PROTOCOL

Implementation and PRocess Evaluation of South Wales Hospital Based Violence Intervention Programmes (PREVIP)

Cardiff University

Principal investigator: Professor Simon Moore

YOUTH ENDOWMENT FUND

Evaluating Institution: Cardiff University.

Principal investigator: Professor Simon Moore.

Co-Investigators: Jordan Van Godwin; Prof Graham Moore and Dr David O'Reilly.

Project title	Implementation and **PR**ocess **E**valuation of South Wales Hospital Based **V**iolence **I**ntervention **P**rogrammes (**PREVIP**)
Evaluator (Institution)	Cardiff University
Principal investigator(s)	Professor Simon Moore
Study plan author(s)	Jordan Van Godwin, Professor Graham Moore, Niamh Clift, Dr David O'Reilly and Professor Simon Moore.

Study plan version history

Version	Date	Reason for revision
1.0 [*original*]	01.11.2022	
V2.0	23.01.2023	Integration of YEF and independent reviewer comments.

Contents

Lay Background 1
Scientific Background and Rationale 1
Background 1
South Wales Violence Prevention Teams 2
Rationale 3
Study Design 3
Aims 3
Research Questions 4
Process Evaluation Design 5
Patients/Service Users 7
Methods and data collection 8
Scoping Review 8
Document Analysis 9
Interviews 9
Inclusion and Exclusion criteria 11
Recruitment Process 11
Data Management and Security 12
Routine Data 13
Methods overview 13
Data analysis 14
Triangulation 15
Regulatory Considerations 15
Ethics 15

Study Adoption 16
ISRCTN Registration 16
Outputs and Dissemination 16
Outputs 16
Authorship 16
Governance 16
Evaluation Team 16
Stakeholder Reference Group 17
Protocol Version Control 18
Risks 18
Timeline 22
Appendices 25
Appendix 1 26
PHW Theory of Change 26
References 26

YOUTH ENDOWMENT FUND

Lay Background

Accident and Emergency (A&E) departments in hospitals can be an important setting for violence prevention. This is because staff in A&E have access to people who have been seriously injured because of violence. Those who have serious injuries will usually go straight to A&E and the police and other services, also involved with violence prevention, will be unaware of their circumstances. It is possible that violence prevention programmes in A&Es may reduce someone becoming a victim again. Violence and violence prevention is a priority for the UK government and there is a requirement for organisations (including A&E and the police) to work together to help prevent violence. This motivated A&Es in Swansea and Cardiff to set up Violence Prevention Teams. Violence Prevention Teams are led by nursing staff, who identify patients attending A&E because of violence. The nurses work with those patients to identify the reasons why they have been exposed to violence and they support and refer patients to organisations within and outside of the NHS who can offer additional support. Despite violence prevention interventions regularly being set-up in A&Es, no detailed evaluations have taken place to find out how and whether they work. Our research team, based at Cardiff University, has been funded by the Youth Endowment Fund to evaluate the Violence Prevention Teams in Cardiff and Swansea. We aim to understand how the Violence Prevention Teams have been set-up and how they are currently working. We also aim to understand what impact the Violence Prevention Teams are having on the other areas of violence prevention, including the involvement of other clinical staff in violence prevention. Because Violence Prevention Teams will probably work best if they respond to local needs, we will explore the similarities and differences between the teams in Cardiff and Swansea. This will contribute to policy makers' decision making on whether and how VPTs should be used in other A&Es across the UK.

Scientific Background and Rationale

Background

There is a strong case for hospital-based violence intervention programmes (HVIPs) based in Emergency Departments (EDs) (1-3). A recent systematic review (4) summarised why ED's offer an important intervention setting for violence intervention programmes: individuals attending ED with violent injuries are at greater risk of reattendance in emergency care, police arrest and death (5-7); implementation of HVIPs following injury could utilise the period following an individual's experience of trauma where they may be open to changes in attitude and behaviour (8); ED is also a potentially vital contact point for some patients with violent injuries attending ED who may not be reached by police, may no longer be in school, who may

be unemployed, or otherwise disadvantaged (9). The systematic review also found that HVIPs in EDs can potentially lead to reduced revictimisation due to violence as well as arrests due to violence perpetration (4). The need for HVIPs is also aligned to broader UK Government initiatives, which aim to promote a whole system multi-agency (WSMA) (10) approach to violence. The 1998 Crime and Disorder Act requires the police, local government, and the NHS to collaborate on joint crime reduction strategies and this includes data sharing to inform targeted responses. Violence is further prioritized by the UK Government in its Serious Violence Strategy (11) and since 2019-2020, the UK government allocated funds for the formation of 18 Violence Reduction Units (VRUs, Violence Prevention Unit in Wales), across 18 Police Force Areas (PFAs) with the explicit purpose of promoting the WSMA approach (4). More recently in April 2022, the UK government announced an increase in the number of VRUs to 20 as well as guaranteeing funding for all 20 VRUs for the next three years (12). These motivations are further aligned with a move towards active population health management, digitally enabled whole-person care and evidence-based treatment pathways outlined in the NHS future plan (13). Moreover, there are plans in to include violence prevention and reduction standards in Integrated Care Systems in NHS England with expectations that hubs will form violence prevention teams like the police VRUs. In the current standard NHS contract, requirements are to provide monthly data and information relating to violence-related injury to local community safety partnerships and the relevant police force, in accordance with the Information Sharing to Tackle Violence (ISTV) Initial Standard Specification (14).

While there is growing focus on developing HVIPs in the UK, the wider published evidence supporting this approach (4) is mostly based on interventions developed in North American emergency healthcare systems. With notable differences in emergency care between the UK and US, and in the nature of violence, the translation of HVIPs into a UK context brings uncertainties regarding both implementation of the interventions and effectiveness. Despite this uncertainty over effectiveness and the lack of guidance for the implementation and delivery of these interventions in a UK context, HVIPs have been widely implemented. For example, the Scottish Violence Reduction Unit has placed Navigators (www.mav.scot/navigator) in EDs, volunteers who connect with assault-related attendances (ARAs) who are typically 25 years and younger. They offer psychosocial support and refer patients to third sector organizations. However, there is a lack of evidence for ED referral of children involved in violence (15), domestic violence (16, 17) and there is a paucity of robust studies considering referrals for young men involved in violence, the most dominant population in respect of ARA (18), with even fewer for victims of sexual violence (19).

