
CONNECT
A relational, youth work hospital based violence intervention programme in Northern Ireland
ea
Education Authority

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Executive Summary

While concerns around serious violence is by no means new, there has been increasing recognition that violence is but one of a number of interconnected vulnerabilities affecting children and young people in the Northern Ireland context. Further, as evidence has increased, we are becoming much more aware that these issues are not just challenges for the criminal justice system, but that they can also affect the health of young people and the health services that they use. Protecting children and young people from all forms of violence is a fundamental right (Hillis et al., 2016; UNICEF, 2022) implicitly embedded within the Sustainable Development Goals (SDGs) and enshrined in the Articles of the UN Convention on the Rights of the Child. Public health has emerged a framework with significant potential for reducing vulnerabilities and improving outcomes (Whitehill et al., 2014; Walsh et al., 2023). Public health been defined as the science and art or preventing disease, prolonging life, and promoting health through community efforts (PHE, 2019). Prevention rather than reaction is one of the key distinguishing features of the public health approach (Moore, 1995; PHE, 2019). To public health advocates, violence reflects intentional injury, which can not only be prevented, but can be conceptually nested within the wider category of health problems that include disease and injuries (Mercy et al., 1993). Through this lens, violence is viewed not as a result of individual pathology, but as an outcome of complex and interacting social, economic and economic factors (Irwin Rogers et al., 2022). However, public health relies on the combined insights and response across multiple systems in order to be effective (Walsh et al., 2023).

Children and young people who are victims of violence-related injuries often require medical treatment, and for more serious injuries, they may attend Emergency Departments (EDs) (Snider et al., 2010). This means that core areas of the health system have routine access to those most affected by violence, and given that a small proportion of young people disproportionally experience the burden of violent victimisation, it is likely that some of those attending ED will be repeat attenders. This raises a number of opportunities.

Firstly, if we know where children and young people most vulnerable to violence and related harms are likely to present, then there is an opportunity that has been thus far under-exploited. There is an opportunity to engage and connect with victims, particularly during periods of acute distress in the moments after an attack. Known as the 'reachable' or 'teachable' moment, these periods of distress are also periods that render victims more amenable to reflection. Akin to the Chinese concept of 'weiji'', these periods of connection reflect both a period of danger, but also a potential change point, where the factors that have contributed to an individual's arriving at ED can become exposed and where the support they are in need of is more likely to be accepted.

The CONNECT project was designed to respond to the needs of young people living in Northern Ireland. A brief intervention was designed to engage vulnerable young people aged 15-25 attending two large EDs. The overall aim of the project was to recognise, respond to, and reduce the vulnerabilities of young people aged 15-25 presenting to ED through collaborative working with services in the local community. Leveraging the potential of youth workers to effectively engage young people, the project is delivered by one project coordinator and four full-time youth work staff. The primary outcome was defined as reductions in hospital recidivism to be achieved via a range of mechanisms including one-to-one mentoring support, increased safety, engagement with services, and goal setting.

Given the lack of process-level evaluations, a pragmatic and mixed method process evaluation framework was adapted from that developed by Hickey et al. (2016). Drawing on the Medical Research Council (MRC) framework (2015) for process evaluations, qualitative data was collected alongside quantitative data (Munro et al, 2010) to understand the context in which the activities were undertaken, the implementation process (i.e. what was delivered and how), the mechanisms of impact (i.e. participant responses to and interactions with the activities) and outcomes.

Over the course of a one-year period, 1416 vulnerable youth were supported by four CONNECT workers operating across two EDs in Northern Ireland. A small majority of these youth were repeat ED attenders (54%)-both illustrating the additional needs as well as the additional pressure that those needs placed on the health system. Males were signifyingly more likely to present with violence-related injuries than females (65% v 35%). In addition to the brief intervention offered, 60 youth received longer-term support in the community.

There was convincing evidence that some of those who engaged with the service had contact across multiple systems. This was evidenced by the observation that almost half (49%) had contact with the justice system in the three months prior to CONNECT and there was a correlation between the number of ED presentation and police contacts, implying that pressure on one system was mirrored by pressure or another. Despite the array of issues, few reported having access to positive social supports. This was demonstrated to be even more important focus given that lower levels of support were associated with higher rates of serious violent victimisation. Thus, the role of the CONNECT worker appeared to be highly important.

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Aligned with previous studies (e.g., Snider et al., 2009; Monpoli et al., 2021), CONNECT evolved both with regard to the target group and the outcomes that it measured. For instance, initially, the target group were defined as youth who were presenting to ED as a result of a violence-related injury. It became apparent that many present to the ED for a number of reasons, and while violence may not be the presenting injury, violence is often the underlying or co-occurring issue.

While not the primary focus of the study, several outcomes were explored and it appears that CONNECT addressed several evidence supported factors likely to reduce pressure on the health and justice systems. These included unlawful behaviour, exposure to violence, and probable depression. Increased social support was also observed, a factor implicated in both reduced stress and reduced violence (Walsh, 2023). Other outcomes that were not initially anticipated became more evident during the process evaluation. For example, a concept known within ED as 'walkaways' refers to patients who present with concerns but who leave before being treated. This places further pressure on the system and often extends to the police as a means of locating those patients and returning them to the ED. Reducing 'walkaways' and facilitating timely treatment can reduce pressure on its own and finding ways of capturing this could prove useful more widely.

As process evaluations are often intended to describe what is currently happening as well to inform future iterations, the formative nature of the current evaluation includes a number of recommendations for consideration. For instance, the data implied variation across the two sites with regard to how much time was spent with individual's within the community. The scale of divergence is worth exploring and while it is necessary to respond to the specific needs of those who present, when average time ranges between 2 and 12 weeks between the sites, it is worth examining further. Additionally, the data implies a need to consider how the process could be informed by a more methodical and evidence informed process for unpacking and responding to complex and overlapping needs. Greater consideration could be given to how young people could be more actively involved in decision making, an element central to the theory of change. Relatedly, it could enhance delivery (as well as evaluation) if the CONNECT workers had access to ED-level data. While CONNECT staff are physically integrated into the ED, they are not organisationally embedded within them. Having honorary status would enhance decision making and evaluation.

