

Project summary

Study title	Getting RREAL about implementation of a Whole Systems Approach (WSA) to obesity prevention in Northern Ireland (NI): A process evaluation
Planned study period	March 2024 – June 2025
Study design	Process Evaluation using Rapid Research Evaluation and Appraisal (RREAL) sheets
Research aim/s	To identify key features of successful WSA
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Contents

1 Title and additional identifiers.....	3
1.1 Full title of the study	3
1.2 Short title of the study	3
1.3 Registry.....	3
1.4 Funding.....	3
1.5 Research team	3
1.6 Plain English summary	3
1.7 Scientific abstract.....	5
2 Background information.....	6
2.1 Overview of the intervention to be evaluated and contextual information	6
2.2 The problem being addressed and why this research is needed now	7
2.3 Review of existing evidence.....	8
3 Study Information.....	9
3.1 Aim	10
3.2 Research questions	10
4 Study design and methods	10
4.1 Study design overview	10
4.2 Workstream 1: Project set-up.....	10
4.3 Workstream 2: Rapid simultaneous multi-source data collection and synthesis	12
4.4 Workstream 3: Reporting and dissemination.....	14
5 Capacity building.....	14
6 Research governance and project management.....	15
6.1 PHIRST Connect governance and project management.....	15
6.2 PHIRST advisory groups	16
7 Ethical considerations and approvals	18
8 Data protection and management	19
10 Project timescales/GANTT chart.....	21
11 References	22

1 Title and additional identifiers

1.1 Full title of the study

Getting RREAL about implementation of a Whole Systems Approach (WSA) to obesity prevention in Northern Ireland (NI): A process evaluation

1.2 Short title of the study

Getting RREAL: Process evaluation of NI WSA implementation

1.3 Registry

Research Registry record 10539, 29th July 2024

1.4 Funding

Funding is provided by the National Institute for Health Research and Care (NIHR) PHIRST initiative (Public Health Research funding stream).

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1.5 Research team

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1.6 Plain English summary

Overview of the project being evaluated

In 2022, at the request of the Department of Health Northern Ireland, the Public Health Agency announced plans to implement a Whole Systems Approach to Obesity Prevention across Northern Ireland. Whole Systems Approaches aim to tackle obesity, not by focussing on

individuals and what they need to do, but instead by paying attention to wider social, commercial, and environmental influences, such as the availability of affordable healthy food and access to green spaces. Whole Systems Approaches aim to bring together local stakeholders, members of the community and policy makers to map out all of the influences on obesity within a specific geographical area - the 'system', and then to plan positive changes to improve the health and wellbeing of everyone living there.

The Northern Ireland roll-out of a Whole Systems Approach involves six local authority sites trying this out to start with, all following a step-by-step guide produced by Public Health England. So far three sites, each with their own leadership group, have started out on this journey and are all at different points in the six-phase process. The Public Health Agency and these early adopter sites would like to understand what it is like to deliver this new approach on the ground. In particular, where things work well and where there are challenges. They are also interested in learning about whether there are any changes made to the process being followed, or the tools provided, that could be used to help other local authority sites in the future. The PHIRST Connect team are working with them to answer these questions.

Why this study is needed and what we are aiming to do

Like the rest of the UK, obesity rates in Northern Ireland are high, with more than a quarter of adults (16+ years) and 6% of children (2-15 years) living with the condition. Obesity makes a large contribution to sickness and early death. It increases the risk of diseases such as type 2 diabetes, heart disease and some cancers. It also costs a lot of money to treat and to support those who are too unwell to work. By applying a Whole Systems Approach, the Public Health Agency aims to identify how best to bring down obesity rates. In the long-term, the hope is that this new understanding can be used to improve the health and wellbeing of people living in Northern Ireland and also reduce health care costs.

Whole Systems Approaches are new ways of working that challenge long-held thinking and traditional practices. We will work with the Public Health Agency and the early adopter sites to evaluate how they get on with implementing a Whole Systems Approach for the first time. We aim to identify lessons learnt from each early adopter site and whether other sites could be doing things differently in the future to make the process easier and more successful.

Research questions

The study aims to answer the following research questions:

- To what extent have the early adopter sites followed the PHE guidance on implementing a Whole Systems Approach to obesity?
- What barriers and facilitators have influenced whether the sites have followed the guidance?
- Where any changes are made by the early adopter sites to either the PHE process followed or the associated tools used, what is their view on how successful these were in supporting achievement of relevant phase-based outcomes?
- To what extent have sites been successful in engaging with stakeholders and members of the community as part of this process?

- Is there evidence that joint working relationships, developed within the leadership groups as a result of this project, have resulted in new plans to work together on other public health priorities?

Evaluation timescales

Start of evaluation work: March 2024

Outputs produced: May 2025

Key dissemination activities completed: June 2025

The value of the findings

The Public Health Agency and local authorities in Northern Ireland will directly benefit from this research. The knowledge produced will provide an understanding of how a Whole Systems Approach to obesity prevention may be best delivered in Northern Ireland in the future. This could help to equip new sites as they set out on their WSA journeys, through for example, helping them to foresee potential difficulties and to identify and make the most of their strengths. Ultimately, if Northern Ireland local authority sites are able to effectively deliver a Whole Systems Approach, this will result in a new understanding of obesity and coordinated action to tackle it at a local level. Indirectly therefore, this work may help the Public Health Agency to identify how best to reduce obesity rates across Northern Ireland in the future. Whilst some of the learning in this project will likely be specific to the Northern Ireland context, it is expected that that wider lessons will also be learnt that will benefit teams outside of Northern Ireland who are thinking about applying a WSA.