South Wales Violence Prevention Teams

A HVIP has been developed in South Wales, initially based in the University Hospital of Wales, Cardiff, and now expanded to Morriston University Hospital in Swansea. The interventions, known as The Violence Prevention Teams (VPTs), are funded by the UK Home Office and Youth Endowment Fund (YEF) with the funding administered by the South Wales Office of the Police and Crime Commissioner (PCC). The Violence Prevention Team (VPT) is a nurse-led model that aims to identify patients making an unscheduled attendance to Emergency Departments. The nurses work with those patients to identify underlying vulnerabilities exposing them to violence and to support and refer patients to forms of support aimed at reducing their exposure to violence. The intervention is developed from knowledge of the causes and consequences of violence but works with patients with considerable heterogeneity surrounding the reasons for their exposure to violence. The VPTs provide HVIPs with two main functions: the identification and support of patients attending ED with assault-related injury and a broader pedagogical role that increases awareness of these patients' needs in the ED and further afield. An initial formative service evaluation conducted by Public Health Wales (20), developed a theory of change for the Cardiff VPT (see Appendix 1). This work framed the Cardiff VPT as a complex multi-component intervention comprising a core set of intended activities and functions which included:

1. Awareness raising activities with the aim of ensuring that the VPTs become a fully embedded component in the emergency care systems in which they are situated.
2. Training and upskilling of healthcare professionals to improve processes, including the identification of patients who have been exposed to violence, increase confidence in case reporting and data capture, and improve patient referral processes into the VPT.
3. To formalise the assessment of risk and need with ARA patients.
4. To provide advice and support to patients.
5. To signpost and support patients' engagement with other services that are appropriate to their level of need.

Furthermore, while the population for VPTs is primarily ED patients attending ED with injuries arising through violence, the broader influence of VPTs (based on the components outlined above) means that activities can influence the provision of care in EDs (through upskilling clinical staff and improving referral processes for their patients) and the broader ecology through the improved ascertainment of violence 'hotspots'. However, it is important to note that the formative process evaluation (20) focused only on the Cardiff VPT therefore, while the core components outlined above have been used to inform the development of the Swansea VPT, no process evaluation data currently exists for the Swansea VPT.

Rationale

Despite HVIPs having emerged as a public health response to violent victimisation (3, 21), there has been no rigorous evaluation of this public health approach to violence in the UK and there is lack of guidance for the implementation and delivery of these interventions. This is particularly important as the VPT had been identified as a complex intervention, as it has 'several interacting components' and its implementation and interaction is taking place within complex systems where the components of the interventions interact with the context (22), primarily healthcare but also the criminal justice system. In order to address this and inform use of these interventions as well as adaptation to different settings, we will conduct a process evaluation (PE). PEs can be used to explore the implementation, causal mechanisms and contextual influences associated with complex intervention outcomes (22). Therefore, the overarching aim of this study is to conduct an Implementation and Process Evaluation of the VPTs in Cardiff and Swansea to understand how they function through the examination of their implementation, mechanisms of impact, and the wider contextual factors associated with their design, delivery and fit within the ED, healthcare, policing and other systems.

This process evaluation sits alongside a funded (NIHR 134055) evaluation of the VPTs, the primary objectives of which are to determine the effectiveness and cost effectiveness of VPTs in respect of subsequent unscheduled ED reattendance for those with an initial attendance attributable to violence. This NIHR project considered effectiveness and cost effectiveness from the perspective of the NHS, and only considers routine patient healthcare data, it does not capture the operational context of VPTs. The current process and implementation evaluation will complement the NIHR project, with the expectation that it will provide additional knowledge concerning the broader ecology and processes constituting the VPTs, informing potential decisions to future scale-ups should the NIHR study find the intervention to be effective.

Study Design

Aims

Our study aims to understand the functioning of the existing VPT intervention model through the examination of implementation, impact mechanisms, and context by utilising qualitative interviews, document analysis and examining routine data. The focus on context will also allow us to understand questions regarding transferability and local adaptation.

Our process evaluation will draw on MRC guidance for process evaluations (22, 23), to understand i) the quantity and quality of implementation, ii) the mechanisms through which the intervention (if delivered as intended) may activate change, and iii) the contextual conditions perceived as facilitating or constraining the success of the intervention. Drawing

on recent guidance for adapting interventions to new contexts (24) the latter focus on contextual conditions will also aim to inform understandings of how the intervention has been adapted for a new setting (Swansea) while aiming to maintain consistency with the core functions of the intervention, and to inform considerations of to what other contexts the intervention might be transferred into, subject to further adaptation. We will also contrast the VPT function with what is known to work for populations exposed to violence and determine the extent that the VPT makes an evidenced-based contribution to health service delivery. We will also explore routine health and police data to characterise the spatial distribution of and nature of presenting conditions of unscheduled attendances in each ED.

Research Questions

We have developed nine primary and two secondary research questions for this process evaluation. The research questions were co-produced with key stakeholders: YEF; the Home Office; the Violence Prevention Unit (VPU) and Public Health Wales (PHW), and between January and March 2022.

Our primary research questions are:

1. To what extent have VPTs become embedded within broader hospital systems?
2. To what extent do implementers adhere to the intended delivery model?
3. How much of the intended intervention has been delivered?
4. How well are the different components of the intervention being delivered?
5. To what extent does the intervention reach cover the entirety of all assault-related ED attendances?
6. To what extent do patients engage with the intervention?
7. How were in-hospital referral pathways developed for patients, and to what extent were patients supported across institutional transitions (both within the NHS, and to partners outside of the NHS)?
8. What is the perceived need for and benefit of the intervention amongst the implementers and related stakeholders?
9. What strategies and practices are used to support high quality implementation?

Our secondary research questions are:

10. What adaptations were undertaken to use the VPT model in Swansea following its establishment in Cardiff, and why?
11. What are stakeholders' views on the types of setting to which the model is likely to be more or less transferable?