In summary, evidence suggests that violence affects children and young people in an array of ways and in a range of settings. Some children and young people are much more affected than others, and for these youth, their potential is likely to be impeded. Despite the utility of public health, collaborative, and evidence-informed responses, the CONNECT project remains the only HVIP specifically for children and young people in the Northern Ireland context that provides a relational intervention by professionally qualified youth workers. As a result, the current study sheds light into the lives and experiences of those attending ED for adverse related injuries and helps to illustrates the utility of HVIPs beyond the singular metric or hospital recidivism. More widely, there are currently few process evaluations of HVIPs internationally, and thus this study adds to the literature by examining and illustrating the factors that facilitated its implementation in the Northern Irish context, with insights for those considering how best to implement similar programmes elsewhere (see fig. 1). Further, this study increases our understanding of how we can fulfil the obligations enshrined in high-level policy frameworks such as the SDGs and UNCRC. This process evaluation adds to our understanding of how the insights can be consolidated and actions may be brought to scale.



INTRODUCTION

The burden of violence

Violence places a significant burden on individuals and on communities, and it is often young people who are particularly vulnerable (Hillis et al., 2016). Protecting children from all forms of violence is a fundamental right enshrined within the UN Convention on the Rights of the Child (UNCRC) (UNICEF, 2022). Once largely the domain of the justice sector, there is increasing recognition that violence can be prevented, and that successful prevention requires multiple systems to be more actively engaged in the process. In particular, the health system has been implicated in a more coherent and effective response (Walsh, 2023).

Clustering of violence-related exposure

Previous studies suggest that not all children and young people are at the same level of risk (Silvern & Griese, 2012; YEF, 2022), and not all are at elevated risk of the onset of violence-related harms following exposure. Factors such as living in areas of higher ecological stress (Nygaard et al., 2018), and/or living in conflict affected areas (HajYahia et al., 2021) make some clusters of young people more vulnerable to the traumatic effects of community violence than others. It is within these clusters that youth are more likely to report more frequent and varied exposure to violent adversity and also report clinically significant issues (Walsh, 2023). If this is the case, a number of questions arise: firstly, why are we missing them, and secondly where should we expect to find them? The latter may be more easily answered.

Child and young people who are victims of violence-related injuries often require medical treatment, and for more serious injuries, they may attend Emergency Departments (EDs) (Snider et al., 2010). Some of those who are most affected by violence may even repeat over and over again. These young people are called hospital recidivists and it has been estimated that between 10% and 60% of all those attending the ED are such recidivists (St. Vil, 2020), and that in England, 5% of all children attend the ED for violence related injuries during the ages of 10 and 19, with reattendance rates estimated to be between 30% and 50% (Herbert, 2015; NHS, 2022). These observations imply that there is a significant burden placed on the health system as a result of violence-related injuries (Mikhail and Nemeth, 2016). In Wales alone, violence is estimated to be costing health care services approximately £205 million a year (Newbury, 2022).

Hospital based violence intervention programmes (HVIPs)

Recognising the impact of violence on the health system and the potential role that health systems play in prevention has been recognised since at least the 1990's (Wortley and Hagell, 2021) when the first hospital-based violence intervention programmes (HVIPs) were established. HVIPs are programmes that identify children and young people within the high stress environments of ED (Watkins et al., 2021) who are vulnerable to violence and can identify those who are at risk of repeat victimisation with the idea of connecting them with community resources to promote their wellbeing (Carnell et al. 2006; Juillard et al., 2016; Monopoli, 2021), make sense of the wider social factors contributing to hospital recidivism (Aiken, 2002; Jang et al., 2023) and reduce vulnerabilities. HVIPs are underpinned by several core concepts, the most commonly expressed is the 'teachable moment' (Jang et al., 2023). This is a concept that is borrowed from other areas of health promotion, and is defined as 'a naturally occurring life transition or health events thought to motivate individuals to spontaneously adopt risk-reducing health behaviours' (McBride, 2003).

Youth work responses

Professional youth work is defined as the process of supporting the personal, social and educational development of young people across diverse settings (National Youth Agency, 2020). Youth workers are a valuable resource for sustainable social, emotional and behavioural change (Walsh & Harland, 2021), and in the context of complexity such as violence prevention, hold the promise of saving lives (Thapar, 2021). Socially targeted polices frequently cite the potential of youth work (Maxwell & Corliss, 2022), and previous studies have demonstrated that youth works' provisions of social support operates through psychological stress to reduce violent outcomes (Walsh, 2023). A youth work methodology is first and foremost about a critical, relational-driven encounter with young people (Harland & McCready, 2012), wherein the youth worker meets young person on their own terms and endeavours to facilitate meaning-making from lived experiences. Professional youth work is in fact underpinned by learning environments that engage, stimulate and motivate young people, while also supporting them to explore their fears and aspirations and reflect on their experiences-good and bad (Jupp-Kina & Gonçalves, 2021). In the context of divided and violent societies such as Northern Ireland, those experiencing the greatest ecological stress are also those most at risk of marginalisation within communities (Harland & McCready, 2014), and it are these youth are most likely to be affected by stress induced pathology (Sperry & Widom, 2013). Importantly, in the context of HVIPs, interventions delivered by professionally qualified youth work hold significant promise, but as yet, they remain under-evaluated.

INTRODUCTION

Evaluating HVIPs

While HVIPs were first implemented in the United States, there are currently around forty such programmes in the UK (NHS, 2022). External organisations-usually with expertise in youth focussed practice-lead the programmes, but are nested within the clinical setting of the ED (Wortley and Hagell, 2021). HVIP teams are recommended to include at least two frontline workers (NHS, 2022) and one coordinator, capable of engaging 25 young people per year (Mikhail and Nemeth 2016), and at an estimated cost of £250k per year (Riley, 2020).