Research design

The research team plan on taking a rapid evaluation approach. Three visits will be made to Northern Ireland to collect data. On each occasion, a team of 3-4 researchers will visit the three early adopter sites over a one-week period. Data will be collected from a mix of sources and using a range of methods. Sources will include the leadership group at each site, along with relevant local authority leaders, stakeholders, and community members. Methods will include interviews and group discussion. The team aim to gather data from approximately 20-30 participants at each early adopter site across the three timepoints. If possible, the team will also review relevant documents (e.g. meeting notes) and observe key meetings/workshops. Researchers will make notes on each of these occasions and then summarise them into a shared 'RREAL sheet' (one per early adopter site). A RREAL sheet is simply a table with two columns, one listing the research questions or broad areas of interest, and the other the researcher's summary. Throughout data collection, the team will meet regularly to discuss how well the RREAL sheet is working and to make changes to it if necessary. At the end of each data collection timepoint, site-specific RREAL sheets will be shared with the Public Health Agency and early adopter sites along with a summary RREAL sheet which combines findings from across all three sites. At project end, a short report and accompanying infographic will be produced along with an academic paper.

Service users have informed the design of this project and will be involved in the development of appropriate research materials and accessible outputs.

1.7 Scientific abstract

Obesity causes significant morbidity and mortality and has a sizeable economic impact on

society through health care costs, absenteeism, and lost productivity. A sharp rise in obesity rates have been observed over the past three decades and without improvement in prevention and treatment measures, half of the global population are predicted to be living with overweight or obesity by 2035. Obesity rates in Northern Ireland (NI) have tracked global rises such that a quarter of adults and 6% of children are now living with obesity in NI. In 2022, at the request of the NI Department of Health, the Public Health Agency (PHA) announced plans to implement a Whole Systems Approach (WSA) to obesity prevention. WSAs aim to tackle obesity, not by focussing on individuals and what they need to do, but instead by paying attention to wider policy, social, commercial, and environmental influences. Three early adopter local authority areas have begun applying this new approach using step-by-step guidance produced by Public Health England (PHE). This study aims to conduct a process evaluation of WSA implementation across these three sites with a view to learning lessons that could help future sites in NI embarking on this journey. Rapid mixed-methods data collection will take place across the three sites over three data collection time points. Data will be synthesised by researchers into RREAL sheets (1 per site) which capture focused annotations and simple descriptive statistics against the research questions. Collaborative synthesis will be used to produce a summary RREAL sheet that combines results across all three sites. Additional outputs will include a summary report with associated infographic and an academic paper.

2 Background information

2.1 Overview of the intervention to be evaluated and contextual information

In 2022, the Public Health Agency (PHA) in Northern Ireland (NI) announced plans to implement a Whole Systems Approach (WSA) to Obesity Prevention across NI. This was to be overseen by a WSA Task and Finish Group drawn from members of the PHA chaired Regional Obesity Prevention Implementation Group (ROPIG) and guided by a 6-phase protocol produced by Public Health England (Public Health England, 2019a).

A programme of work to implement the PHE guidance in six early adopter sites in NI is currently underway. Implementation began in the first early adopter site, Ards and North Down Borough Council, in January 2023. Two further sites began work on this in autumn 2023: Belfast City Council and Derry City and Strabane District Council. The remaining three councils will come on board later in 2024 and 2025. In February 2023, a consortium made up of these six sites (led by Ards and North Down) independently bid and successfully achieved NIHR PHIRST support to conduct a process evaluation of WSA implementation across the early adopter sites.

Early discussions between the PHIRST research team and representatives from the ROPIG WSA Task and Finish Group and the three early adopter sites listed above, informed the research design. Firstly, it was established that the first three early adopter sites would be the focus of this evaluation as the remaining three sites would not have initiated implementation at the point of data collection. Secondly, these discussions identified a desire to i) take a participatory approach to the research (i.e. to work together to evaluate implementation and generate insights), ii) for the evaluation to be formative in nature (i.e. conducted in real-time, generating timely findings to inform ongoing implementation), and iii) to enable teams to

continue to capture and share learning beyond the scope of the research with a view to ultimately developing bespoke Northern Ireland WSA implementation guidance. Accordingly, the use of Rapid Evaluation and Appraisal Methods (REAM) (McNall and Foster-Fishman, 2007) was considered a good fit for this research.

REAM are typically participatory in nature, involving short bursts of iterative multi-source data collection, with analysis carried out in parallel to enable findings to be rapidly utilised. It was agreed that the research team would conduct the first three iterations of data collection, focussing on generating insights from implementation of the PHE guidance, with recommendations made for adapting the PHE protocol for use in NI if relevant. It was also agreed that the team would produce a pragmatic tool to enable current and future adopter teams to conduct subsequent iterations of data collection, thus capturing learning from a broader range of teams, working in different contexts, including as they progressed through latter phases of the protocol (it was anticipated that one or more of the early adopter teams may not have completed implementation by the third data collection point).