Process Evaluation Design

To answer our research questions, the process evaluation will consist of the following stages:

1. A scoping review of emergency care-based interventions for those who experience violence and the underpinning causal mechanisms of violence will be conducted. The review will focus on what emergency care interventions work for those experiencing violence as well as how they work and in what context, including what is required from an intervention implementation perspective. The review will also explore the wider causal mechanisms which lead someone to come into contact with services like the VPTs as this can be essential in informing for whom, how and in what context the interventions can be delivered. This review will help us to better understand differences between locations where similar interventions have been implemented and evaluated (Canada and North America) and the UK. If applicable, the information found here will be used to inform the interview process and questions (see stage 5, below).
2. Determine through documentary analysis (e.g., standard operating procedures) and consultation with stakeholders and clinical staff, the core set of VPT functions and how they are situated with and complement existing safeguarding processes.
3. Assess the VPT core functions against 1. and 2. and a descriptive analysis of routine ED data (anonymised and aggregated) relating to patients (age, gender), assess the proscribed delivery models in Cardiff and Swansea to assess:
    a. Whether the model of delivery can be expected to account for all ED ARAs (for example, are shift patterns covering times when assault-related attendance is greatest) and whether support and referrals are consistent with the evidence base.
4. Compare VPT ascertainment and engagement rates of ARAs with number of ED unscheduled attendees with injuries consistent with an assault (patient code 01B (aggregated and anonymized data is available through regular reporting to South Wales Police and Public Health Wales).
5. Undertake qualitative interviews with stakeholders involved in the violence prevention ecology to:
    a. Document the additionality and place of VPTs on broader violence prevention.
    b. Determine the relationship with VPTs with internal (within healthcare) and external (police, third sector) and flow of information across entities and agents in delivering violence prevention. To include data sharing (we will, at no time, access individually identifiable patient data), if any, and continuity of care and support.
    c. Any formal audit requirements used for ongoing assessment of service fidelity and quality.

The table below maps our research questions to each of the stages of our process evaluation:

Methods	Research Question
Scoping Review	9. What strategies and practices are used to support high quality implementation?
Document Analysis	1. To what extent have VPT's become embedded within broader hospital systems? 2. To what extent do implementers adhere to the intended delivery model? 3. How much of the intended intervention has been delivered? 4. How well are the different components of the intervention being delivered? 5. To what extent does the intervention reach cover the entirety of all assault-related ED attendances? 6. To what extent do patients engage with the intervention? 7. How were in-hospital referral pathways developed for patients, and to what extent were patients supported across institutional transitions? 8. What is the perceived need for and benefit of the intervention amongst the implementers and related stakeholders? 9. What strategies and practices are used to support high quality implementation? 10. What adaptations were undertaken to use the VPT model in Swansea following its establishment in Cardiff, and why?
Routine data analysis (covering stages 3 & 4 above)	1. To what extent does the intervention reach cover the entirety of all assault-related ED attendances?
Interviews	1. To what extent have VPT's become embedded within broader hospital systems? 2. To what extent do implementers adhere to the intended delivery model? 3. How much of the intended intervention has been delivered? 4. How well are the different components of the intervention being delivered? 5. To what extent does the intervention reach cover the entirety of all assault-related ED attendances?

	6. To what extent do patients engage with the intervention? 7. How were in-hospital referral pathways developed for patients, and to what extent were patients supported across institutional transitions? 8. What is the perceived need for and benefit of the intervention amongst the implementers and related stakeholders? 9. What strategies and practices are used to support high quality implementation? 10. What adaptations were undertaken to use the VPT model in Swansea following its establishment in Cardiff, and why? 11. What are stakeholders' views on the types of setting to which the model is likely to be more or less transferable?

Table 1. Research Methods mapped to Research Questions

Patients/Service Users

The primary focus of this evaluation is the context and systems in which the evaluation is embedded. While including qualitative data from patients exposed to the intervention may have provided additional insights, the ethical and resource costs of working with such vulnerable patients in the NHS meant this was not possible within the funded resource schedule. Instead, we will conduct the following in order to cover some of the questions patient input could have provided. This will include:

- Collating the summary statistics on patient engagement collected by the VPTs.
- Through the interviews, extensively question key stakeholders on this to ascertain their perspective on patient engagement and experiences.
- Conducting PPI work with young people to gather their perspectives on the intervention and perceived engagement challenges and opportunities.

Public and Patient Involvement

We are aiming to conduct two sessions with a group of young people, one in late January to early February 2023 and another at the end of the study in the Autumn 2023.

There are two key aims of the first session:

1. To explore young people's views on the VPT intervention and its approach.

2. To explore their views on our approach (the evaluation team) to evaluating the intervention, this will include exploring the young people's views on what questions we should be asking staff and professionals that work in this area.

The key aims of the second session are to:

1. Report back on how we used young people's feedback and views to inform and influence the evaluation as well as explaining where some suggested changes were not possible (if applicable).

2. Report the findings of the evaluation and ask for young people's views on the results, ideas for how to disseminate the research and future research ideas to build on our work.

In relation to the format for the sessions, we will deliver in a way that meets the young people's needs best, whether it is through group discussion or more creative methods. We will be happy to deliver in person or virtually, again depending on what works best for the group. The length and content of the sessions will also be tailored to ensure it meets the needs of the group of young people we are speaking with.

Methods and data collection

Scoping Review

A scoping review of emergency care-based interventions for those who experience violence and the underpinning causal mechanisms of violence will be conducted. The review will focus on what emergency care interventions work for those experiencing violence as well as how they work and in what context, including what is required from an intervention implementation perspective. The review will also explore the causal mechanisms, and nature of predisposing characteristics, which lead someone to come into contact with services like the VPTs as this can be essential in informing for whom, how and in what context the interventions can be delivered. The review will also include an exploration of the underpinning causal mechanisms which lead someone to come into contact with such services as this can be essential in informing for whom, how and in what context the interventions can be delivered.

The search strategy for this scoping review study will involve electronic databases including PubMed, Web of Knowledge, Science Direct, EBSCOHost (PubMed, CINAHL with Full Text, MEDLINE), Google Scholar, BioMed Central and World Health Organization library. Articles will also be searched through the "Cited by" search as well as citations included in the reference lists of included articles. Reference sections in each document identified as relevant will also be reviewed for further relevant research. In academic papers/articles and websites lists of articles citing documents identified as relevant will also be reviewed. Keyword

searches will be used, and two reviewers will be screening titles, abstracts and full articles. Thematic analysis[1] will be employed to present the narrative account of the review. A separate document has been drafted detailing the full Scoping Review Protocol.