Understanding the role and characteristics of those who deliver HVIPs remains in its infancy, but a small number of process evaluations have documented these. One of the most widely replicated HVIP, Redthread in the UK, employs youth workers and provides them with a six week induction and core training programme. They also receive ongoing relevant training and clinical supervision. Most are already experienced youth workers with backgrounds in mental health, youth justice services and social work.

In one of the few studies to explore the perspectives and needs of service users, Snider et al (2010) identified seven clusters of intervention activities that were rated in terms of importance and feasibility. The activities considered least feasible included connecting youth to sports, housing, and employment services. However, just 'being there' for young people, treating them with respect, and connecting them with the community were considered to be both most highly valued and most likely to succeed.

To provide consistency in a burgeoning field, both the US National Network of Hospital Interventions and the NHS have provided implementation guidance. While there are differences, some common steps include: scoping; defining the outcomes; getting the right people on board; establishing local 'buy-in' from a key member of staff in the ED, managers and the youth workers; finding the right external group to collaborate with (Karraker et al., 2011; NHS, 2022).

HVIPs have shown promise for reducing youth violence recidivism and reinjury (Becker et al. 2004; Mikhail and Nemeth, 2016; Butts and Delgado 2017), with rates of reduction ranging between 20% and 80% (St Vil et al., 2020). In the USA, a decade of data showed that the WAP project reduced the reinjury rate from 8.4% to 4.9% (Juillard et al., 2016). In the Scottish context, a retrospective study showed that following the intervention, attendances dropped by 24% compared with a control whose attendances increased by 15% (Magill et al., 2019). While recidivism appears to be the primary aim, samples tend to be small, and the data is more difficult to capture than other outcomes (Snider et al., 2009). In general, the findings are mixed ((Ilan-Clarke et al., 2016; Mikhail and Nemeth, 2016), the impact data is limited (Snider et al., 2009), and the evaluations completed thus far are replete with ill-defined outcomes (see for example, NPC, 2018), with the existing evidence mostly limited to descriptive data on uptake of services (Wortley and Hagell, 2021). That said, other outcomes appear to be of importance. In their Delphi study with more than 70 HVIP experts, Monopoli et al (2021) found that a wider range of metrics to capture improvements in mental health and socio-emotional outcomes is required. In fact, the process identified 64 potential outcomes, of which, only 23 are routinely captured. Mental health, employment, and educational needs (Jang et al., 2023) are of most concern to service users themselves, an observation that closely aligns with longitudinal HVIP data (Juillard et al., 2016; Redthread, 2017). HVIPs thus allow the flexibility to focus on uncovering the less obvious, antecedent needs of young people who attend ED in crisis (The Health Foundation, 2020). One of the strongest moderators of impact, however, appears to be intervention duration, with longer support of between 3 and 5 months (Ilan-Clarke et al., 2016) predictive of more positive outcomes (Mikhail and Nemeth, 2016)

Several barriers to effective hospital-based interventions have also been identified. For example, Watkins et al (2021) found that staff turnover was predictive of lower rates of referral to the programme. This speaks to the broader implementation insights provided by Mikhail and Nemeth's (2016) review that found recruitment challenges, funding issues, and a lack of community resources were implicated in reduced success. Few studies have explored implementation barriers from the perspective of those who deliver the interventions. Of the limited insights available, Sheetal et al (2023) noted that vicarious trauma and staff burnout is a challenge that teams need to recognise and respond to via specialist mental health supports and paid time off.

Despite several decades of implementation, most high-quality evaluations remain limited to the North American context (Abbleby, 2023), and despite the exponential rise in interest, there has been no rigorous process evaluation within the UK context (van Godwin et al., 2023). This is particularly important as HVIPs are complex interventions. Therefore, the overarching aim of this study is to conduct an implementation and process evaluation of the CONNECT HVIP in Northern Ireland to understand how it functions through the examination of its implementation, mechanisms of impact, and the wider contextual factors associated with the design and delivery. While several process evaluations of hospital-based violence reduction interventions are currently ongoing (see for example, Appleby et al., 2023; van Godwin et al., 2023), this study address the paucity of evidence around how such interventions are implemented with reference to the Northern Ireland context where community and paramilitary related violence has endured.

METHODS

A pragmatic and mixed method process evaluation framework was adapted from that developed by Hickey et al (2016). Drawing on the Medical Research Council (MRC) framework (2015) for process evaluations, qualitative data was collected alongside quantitative data (Munro et al, 2010) to understand the context in which the activities were undertaken, the implementation process (i.e. what was delivered and how), the mechanisms of impact (i.e. participant responses to and interactions with the activities) and outcomes. This approach also allowed the team to elicit the experience of those engaged in it (Haynes et al, 2014).

This evaluation incorporates aspects of realist evaluation (Pawson & Tilley, 1997), and implementation science (Fixsen et al, 2005) to achieve the study objectives. This framework highlights several priority areas for investigation used by the team to guide the development of the review of the process of implementation (see table 1).

When exploring the process of implementation, it is worth paying attention to the specific implementation steps undertaken (Hoekstra et al, 2014). Theoretical frameworks for process evaluations should embed implementation domains (implementation, mechanisms and context). Integrating process with outcomes data can extend the analysis that is undertaken by exploring the extent to which the tool or intervention was implemented as intended (Strange et al, 2006). In addition to the 'what', the process evaluation tells us more about the 'how'. Exploring the mechanisms through which interventions are delivered helps us to understand the complex pathways involved. The primary aim of this study was to implement a process evaluation that explores the context within which the programme was delivered, how it was delivered, the factors that facilitated or impeded delivery, and early insights related to outcomes.