A note about the ‘intervention’ to be evaluated: The nature of intervention(s) to address obesity delivered in each of the early adopter sites is yet to be established. This will be the product of detailed work undertaken in each area as a result of following the PHE protocol. For the sake of clarity, the interventions to be developed are not the focus of this evaluation (either in terms of measuring their outcome or the success of their implementation). Instead, this evaluation aims to document and share learning about the process of implementing the WSA itself across the early adopter sites. As such its purpose is formative in nature, that is, to better understand the realities of implementing this approach on the ground so as to fine-tune future implementation efforts.

2.2 The problem being addressed and why this research is needed now

According to global estimates, more than a billion people are now living with obesity around the world (Phelps et al., 2024). This is a result of sharp increases in global obesity rates between 1990 and 2022, which more than doubled for adult women, nearly tripled for adult men, and quadrupled among children and adolescents (Phelps et al., 2024). A recent report by the World Obesity Federation (2023) predicts that unless prevention and treatment measures improve, by 2035 half of the global population (51%) will be living with overweight or obesity. It is also predicted that rates will rise more rapidly for children than adults, with a 100% increase for boys and a 125% increase for girls (World Obesity Federation, 2023).

Obesity rates in the UK have tracked these global increases. Accordingly, out of 200 countries, the UK is now ranked 55th highest for men and 87th highest for women for obesity prevalence (Phelps et al., 2024). Like the rest of the UK, obesity rates in NI are also high. Here, more than a quarter of adults (16+ years) and 6% of children (2-15 years) are living with obesity (Department of Health (NI), 2020). As with other UK nations, obesity here is strongly linked to deprivation. This is exemplified through national childhood obesity data collected on an annual basis for children in primary school years 1 (aged 4-5 years) and 8 (aged 11-12 years). This shows that obesity rates in children are consistently higher in the most deprived areas of NI (Department of Health (NI), 2021). In the most recent reporting period (2017/18–2019/20), 6.6% of primary 1 pupils living in the most deprived areas were recorded as obese compared to 4.0% of pupils living in the least deprived areas. Further, the gap in primary 1 obesity rates between children living in the most and least deprived areas appears to be widening. As a

result, obesity has recently been singled out for majority of NIs Health and Social Care Trusts (HSCTs) as a measure signifying widening inequality (Department of Health (NI), 2021).

Obesity contributes significantly to morbidity and early mortality (World Health Organization, 2022b). Living with obesity increases the risk of a range of diseases which can have a serious impact on health such as cardiovascular disease, type 2 diabetes, musculoskeletal disorders, and a range of cancers (Abdelaal, Roux and Docherty, 2017). In addition, obesity and its associated health problems have a significant economic impact, including direct costs to the health care system and indirect costs to wider society caused by absenteeism and lost productivity. In 2009, these costs were estimated to be £370 million for NI (likely now to be markedly higher given recent inflationary rises and increases in obesity rates).

2.3 Review of existing evidence

In simple terms, weight gain, characterised by an increase in adipose tissue, is a result of energy imbalance whereby the amount of energy taken exceeds that used over a period of time (World Health Organization, 2021). This simple notion however belies the complex and interactive nature of factors which determine an individual's levels of energy intake and expenditure (Swinburn and Egger, 2002; OECD, 2010; Townsend and Scriven, 2014). These factors, which serve to both cause, exacerbate, and maintain levels of obesity include, our own biology (which can thwart weight loss attempts), the food environment (particularly the widespread displacement of nutritionally beneficial foods with more affordable calorie-dense ultra-processed foods), the aggressive marketing of foods linked to obesity, poor mental health, poor sleep, stress, a reduction in habitual and occupation physical activity, and weight-related stigma (which can induce stress and deter access to health promoting environments and care) (World Health Organization, 2022b; The ROOTS of Obesity, no date).

The term 'obesogenic' is sometimes used to refer to the sum of biological, social and behavioural influences that promote obesity, such as those described above (Swinburn and Egger, 2002). There is evidence that, like elsewhere in the UK, NI has characteristics of an obesogenic environment. Both children and adults consume more than the recommended levels of saturated fat and sugar (Food Standards Agency, 2019), and almost three-fifths of the NI population (aged 16+ years) report having fast food at least once in the last week (Department of Health (NI), 2022). Physical activity is also low, with only 55% of adults (aged 19+ years) and 8% of secondary school aged children (11-16 years old) meeting the minimum recommended levels (Department of Health (NI), 2017; Department for Communities, 2023). Almost 1 in 10 households (or 1 in 4 households in receipt of income-related benefits) are recorded as 'food insecure', defined as 'at risk of, or lacking access to, sufficient, varied food' (Department for Communities, 2021). Further, almost half of the population (aged 16+ years) report getting less than the recommended minimum seven hours of sleep per night, and approximately one third report being concerned about their own mental health (Department of Health (NI), 2022). It is also notable that a relatively high proportion of the NI population live in areas in the most deprived fifth of the UK compared to those living in the other nations, placing them in turn at higher risk of obesity (Abel, Barclay and Payne, 2016).