Document Analysis

Documentary analyses, in both Cardiff and Swansea, will focus on materials including role descriptors for members of the VPT and hospital Standard Operating Procedures, particularly those focused on managing ARAs. These will enable an initial understanding of the extent to which VPTs are achieving the aim of establishing a presence within the hospital, health board and wider agencies. These will be subjected to a content analysis, capturing the number and qualitative nature of mentions of VPTs, and summarising how their roles are represented, within and between Cardiff and Swansea. We will further assess the extent to which VPTs are represented on and participate in broader violence prevention initiatives within and external to the health estate, such as Community Violence Prevention Teams. A separate document has been drafted detailing the full Document Analysis Strategy.

Interviews

Participants will be recruited from statutory and non-statutory organisations who are professionally associated with the interventions. Their identities are known to the broader research team and through co-production initiatives with intervention partners, and available through additional snowball sampling methods. Interviews will be conducted with up to 30 agents across each of the two local violence prevention ecologies (N = 60). We will interview up to 30 stakeholders in the two local violence prevention ecologies to further our understanding of the extent to which VPTs have or have not become embedded within these systems. Interviews will begin with members of the VPTs themselves, and of their respective local health boards. We aim to stratify recruitment across frontline practitioners, policymakers, and others strategically involved with the implementation of the intervention. We are only interested in professionals' views on intervention delivery and at no time require reflection on personal circumstances, whether that be staff or patients.

Interviews will be taking place virtually by telephone interview, video call or in person at the preference of each participant and local, regional, and national COVID-19 guidelines at the time. Data collection will take place January – September 2023. If taking part virtually, the participant may take part in the interview from a location of their choosing (e.g. their home

---

[1] The rationale for the use of thematic analysis is provided in the Data Analysis section below (p.21-22).

or work environment) where they are able to talk in a private space without interruption or being overheard. If taking part in person, the participant will also be able to choose the location, with the caveat that the interview should be conducted in a private space without interruption or being overheard. Researchers will ensure they are aware of COVID-19 guidelines implemented at the interview location and ensure they are followed to maximize the safety of the interviewee and themselves. For virtual interviews, the researchers will be based in their working location (either from home in a private room, or from a pre-booked University location). Researchers will use a Cardiff University virtual background during interviews conducted using video conferencing software. The researchers will conduct remote interviews in private spaces where they are not overheard, using headphones where possible (e.g. when not recording via Dictaphone). Interviews conducted via telephone and in person will be audio recorded via Dictaphone. A semi-structured interview guide will be used during interviews to situate VPTs within the broader ecology of practice and describe the inter-relationships between partners. Interviews will also explore (but will not be limited to):

- how ED data is captured in patient management systems, by whom, at what stages of the patient pathway.
- any classification, formal or informal, of patients as an ARA.
- who is involved with collection, management, anonymization, sharing and use of ED data.
- how VPT augments existing job roles and expectations; partner requirements for VPT activity data and what, if any, opportunities for these data to inform violence reduction initiatives exists.
- whether there are any legal, technical, or financial considerations for interagency cooperation.
- opportunities for existing collaborations, or for new collaborations to be formed.

Interviews will begin with members of the VPTs themselves, and of their respective local health boards. These will complement the documentary analysis by furthering our understanding of the strategies adopted for establishing the presence of the VPTs, and the extent to which role descriptors capture the work of the VPTs in sufficient detail to enable the essence of these roles to be replicated across contexts. Interviews will also include a section in which we present interviewees with three to four case study scenarios of individuals presenting to the hospital with an ARA. Interviewees would be asked to talk through the processes for what would typically happen next, in terms of risk and needs assessments, advice and signposting. This would enable us to understand fidelity to the *form* of intervention delivery within and between sites, and fidelity with respect of deeper *functional* principles, such as the adoption of a holistic and patient centred approach to care.

Interviews will also include a network mapping exercise to identify other key actors and agencies within this system who interviewees interact with around the VPTs, as well any perceived gaps and groups where engagement was perceived as having been more difficult. Interviewees would also be asked about experiences of the staff training and which other staff the hospital and health board had offered this training to, to upskill the wider workforce. These insights would inform subsequent sampling of actors and agencies within the hospital, health board and wider ecology (e.g., third sector agencies) to be approached for further interviews to further explore the establishment of the VPTs within the local violence prevention ecology, and partnership working.

To understand contextual contingencies, all interviews will include an emphasis on the internal (i.e., within hospital) and external (i.e., local violence rates, demographic profiles of communities served, histories of partnership working) contextual conditions perceived to impact positively or negatively on the implementation and effects of the intervention. Interviewees across both sites would be asked to reflect on 'where next' with adaptation and scale up of the intervention to other contexts. For example, whether the functioning of the intervention is likely contingent on the urban contexts in which it has so far been delivered and hence scale up should target other large cities with high violence rates. Or whether scale up to other settings, such as community hospitals may be feasible, with further adaptation.

Inclusion and Exclusion criteria

All individuals who consent to participate and are professionally associated with the interventions in Cardiff and Swansea, either within the health or police estates, or non-statutory partners, will be eligible. There are no exclusion criteria.

Recruitment Process

Participants will be recruited purposefully across the violence ecology, stratified by sector (e.g., police, health) and responsibility (e.g., practitioner, decision maker, advisor, commissioner). The evaluation team will be following best practice in ensuring informed consent and all participants will receive study information in advance and, should they choose to take part, provide written informed consent prior to their interview taking place. An initial email will be sent to all relevant members of the VPTs themselves informing them of the study. A participant information sheet and consent form will also be sent with the email detailing the study and their proposed involvement. During these initial interviews, snowballing sampling methods will be adopted in order to identify other relevant professionals for interview. The process above (emailing with an information sheet and consent form) will be repeated for all those interviewed. Recruitment will continue until data saturation is reached in each site.

We will send professional stakeholders and target group members an invitation letter by email detailing the work and asking for expressions of interest in participating in the remote interviews. Each stakeholder member expressing an interest will be contacted by a researcher, who will answer any questions and provide the full information sheet and consent form for the study prior to data collection.

Data Management and Security

All processes for data collection, storage and processing will be compliant with the Data Protection Act (2018) and the General Data Protection Regulation (2016). Any paper records will be kept in lockable storage units in lockable offices, accessible only to members of the research team. Potentially identifiable data will be stored separately and be password protected. Qualitative data will be transcribed verbatim and analysed using NVivo 12 software. All data will be securely stored on Cardiff University's internal server with secure transfer between team members. Anonymised quotations will be used in reporting results.

