills related to systems working developed, which can be used for other public health issues.		
		Actions are jointly prioritised and aligned across the local system to address diet and healthy weight and reduce inequalities.			
Dedicated time & commitment to implement WSA and build a network of local sections.	tools. This builds shared understanding and ownership.				
	System-wide actions are jointly		Community and other assets utilized effectively.	 Collaborative activities are 	activities are
	identified, prioritised and aligned and implemented	Learning is being captured and shared.	Health in All Policies		cyclical, not linear embedding the iterative enquiry
Dedicated time and resource to build	Iterative enquiry is embedded in		approach implemented across local authority.		cycle.
apacity to implement VSA	activities, to provide feedback/learning on implementation and impact,		Learning is being captured and shared.	Acknowledgement: content	
ommunities	which is reflected on. Actions and approach		adapted from the P		
	areadapted/refined/changed overtime.			guide to suppo	ach to obesity: A rt local approac

Figure 4 - Whole Systems Approach to Diet and Healthy Weight, Logic Model (Early WSA EA Programme Documentation – July 2019)

To date, all eight EAs have met the general asks of the Scottish Government and are working within the short-term outcomes detailed in the logic model. Due to the impact of the COVID-19 pandemic and associated restrictions and redeployment arrangements, a one-year extension was granted, with a new end date of March 2022. However, even with this extension, progress was significantly impacted in a number of areas as many public sector staff across health board public health functions and local authorities were redeployed and faced resource constraints. While the commitment is there, some leads have been unable to progress with re-establishing activity.

The WSA workstream is included in Scottish Government's Programme for Government 2021-22 (Figure 5). The workstream started in 2019, and the pandemic impacted its original timeframe. The programme is being evaluated at a national level by Social Marketing Gateway, commissioned by Public Health Scotland (PHS). Additionally, two local evaluations are being conducted by the Public Health Intervention Responsive Studies Team (PHIRST), funded by National Institute for Health and Care Research (NIHR). All evaluations will provide a valuable contribution to the evidence base on the effectiveness of WSAs as a process.



We will also focus on improving the health of our young people, aiming to halve childhood obesity by 2030 and significantly reduce diet-related health inequalities by taking forward the actions in our Diet and Healthy Weight Delivery Plan. We will evaluate 3 pilots of whole systems approaches to improving diet and healthy weight services, to scale up and implement best practice across all Health Boards. £050,000 has also been made available this year to help Health Boards and local partners, support services which encourage and reinforce good nutrition, healthy eating habits and physical activity for children under five and their families.

Figure 5 – Scottish Government's commitment to evaluating the WSA programme (Scottish Government, 2021)

Methods

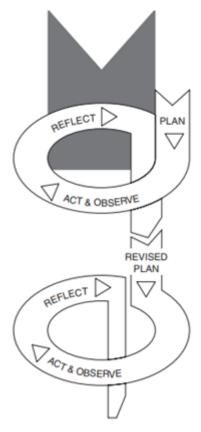
We conducted ethnographic action research to understand the role of OAS in the WSA programme of work and develop a timeline of events and an evaluation of key learning. The report predominantly focuses on OAS activity and is not representative of the work carried out by other national partners.

Ethnography

An ethnographic approach is implemented within studies to fully immerse the researcher into the research under exploration within a natural setting of a culture or organisation. Therefore, in this instance, an ethnographic approach aided the OAS staff members' immersion in the WSA work to achieve a "deeper understanding of the phenomena under investigation" (Wond, 2017, p3).

Action Research

Whilst action research or participatory action research (PAR) is not easily defined (Meyer, 2000), it is implemented within studies as a self-reflective inquiry (Baum, MacDougall and Smith, 2006) where practitioners can research their own practice or use an outside researcher, to improve or progress "conditions and practices in a range of healthcare environments" which initiates beneficial ways for researchers to develop research programs with people as opposed to undertaking research on people (Meyer, 2000; McIntyre, 2008). Parkin (2009, p9) concurs to define action research as a "management and leadership tool" ultimately contributing to social change practically within real life situations, which are directly useful to certain groups (Reason, 2001). Therefore, action research was implemented in order to develop knowledge and key learnings of work undertaken by OAS, alongside other national agencies, to support local services in the eight EAs testing a whole systems approach to diet and healthy weight (Obesity Action Scotland, 2021). Furthermore, implementing action research was seen as an effective way to determine how influential the OAS role was in the programme. This could be achieved through careful planning, observation, evaluation and critical reflection (Koshy, Koshy and Waterman, 2011). One of the biggest benefits of action research, according to Meyer (2000), is that it focuses on creating solutions to practical problems, Figure 6: Action Research Spiral enabling research engagement and the "development or implementation activities" which follow on from it. Kemmis and



(Kemmis and McTaggart, 2000)

McTaggart (2000), action research spiral as highlighted in Figure 6, depicts the fluid motion, in which learnings are undertaken through action which leads onto reflective professional development, replanning and analyses, which helps to bring about new action through acting and observing (Gaffney, 2008; Koshy, Koshy and Waterman, 2011). Thus, ethnographic action research allowed OAS staff to reflect on the role of OAS in the WSA Early Adopter programme. Findings from this report can be used to inform direction and priorities of any future WSA work in Scotland and the role OAS may play in this.

Data Collection and Analysis

Data was collected qualitatively by an OAS staff member, where information was extracted through calendar and email searches from current and former colleagues in the form of meeting agendas, meeting minutes, OAS monthly reports, handover notes and email chains in order to determine an outline and timeline of events (Olsson and Lau, 2015).

Once a timeline was determined, an evaluation could begin into the role of OAS in the EA programme. Data were read thoroughly, and preliminary semantic thematic coding took place inductively using the web-based software Taguette (Braun and Clarke, 2006). Initial codes were refined and combined into multiple themes (ibid).

The data analysis process was quality assured using intercoder reliability (ICR). ICR or intercoder agreement occurs when two or more different researchers or independent coders agree on the decisions made when evaluating data or the characteristics of messages (Lombard, Synder-Duch and Bracken, 2006). Furthermore, ICR is suitable when classifying data at a nominal or qualitative level, such as evaluating the intensity of emotion (O'Connor and Joffe, 2020). One staff member coded the data, and a second coded a subset to check for ICR to ensure the data was quality assured accurately.

Results

Timeline and OAS involvement

As illustrated in Figure 6, a visual timeline was compiled to gauge a complete and thorough overview of the WSA EA programme from commencement to December 2021.