Given the high costs of obesity to individuals, society, and the public purse, governments around the globe have sought to reduce obesity through policy and intervention. To date no country has successfully achieved this. This is true for example in England, where despite UK

governments publishing 14 obesity strategies over the last 30 years, levels of obesity have continued to rise (Theis and White, 2021). This may be explained by an over-reliance on interventions which place high demands on individual agency whilst largely overlooking the wider external influences (Adams *et al.*, 2016; Theis and White, 2021). As well as potentially being more effective, low agency interventions, which lessen the degree of personal resource that recipients must possess to benefit (e.g. cognitive, psychological, time, and material resource), are also more likely to lead to equitable impacts on health (Adams *et al.*, 2016; World Health Organization, 2022b). In response to this growing recognition, WSAs to obesity prevention have increasingly been adopted over recent years (Bagnall *et al.*, 2019). WSAs shift the focus off individual agency and on to the wider up-stream factors influencing energy balance. Although there is no agreed protocol for implementing a WSA, they typically involve taking integrated action across the system through relevant policy-making and the coordinated efforts of individuals, groups and communities (Bagnall *et al.*, 2019).

It is too early to draw firm conclusions about the effectiveness of interventions developed as a result of using WSAs. A recent review of reviews of WSAs by Breslin and colleagues (Breslin *et al.*, 2024) concluded that whilst these interventions showed promise (included reviews for example identified reductions in Body Mass Index and sugary food intake, and increases in physical activity), research evidence is lagging behind the increasing implementation of WSAs both in and outside of the UK. This is the case for the aforementioned PHE protocol, where no intervention developed as a result of its application has to date been subjected to outcome evaluation (Breslin *et al.*, 2024). Accordingly, authors of the review of reviews called for more high-quality outcome evaluations which incorporate robust measurements of population overweight and obesity and include a long-term follow-up.

A variety of theories, models, and frameworks, which vary in the extent to which practical guidance is provided, have been used to support operationalisation of WSAs (Breslin *et al.*, 2024). The PHE protocol was developed with the specific intention of providing step-by-step guidance to local authorities wishing to set up a local whole systems approach. Several areas have now used this to guide implementation, enabling a body of evidence to be built about what supports delivery and the challenges that are typically experienced (Public Health England, 2019b; Public Health Scotland, 2022; Breslin *et al.*, 2023). Insights captured include for example the importance of having senior buy-in from the start, of having training and ongoing support to apply the PHE guidance, and of being sufficiently resourced. Evidence from other process evaluations of WSAs add to this evidence, and show that regardless of the mode, theory, or framework applied, similar barriers and enablers are experienced by those taking this approach (Skinner and Foster, 2013; Bagnall *et al.*, 2019; Safefood, 2021; Breslin *et al.*, 2022; World Health Organization, 2022a).

As outlined above, our primary objective was to provide ROPIG and the early adopter sites with feedback on implementation of the PHE guidance to support ongoing roll-out across NI. It was however identified that the study would add to the growing body of evidence from process evaluations of WSAs in general, and of the PHE guidance specifically, and as such contribute to knowledge concerning how best to support those embarking on this new way of working.

3 Study Information

3.1 Aim

To conduct a process evaluation of the implementation of a Whole Systems Approach to obesity prevention in Northern Ireland using the PHE guidance based on three early adopter sites.

3.2 Research questions

The following research questions were generated through discussion with the ROPIG WSA Task and Finish Group and the three early adopter sites. The first four relate to typical components of process evaluation (fidelity, reach, recruitment, engagement). The fifth relates to a short-term impact of particular interest to our NI partners.

- To what extent have the early adopter sites followed the PHE guidance on implementing a Whole Systems Approach to obesity?
- What barriers and facilitators have influenced whether the sites have followed the guidance?
- Where any changes are made by the early adopter sites to either the PHE process followed or the associated tools used, what is their view on how successful these were in supporting achievement of relevant phase-based outcomes?
- To what extent have sites been successful in engaging with stakeholders and members of the community as part of this process?
- Is there evidence that joint working relationships, developed within the leadership groups as a result of this project, have resulted in new plans to work together on other public health priorities?

4 Study design and methods

4.1 Study design overview

This is a mixed methods process evaluation. Research questions will be answered using a mix of qualitative and quantitative data collected predominantly through interviews and focus groups. Data collected through document review (e.g. meeting agendas, minutes) and observations (e.g. of relevant meetings or workshops) may also be included.

The work will be organised across three workstreams as follows:

- Workstream 1: Project set-up
- Workstream 2: Rapid simultaneous multi-source data collection and synthesis
- Workstream 3: Reporting and dissemination

Further detail on each of these workstreams is provided in sections 4.2-4.4 below.

4.2 Workstream 1: Project set-up

This workstream involves:

- Producing all required research materials:
 - Participant information sheets and consent forms
 - Topic guides for interviews and focus groups
 - RREAL sheet (see below)
- Gaining (institutional) ethical approval
- Team training on data collection and use of RREAL sheets

- Identifying data sources through consultation with the three early adopter sites

Research materials will be carefully developed to avoid the use of stigmatising language. Guidance in this respect will be sought from key organisations such as the [Obesity Action Coalition](#) (which advises the use of People-First language) and the [Irish Coalition for People Living with Obesity](#). Research materials to be used with community stakeholders will also be reviewed and piloted by members of our PHIRST Connect Public Involvement in Research group (PIRg) and by our project-specific Public and Patient Involvement (PPI) representatives (members of the NI community with lived experience of obesity) (see section 6.1) prior to use and changes made as advised.