The information sheet will explain that participation in the interviews is completely voluntary and that they will not need to answer any questions they do not wish to, that they can stop participating at any point during the interview, that interviews will be recorded for later transcribing and that during transcribing any identifiable information will be anonymised, and that data will be securely stored for at least 5 years. Participants will be able to withdraw from the study up until publication of the results. Once a participant has withdrawn no further data will be collected from them and our default position will be to retain already collected data. However, the participant will have the option to withdraw their data as we will ensure anonymized transcripts can be linked back to the participant via the use of a participant identification number. Consent forms will include participants' names which will be stored in a password protected database alongside the unique participant identification number. Within the interviews with professional stakeholders we will also collect descriptive information such as job role, time in role and professional background. The descriptive data will be reported in the results section of the report to provide an overview of the interview sample but will not be linked to quotes to protect individual identity. Where listing the participant's job role would reveal their identity (e.g. it is a national-level individual role), this will not be included without the prior consent of the individual. As most consent forms will be returned with electronic signatures, researchers will ask participants to confirm their agreement with the key statements on the audio recording. This will then be listened to by another member of the research team, who will countersign the consent form.

All interviews conducted via video call (Skype for Business, Zoom Cardiff University enterprise version or Teams as the approved suppliers by Cardiff University) will be recorded via either Dictaphone (for Skype and Teams) or the provided recording facility as part of the video call

provider (Zoom only). Depending on the video call provider's recording facility this will either produce an audio recording or both an audio and video recording. In the case of a video recording the video stream will not be used and will be deleted upon completion of the interview, leaving the audio stream. All in-person interviews will be audio recorded by Dictaphone. Audio recordings on a Dictaphone will be uploaded immediately to the Cardiff University shared drive and then deleted from the Dictaphone. No recordings will be kept on personal networks. All recordings will be sent to an approved transcription company with an existing confidentiality agreement with Cardiff University, who will transcribe the recording verbatim. These transcriptions will then be quality checked, anonymised and then analysed by the research team.

Interview data will be stored on the University network on password-protected University computers, accessible only by authorised individuals. All video recorded data that is created by recording video calls will have the audio extracted for analysis and the video stream will be deleted as soon as the interview has been completed, as this is not required as part of the study. All data will only be collected and stored on the University network and accessed via password-protected computers and laptops, accessible only to authorized individuals in the research team. No personal data will be stored on personal computers/networks.

Routine Data

Routine healthcare data, the Emergency Department Data Set (EDDS), will be accessed to characterise the nature and incidence of assault-related injury attendances at the two Type I ED's (24 hours with resus) in Swansea and Cardiff. These data are anonymised, aggregate and subject to existing approvals between the research team and the data controllers. Public open police data provides anonymous incident details for crimes across England and Wales. These data will be used to characterise violence against the person incidents involving the police in the catchment area of the two ED's.

Existing routine data does not inform the qualitative work, beyond capturing possible reasons for variation in intervention design to meet local conditions, for example ethnic, gender or age variations that might warrant different approaches across the two EDs (e.g., translators for non-English speakers, liaison with independent domestic violence advocates, involvement of youth social services).

Methods overview

Research methods	Data collection methods	Participants/ data sources (type, number)	Data analysis methods	Research questions addressed
Scoping Review	Reviewing literature on electronic databases	Academic papers	Thematic analysis	RQ.9
Document Analysis	Collating VPT documentation	VPT documentation	Thematic and content analysis	RQ 1-10.
Routine Data	Accessing key data sources	Emergency Department Data Set (EDDS) and Public open police data.	Descriptive Analysis	RQ.1
Interviews	In-person and virtual, semi-structured interviews	Professionals associated with the interventions in Cardiff and Swansea (N=60)	Thematic Analysis	RQ.1-11

Data analysis

This study will be exploring unexpected relationships, similarities and differences within the violence ecology that the established VPT models are located. During the study we will be conducting analysis of four separate types of data that will be interlinked throughout the study:

1. Scoping Review Analysis: Thematic analysis will be employed to present the narrative account of the review. A Scoping Review Protocol has been drafted following the PRISMA-

SR guidance (25) which details the full process for the review and the initial a priori themes developed based on our research questions and existing theory.

2. Document Analysis: Documents will be subjected to a thematic and content analysis, capturing the number and qualitative nature of mentions of VPTs, and summarising how their roles are represented, within and between Cardiff and Swansea. A Document Analysis Strategy has been drafted which details the full process for this work and the initial a priori themes developed based on our research questions and existing theory.
3. Qualitative Data Analysis: Adopting a critical realist approach and drawing on existing ecological theories of the division of labour (26), activity theory and further guided by emerging frameworks for adapting interventions in new contexts (24, 27), thematic analyses (28) will be conducted to examine VPT implementation on the work ecology and develop a programme model in order to understand the micro-, meso- and macro-organisational and policy contexts of the VPT (e.g. barriers, governance, funding, strategic partnerships, data systems, acceptability) so we can situate VPTs within the broader ecology of practice and describe the inter-relationships between partners and sectors. A Qualitative Analysis Plan has been drafted which details the full process for this work and the initial a priori themes developed based on our research questions and existing theory.
4. Routine Data Analysis: We will undertake descriptive analysis of anonymised ED data, which is available under existing data sharing agreements with Cardiff ED and will be developed with Swansea ED. Routine health and police data will be analysed to characterise the distribution of and nature of presenting conditions of unscheduled attendances in each ED.

Thematic analysis will be employed for the scoping review, document analysis and interview data to facilitate both the structured (research questions and existing theory) and exploratory elements of our evaluation and ensure consistency in both the analytical and reporting process.

Triangulation

Triangulation of the qualitative and quantitative data will be conducted to explore similarities and differences between these data to enhance our understanding of the implementation and delivery of the VPTs.

Regulatory Considerations

Ethics

This study was given a favourable ethical opinion on 25th November 2022 by the Cardiff University School of Dentistry Research Ethics Committee (REF: DSREC/2213a).

Study Adoption

This study was submitted to DECIPHer for adoption in August 2022. Adoption was confirmed 28th September 2022, Adoption number 455.

ISRCTN Registration

Content from this Protocol has been utilised to inform a submission to register this evaluation on the International Standard Randomised Controlled Trial Number (ISRCTN) Registry. The ISRCTN Registration Number will be added to this protocol when available.