Staffing

Since the programme's initial inception, OAS has been involved in various activities such as, but not limited to, National Partner meetings, Steering Group meetings, Advisory Groups for national and local evaluations and Skill Share meetings. OAS was involved in two main ways: they were appointed to host the National Co-ordinator role through annually agreed funding from Scottish Government, and the OAS Programme Lead sat on the board of National Partners. The Programme Lead position was held by one person for the duration of the programme, while two staff members were employed as the National Co-ordinator. The first National Co-ordinator initially worked full-time but moved to part-time during the Covid-19 pandemic. The second National Co-ordinator was part-time (0.6) with a sole remit of the WSA work. Another staff member was employed as a Policy and Research Officer to support the WSA programme and work on this internal evaluation report (0.6 WSA and 0.4 core OAS work). Additionally, a temporary Project Support Officer (0.5) was employed by OAS to assist with administrative tasks and event organisation, and they supported the full OAS team. As well as organising the formal WSA meetings, the National Co-ordinator has worked to build relationships with national partners and EA local leads to build trust and communicate progress through email correspondence and catch up meetings.

Selecting Early Adopters and establishing the programme

In May 2019, the National Partners introduced key partners and set expectations for the programme. Within this time, a proposal was issued to the initial EAs, which were then subsequently formed into the following areas: North Ayrshire, Dumfries and Galloway, and the East Region comprising; Borders, West Lothian, Midlothian, East Lothian and Fife. OAS supported the development of project proposals for local leadership partners and worked closely with the Scottish Government and Public Health Reform. During this time, the Steering Group Terms of Reference were also signed off within the National Partners meeting, where updates regarding recruitment and evaluation were also discussed. OAS drafted and the National Partners agreed a job description for the National Co-ordinator post to be hosted within OAS. It was decided that this role would be instrumental to the programme's rollout as, in the evaluation of a previous programme 'Healthy Weight Communities', resourcing and named points of contact were found to be important (Scottish Government, 2011). The vacancy was advertised in June 2019 and a National Co-ordinator started with OAS in September 2019.

Additionally, in September 2019, Public Health Scotland (PHS) initiated a national evaluation workstream, with the aims and length of the evaluation, budget, revised logic model and desired outcomes taken into consideration, before establishing a commissioning group and initiating an invitation to tender. Following this, PHS established an Evaluation Advisory Group (EAG). All national partners sat on this group, as did researchers from PHS. The group was paused during the pandemic but met approximately every two months from May 2021.

In October 2019, OAS was a key partner at the October launch events for the North Ayrshire and East Region WSAs. The events saw senior leaders and elected members come together to talk about action and innovation across the system to tackle the challenges we face on diet and healthy weight. Leeds

Beckett University presented their recent work with local government in England. Additionally, OAS hosted a stall at the annual COSLA conference in St Andrew's in October 2019.

A further National Partners meeting took place in December 2019 in which building the local picture, developing topic papers and WSA communications, and forward planning for 2020/2021 were discussed.

Initial Training Package

Leeds Beckett University ran four sessions on systems thinking and causal mapping using the toolkit developed for Public Health England (2019), organised by the National Co-ordinator. The purpose of the training was to upskill National Partners and local leads in the WSA toolkit and equip them with the skills to undertake mapping sessions within their local areas. Twenty-one people attended these sessions. These training sessions were paid for by the Scottish Government who, at that point, held the training budget.

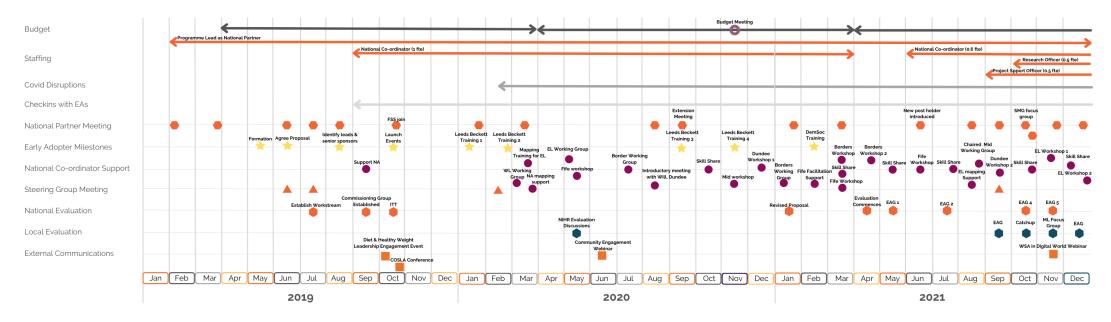


Figure 6: OAS involvement in Scotland's Whole Systems Approaches to Diet and Healthy Weight Early Adopter Programme 2019-2021

Covid-19 lockdown changes to work

The move to remote working took place in late February and March 2020 as a result of the COVID-19 pandemic and subsequent lockdown restrictions in the UK. Key workers from EAs had to redirect their efforts to help with the COVID-19 response. National Partners from the public sector - the Scottish Government, Public Health Scotland and Food Standards Scotland also had staff and resources redeployed, severely impacting on the time, capacity and legacy of work to this point. The Scottish Government asked OAS to continue to support the needs of the early adopters during this time. The Public Health Reform work within the Scottish Government was officially paused in April 2020.

National Partners continued to meet whenever possible remotely on MS Teams. The personnel attending those meetings on behalf of the Scottish Government changed during this period. In May 2020, a meeting was organised to discuss the EA's immediate working priorities and longer-term aims for restarting or adapting work on the whole system approach, in addition to indicating support needed and forecasting local post-COVID-19 response strategies (either within individuals' day jobs or within the whole system approach work). In the months which followed, National Partner meetings communicated updates on potential funding streams and opportunities to procure an independent evaluation from the Public Health Intervention Responsive Studies Team (PHIRST), funded by The National Institute for Health and Care Research (NIHR). The National Co-ordinator organised and co-hosted a Community Engagement Webinar with PHS on 23rd June 2020. This event had a diverse line-up of speakers including Corinna Hawkes, Professor of Food Policy at City, University of London, the Democratic Society and the local lead from North Ayrshire who spoke of the COVID-19 response as an example of WSA good practice.

On 31 August 2020, a meeting regarding the outcome of discussions with the Scottish Government on the extension to the WSA EA programme was held. Following this, a briefing paper was drafted and sent to the Scottish Government in September 2020, to be presented to Ministers. The paper recommended extending support of the Early Adopter programmes for a further 12 months until March 2022. Feedback on an extension was sought from EAs during a Skill Share. On 9 October 2020, a final draft of the ministerial submission and extension letter was sent by OAS to the Scottish Government after a few weeks of amendments. Financial support for OAS to deliver the programme was extended for the 2021/22 financial year and letters were issued to EAs on behalf of the Scottish Government on 25 November 2020.

Continuation of support

In October 2020, the National Co-ordinator hosted the first Skill Share for all EA local leads. This allowed local leads an opportunity to discuss their intentions and reflections for the discovery phase (part of the PHE methodology), an extension of the programme, and the chance to reflect on training opportunities. The National Co-ordinator facilitated a number of workshops to support the local leads and also trained Dundee leads on a system mapping software Plectica before assisting with the facilitation of their workshop in December 2020. Throughout this time, COVID-19 restrictions were changing recurrently, and some face-to-face contact was permitted.