Ahead of data collection, the team will receive training on the use of the topic guides, the completion of the RREAL sheets, and on group communication and reflexivity (see section 4.3 below), to ensure that everyone is well-versed in the planned research process and methodology. This will be led by the project lead who has received training from the Responsive Research, Evaluation and Assessment Lab (RREAL) team based at University College London (UCL). The team will also discuss the importance of using sensitive language when communicating with and about people living with obesity and agree on key terms for use.

RREAL sheets. In line with our REAM approach, RREAL Sheet methodology has been chosen for this research. RREAL sheets (RREAL, 2020; Vindrola-Padros et al., 2024) are a flexible tool for responsive research that enables the simultaneous collection, collaborative synthesis, and reporting of qualitative data in real-time. Typically, qualitative research involves the transcription of audio-recorded interviews/focus groups followed by line-by-line coding and in-depth analysis. RREAL methodology replaces this with a more responsive and pragmatic approach in which the qualitative data are researcher notes (for example those taken during an interview or when observing a meeting) which are summarised by the researcher (immediately afterwards or as soon as practical) into a proforma, the RREAL sheet. In practice, RREAL sheets are typically in a tabular format with the first column listing pre-established categories of interest (e.g. research questions, or broad areas of interest explored through an interview topic guide), and the second column used by researchers to make focussed annotations. Researchers are however encouraged to adapt as required.

As discussed in section 2.1 above, an ambition of the research team is to enable current/future adopter sites to continue to self-evaluate WSA implementation after the research project has concluded. Whilst this is likely to be more 'light-touch' than that possible with the support of the research team, the RREAL sheet would still be a useful tool for this purpose. Given this, the research team will co-develop the RREAL sheet with the three early adopter site leadership groups to ensure it is fit for this purpose. We will remain flexible therefore as to the structure of the RREAL sheet. It may be that a series of columns (instead of two) will better enable future adopter sites to meaningfully present, access and effectively share their WSA progress and insights. We also remain open as to whether this is a simple table in MS Word format or something more complex in MS Excel. In producing this tool, care will be taken as to how it is named and described so that it is not incorrectly perceived as a performance tool. Consideration will also be given as to whether there should be discrete sections of the tool which are sharable, and others which are non-sharable (and with whom).

The working prototype of the RREAL sheet will initially be co-developed with early adopter site leads and members of the ROPIG WSA Task and Finish group. This prototype will be piloted in advance of use and then tested for usability in workstream 2.

Identifying data sources. An iterative, purposive sampling approach will be taken to the identification of participants and other relevant data sources. This process will be undertaken ahead of each visit to ensure that prioritised sources are relevant to the most recent period of implementation. On each occasion, the research team will initially be guided by the ROPIG WSA Task and Finish group and the early adopter site leads. This provisional selection will then be reviewed by the project Advisory Group (see section 6.2 'PHIRST advisory groups') which includes community representatives along with academics, practitioners, and other stakeholders with interest and/or expertise in implementing WSAs. The research team will then return to local site leads to discuss and fill the identified gaps. Participants will likely include members of the ROPIG WSA Task and Finish Group, the leadership group at each early adopter site (made up of relevant local authority members and PHA representatives), and local stakeholders (including community members). Other sources (documents, observation of meetings) will also be considered. Information on the number of individuals/groups invited to participate, and of these, the number who participated or declined/did not respond to the invite will be recorded to enable a sampling flowchart to be produced.

4.3 Workstream 2: Rapid simultaneous multi-source data collection and synthesis

This workstream involves:

- Planning and coordinating three on-site visits to NI by the research team
- Data collection and site-specific synthesis using RREAL sheets
- Collaborative cross-site data synthesis
- Testing usability of RREAL sheet

A small team of researchers (3-4) will make three iterative trips to NI, each of approximately 5 days duration. During each trip, data from across all three adopter sites will be collected. Ahead of each visit, a schedule will be planned which specifies which individuals/groups will be interviewed and when (based on information gathered through the elicitation activity in workstream 1). The team aim to gather data from approximately 20-30 participants at each early adopter site across the three timepoints. Plans to access/consult other data sources (e.g. meeting minutes, observation of meetings) will also be built in if required. Researchers will also be afforded the discretion to collect data from unplanned sources where this is considered relevant and appropriate.

The primary source of data will be researcher notes. Researchers will be allowed to make paper-based or electronic notes (according to their preference). All notes will be required to be marked with researcher ID, data source, site code and date (one set of notes for each instance of data collection). Topic guides (developed during workstream 1) will be used to steer interviews and focus groups (which will be audio recorded to serve as a back-up to researcher notes). The research team will communicate a preference for copies of any relevant documents (e.g. meeting minutes) to be shared in a digital format and via UH's secure FileExchange system. Where this is not possible, hard copies will be scanned at the earliest

opportunity and the originals shredded.

Data will predominantly be qualitative in nature, although a small amount of quantitative data will be collected to quantify fidelity (research question 1) i.e. site leads will be asked at interview to judge the extent to which WSA outcomes were achieved (using a rating scale) and whether tools specified within the PHE guidance were used (yes/no). This quantitative data will be recorded within the researcher notes.