Table 1: Evaluation framework

Domain	Priority Area	Research Questions	Data Source/s
Context	What are the systems-level factors that impact on implementation? Acceptability	What are the systems-level factors that impact on implementation? What were practitioner/ED staff attitudes towards the model?	Documentary evidence, interviews with practitioners, interviews with ED staff
Mechanisms	Mechanisms of change	What were the dominant mechanisms of change employed by the project?	Documentary evidence, interviews with practitioners, interviews with ED staff; pre-post surveys
Implementation	Dose	How many young people engaged in the brief intervention within ED?	Documentary evidence
		How many young people engaged in longer-term case management over the period?	Documentary evidence; pre-post-test survey
		How did intensity and approaches used vary?	Documentary evidence; pre-post- surveys
Implementation	Fidelity	To what extent was the project implemented as intended?	Theory of Change; Documentary evidence; pre-post-surveys
Impact	Service level outcomes	What service level outcomes were observed on hospital recidivism?	Documentary evidence; pre-post surveys

METHODS

Data collection

Quantitative data: Brief intervention in ED

A range of routinely collected data was collated for analyses (see table 1). This included gender, age, location of injury, nature of the injury, severity of injury, history of ED attendances, and time supported in ED.

Longer-term intervention

To respond to the empirical gap regarding the range of potential outcomes associated with HVIPs, several validated measures complemented the routinely collected data to form a self-report instrument that was conducted by all of those who consented to a more intensive, case management support. While the HVIP workers introduced the survey and outlined the rationale, the youth were provided with a QR code with the first two sessions in the community and again prior to the case closing. The process enabled the participants to complete the survey anonymously. HVIP were on site to answer questions but were not aware of the responses. All responses were completed using an online platform (JotForm) and collated by the author. All responses were first downloaded on Excel format before being coded into SPSS V27.

Demographics: A series of demographic data including participant gender, age and educational/employment status was captured. In the context of Northern Ireland, another variable capturing politico-religious identity was also captured (see table 2).

Trauma checklist -youth and child: The Trauma Checklist is a twelve-item instrument that captures familial and community adversity. Additional questions reflecting the context of Northern Ireland (such as exposure to paramilitary related violence) were added to the items.

CRIES-8 (Perrin et al., 2005): The CRIES-8 is a modified version of the Impact of Events Scale (Horowitz et al., 1979) to capture trauma related psychological distress. The measure consists of eight items designed to identify core PTSD symptoms of 're-experiencing' and 'avoidance'. In several studies, the instrument has demonstrated both validity and reliability as a screening tool for PTSD with children and youth aged eight years and above (e.g., Yule, 1997; Perrin et al., 2005; Morris et al., 2015; Duffy et al., 2021)

Likelihood of Violence and Offending Scale (Flewelling, Paschall & Ringwalt, 1993): The eight-item scale is a short, self-report measure of violence. Each item is scored on a Likert scale ranging from 1-4 with options ranging from not likely at all (1) to very likely (4).

Oslo Social Support Scale (OSSS-3) (Kocalevent et al., 2013): The OSSS-3 is a short, self-report scale of social support for use in the general population. With a Cronbach's alpha of .640, the measure is acceptable given its brevity and economic structure. Following the broader literature, assessment of social supports can generally be considered in one of two ways: firstly, social support objectively offered and available, and secondly, social support that is perceived to be available (Dworkin et al., 2019). The three-item, one-factor structure of the OSSS-3 aggregates facets such as structural and instrumental support, and thus can be interpreted on a more generic level.

Exposure to Violence (ETV) inventory (Selner-O'Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998): The Exposure to Violence Inventory documents the types of violence that youth have been exposed to. There are three possible subscales (victimisation (6 items), witnessing (7 items), and a total ETV score. If an item is endorsed, a follow-up question inquires about the frequency of the event. The ETV has adequate internal consistency (alphas: Total = .67; Victim =.62; Witnessed = .78).

ED staff survey

A short anonymous survey was designed to capture and explore the acceptability of CONNECT to ED staff. No personal data was collected and items included a number of dichotomous questions (e.g., 'I have referred a patient to CONNECT') as well as Likert type items (e.g., 'the CONNECT project adds value in the ED'). ED staff were provided with a QR code via the CONNECT staff as well as via a poster available in the ED.

All quantitative data were self-report and were completed online using an online platform (JotForm). Responses were downloaded and coded into SPSS V27 for analysis.

Qualitative data

All CONNECT staff were invited to interview. CONNECT interviews last between 45 minutes and 1 hour. The interview schedule consisted of an introduction, a series of open ended questions, followed by a closing statement. The interviewer also reminded the participants of their right to withdraw up until the data had been coded (2 weeks post-interview). The interview schedules consisted of three broad themes (about you and your role; about the needs of the young people; and about the CONNECT project) within which there were a range of illustrative questions and prompts.

Data analyses

Qualitative data were analysed thematically (Braun & Clarke, 2022). The purpose was to code and unite themes that have implicit or latent meaning (Braun & Clarke, 2021). Rather than provide a codified, rigid framework, reflexive thematic analysis provides the researcher with a flexible starting point. The author used an iterative coding process and analyses that immersed them in the narrative data (Braun & Clarke, 2019). The process of data analysis followed a six-phase process (Braun & Clarke, 2021): data familiarization; systematic data coding; the generation of initial themes; developing and reviewing the themes; refining, defining and naming those themes; and writing up the findings. In relation to the quantitative data, univariate and bivariate analyses was undertaken using SPSS version 2