Early in 2021, local areas sought training on moving workshops online, and the National Co-ordinator organised for the Democratic Society to conduct online facilitation training. The National Co-ordinator continued to support and facilitate several online workshops in the EAs from January to March 2021, when the National Co-ordinator left their post, resulting in a vacancy for National Co-ordinator.

The National Evaluation Advisory Group (EAG) revised the evaluation proposal in early 2021, and the evaluation, led by Social Marketing Gateway, commenced in April 2021. In the interim period without a National Co-ordinator, PHS and the OAS Programme Lead supported EAs to keep the momentum going and hosted a Skill Share. A new National Co-ordinator was appointed in June 2021 and began to meet local leads virtually before holding a Skill Share in July 2021. In August 2021, the National Coordinator updated National Partners on progress within each area. In September 2021, in advance of the WSA Steering Group meeting, a catch up with the National Partners took place, which gave the opportunity to re-introduce the background to the work stream and let individuals think about their respective roles. This meeting was an important step in re-establishing momentum and ensuring the progression of EAs, despite the continued challenges of the pandemic. At October's (2021) National Partners meeting, Social Marketing Gateway ran a group session with the National Partners to gather information for the evaluation from the National Partners' perspectives. Skill Shares ran monthly, with varying attendance due to COVID-19 response over the following months. The Evaluation Advisory Group also met regularly to discuss the progressing national evaluation. The National Co-ordinator hosted a webinar on 9th November 2021 around adopting WSA working in a digital world. Three EAs presented their local WSA and had a panel discussion. Planning for a 2023 national rollout commenced in late 2021, with OAS drafting a business plan and proposal for the Scottish Government.

This continuation of support given by OAS helped to build and nurture relationships which was an important aspect to the continuation and implementation of WSA work.

Key learning for OAS

From undertaking a thematic analysis of Whole System Approach information from current and former colleagues' calendars, emails, and OAS monthly reports, we identified multiple themes, which could be categorised broadly under Strength, Weakness, Opportunity, and Challenges (SWOC). (Figure 7). We used those categories to structure the following part of the report. We begin with challenges as the COVID-19 pandemic, and associated delays recurred throughout the results. We discuss the strengths of OAS's involvement in the WSA EA programme before acknowledging its weaknesses. Finally, we look at opportunities for moving forward with a potential WSA rollout.



Figure 7 – Key Learning – SWOC analysis of OAS' role in WSA Early Adopter Programme

Challenges experienced by OAS Impact of the COVID-19 Pandemic

The COVID-19 pandemic and associated lockdown restrictions began impeding work in early March 2020. Therefore, much of the programme could not go on as initially planned due to shifting priorities from local leads in Early Adopter areas who were redirected to respond to the COVID-19 pandemic. Many other stakeholders, including National Partners, were either redirected in their work to focus on COVID-19 response or saw significant changes in working patterns. Schools were closed, and so, many people involved in the programme had competing priorities of childcare and home-schooling during this time. Overall, the impact of the COVID-19 pandemic has prolonged many aspects of the programme. As a result, the timeline which was proposed at the beginning of the programme had to be modified to reflect the unpredictable working environment. Due to the severity of the impact, the theme of the COVID-19 pandemic is present throughout the results.

Delays and Extensions

As a result of the change to the timeline of the Whole Systems Approach programme, primarily due to COVID-19 disruptions, extensions were made to allow for more time for the programme's delivery.

An extension of funding for the WSA Early Adopter programme was granted until March 2022. This was clearly communicated to EAs, in an attempt to secure formal confirmation for the commencement of the evaluation, which had been delayed:

"The letter is intended to get confirmation from each Early Adopter that they're minded to extend their activities to March 2022. We're currently assuming all Early Adopters are intended to extend. However ... getting formal confirmation of this would allow us to procure the Evaluation" (Document: 30 RE letter confirming WSA programme extension 29).

The momentum of the programme was halted continuously, with delays frequenting the timeline of activities across all EA areas:

"Dumfries and Galloway and North Ayrshire – projects far progressed, but momentum stalled until local leads return from Covid response to resume day-jobs. West Lothian – in need of update. Progress limited, momentum unknown." (Document: 37 WSA partners meeting minutes Jan 2021.docx).

The national evaluation was also paused, delayed and then extended, due to the COVID-19 pandemic. This was reflected within the Evaluation Advisory Group, who concluded the evaluation should proceed with a start date of April 2021 as highlighted below:

"The ongoing and changing implications of COVID-19 on this evaluation was discussed in detail by the EAG. The EAG concluded that the evaluation should go ahead. However, to take into account the NHS emergency situation and risks associated with starting a study at this time we propose to work towards a contract commencement date of 1st April. We endeavour to work with you to proceed with finalisation and award of the contract so the evaluation is able to start of the 1st April 2021." (Document: 33 201920 RE006 Evaluation of Whole Systems Approach).

OAS was the consistent driver of the programme throughout this time, as OAS did not have to move to COVID-19 response efforts and was able to remain committed to the leadership of the programme.

Strengths of OAS involvement National Collaborative Leadership

The National Partners worked together to govern the WSA Early Adopter Programme. The Programme Lead at OAS was instrumental in line-managing the National Co-ordinator and also regularly chaired the National Partner meetings. Initially PHS organised and Scottish Government chaired these meetings. When the National Co-ordinator was appointed, after some time, they began setting up the meetings. Following the redeployment of key Scottish Government staff to the COVID-19 pandemic response, OAS staff assumed these roles.

Nationally, the Scottish Government aimed to bring together varied stakeholders:

"Experts across government to help find solutions to local challenges and consider the implications for future policy. Government will also use its leverage to influence partners and bring stakeholders together to tackle obstacles and strengthen connections." (Document: 2019 WSA TO DIET HEALTHY WEIGHT).

Public Health Scotland took a leadership role in undertaking the national evaluation. Food Standards Scotland offered support to EAs keen to introduce calorie labelling, although this was not widely introduced due to COVID-19 disruptions.

The staffing resource offered from the Scottish Government to this programme was particularly impacted by the COVID-19 pandemic response. Staff were initially redeployed with only a skeleton

staff left in place. The Public Health Reform team in Scottish Government who were leading this work, connecting it across other programmes and chairing the National Partners group were disbanded during the COVID-19 pandemic response. Initially, the Scottish Government and Public Health Scotland predominantly organised the meetings and set the agendas for progress. However, with COVID-19, those in the National Partner positions saw a shift in priorities and could not commit their time to the WSA project as they were redeployed.