At each timepoint, researchers will populate one digital copy of a shared RREAL sheet per site (saved on OneDrive). At the end of each interview, observation etc, each researcher will summarise the key findings into the relevant section of the shared site-specific RREAL sheet (recording their initials to enable researcher identification). Summaries will be as succinct as possible. Verbatim quotes will be captured to exemplify these summaries but kept to a minimum to avoid the documents becoming unmanageable. Links to the raw data will be made using a unique code which relates back to each individual set of researcher notes. A codebook, containing agreed terms to be used within the summaries (to support consistency), will be developed by the research team in advance of data collection. Where relevant, quantitative data will be summarised using simple descriptive statistics e.g. percentage of available tools that a site lead reports to have used.

Researchers will meet regularly during data collection to discuss and agree any changes that need to be made to the RREAL sheets, and to perform consistency checks. Changes may include removing rows that no longer work or adding new rows for unanticipated areas of importance. Existing rows may also be collapsed, sub-divided or refined as required. Whether any additions to the codebook are required will also be discussed. Where changes are made, these will be duplicated across all site-specific RREAL sheets including historical (completed) and future (blank) sheets (NB. the former will involve reorganising existing data summaries as required). Reflections on usability will also be encouraged and any relevant changes noted. The team will also consider whether there are any gaps in data sources – it may be that a row is empty because a data source (e.g. key stakeholder) is missing, or because a question in an interview/focus group schedule is absent. In these circumstances, efforts will be made to address the gap through additional data collection, undertaken either as part of an ongoing on-site visit or through remote methods (i.e. virtual interview/focus groups) post-visit where this is not feasible. There may also be inconsistency across team members with gaps present for some researchers and not others – comparison of sheets will reveal this, with action taken to resolve as required.

After each visit, site-specific RREAL sheets reflecting the most recent round of data collection will be finalised. To this end, the research team will engage with the early adopter sites (cross checking the interpretation of findings by study participants) for member validation and to provide additional insight. At this point, the three completed site-specific RREAL sheets will also be combined into a summary RREAL sheet as part of a team-style practice. This exercise will involve combining annotations across the three sheets into a single sheet, followed by consensus discussions to remove duplication and/or elaborate on existing statements to reflect the combined annotations. As part of this process, any site-specific differences experienced in implementation of the PHE guidance (e.g. due to differing local authority structures or policies) will be drawn out. At the end of each of the three rounds of data

collection, the completed site-specific RREAL sheets and the summary RREAL sheet will be shared with the early adopter site leadership groups (former shared respectively) and the ROPIG task and finish group.

Team reflexivity: Reflexivity serves to enhance rigour and quality. Researchers will reflect on the process and their positionality throughout data collection. This will include discussions about whether they are being sufficiently flexible to allow the RREAL sheet to adapt whilst ensuring that it does not become disconnected from the research questions. The team will also consider their positionality (with regards to gender, class, ethnicity, interests, assumptions, and life experiences, especially that of living with obesity) and how this will affect relationships with participants, the research process, and ultimately the knowledge produced (Pillow, 2003). Due to the time pressures of rapid qualitative research, creating a collaborative working environment that allows for consistency checks and reflection can be more challenging. To enable this, time will be built into the data collection schedule for this purpose.

On completion of all data collection, the research team will discuss any changes made to the RREAL sheet during the course of the research with the three leadership groups and the ROPIG Task and Finish group. They will be asked to consider any further changes that may help improve its function or usability. A further iteration of the RREAL sheet will be made at this point if needed to create the finalised self-evaluation tool.

4.4 Workstream 3: Reporting and dissemination

Outputs will be as follows:

- A finalised tool that can be used by WSA leadership groups for ongoing self-evaluation of WSA implementation
- Three completed site-specific RREAL sheets (covering all time points)
- One completed cross-site RREAL sheet (covering all time points)
- A brief research report summarising the findings
- An infographic summarising the findings
- Published academic peer reviewed paper

As with data collection, care will be taken in the use of language within all our outputs to avoid the stigmatisation of people living with obesity. In the brief report, and any other indirect outputs such as seminars, conference presentations, we will ensure that any images used of people living with obesity are balanced and sensitive. To that end we will draw images from the [Obesity Image Bank](#) collated by The European Association for the Study of Obesity. We also plan on taking photos of landmarks and the surrounding area (not of people) on our visit to NI and using these in our outputs to give them a NI identity.

5 Capacity building

An ambition of the PHIRST Connect team is that all projects leave a positivity legacy for stakeholders which extends beyond the research outputs. A key part of this research is the development of a tool to enable leadership teams to self-evaluate WSA implementation in the future and to share learning with others. As outlined above, leadership teams will be

involved in developing this tool (the finalised version of the RREAL sheet) to ensure it is fit for purpose. We aim to make this tool intuitive to use, with the minimum amount of instruction required. A brief cover page will however be included to provide information on its inception and intended use, along with notes on how to complete it where necessary. Teams will also be able to adapt it in the future as required (although if findings are to be shared across local authority areas, we will recommend this is managed centrally to ensure a master version is always in use).

6 Research governance and project management

6.1 PHIRST Connect governance and project management

Appendix 1 presents an organogram of PHIRST Connect showing the team structure and roles.

Project Leads

The project is led by PHIRST co-investigator Dr Katie Newby, under the direction and supervision of the PHIRST Chief Investigators, Professor Katherine Brown and Professor Julia Jones. Senior level research input and project management will be provided by Laura Lamming.