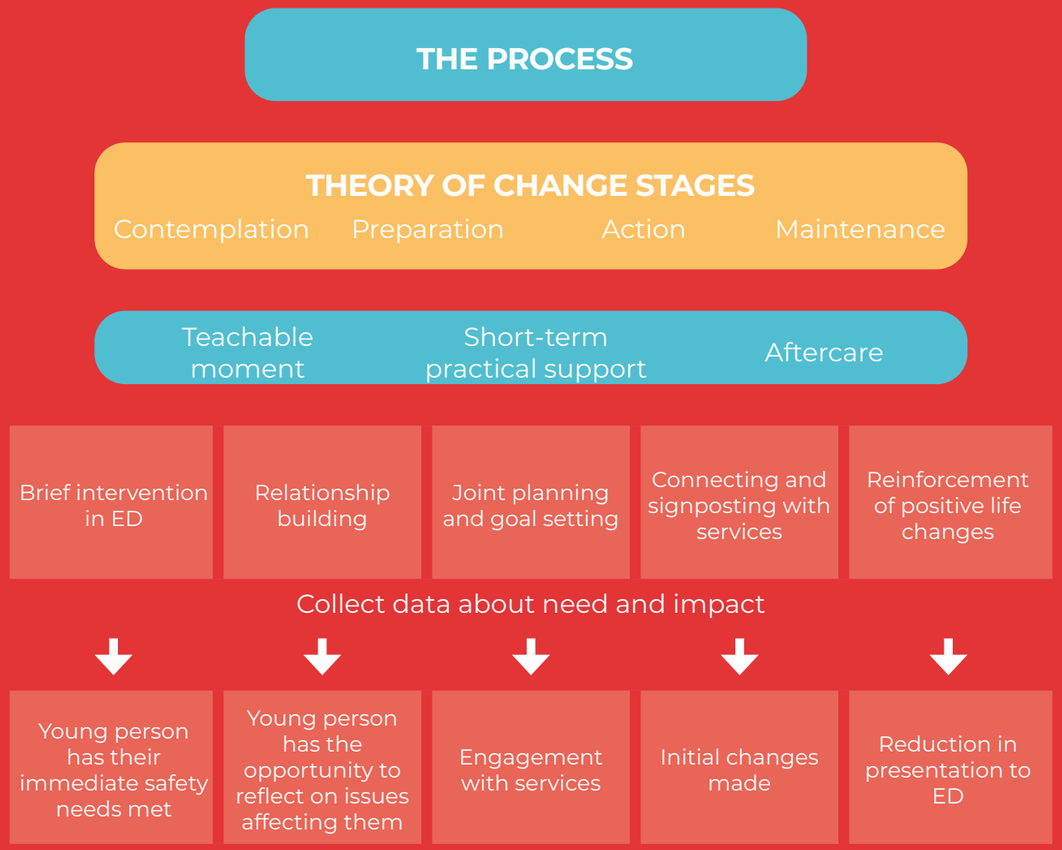
FINDINGS

Context

The Cross Executive Programme on Paramilitarism, Criminality, and Organised Crime (EPPOC) was established in 2016 in Northern Ireland as a high-level programme to understand the respond to the enduring effects of violent conflict and has went through several iterations. A comprehensive review undertaken in 2020 (DOJ, 2020) led to a second phase that prioritised evidence informed interventions across primary (universal), secondary (targeted) and tertiary (specialist) levels. The collective insights from across the programme illustrated that victims of violence could be better supported by extending provision into EDs where victims are likely to present (NIAC, 2023).

The CONNECT project:

The CONNECT project was designed to provide a brief intervention to vulnerable youth aged 15-25 attending EDs in Northern Ireland. Building upon the concept of 'teachable moment' during periods of acute distress, and the formulation proposed by Wortley and Hagell (2019), a Theory of Change (ToC) was formulated to inform delivery (see fig. 2). The overall aim of the project was to recognise, respond to, and reduce the vulnerabilities of young people aged 15-25 presenting to ED through collaborative working with services in the local community. Leveraging the potential of youth workers to effectively engage young people, the project is delivered by one project coordinator and four full-time youth work staff. Two are based in site 1 and two in site 2. The same staff delivered the project for the entire period covered in the current report (Dec 2022-Dec 2023). The team aimed to build upon the brief intervention in the ED to continue to build relationships with the most vulnerable youth in the community and use these safe spaces as a catalyst for reflection and the promotion of problem solving. The primary outcome was defined as reductions in hospital recidivism to be achieved via a range of mechanisms including one-to-one mentoring support, increased safety, engagement with services, and goal setting.



Lead organisation:

At the time of writing, the CONNECT project was the first and only hospital-based project for youth experiencing adverse injuries anywhere in Northern Ireland. The project is led by the Education Authority of Northern Ireland, a non-departmental public body sponsored by the Department of Education (DE) and the Department for the Economy (DfE), responsible for ensuring that efficient and effective primary and secondary education and educational services are available to meet the needs of children and young people, and for ensuring the provision of efficient and effective youth services. EA has a budget of approximately £1.8 billion. It is Northern Ireland's biggest employer with over 43,000 staff including 7,700 teachers, 22,500 school-based staff and around 13,000 non-school based staff (including transport staff, youth workers and HQ staff) (EANI, 2019).

FINDINGS

ED Sites:

The study captures implementation of the CONNECT project across two ED sites in Northern Ireland serving a population in outer Belfast and the city of Derry. Both are 'type one' EDs which means that they are major units with consultant-led services and accommodation for patients; emergency medicine and surgical services are provided on a 24- hour basis (NI Assembly, 2014). Latest figures show that site 1 had a total of 67,757 attendances for 2022/23 and site two had a total of 111,542 attendances (DoH, 2023). Site 1 serves a population of approximately 150,000 people across the local government council area. It also covers some of the most deprived areas in the region. In fact, five of the top ten most deprived electoral Wards are within this Trust area.

The average 7-day reattendance rate for Northern Ireland is 3.6%. Site 1 is significantly above the regional average at 5.4% implying that repeat attenders place a particular burden on this ED (DoH, 2023). While site 2 is below this average (2.7%), there has been a 10.5% increase over the last five years, one of the few EDs that have seen such a significant rise in the time period.