Therefore, OAS took a more active role in organising and leading regular National Partner meetings, allowing the programme to adapt to competing priorities. Latterly, the National Co-ordinator held sole responsibility for scheduling and hosting National Partner meetings, scheduling these, writing and disseminating the agendas and asking for input. The OAS Programme Lead chaired most of these meetings, with the National Co-ordinator chairing as required. Following the meetings, the National Co-ordinator and Project Support Officer disseminated minutes and action points to all partners. Similarly, the National Co-ordinator scheduled and hosted the Steering Group. The Scottish Government chaired Steering Group meetings with the National Co-ordinator preparing the agenda and facilitation plans to support facilitators in leading breakout groups. The format of the meetings shifted over time towards being predominantly driven by OAS, with National Partners offering comments. Moving forward, a firm understanding of National Partner organisations' specific roles and responsibilities will ensure accountability and ownership for specific tasks, even when faced with staffing changes. Continued and consistent programme ownership and leadership from the Scottish Government may have benefited the programme's governance. Without the consistency of OAS leadership, it is unlikely that the programme would have continued successfully. This also highlights OAS capability of building and developing relationships within the WSA programme, as OAS effectively communicated staffing changes and programme developments, which would have otherwise been delayed in being shared, disrupting the overall progression of work.

"We have established strong relationships with the Early Adopters and are working with them to apply systems thinking and practice to understand and test action to address specific local priorities." (Document: Quick Update Contribution for Diet and Healthy Weight Delivery Plan)

Committed, Collective Action

From a macro level, National Partners aimed to leverage and influence partners by bringing stakeholders together to try and overcome obstacles and strengthen connections across the system:

"Achieving this will require action and innovation by national and local government and partnerships right across the system." (Document: 2019 Research Brief APPENDIX 1 DRAFT.docx).

This could be further illustrated as action needed to be undertaken collaboratively, requiring many stakeholders within the system for progression to be made, as illustrated from the following quote:

"Create a plan for action collaboratively with a wide set of system players. Actions should be aligned and jointly prioritised." (Document: 2019 Research Brief APPENDIX 1 DRAFT.docx).

The notion of actions aligning, further emphasises the need for cohesion from stakeholders:

"But... having an example of what's thought necessary laid down in front of us could be very handy, especially for forthcoming meetings in Dundee and North Ayrshire. Even if the template becomes something for each region to critique and redraw beyond recognition, that could help." (Document: 9. Whole Systems Toolkit October 2019.docx).

This illustrates how action, through the form of compiling physical templates or notes for EA meetings, has been fundamental for reflecting and progressing the WSA programme forward. Having clear documentation requirements for each EA and key milestones for future adopters may be useful to improve progress monitoring.

Locally, the data illustrated the collective and supportive trajectory of events undertaken from implementing a WSA into the community, and through this, a number of sectors saw priorities align:

"More positives - I attended the Principal Teacher PE Network yesterday and briefed them on a number of developments, including the WSA to Child Healthy Weight - I have had feedback already from the PT PE asking to attend the event as he is keen to make CHW a one of the Health and Wellbeing initiatives for his school." (Document: 20 Dundee Working Group Meeting 20 Nov 2020.docx).

Eyemouth reported a similar desire to engage a wide-ranging network of stakeholders by exploiting connecting existing services and offering preventative support for families, in addition to governance decision making. Such partnerships also aligned with other local priorities:

"If there are key leaders or other partners that want to contribute to the governance, that could add strength around our whole agenda about community empowerment. This aligns with the Area Partnerships." (35 Whole Systems Approach Eyemouth Meeting Minutes).

Similarly, early documentation highlighted that National Partners wanted to see "existing services linked effectively and opportunities to provide both prevention and intervention support maximised to meet the needs of children and families – in particular, those at high risk because of obesity" (Document: 2019 WSA TO DIET HEALTHY WEIGHT – OU), further emphasising the need for collective leadership.

However, it was often challenging to engage with private sectors if there were no existing relationships to the local obesity agenda as they did not necessarily see how they could fit within the system.

National Co-ordinator Role

The National Co-ordinator was employed by OAS to progress activity and "build close working relationships between stakeholders" (Document: 2020 Extension Briefing Paper-draft 2.docx). OAS took on the line management of this role, due to a strong third sector and public sector relationship and OAS being ideally placed to progress the recruitment and line management of this post.

The National Co-ordinator introduced, hosted and chaired Skill Shares with Early Adopters. The format of these sessions varied depending on EA needs and input. Earlier sessions were attended by EA leads and National Partners. Moving online led to too many attendees, so there was a natural move towards just EA lead attendance. The Skill Shares also provided a safe space for leads who could share worries and challenges with one another. Skill Share content varied, with some sessions including presentations from the National Co-ordinator on a specific part of the systems thinking toolkit or other

useful systems thinking tools. Other sessions involved EAs presenting their local projects, asking for advice and offering tips to other EAs:

"Do you know how other early adopters have got on with Workshop 1? We also found the meetings you arranged with other early adopters (Skill Share) really helpful in the run up to the delivery of workshop 1 where ideas/plans were shared. If there was something similar for workshop 2 it would be useful." (Document: WSA and Plectica).

Most sessions were recorded, as they were conducted virtually, and were then shared with all EAs so that those not in attendance could watch at a time most convenient to them.

In addition to group Skill Shares, the National Co-ordinator regularly met with EA leads and working groups individually to offer support and guidance. More specifically, the National Co-ordinator organised practice facilitator sessions, which were viewed favourably and seen as a good opportunity for facilitators to progress and improve their skills before leading the WSA workshops:

"Genuinely, I think it went really well. The practice session was the best I've seen. I'm confident any of the facilitators and note takers who took a turn in my breakout room will be able to do this." (Document: 28 RE Dundee WSA Workshop 1 Dec 2020 Dundee WSA).

"Thanks so much for facilitating today. The presentation followed by the breakout rooms worked really well. It was really positive seeing everyone progressing and improving." (Document: 28 RE Dundee WSA Workshop 1 Dec 2020 Dundee WSA).

Capacity Building and Training Programme

Through data analysis, it became clear that gaining, managing and supporting knowledge was key throughout the Whole Systems Approach in ensuring that the programme continuously held rigour and was evidence-based in its approach to diet and healthy weight.

Training programmes were developed and implemented for those leading or supporting local projects. The WSA programme which Public Health England commissioned Leeds Beckett University (programme delivery partner) to deliver, aimed to "co-produce, with local authorities, a tried and tested approach and tools to enable every local authority in England to create a local whole systems approach to tackling obesity" (Public Health England, 2019, p6). A practical 'how to' guide was produced, which was based on local, national and international learning and systems techniques and tools, which has since evolved in response to feedback from a variety of stakeholders, providing local areas with something tangible which is "locally relevant and practical" (Public Health England, 2019, p9). It was concluded that the programme effectively explored and advanced understanding regarding "what a different approach to the complex issue of tackling obesity could look like" (Public Health England, 2019, p9). This document provided the basis for the training, which was delivered by Leeds Beckett University over four sessions. The training was intended to build skills and confidence in WSA. EAs were then free to apply that knowledge however they wished.

As well as the formal training provided to 21 attendees, the National Co-ordinator provided facilitator support sessions, which helped facilitators guide workshops and become familiar with Causal Mapping and Plectica (Document: 25 training session on Causal Mapping and Plectica).

"The National Co-ordinator has very helpfully put together comprehensive facilitators note that we will share with you in due course. In the meantime, I have attached a snapshot of these

- enough to guide us through tomorrow." (Document: 20 Dundee Working Group Meeting 20 Nov 2020.docx).