Management Group

The PHIRST Connect Management Group (consisting of the PHIRST Connect chief investigators and all PHIRST Connect co-investigators, see organogram) meets on a bi-weekly basis with the rest of the team to provide oversight and guidance across all active projects.

Project Research Team

The team assigned to this project is listed in section 1.5. This team will meet on a bi-weekly basis to plan and oversee project delivery.

PHIRST Connect Public Involvement in Research group (PIRg)

PHIRST Connect is committed to involving the public in all stages of its research and has a dedicated Public Involvement in Research group (PIRg) which provides public, service user and carer perspectives to all the public health evaluation projects conducted by the team. This group is chaired by Amander Wellings (our PPI co-investigator) and supported by Professor Julia Jones and members of the research team. The nine members of the PIRg meet monthly to discuss key aspects of PHIRST Connect evaluation work (for example, research questions, methodology, literature review, research tools, and dissemination), and in between meetings, work closely with the PHIRST project leads and their teams to co-produce the evaluations.

For this evaluation, PPI will be embedded in three ways:

1. The PHIRST Connect PIRg will be updated at their monthly meetings on project plans, progress, findings, and dissemination outputs, and will have the opportunity to comment on these and influence their direction. Having an existing group of PPI members who are already well versed in research process and methodology facilitates rapid qualitative research (Gilchrist, Iqbal and Vindrola-Padros, 2022).
2. Two members of the PIRg have been allocated to the project to provide more focussed

input. They will form part of the project research team and as such be more closely involved in decision making and research activity. In this role they will be asked to provide a community perspective on how we conduct the evaluation, review the suitability of our research process and materials, and to co-produce dissemination that is appropriate and accessible to members of the public.

3. A minimum of two people living in NI who are living with obesity will be invited on to our advisory group as PPI representatives (see 'PHIRST Connect NI WSA Evaluation Advisory Group' in section 6.2 below). In line with their level of interest and availability, they will be invited to contribute to the project plans, process, and outputs as per the PIRg members. Given their lived experience, they will be asked in particular to advise on the use of language.

6.2 PHIRST advisory groups

PHIRST Connect Independent Advisory Board

An independent PHIRST Connect Advisory Board has been convened to provide independent, external, and policy-orientated advice to PHIRST Connect. The Board provides specific advice and support in relation to the strategic direction of PHIRST Connect and its allocated projects. It comments on the ongoing work plan and progress in line with study protocols, acts as a sounding board for new ideas and developments, and advises on opportunities for wider dissemination and for translating research into policy and practice. It is an advisory body only and does not make decisions in its own right or report to any other group or committee.

The Board meets up to three times per year and is comprised of experts in the fields of public health and evaluation from academic, third sector, governmental and public sector backgrounds. It is comprised of the following members:

Name	Job title	Organisation
Mrs Helen King (Chair)	Former Deputy Director of Public Health / currently Independent Public Health Consultant	Solihull Public Health Department
Dr Nicola Armstrong	Programme Manager, HSC & R&D Division	Northern Ireland Public Health Agency
Professor Katherine Brown	Professor of Behaviour Change in Health	University of Hertfordshire (non-independent)
Mr Geoff Brown	CEO	Healthwatch Hertfordshire
Dr Suzanne Connolly	Senior Health Improvement Manager	Public Health Scotland
Professor Steve Cummins	Co-Director of the Population Health Innovation Lab	The London School of Hygiene and Tropical Medicine
Dr Sarah Hotham	Senior Research Fellow & NIHR RDS SE Research Adviser	University of Kent
Professor Julia Jones	Professor of Public Involvement in	University of

	Health	Hertfordshire (non-independent)
Professor Margaret Maxwell	Director of MHANP Research Unit	University of Stirling
Mr John Jackson	PPI Expert by Experience on PHIRST Connect Public Involvement In Research Group (PIRg)	Independent Member
Professor Toby Prevost	Director, Nightingale-Saunders Clinical Trials & Epidemiology Unit at King's CTU	Kings College London
Mrs Genevieve Riley	Senior Researcher	Public Health Wales
Professor Richard Smith	Professor of Health Economics	University of Exeter
Professor Sarah Stewart-Brown	Professor of Public Health	University of Warwick
Mrs Amander Wellings	PPI Expert by Experience; Chair of PHIRST Connect PIRg	University of Hertfordshire (non-independent)

PHIRST Connect NI WSA Evaluation Advisory Group

A project-specific Advisory Group has been convened to offer specific advice and support in relation to the NI WSA process evaluation. The Advisory Group will meet up to six times per year for the duration of the evaluation. Members are as follows:

Name	Job title	Organisation
Claire Griffiths	Reader and Co-Director of the Obesity Institute	Leeds Beckett University
Dr Nicola Armstrong	Programme Manager, HSC & R&D Division	Northern Ireland Public Health Agency
Laura McGowen	Lecturer, School of Medicine, Dentistry and Biomedical Sciences	Queen's University Belfast
Claire Mathews	Health and Wellbeing Programme Lead (North East)	Office for Health Improvement and Disparities
Elozona Umeh	Health and Wellbeing Programme Lead	Office for Health Improvement and Disparities
Val Thomas	Deputy director of Public Health	Cambridgeshire County Council
Faith Eddleston	Public Health Lead WSA obesity	Hertfordshire County Council
	<i>Other members to be appointed in due course</i>	

7 Ethical considerations and approvals

This project approaches ethics as an ongoing reflexive exercise relevant to all aspects of data collection, analysis, and publication. Below we provide a description of the main ethical issues identified for this project. If any unexpected ethical issues arise during the course of this research, the research team will monitor and document them in the study's issue log. When necessary, these will be discussed with partner organisations (in accordance with provisions of confidentiality). Where these issues concern members of the public, PPI input will also be sought.