Acceptability:

To explore acceptability of the service among ED staff, a short survey was completed by 43 staff working in the ED across both sites. Of those who completed it, 8 were consultants, 6 were doctors, 18 were nurses, 6 were clerical/administrative, and 5 worked in ED performing other functions. Among this group, there was a high degree of acceptance that violence-related injuries affected the ED (n=37, 84.1%). Almost two-thirds (65.9%) of respondents had heard of CONNECT implying that there was some work to do with existing and more transient staff around communication. Least likely to have heard of the service were nursing staff, although it is not clear if they were regular or locum staff. 54.2% (n=13) of respondents indicated that they had referred patients to the service and 59.3% (n=16) had discussed potential cases with the Connect worker. 75.9% (n=22) of respondents indicated that they had worked alongside the connect worker in the ED and a significant majority (81.5%) indicated that they knew how to make a referral to the service (see table 2). Reassuringly, the majority of respondents 77.8% believed that the service added value to the ED. Several expanded on this to explain why:

"I have seen some young mental health patients who appear to be a lot more settled after an engagement with the connect staff." Consultant

"[the service] is a good point of contact for patients especially in the waiting room. Approachable team I find." Clerical

"[the service] Gives vulnerable young adults someone to talk to whilst they are in ED. It gives them an easier process throughout their treatment and by liaising with medical staff can improve treatment given." Nurse

Table 2: ED staff perspectives on CONNECT

	Strongly agree	Agree	Disagree	Strongly disagree
	n/%			
I know how to contact the	8	14	2	3
CONNECT worker	29.6	51.9	7.4	11.1
I know how to make a referral	5	8	4	3
	18.5	29.6	14.8	11.1
I know the most appropriate patients	15	5	2	3
for CONNECT	55.6	18.5	7.4	11.1
I know what types of support are available	10	3	2	3
	37	11.1	7.4	11.1
CONNECT adds value to the ED	17	4	0	3
	63	14.8	0	11.1

This was perceived to also extend beyond ED staff to other professionals who attend ED with patients. For example, many young people attend with paramedics or by the police. In all situations, young people with acute needs and multiple vulnerabilities can be in distress, thus raising tensions in the ED. Several practitioners noted that having a relational approach through professionally qualified youth workers trained to deal with and engage young people can reduce potential tensions, enable clinicians to do their job, and enable police to leave the ED.

"I, I would definitely say there, there is value. I mean I've had plenty of staff come up to me. Oh my God. Thank you so much. You're a lifesaver. It's great having you here because we have. Maybe we have the, you know, they're all dealing. They're just dealing with medical. So, you know, whereas if you've someone like a youth worker who has flexibility and a bit more time and then even that they can actually deal with that, you know, maybe chatting to someone, listening to them, calming them down, you know, that type of support. Even, even the ones who come in with the police, you know? We can sort of breakdown the barriers nearly with some of them because they come in and they're all bad form with the police, but then a youth worker can sit down there and talk to the person and the police, and make it sort of quite relaxed and it and it and it all." Interview P

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Service users:

A total of 1416 youth engaged in the service across two sites between Dec 2022 and Dec 2023 (site 2 was operational from April 2023) equating to circa 70.8 contacts per month across the two sites. Table 3 illustrates the characteristics of the service users. In total 13.8% of the total youth engaged were related to violence related injuries. More than half of the total sample were repeat attenders (54%, N=744), with youth presenting with violence-related issues more likely to have been repeat attenders. There was a statistically significant gender difference in the reason for presentations to ED, with males (64.7%) more likely than females (35.3%) to present at ED with violence-related injuries

Disaggregating the data by site, youth in site 2 were significantly more likely to present for violence-related reasons than site 1. Conversely, site 1 was more likely to see youth present for reasons related to substance use and mental health compared with site 2. Interestingly, 37.5% (n=202) appeared to have presented for non-adverse related injuries, suggesting that when present at the ED, the team were actively engaging all youth.

Table 3: Profile of service users

		Total project	Brief intervention only	Longer intervention cases
N		1416		
Age[M]		19.5 (range=8-34)		21.4 (R=15-26)
Gender	Male	49.5% (n=701)		69.5% (n=41)
	Female	50.1% (n=710)		30.5% (n=18)
Reason for presentation to ED	Mental health	25.3% (285)		
	Other medical	22.1% (249)		
	Slip/trip/fall	15.4%(173)		
	Substance use	10.6%(120)		
	Violence (bruising)	7.3%(82)		
	Violence (burns)	.4% (5)		
	Violence (knife, wound, head injury)	6.1% (69)		
Intentional injury	Yes	35.3% (498)		
	No	64.7% (911)		
Severity score	Minor	2.2% (31)		
	Moderate	37.3% (523)		
	Serious	33.7%(473)		
	Severe	25.9%(364)		
	Critical	.6%(9)		
Previous attenders		54.2% (744)		
Attendances		M=4 (R=0-162)		
Time supported in ED (minutes)		M=16.7 (R =0-510)		

R=range; M=mean

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Longer case management support:

A total of 60 service users received longer-term, ongoing support as they transitioned out of ED and back into the community. On average, those receiving longer-term support were 21.46 years old, with ages ranging between 15 and 26. Those who consented to this additional level of support also completed a pre-post survey that allowed the team to capture more detailed insights around the needs of this sub-group (see table 4). From these data it was clear that many were acutely vulnerable. A significant minority (14%) had only completed primary level education; the majority were unemployed (73.7%); and had known mental health issues (98.3%). There was overlap between services. For example, 49.2% of the sample also had contact with the justice system in the 3 months prior to support, and there was a moderately strong but positive correlation between the number of ED presentations and the number of police contacts service users had. There were no gender differences indicating that males and females were equally likely to have contact with both the health and justice systems. Despite contact with a range of statutory services, service users often reported a lack of natural social supports. For example, only 16.7% (n=10) reported that it was 'easy' or 'very easy' to get help when needed.