Furthermore, a peer-to-peer network was created and a "centralised knowledge management resource" was also implemented in an attempt to "share good practice and develop clear guidance" moving forwards (Document: 2020 Extension Briefing Paper-draft 2.docx). The peer network supported one another in facilitating workshops and also shared resources. Some National Partners were also trained in the Leeds Beckett toolkit and used the acquired skills to support and facilitate both in-person and online local workshops. In particular, representatives from PHS, FSS and OAS facilitated breakout sessions in online workshops for some of the EAs.

Furthermore, training from the Democratic Society and meetings with a variety of EAs were also incredibly useful in the lead up to workshops. The PHE toolkit was not originally designed for online workshops. However, one training session from Leeds Beckett and then follow up training from the Democratic Society was instrumental in building confidence to conduct the workshops online. The training was delivered to 24 local and National Partners:

"Good to hear that there is more training in the pipeline with Dem Soc-we would definitely appreciate this as we have just started planning for the 2nd workshop." (Document: 36 RE Dundee WSA and Plectica Jan 2021.docx).

Support was also illustrated within the programme itself, as it aimed to see "existing services linked effectively and opportunities to provide both prevention and intervention support maximised to meet the needs of children and families – in particular those at high risk because of obesity" (Document: 2019 WSA TO DIET HEALTHY WEIGHT – OU), in addition to supportive networking events. Regular meetings and training throughout the WSA programme allowed facilitators to grow more accustomed to processes and tools, benefitting local adopter areas:

"We feel that tomorrow's meeting is a great opportunity to introduce all facilitators to the new tools and to get a chance to use these as some of us did at the Dem Soc training - we are also all still learning!!" (Document: 20 Dundee Working Group Meeting 20 Nov 2020.docx).

Furthermore, networking (in person and online after COVID-19 restrictions were put in place), enabled likeminded individuals in similar professions with the same goals a chance for fruitful discussion and progression within the Whole System Approach narrative:

"WSA has brought about a lot of great networking; e.g. recently linked up with the local active travel team who are keen to be involved in the WSA work in Easthouses and Mayfield." (Document: 2021 SupportingInformationForNPs_170821.docx).

The National Co-ordinator also took an active role in synthesising systems thinking materials, so that they were more digestible to EAs:

"I'd volunteer to read the stuff identified by PH Reform and the Scottish Government, condense it, annotate with case studies (where possible), and reference the fuller text for leads and experts such as yourselves." (Document: 9. Whole Systems Toolkit October 2019.docx).

Knowledge Management and IT

Understanding how to manage and store WSA resources efficiently was fundamental for the programme's development:

"We're all going to encounter toolkits, reports and case studies of relevance. We would like somewhere to store them publicly for local professionals to use. I'd like to go further and curate resources into 1-page briefs for the time poor." (Document: 10 Toolkit October 2019.docx).

It was therefore decided that utilising KHub, an online knowledge hub resource which was used by the Healthy Weight Leads Network and various Public Health England groups, would be most effective in storing information moving forwards. The KHub page was set up in December 2019. The next problem was deciding who was best placed to host and control the platform, with Obesity Action Scotland considered as a potential option:

"We still need to know who's to be 'host' institution? ... we assumed one of your institutions would still be our best option as a medium-term 'host' of our data? Of course, I could ask if Obesity Action Scotland could be the 'owner' of WSA obesity Khub..." (Document: 10 Toolkit October 2019.docx).

It was ultimately decided that the National Co-ordinator would manage the KHub account. However, Khub's user interface was challenging to use, and so use of it as a database declined over the last year. It remains a useful hub to store key training documentation however, more recent updates have been shared via email and at Skill Shares.

Other IT was employed in response to moving online. Various digital tools that were adopted are shown in Figure 7. These platforms were fairly unknown or unfamiliar initially but were hugely instrumental in encouraging ideas and driving visions forward, helping to progress certain programmes, including Dundee's website:

"I am also working on creating a basic website for the WSA work and would also add links to this resource there as well." (Document: 19 Dundee Practice run working group meeting Nov 2).

Such tools helped tremendously with resource building, as Early Adopter teams could share or utilise helpful resources to host online workshops and meetings and keep connected with their local stakeholders:

"This google site documents the journey and the next steps of the whole systems approach in Dundee. You will see from the email below that they are using this tool to stay in touch with the stakeholders and foster further engagement... I think this site really helps bring the WSA to life and documents the process so far (and the years of work that came before). I hope you find it of interest." (Document: 43 Dundee WSA workshop and world obesity day March).

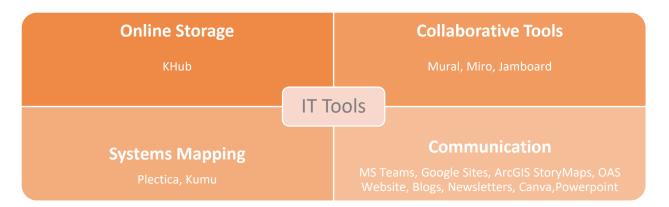


Figure 7: IT tools employed during move online for COVID-19

Communicating the programme

The National Co-ordinator wrote a blog on North Ayrshire's first mapping workshop, in January 2020 (Obesity Action Scotland, 2020a). A further blog was written on December 2020 which reflected on OAS's role throughout the pandemic (Obesity Action Scotland, 2020b). Perhaps regular blogging could have enhanced the external communication of the programme.

OAS has hosted two webinars. The first was hosted alongside PHS and explored community- centred ideas for Scotland's whole system recovery from Covid-19. Over 480 attendees from the NHS, councils and the community signed up for this event. On the day, 397 people attended (65% of our 608 registrants). Retention rates were considered good: 84% of attendees listened to all four speakers, and 70% stayed for the full 2hrs in order to hear the Q&A. Based on our post event survey (n=52) we estimate that 48% of attendees worked for an NHS Health Board, 12% for a Local Authority, 12% for the third sector, and 15% for academia. Furthermore, on a scale of 1-10 (with 10 being excellent) 29% of respondents graded this event 10 and 91% graded it 8 and over. All respondents said they'd learnt something applicable to their work, and 93% felt they'd be able to apply their learning. We live tweeted the above webinar so that a wider audience could follow along online. This gained us extra engagement on our Twitter and added to our follower count. Feedback from this webinar was positive:

"Just a thankyou for your excellent webinar. It is nice to know that a webinar can be so engaging. I really liked the range of guest speakers, I was fascinated by Demsoc, they both spoke so articulately about what they called democracy but is also, of course, health inequalities. All your guest were so practical, which I found very refreshing. Each and everyone of them did a top notch job."

The second was a webinar sharing experiences of adopting WSAs in a digital world. Over 100 people signed up to this event and 82 tuned in live. Again, feedback from the webinar was positive:

"I thought it was a very informative session updating progress in all three areas. Interesting to see the differences and similarities. Fascinating to hear how the digital approach was used to engage locally. Would like to hear more about progression in future - what work/tools/actions are transferable to other areas."