Outputs and Dissemination

Outputs

The primary end of study output of this research will be the YEF Research Report. We will also discuss the dissemination and utilisation of our research findings with our funder as the study progresses and following this the final report will be shared with key policy and practice partners. Further outputs will include a protocol paper, and a peer reviewed research paper describing the primary outcomes of this evaluation.

Authorship

In order for study co-applicants to warrant authorship on study outputs they must make a substantial contribution to the conception and design of the study, analysis and interpretation of data, and drafting of the output, including critical revision for important intellectual content. The evaluation team will ensure that junior researchers are enabled and supported to lead output opportunities. All output authors must provide final approval for the output version to be published.

Members of the consortium organisations will be permitted to contribute to outputs where they have made a substantial contribution to drafting the output, including critical revision for important intellectual content. All consortium organisations will be acknowledged in outputs.

Governance

Evaluation Team

The project team will comprise of those involved in the day-to-day conduct of the study. The team will convene weekly. The table below provides an overview of the evaluation team, our roles and duties for this work.

Role	Name & Organisation	Duties
Chief Investigator	Professor Simon Moore Violence Research Group and the Security Crime and Intelligence Innovation Institute, Cardiff University	SCM is overall lead and advises on quantitative data analysis. Part of the Project Management Team.
Co-investigator	Professor Graham Moore DECIPHer, Cardiff University.	GM advises on qualitative data analysis and evaluation methods. Part of the Project Management Team.
Co-investigator & Project Manager	Jordan Van Godwin DECIPHer, Cardiff University	JVG leads on day-to-day project management, data collection, analysis, and write-up. Part of the Project Management Team.
Co-investigator	David O'Reilly, General Surgery, Cardiff and Vale University Health Board	DO'R Provides advice on the clinical management of victims of violence.
Research Assistant	Niamh Clift, DECIPHer, Cardiff University.	NC provides day-to-day research assistance for the evaluation.

Stakeholder Reference Group

The Stakeholder Reference Group (SRG) is comprised of representatives from the following groups/teams:

- The Cardiff University Evaluation Team.
- The South Wales Violence Prevention Unit.
- The Violence Prevention Teams.
- Cardiff and Vale University Health Board.
- Swansea Bay University Health Board.
- The Youth Endowment Fund.
- The Home Office.

The aim and role of the SRG is to ensure that the overall approach of the project is useful to those who might use outputs, to advise on new and interesting avenues of enquiry, and opportunities to put findings into practice. Other aspects of the SRG role include:

- Early engagement and involvement in the project's direction.
- To co-produce the study protocol.
- To advise the evaluation team on activities that might influence the project direction.
- To provide feedback to the project on key study documents, based on the communities and organisations members represent.
- To provide a forum to facilitate full engagement and active debate among stakeholders.
- To represent stakeholders who have an interest in, and whose own roles and activities may be impacted by the project outputs.
- The agenda and papers for meetings will be distributed seven days in advance of the meeting.
- The minutes and action log will be circulated to members within seven days to check accuracy.
- Members must forward amendments to the Group's secretary within ten days of the meeting.
- The Group will meet monthly over the course of the project, with an option to schedule additional work if the need arises.

Protocol Version Control

Given the exploratory nature of our evaluation, aspects of the protocol may change as data collection proceeds. The protocol will also be submitted for publication in a trial protocol journal and may therefore be peer reviewed which may necessitate additional amendments. The evaluation team will ensure these are communicated transparently with YEF and through the SRG.

Risks

The following table outlines the potential risks for this evaluation.

Risk	Risk Description	Mitigating Controls	Impact (L=1/M=2 /H=3)	Likelihood (L=1/M=2 /H=3)

Intervention Team / Partners pull out of study	Increasing pressures / growing need, study no longer perceived as a priority, due to changes in local COVID-rules, staff illness / absences / strike action during periods of data collection.	If partners / intervention did not want to take part in interviews it would still be possible to map the system and interventions through document analysis and collect some process and routine data.	3	1
Unclear roles and responsibilities	A lack of clarity about the roles, responsibilities and liabilities of the teams involved.	A Stakeholder Reference Group (SRG) has been set-up to clarify and formalise each parties' roles, responsibilities.	2	1
Significant delay in securing ethical approval	Queries over consent process, requirement for online methods, restraints by university due to COVID-19.	Submit application as early as possible. Provide detail on steps taken to ensure safe and secure provision of study materials and data.	3	1
Delay to start of recruitment (recruitment begins later than Feb 23) due to emerging factors (Covid-19,; Flu; National Strike Action)	Factors related to seasonal illness and covid. Impact of National Strike Action.	Establish rapport and working relationship with key individuals and work with them to identify convenient times for interviews. Ensure flexibility of approach (online methods, telephone as well as in person) to maximise convenience. The evaluation team will	2	2

		keep up to date with strike dates and avoid contacting potential participants and setting-up interviews/meetings during strike periods. Our data collection period (Jan-Sep 2023) covers an extensive period and should allow us to accommodate these changes.		
Difficulty in recruiting to interviews (staff, stakeholders)	Not a priority for staff, may be unable to acquire cover due to staff availability.	Continual communication with teams/stakeholders, developing and maintaining relationship. Develop interest from the outset. Maintain a flexible approach to data collection times and method (i.e. telephone etc.). Our data collection period (Jan-Sep 2023) covers an extensive period and should allow us to accommodate these changes.	2	2
There is a breach in data security (collecting, storing and sharing personal data).	Data may be accessed during transfer by unauthorised personnel. Participants may be able to be identified. Transferring	A confidentiality agreement will be put in place between Cardiff University and the out-sourced transcription company prior to any data transfer. Staff will transfer data	3	1

Unsecure transfer of data	personal data to external source qualitative data transcription company.	securely using the FastFile method (or similar) in accordance with Cardiff University Governance and Compliance Division.		
Participants may be able to be identified.	Identifiable data such as name and job role will be collected.	Data will be stored separately from identifiable data e.g. consent forms. Data will be pseudonymised i.e. database will contain a non-unique identifier (e.g. initials) and a participant ID, not participant name. The risk that participants will be identified based on non-unique identifiers is low. Electronic and paper data will be stored separately from identifiers.	3	1
Participants may be able to be identified.	Personal identifiers in transcripts.	Transcripts of interview audio recordings will be anonymised. When the results are reported, the identities and comments of particular participants will not be identifiable.	3	1

Unauthorised access to the shared drive.	Non-authorised personnel may gain access to the shared drive.	Access to shared drive will be restricted. Therefore, only authorised staff will be given permission to access electronic data stored on the shared drive. Individual user accounts will be password protected. All individual folders in the shared drive containing confidential data with also be password protected, which only the evaluation research team will have access to.	3	1
Diminished team capacity with respect to general study.	Sickness, leave, bereavement, caring responsibilities, staff leaving posts, national strike action.	Open and regular communication across team. Set up of shared study folders and email address so multiple members of research team can access. Storage of study documents on shared drive. Study specific manuals, timelines and actions will be developed and shared with team, in addition to the Study Protocol.	2	1

Timeline

The following table outlines the initial key deliverables for this evaluation. The dates have since been revised and the 'Revisions' section which follows the table outline the changes.