A significant proportion of the entire sample were exposed to a range of violence victimisation, ranging from being chased (57.1%), to be attacked with a weapon (27.9%), and being attacked by individual's believed to be members of paramilitary groups (36.7%). Males were significantly more likely to be attacked with a weapon and males were more likely to have been attacked by paramilitaries. Lower levels of social support were associated with higher rates of serious violence victimisation such as being attacked with a weapon compared with those who had not been.

Self-report screeners established that more than half presented with probable PTSD, and almost three-quarters presented with probable anxiety and depression.

Table 4: Needs of longer-term service users

		N	%	M
Employment status	Employed	10	17.5	
	Student	5	8.8	
	Unemployed	42	73.7	
Highest level of education	Primary	8	14	
	Secondary	38	66.7	
	University/college	10	17.5	
	Unknown	1	1.8	
OSS-3 (Social support)				9.15(5-24)
Any known mental health issues		58	98.3	
Probable PTSD (baseline)		35	59.3	
Probable Depression (baseline)		44	73.3	
Probable Anxiety (baseline)		44	73.3	
Number of difficult life events				3.3 (1-8)
Number of ED presentation (previous 3 months)				3.8(0-18)
Police contacts (previous 3 months)				4.7(0-20)
Number of nights in custody (previous 3 months)				2.3(0-28)
Violent victimisation	Chased with the fear of being seriously hurt	32	57.1	
	Beaten up or mugged	31	59.6	
	Attacked with a weapon	12	27.9	
Paramilitary exposure	Threatened	27	45	
	Attacked	22	36.7	
	Heard of a local attack	32	60.4	

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While the survey data provided an opportunity to understand the wider context of service users, the complexity of young people's lives were illustrated most starkly through the interviews with practitioners and the case studies that had been collected (see table 5). As one practitioner noted:

"And you think that you're getting everything because you're getting such a shocking story sometimes. But it's not even like, do you know what I mean? It's not even like the top of the iceberg. I just, I suppose what I'm trying to say is I don't realise how big that issues would be and how many there would be. Do you know what I mean? And how many different factors was affecting people?" Interview E

"You know most, I'd say 99% of them of young people that I've dealt with, it's not just one issue. It's not just. I've been assaulted. There's a complexity of loads of things going around in, in their world, whether it be drugs, substance misuse, mental health, trauma, abuse". Interview P

A review of casefile data illustrated a range of other potential effects not easily quantified in the pre-post surveys, nor easily captured from interview data (see table 5). These included:

- the immediate (reduced distress in ED and increased insight into the injuries)
- short term (increased stability and informed supports)
- longer term and more distal effects across other systems (e.g., reduced pressure on police and social services).

Interestingly, the case file data illustrated that priorities are not only complex and multi-faceted, making it difficult to identify which of the many to begin with, but also that priorities change based on changing information and the dynamism that often characterise the lives of these vulnerable young people. Two cases outlined in table 5 illustrate this complexity, but have also been chosen from the dozens of case examples available because the presenting issues were not violence related.

Table 5: case examples

Case	Presenting issue	Summary	Potential effects
C1	Non-violence related	C1 presented to ED with an overdose after several months of abstaining. During the CONNECT engagement it became clear that a serious paramilitary threat triggered a relapse. It became clear that a sequence of events led to C1's overdose. While there was historical adversity and signs of trauma, C1's most recent sequence began with problem substance use. This led to a debt with paramilitaries groups that controlled drug supply and distribution in their local community. When they were unable to pay the debt, and unwilling to join the group, C1 was issued with a death threat. On one occasion, they were forcibly taken by car to an isolated area where a gun was held to their head. They were given a specific deadline to pay the debt back. C1 left their home and lived wherever they could for several weeks. They began using drugs at this point to control the acute distress they were feeling. After several weeks, they received a text claiming that the paramilitary group knew their whereabouts and that they had hours to live. C1 intentionally overdosed and was brought to ED. CONNECT workers initiated a multi-agency meeting to assess the threat and agree a wider response. The threat was verified by police. C1 was also rehoused in suitable accommodation, and mentoring and advocacy support was provided.	Reduced distress in ED Increased insight into the injuries and root causes that didn't appear violence-related More informed responses Reduced risk (substance use) Potential to reduce further harm and ED presentation

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C2	Non-violence related	C2 presented to ED with a non-violence-related injury, however, during engagement C2 disclosed to the CONNECT worker that they had recently had a termination. Further conversation elucidated that C2 was living with the impact of recent domestic abuse and concerned about the potential of further domestic abuse. It was also evident that their partner was implicated in other forms of violence. C2 was not engaged with services and was coping with the trauma of violence with alcohol. The CONNECT worker provided C2 with intensive one-to-one mentoring support; referred them into trauma counselling; supported them with a home move; and provided advocacy support while engaging with social services.	Reduced distress in ED Increased insight into the injuries and root causes More informed responses Increased housing stability Reduced risk (substance use, child protection) Reduced pressure on social services and greater compliance with child protection plans Potential to reduce further harm and ED presentation
C3	Mental health	C3 presented to the ED accompanied by the police due to concerns for their mental health. They engaged with the CONNECT worker and it was evident that substance use was part of the presenting issue. This was assumed to be the immediate priority. The CONNECT worker sat with them, calming them in ED before clinical staff could see them. Within this first contact, C3 disclosed a history of abuse and consented to further support in the community. They were assessed, treated and discharged. In the community, it became clear that C3 was actively suicidal and due to have a court appearance. Preparation then became one of the priorities. They were living in an area of concentrated paramilitary activity, and there were concerns for their safety regarding financial concerns. When the CONNECT worker met them, they had no gas or electric at home, and no food. This then became the immediate priority and they were supported with basic needs, social support and keeping active before moving on to explore substance use and trauma.	