The National Co-ordinator also presented the WSA workstream to MSc students studying Nutrition at the University of Glasgow and also worked with NHS Education for Scotland to develop a case study of Whole Systems working for Allied Health Practitioners who may be involved in whole systems working in the future.

The OAS website had a dedicated page for the WSA workstream. The page had recordings of the two webinars and summaries of each EA project. As the progress at local level was hampered by the pandemic, there was limited updated copy to be added to the website. However, with progress now being made, the National Co-ordinator and Research Officer have produced case studies of each area and are planning to revamp the website.

At the time of writing, the National Co-ordinator has secured oral presentations for two conferences: The European Congress on Obesity 2022 in Maastricht and the Faculty of Public Health Conference held virtually. The conferences were excellent international exposure for the programme, and the presentations were well received. In both instances, the presentations were part of wider sessions on systems approaches. Presenting these has created an international profile, and legacy of the WSA work in Scotland.

Evaluating the Programme

Evaluation was identified as a priority from the outset of the programme. Public Health Scotland commissioned a national process evaluation to examine how the WSA EA programme impacted the workings of the local areas. Early adopter areas were invited to share their thoughts on the evaluation, to "get a sense of what local adopters wish to evaluate and what support they might need to do it" (Document: 37 WSA partners meeting minutes Jan 2021.docx).

Initial work was undertaken regarding the evaluation's commencement and delivery, including who would be responsible for its delivery. Via a tendering process, it was ultimately decided that Social Marketing Gateway (SMG) would be commissioned to undertake the research contract:

"Research contract should go ahead. Proceed with finalising proposal and awarding contract so work is able to start 1st April 2021. The contract should run from April 2021-May 2022. Explore how flexible this can be with SMG. Ideally this will be flexible to account for any difficulty in completing evaluation in this timeframe as a result of COVID related prioritisation in the early adopter areas." (Document: 38a Revised proposal_feedback 31 Jan 2021.docx).

PHS established a National Evaluation Advisory Group. The National Co-ordinator was an active member of the WSA Evaluation Advisory Group and provided written feedback on draft interview guides, which were instrumental in reshaping the final guide used to conduct the interviews and attending regular meetings to discuss the progress of the evaluation.

Further evaluations were undertaken at a local level. Individual areas were invited to procure a local evaluation from the NIHR PHIRST teams. Two areas successfully applied for these evaluations: Dundee City and East Region (Midlothian and West Lothian). The National Co-ordinator sat on the advisory group for these evaluations. Although OAS was not involved in establishing these research links, the National Co-ordinator played an instrumental role in reconnecting the PHIRST research team with Midlothian and West Lothian staff. The new local leads were unaware that these evaluations were internally bid for, as there were staff changes and missed communication. The National Co-ordinator liaised with the lead researchers and the local staff to reconnect and push forward with the evaluation, organising a focus group with one group. This was beyond the role but was for the benefit of the programme.

Weaknesses experienced by OAS

Resourcing

Challenges in resourcing existed throughout the EA programme, accentuated by the COVID-19 pandemic. Resourcing includes local and national staff capacity, staff turnover, and challenges with short-term funding.

As a result of competing capacity within OAS, online resources were not able to be fully compiled:

"The short answer is we haven't had resource to prioritise compiling a list of resources. For our diet and weight early adopters the go to resource would be the PHE Guide in the first instance, as it is drawn from all of the same resources, I am aware of." (Document: 11 Whole Systems Toolkit October 2019.docx).

Prioritisation of staffing resource was also considered when designing the WSA evaluations:

"I'd really appreciate your input to both help design the evaluation – I'm sure resource will be limited so we may need to choose wisely – and also to ensure that we don't replicate the national evaluation." (Document: 45 March 2021 WSA evaluation.docx).

Despite this however, some EAs viewed the pressure of resourcing in a positive light, highlighting it as a "new way of working" and another way to promote resilience within the programme (Mural Workshop SWOT Analysis from Early Adopter Areas).

The "nature of funding" prompted a lack of resource due to short term contracts and "competing workload priorities" for some EAs (Document: Mural Workshop SWOT Analysis from Early Adopter Areas) (Appendix 2).

When the programme commenced in 2019, the East Region employed a part-time (0.5) project secretariat to coordinate the East Region's WSA leads. The East Region had secured £60,000 per local authority to deliver WSA activities and action plans, making these EAs unique as the other areas were unfunded. The secretariat left in December 2020, and the post was not refilled. The Director at East Region also moved on. A new Programme Lead (in place of the Director) was appointed in June 2021, but left in December 2021, and overall, capacity within the East Region early adopters has been challenging due to long term sickness, vacancies and planning for maternity leave. Potential coordination issues were recognised in early East Region correspondence:

"Agreed need to be a discussion with East Region around capacity for support across multiple areas." (Document: 2019 WSA Partners Meeting 24July -Notes.docx).

Midlothian and West Lothian also saw their leads move into different roles in 2021. In Midlothian, this caused a delay in progress as the post was not filled. In West Lothian, a new lead was lined up and a handover took place, which made the transition process easier.

All working groups have had changing membership over time, as other stakeholders have moved on from posts. Some of these changes have been a result of short-term contracts due to short-term funding. Others were merely a result of staff moving onto new roles. The transiency of the staffing must be acknowledged in future rollout planning, and adjustments should be made to mitigate the impact of this.

As well as impact to the EAs, short-term funding impacted upon the consistency of the National Coordinator. This role was funded year on year, which ultimately led to precarity in employment for the original post-holder, who moved on to a more stable job in April 2021. The year on year funding also impacted on the ability to plan ahead and lead to periods of uncertainty in forward planning as we approached the end of each financial year.

The transient nature of staffing over the programme was regularly discussed at National Partner meetings, with National Partners looking to Public Health England's Trailblazers' experiences of managing pivotal staff who subsequently left WSA teams. Any future rollout planning should look at how to make WSA projects more resilient in the face of staff turnover. National Partners must be aware that short-term funding may further affect the delivery of WSA work at both a local and national level.

Opportunities for moving forward

Consistency in Terminology

From the coded data, terminology emerged as an important aspect of the Whole Systems Approach, due to the fluid nature of the programme's environment and the vast array of stakeholders involved in the programme. This could firstly be demonstrated within the 'trailblazers' terminology, which was used initially at the beginning of the programme to describe the participating local authorities, but later disappeared from internal documents, to be replaced with the term 'early adopters.' The term 'trailblazer' was borrowed from the WSA work undertaken by Public Health England. Additionally, 'pilot' was used sporadically throughout the programme to describe the projects taking place in the Early Adopter areas. The term 'pilot' implies testing an intervention, with an end date in mind. However, the intention for the WSA programme was for areas to be Early Adopters of the WSA and that working in this way would run beyond any programme deadlines, meaning that the 'pilots' wouldn't end. Therefore, 'Early Adopter' (EA) was the preferred term.