Dates	Activity	Staff responsible/ leading
03 October 2022	Evaluator Drafts Protocol and seeks feedback from YEF[1]	SCM/JVG
31 October 2022	Evaluator incorporates feedback and submits final protocol to YEF[2]	SCM/JVG
31 October 2022	Evaluator completes final information sheets and privacy notice, incorporating YEF feedback[3]	SCM/JVG
31 January 2023	Evaluator obtains ethics approval and provides confirmation to YEF[4]	JVG
01 February 2023	Evaluator begins data collection[5]	JVG
30 September 2023	Evaluator completes data collection as specified in the protocol	JVG
30 November 2023	Evaluator drafts evaluation report incorporating feedback from YEF and independent peer review	SCM, JVG, GM, DO'R & NC
30 November 2023	Evaluator submits revised logic model	SCM, JVG, GM, DO'R & NC

30 November 2023	Evaluator completes final, peer reviewed evaluation report	SCM, JVG, GM, DO'R & NC
30 November 2023	Evaluator completes support for YEF publication process	SCM/JVG

Revisions:

[1] Following discussion and agreement between YEF and the Evaluation Team this was moved to Oct 31
[2]Following discussion and agreement between YEF and the Evaluation Team this was moved to Jan 2023
[3] Following discussion and agreement between YEF and the Evaluation Team YEF templates were not used. Privacy notices and information sheets were drafted by the evaluation team and shared, Nov 2022.
[4]Approval was received earlier than expected in Nov 2022.
[5] Early receipt of ethical approval facilitated an earlier start to data collection in Jan 2023

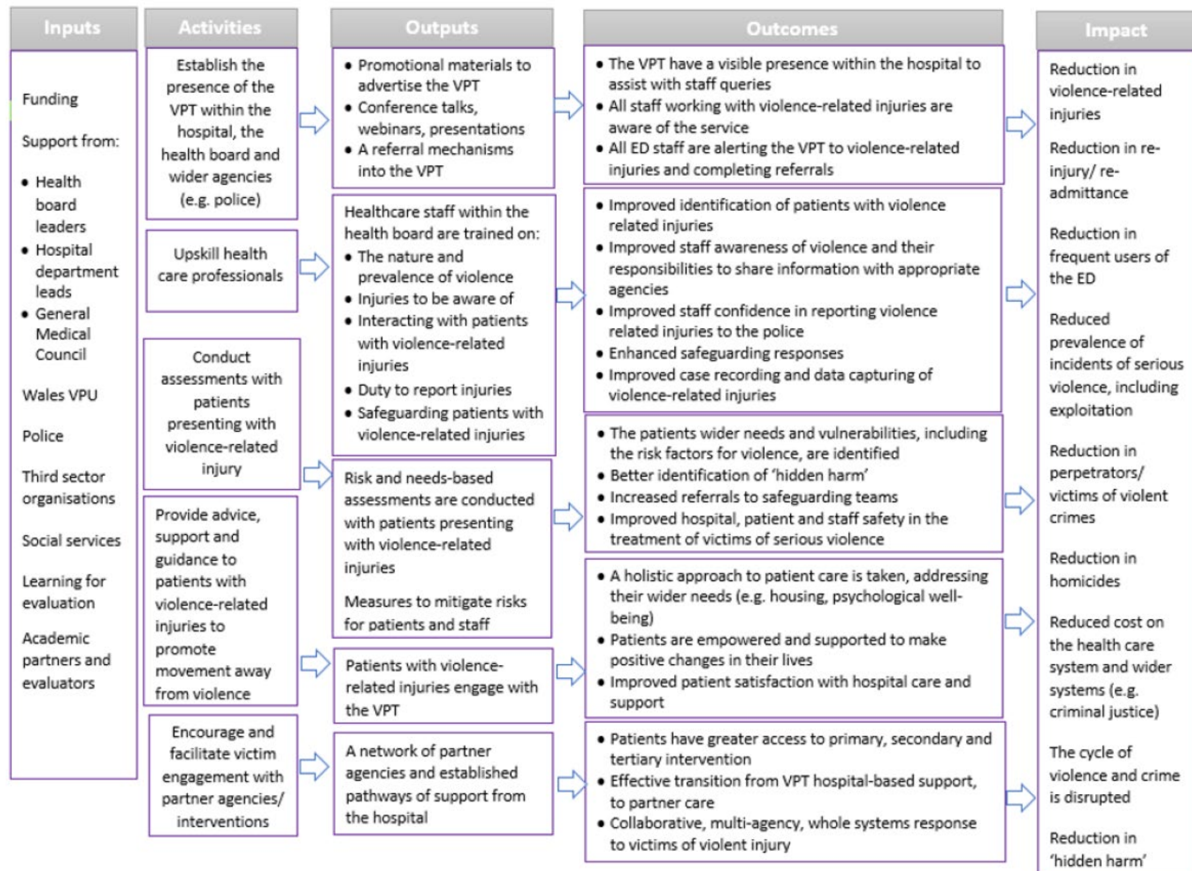
The Gannt Chart outlines the primary tasks and timeline for the evaluation, based on the revised dates outlined above.