Informed Consent and withdrawal

Those interested in participating will be provided with a participant information sheet which will convey comprehensive information about the project. Where data collection is arranged in advance of the visit, the participant information sheet will be provided beforehand so that those invited have plenty of time to consider it and to ask questions. As data collection will also potentially be opportunistic, researchers will carry paper-based participant information sheets with them when on-site. Those invited opportunistically will be given as much time as they need to read through this information and to ask questions. All consent forms will be paper based with consent taken just prior to data collection. Signed consent forms will be held securely by researchers and a digital copy made (through scanning) at the earliest opportunity (scanned copies stored on R drive – see 'data collection' below). At this point paper-based versions will be shredded. Participants will be informed about their right to withdraw from the study at any time.

Whilst the majority of participants will be adults (aged 18+ years), it is possible that some children may be invited to participate (particularly where the WSA target population for any one early adopter site is children). Where this is the case, the above procedure will be followed with two exceptions: 1) all participation will be pre-determined (i.e. not opportunistic), and 2) parental consent (obtained ahead of data collection) will additionally be required.

Participant information will be written in a style of language that is accessible to participants. Our dedicated PIRg members and project-specific PPI representatives will review research materials designed for community stakeholders and check the suitability of language (with particular care taken over language referring to obesity and people living with obesity). A dedicated telephone number and email address (PHIRST@herts.ac.uk) will be available for participants to contact the research team with queries.

Data protection

All data will be stored and processed in line with GDPR and the 2018 Data Protection Act. Data will be stored on our project-specific R drive (on UH server) and only accessible to those within the research team who require this. This data will include details of those interested in participating in focus groups/interviews, scanned consent forms, and audio recordings of focus groups/interviews. Researchers will take notes during data collection which will state the name (and role if taking part in a professional capacity) of the participant(s). If these are hand-written, they will be held securely by the researcher until they can be scanned and uploaded to the R drive (at which point the original copies will be shredded). Electronic notes will be made in MS Word and saved directly to the R drive.

Also see section 8 below (data protection and management).

Confidentiality

This project will maintain full participant confidentiality (although see limits to confidentiality in the next section). Participants' contributions to the research will not be shared with any relevant organisations within which they work or volunteer and will be anonymized in publications. Despite anonymization, it is possible that some participants may be identifiable, particularly within completed single-site RREAL sheets where only a single representative of an organisation, or a single person with a specific role, participates. Participants will be alerted to this at the start of data collection and the suggestion made only to share information that they are happy to have attributed to them. At the end of data collection, researchers will also ask participants if they wish to withdraw anything they said. Where this is the case, the researcher will cross out the relevant text and make a note of this in the margin.

Risks, safeguarding and referrals

This project is considered low risk in terms of the likelihood that a participant with a safeguarding need will be identified. Nonetheless, a PHIRST safeguarding protocol is in place and will be used to guide decision-making and actions if necessary. A copy of the PHIRST safeguarding protocol is available on request from the Chief Investigators. The team is also familiar with the University of Hertfordshire, School of Life and Medical Sciences, safeguarding policy, which will be adhered to.

Potential benefits for study participants

This project focuses on a new approach to obesity prevention and will provide recommendations for how this approach is implemented in the future. It is possible that organisations modify their approach based on the findings of this project. Thus, this is a rare opportunity for participants to see the effects of their participation in action. Participants will be informed that a brief research report will be produced and disseminated that will contain the recommendations; a copy of this will be provided to participants (who will be asked if they would like to receive this at the point of data collection). Community representatives participating in this research will receive a voucher to thank them for their participation in the study.

Approvals

Ethics approval is required by the University of Hertfordshire Health, Science, Engineering & Technology ECDA before data collection can commence.

Protocol number: [LMS/SF/UH/05681]

Date obtained: [29/052024 and amendment approved 01/07/2024]

8 Data protection and management

PHIRST is an NIHR-funded initiative, and the University of Hertfordshire is leading a consortium involving Queen's University Belfast, the University of Birmingham, and the University of East

Anglia. Staff at the University of Hertfordshire will take full responsibility for organising data collection and the safe management and storage of data.

This study has been assessed using the University of Hertfordshire Data Protection Impact Assessment (DPIA) checklist. The checklist was sent to the Data Protection Officer, and it has been agreed that this study does not require a full DPIA. Any changes to the methodology will require a reassessment of the project against the checklist and a re-notification of the Data Protection Officer. A copy of the current DPIA checklist assessment is available on request from the Chief Investigators.

10 Project timescales/GANTT chart

Workstream	Activity	Mar 24	Apr 24	May 24	June 24	July 24	Aug 24	Sept 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	April 25	May 25	June 25
	Protocol																
1	Develop research materials																
	Ethics application			Decision in May													
	Team training																
2	Data collection																
	Finalise RREAL sheet																
3	Report writing																
	Dissemination																

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Appendix 1: PHIRST Connect team organogram

NIHR | Public Health Intervention
Responsive Studies Teams