Similarly, the term 'extension' became confusing, as it was unclear about what the extension applied to. Confusion existed around whether there would be extensions to the support from the National Partners and Co-ordinator, extensions to the evaluations, or extensions to the funding available from the East Region (which was not the responsibility of the National Co-ordinator).

To summarise, terminology can lead to confusion within a programme, especially in WSA working where stakeholders work across many different sectors and therefore have different interpretations or language. Therefore, any future planning should consider consistent, well-defined terminology to improve overall clarity and reduce misunderstanding.

Understanding the local challenge

In order to progress with the programme, the local context in which EAs were working in had to be well understood. Understanding the 'local picture' was a key step in the PHE toolkit, and this was discussed in many meetings. Understanding the local picture was important to understand the barriers to healthy weight "and the actions impacting upon families and communities most at risk of diet and physical activity related health inequalities" (Document: 2020 Extension Briefing Paper-draft 2.docx). The National Co-ordinator also contacted a local researcher to help understand this further, regarding planning and food environments as evidenced below:

"All three of my local authority contacts have expressed an interest in using planning powers to protect food environments. To support them explore the topic, I'd love to understand more about how your research might have already been applied in Scotland." (Document: 6 FW Feat2 October 2019.docx).

The first National Co-ordinator developed a resource signposting local leads to sources of quantitative data that they could use to contextualise the issue of obesity locally. This resource was well received and allowed early adopters to explore data on different health outcomes including weight, breastfeeding, dental statistics and physical activity.

The importance of context was also illustrated within the need to adapt toolkits for a local audience to enhance resources offered for EAs, through the work of the National Co-ordinator:

"Secondly, 'tartanisation' of toolkits. I might press ahead with my directors cut, and attempt to scottishify it wherever necessary. If I can condense into a mini step-by-step guide, linking to richer resources at every opportunity, I might even send the doc to regions as programme plans for them to localise." (Document: Toolkit.docx).

Furthermore, engaging, communicative plans also considered the local picture, with one instance in particular including the work of "local young people" to tap into the Whole Systems Approach work (Document: 3 FW Bite Back 2030 New campaign backed by JO Oct).

Our findings imply there is no 'one-size fits all' method for the whole systems approach, and that each EA developed a method suited to their local context and resources. Furthermore, each area was unique in the challenges it faced and the solutions and projects it wanted to implement regarding obesity.

Continuous reflection and refinement

For progression within the whole systems approach to materialise, continuous learning and refinement was undertaken. It became clear that after a task had been undertaken, individuals, teams, EAs and National Partners took stock to reflect, whilst looking forward to determine how it could be improved or altered for the future.

As evidenced below, continuous reflection was undertaken with key stakeholders to address the 'so what' and 'now what' implications of what was being learned:

"Learning and refining as you go - involve key stakeholders in an adaptive, action-learning process." (Document: 2019 WSA TO DIET HEALTHY WEIGHT – OU.docx).

This continuous learning, and robust monitoring and evaluating cycle was embedded into the culture of the programme, providing a "better way to plan, act, learn and improve" whilst also providing a foundation for continuing improvement (Document: 2019 Proposed Launch event FER_200919.docx).

This can also be illustrated through the national strategic action plan which was regularly revised with EAs reflecting upon previous practice and aims to change the direction of their programme:

"The timespan for our current Healthy Weight Strategy action plan is April 2017 - March 2020 so we talked this afternoon about the need to begin work now to revise the plan so we have something in place from April. There was agreement that it would be logical to use a system mapping approach to help develop an entirely new healthy weight action plan and

not solely focus on our early adopter aim at the workshop with Leeds Beckett. Given the first principle of a whole systems approach is in fact to consider the whole system, we hope you agree this makes sense?" (Document: 16 October 2019 Early Adopter Work on Healthy Weight.docx).

Continuous iteration of materials was especially needed amid the COVID-19 pandemic when challenges had to be worked through and overcome in order to refine and progress the programme:

"Worked with local leads to identify and overcome initial whole system challenges, including those generated by the Covid-19 epidemic." (Document: 2020 Extension Briefing Paper-draft 2.docx).

This can also be illustrated within the EA workshops undertaken in which reflective learning was used to determine relevancy, in light of the pandemic:

"Held workshop 1 before covid – reflecting on this, is the map still relevant? Are there variables/factors that have emerged during the pandemic?" (Document: 2021 SupportingInformationForNPs 170821.docx).

Working with other WSAs

Contact was also made with local English authorities, undergoing similar programmes (Document: 15 October 2019 Childhood obesity trailblazers pro) in an attempt to gain knowledge about their own local challenges, and how this could be translated within the Scottish EA programme. The National Coordinator sought to join England's Trailblazer Network in 2019 to learn from their experiences, with occasional asks of sharing learning resources and networks:

"Is there sufficient similarity between what some of our early adopters are up to and what the English Trailblazers are doing for some of us to request being on their 'sharing the learning' network?" (Document: 4 Trailblazer network October 2019.docx).

"I now work in support of 8 local authorities in Scotland, dubbed "early adopters." At least 6 of them have chosen to go down a route similar to the English trailblazers." (Document: 15 October 2019 Childhood obesity trailblazers pro).

Furthermore, more similarities were drawn to the trailblazer model which areas could take inspiration from: "The East Region's plans seem so similar to the trailblazer model that our 6 local authorities might appreciate the network" (Document: 4 Trailblazer network October 2019.docx), in addition to linking up with Trailblazer authorities: "It would be great to get the local programme leads joined to the network once they get going but also may be worth seeing how we directly link them up with the Trailblazer authorities that are working on similar themes" (Document: 15 October 2019 Childhood obesity trailblazers pro). However, such a relationship never fully materialised.

In 2019, it was asked of Trailblazers to "identify the local challenge your stakeholders plan to address and its impact on local inequalities" (Document: 2019 WSA TO DIET HEALTHY WEIGHT – OU).

As well as the PHE trailblazer programme, National Partners were aware of other whole systems programmes operating across other topic areas, including homelessness and gambling. However, these were under-researched, and many were paused during the pandemic. A WSA to physical activity is in development at Public Health Scotland. This was referenced early in the WSA EA programme, and commonalities across approaches, and risk of duplication, were noted:

"PHS Physical Activity colleagues are also grappling with similar knowledge exchange questions and are currently engaging key stakeholders around their needs... The national type 2 diabetes work will also have similar knowledge exchange needs." (Document: 12 Toolkit 11 October 2019.docx).

Moving forward, it is critical that the National Partners work closely with them to share learning and reduce potential duplication of work.

Strengths and Limitations

This report sought to understand the role of OAS in the adoption of the whole systems approaches within the early adopter areas in order to identify key learnings. Therefore, there are both strengths and limitations to this report.