	Phase 1					Phase 2								Phase 3	
	Sep	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June	July	Aug	Sep	Oct	Nov
SRG Meetings															
Prepare Study Materials															
Protocol															
Literature Review															
Research Ethics															
Quarterly Reports															
Routine Data Analysis															
Data Sharing Agreements															
Logic Model															
Document Analysis															
PPI															
Interviews															
Interview Data Analysis															
Write-up															
End of Study Report															

Appendices

Appendix 1

PHW Theory of Change



Source: Newbury, A. (2021). A service evaluation of the delivery and implementation of a hospital-based Violence Prevention Team within the University Hospital of Wales, Cardiff, Public Health Wales.

References

1. Purtle J, Dicker R, Cooper C, Corbin T, Greene MB, Marks A, et al. Hospital-based violence intervention programs save lives and money. Journal of Trauma and Acute Care Surgery. 2013;75(2):331-3.

2. Cunningham R, Knox L, Fein J, Harrison S, Frisch K, Walton M, et al. Before and after the trauma bay: the prevention of violent injury among youth. Annals of Emergency Medicine. 2009;53(4):490-500.

3. Kaufman E, Rising K, Wiebe DJ, Ebler DJ, Crandall ML, Delgado MK. Recurrent violent injury: magnitude, risk factors, and opportunities for intervention from a statewide analysis. The American Journal of Emergency Medicine. 2016;34(9):1823-30.

4. Brice JM, Boyle AA. Are ED-based violence intervention programmes effective in reducing revictimisation and perpetration in victims of violence? A systematic review. Emergency medicine journal : EMJ. 2020;37(8):489-95.

5. Cunningham RM, Carter PM, Ranney M, Zimmerman MA, Blow FC, Booth BM, et al. Violent Reinjury and Mortality Among Youth Seeking Emergency Department Care for Assault-Related Injury: A 2-Year Prospective Cohort Study. JAMA Pediatrics. 2015;169(1):63-70.

6. Carter PM, Dora-Laskey AD, Goldstick JE, Heinze JE, Walton MA, Zimmerman MA, et al. Arrests Among High-Risk Youth Following Emergency Department Treatment for an Assault Injury. American Journal of Preventive Medicine. 2018;55(6):812-21.

7. Haider AH, Young JH, Kisat M, Villegas CV, Scott VK, Ladha KS, et al. Association Between Intentional Injury and Long-Term Survival After Trauma. Annals of Surgery. 2014;259(5):985-92.

8. Johnson SB, Bradshaw CP, Wright JL, Haynie DL, Simons-Morton BG, Cheng TL. Characterizing the Teachable Moment: Is an Emergency Department Visit a Teachable Moment for Intervention Among Assault-Injured Youth and Their Parents? Pediatric Emergency Care. 2007;23(8):553-9.

9. Dahlberg LL. Youth Violence in the United States: Major Trends, Risk Factors, and Prevention Approaches. American Journal of Preventive Medicine. 1998;14(4):259-72.

10. Bath R. A whole-system multi-agency approach to serious violence prevention: A resource for local system leaders in England. London: Public Health England; 2019.

11. Serious Violence Strategy. London: HM Government; 2018.

12. Home Office. 'Whole-system' approach to tackling violent crime is working https://www.gov.uk/government/news/whole-system-approach-to-tackling-violent-crime-is-working: Home Office; 2022 [Available from: https://www.gov.uk/government/news/whole-system-approach-to-tackling-violent-crime-is-working.

13. The NHS Long Term Plan 2019 [Available from: www.longtermplan.nhs.uk.

14. NHS Digital. ISB1594: Information Sharing to Tackle Violence Minimum Dataset https://digital.nhs.uk/data-and-information/information-standards/information-standards-and-data-collections-including-extractions/publications-and-notifications/standards-and-collections/isb1594-information-sharing-to-tackle-violence-minimum-dataset: NHS Digital; 2014 [Available from: https://digital.nhs.uk/data-and-information/information-

standards/information-standards-and-data-collections-including-extractions/publications-and-notifications/standards-and-collections/isb1594-information-sharing-to-tackle-violence-minimum-dataset.

15. Newton AS, Hartling L, Soleimani A, Kirkland S, Dyson MP, Cappelli M. A systematic review of management strategies for children's mental health care in the emergency department. Emergency Medicine Journal. 2017;34(6):376-84.

16. Hinsliff-Smith K, McGarry J. Understanding management and support for domestic violence and abuse within emergency departments: A systematic literature review from 2000–2015. Journal of clinical nursing. 2017;26(23-24):4013-27.

17. Ansari S, Boyle A. Emergency department-based interventions for women suffering domestic abuse: a critical literature review. European Journal of Emergency Medicine. 2017;24(1):13-8.

18. Brice JM, Boyle AA. Are ED-based violence intervention programmes effective in reducing revictimisation and perpetration in victims of violence? A systematic review. Emergency medicine journal. 2020;37(8):489-95.

19. Koenig KL, Benjamin SB, Beÿ CK, Dickinson S, Shores M. Emergency Department Management of the Sexual Assault Victim in the COVID Era: A Model SAFET-I Guideline From San Diego County. Journal of Emergency Medicine. 2020.

20. Newbury A. A service evaluation of the delivery and implementation of a hospital-based Violence Prevention Team within the University Hospital of Wales. Cardiff: Public Health Wales; 2021.

21. Kao AM, Schlosser KA, Arnold MR, Kasten KR, Colavita PD, Davis BR, et al. Trauma recidivism and mortality following violent injuries in young adults. Journal of Surgical Research. 2019;237:140-7.

22. Moore GF, Audrey S, Barker M, Bond L, Bonell C, Hardeman W, et al. Process evaluation of complex interventions: Medical Research Council guidance. BMJ : British Medical Journal. 2015;350:h1258.

23. Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. BMJ. 2021;374:n2061.

24. Moore G, Campbell M, Copeland L, Craig P, Movsisyan A, Hoddinott P, et al. Adapting interventions to new contexts—the ADAPT guidance. bmj. 2021;374.

25. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Annals of Internal Medicine. 2018;169(7):467-73.

26. Freidson E. The division of labour as social interaction. Social Problems. 1976;23:304-13.

27. Movsisyan A, Arnold L, Evans R, Hallingberg B, Moore G, O'Cathain A, et al. Adapting evidence-informed complex population health interventions for new contexts: a systematic review of guidance. Implementation Science. 2019;14(1):105.

28. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3(2):77-101.

youthendowmentfund.org.uk

hello@youthendowmentfund.org.uk

@YouthEndowFund

The Youth Endowment Fund Charitable Trust

Registered Charity Number: 1185413