The raw data was qualitative in nature, derived from current and former colleagues' calendar searches, OAS monthly reports, email chains and handover notes, the data is an accurate reflection of the programme and outlines a clear timeline of events. Moreover, as the report was collated by an inside researcher, it accurately depicts the voices, opinions, and feelings of those working on the programme at the time, with the opportunity whilst writing the report, to identify and interpret the challenges, successes and opportunities during the course of the WSA programme.

Internal bias was a notable limitation. As the report was undertaken jointly by two OAS employees, the WSA National Co-ordinator and the Research Officer, the report may have been skewed by bias and the research findings could have been influenced by the nature of the programme, as both staff members, who were employed through government funding, were also working to support other WSA activities during the compilation of the report. Furthermore, although the report is retrospective, the most recent narratives are more comprehensive, as these have been experienced by the current OAS National Co-ordinator and Research Officer who compiled the report. Therefore, it may lack rigour as key elements or events from 2019, 2020 and the first half of 2021, may not have been discussed in as much detail due to current staff members not possessing as much knowledge around certain outcomes or timelines. Therefore, the findings of this report should be cross-referenced with the external programme evaluation and the PHIRST evaluations, to mitigate these limitations and truly understand the role of OAS in the WSA EA programme.

Conclusions

This internal evaluation of the Whole Systems Approach Early Adopter programme in Scotland aimed to develop a timeline of key events and identify key learnings. The report was undertaken to identify key successes and challenges to benefit plans for OAS involvement in future WSA workstreams. The raw data collected and subsequently analysed details the challenges, strengths, weaknesses and opportunities presented by OAS' participation in the EA programme.

Challenges stemmed predominantly from the COVID-19 pandemic and associated lockdown restrictions. Such challenges could not have been anticipated. All stakeholders were forced to adapt and move to a remote way of working. Although this was challenging initially, stakeholders iteratively changed their working practices.

OAS played a consistent role in the EA WSA programme throughout these challenges. The national collaboration displayed through the National Partner organisations provided sustainable governance, even in the face of the pandemic. OAS played a vital leadership role throughout the pandemic as the organisation was not involved in COVID-19 response efforts. Having a shared vision and commitment strengthened the programme. Moving forward, clear governance structures showing roles and responsibilities will strengthen the board of National Partners.

The National Co-ordinator, Research Officer and Support Officer roles were fundamental to the delivery of the WSA EA programme, offering individual support to EAs, group Skill Shares and organisation of WSA training. Even when other organisations were redirected to the COVID-19 response efforts, OAS was able to continue with the co-ordination of the programme, in addition to continuing to build and nurture relationships. This was also a key strength to the programme, as developments were communicated and shared in a timely and robust manner, which encouraged the flow of work to progress with transparency.

Training and other capacity-building activities were essential in the EAs implementing local WSAs. Training provided EAs time to learn the Leeds Beckett and PHE methods, and gain confidence in the methods. Training provided helpful ways to explain systems thinking and develop systems maps, although as it was a toolkit and context-specific, EAs interpreted the methods differently. It also became apparent that timings presented in the Public Health England toolkit were underestimated, such as the time it takes to plan and deliver a workshop and the fact that it was not initially designed for online use. The EA leads also met regularly through Skill Shares to support and learn from one another, creating informal networks which shared time, resources and learning across the EAs.

How documentation and guidance is collated and stored affects the success of any programme. The National Co-ordinator set up a KHub as an online storage platform. Additionally, a number of online tools were employed to facilitate online stakeholder engagement and assist with the systems mapping process. OAS succeeded in externally communicating the work of the WSA to wider audiences, through two high profile conferences and two webinars, although there could have been more timely updates to the WSA section of the OAS website. A final strength of OAS involvement in the programme is the involvement with the national and local evaluations. These will be fundamental to future rollout plans.

OAS encountered weaknesses concerning resourcing, including staffing and short-term funding streams. Such findings corroborate those of the PHE trailblazer programme, in which "local authorities identified barriers, such as how competing priorities and budgetary constraints across the local authority acted to deter some stakeholders from engaging or being in a position to take ownership of actions" (Public Health England, 2019, p8). Furthermore, similarly to Public Health England (2019), even with adequate staffing, it was often challenging to engage non-health-related sectors in the obesity agenda if there was no existing relationship. Guidance on the best way to engage with retail and how to do it practically is required in future planning for a rollout.

Finally, there are some significant opportunities presented by OAS' involvement in the EA programme. This report recognises that inconsistent terminology can hinder progress and cause frustration, more so when working across different sectors. Future programmes must be aware of this and produce clear guidance on terminology, keeping it consistent and clear. Additionally, the need for context-specific tools and methods were apparent, and any future toolkit must reflect the Scottish context while also being adaptable to suit different geographical scales. For example, the same toolkit should be operational to introduce a city-wide WSA and one for a small town. Continuous reflection and refinement were required amid the COVID-19 pandemic, and ultimately this made the programme more resilient as there was no choice but to adapt working practices. Such a challenge presents an opportunity for the future of WSA work, as so much unintended learning has come from introducing WSAs digitally. There is definite scope to develop resources that exploit the benefits of both in-person and remote working.

Reflecting on the WSA methods and EA programme, we have found that locally based whole systems approaches will not solve obesity independently. There remains an urgent need for action at a national level. The obesogenic system comprises many actors, including National Partners with the power to make policy changes to improve population-level health. Local changes may predominantly affect change at the individual level. However, population-level changes are required for fundamental shifts in cultural beliefs around obesity. Looking to the future, we need both local WSAs to deliver local action plans and population-wide policy measures that address the environmental drivers of overweight and obesity to strive for a society that benefits from a healthy diet and weight for all.

Recommendations

- Clear and consistent programme ownership and leadership
- Firm understanding of National Partner organisations' specific roles and responsibilities to ensure accountability and ownership for specific tasks
- Ensure awareness of the transiency of staffing and have onboarding resources for new staff, both national and local partners to improve the programme's resiliency
- Secure funding for the duration of the programme
- Consider consistent, well-defined terminology to improve overall clarity and reduce misunderstanding
- Enforce clear documentation requirements for each EA and key milestones for future adopters to improve progress monitoring and project management
- Evidence on how to engage non-health sectors in conversations around diet and healthy weight
- Develop a consistent database for materials and communicate this effectively with all partners
- Increase national and international visibility through conference presentations and other external communications

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Appendices

Appendix 1 – Acronym Buster

ВМІ	Body Mass Index
EA(s)	Early Adopter(s)
EAG	Evaluation Advisory Group
FSS	Food Standards Scotland
IJB	Integration of Joint Boards
ICR	Intercoder Reliability
NHS	National Health Service
NIHR	National Institute of Health and Care Research
NP(s)	National Partner(s)
OAS	Obesity Action Scotland
PAR	Participatory Action Research
PHE	Public Health England
PHIRST	Public Health Intervention Responsive Studies Team
PHR	Public Health Reform
PHS	Public Health Scotland
SG	Scottish Government
WSA	Whole Systems Approach

Appendix 2 – SWOT Analysis Conducted with EAs at Skill Share on 27.07.2021