Mechanisms

A number of potential mechanisms were identified a priori based on previous literature and the team's assumptions about what makes a difference in the lives of vulnerable young people. One of the orthodoxies of HVIPs is reaching out to vulnerable youth during a 'teachable moment'. While the definition is fairly consistent in the literature, it's meaning and application is less so. Data from this study suggested that staff believed that during this special space, the young people would disclose the issues that they were facing, reflect on the factors that could improve their situations, and agree to support to achieve their goals. However, the teachable moment in this project appears to be more of a wave initiated by the immediate reachable or teachable moment that for some endures and the energy of which continues to travel and grow. Thus, the wave of teachable moments, taking on different shapes and of varying strength can be summarised as social support.

Service users were, however, asked about which of the mechanisms they had experienced. Unsurprisingly, the majority of all longer-term cases were signposted into additional community support services, however, interview data consistently suggested that while important, this alone was insufficient. Quite often, services could be identified, and referrals could be made, but given the strain on many services, referrals could take months to be actioned. Thus, the bridge between ED and community is only partially constructed in the absence of effective services capable of accepting new referrals. In these situations, CONNECT workers often felt compelled to extend their level of support, both in terms of duration and content, in order to reduce risk.

"Services just aren't there. I can make any amount of referrals I want, but they can't take them. It could be a year for addiction services. Unless you go private, it could be longer for an evidence based mental health treatment. So, yeah, we can make referrals, but to me, we need to do more than tick that box". Interview S

"Every service that I try to actually contact or get involved, there's waiting lists for everything. So I know, I know, the connect service we're meant to be very short term. You know, in terms of a few weeks support and signpost and then move on that was originally what you know the thought behind Connect was it wasn't long term at all you know we were the meet the signpost and back off again but in reality...we're meeting these young people who are vulnerable with loads of issues and loads of stuff going on trying to get them these services that can't take them". Interview P

Additional mechanisms included creating opportunities for service users to have their most basic of needs addressed (e.g., support with housing, benefits) and values and beliefs (e.g., attitudes towards police and violence) (see table 6). Only a minority were provided with family support.

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Table 6: Mechanisms of support

	N	%
Basic needs	21	35
Education and life skills	16	26.7
Safe spaces	16	26.7
Parenting/family support	2	7.7
Community support services	23	88.5
Mental health and wellbeing	24	40
Values and beliefs	26	43.3

Qualitative data not only confirmed, but also expanded upon these mechanisms. For instance, one-to-one engagement appeared to be an important mechanism, and much more effective than the referral mechanisms regarding service user recruitment.

"I've, I've got a referral, say from one of our links in the hospital saying there was a young lad in blah, blah blah blah, and then I'd follow up and try and meet them and engage with them and all that sort of stuff. And they haven't been as successful." Interview P

While it is clear that most longer-term cases addressed a range of issues, how these decisions were taken, and which issues to address in which order were highly subjective.

"What do you do then? Where do you start making sense of all that to do something about it?

That's a great question [laughs]. Have you any ideas for me?" Interview E

"I look at it and go, 'OK, well, this lad has addiction issues, right? And but he's also got maybe housing issues', and so you have to think yourself, 'OK, well, if he's getting support in housing, it depends how serious the housing issues is. If he's on the streets or not'. So if he's on the streets, obviously that's a priority. But then for me and it's usually the case, the addiction. Need needs to be addressed because once they're involved in all that, they're not engaged with anyone else anyway, because the addictions taken over so." Interview P

This process appeared logical and reflected much of the sentiments from other interviews, however, the process did not appear to be informed by a methodical process for unpacking and responding to complex and overlapping needs, and neither did these kinds of processes appear to actively involve the young person in the decision making, an element central to the theory of change.

In addition to identifying which mechanisms were at play, the study tripped across several interesting observations around how they are implemented. For instance, it was evident that delivery was much more nuanced given the enduring presence of paramilitaries in the communities that the EDs serve. Higher rates of paramilitary related threat, intimidation, coercion and violence led to more victims presenting to the EDs. However, the nature of paramilitary violence often means that injury is not the end- threats persist. This raised a significant challenge for a number of CONNECT service users and also for CONNECT staff who try to provide support in communities where active threats exits. Negotiating these challenges were common but not often verbalised. These significant factors that are often hidden from official data shape the design of the service.

"There was [CONNECT service user] if you remember who came into the ED for drugs and alcohol. He had been addicted and borrowed money from paramilitaries. The threats triggered a relapse and he ended up being brought in by paramedics. Anyway, it was only when we got chatting that I realised he had already been attacked and there was now a threat against his life. He had no family and was 'sofa-hopping'. You could just see the distress. He was discharged but there was so much going on for him and his life was at risk and I was with him." Interview C

Pre-implementation

Recruitment and induction

Following a service-wide information session, four of the five staff were recruited from within the lead organisation (EANI). They were professionally qualified youth workers who all had experience of working with vulnerable young people and were working on different projects. While none had a specific background in violence prevention, there was a strong background in adversity and mental health, with each practitioner demonstrating a strong concern for young people, an aptitude to understand and respond to complex needs, and an ability to work in partnership with others. The 5th member of staff is a senior youth worker/team leader who supervises the youth work staff, co-ordinates delivery and provides oversight.

ED orientation appeared to be important issue for the CONNECT team members to feel embedded within the ED, understand their role, and receive referrals. It also seemed that the different ways in which the two sites operated led to two very different orientations into the project, differences that facilitated or impeded implementation. For example, in site 1, the clinical lead appeared to be very actively involved in the initial design and provided support for the project. When they were available, they were happy to address any questions that the staff had, however, this motivation belied that fact that as one person leading a busy ED, they were not

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always available. The CONNECT staff in this site tended to learn on the job, making sense of the environment as they delivered the support. This led to several early stressors, including uncertainty around how/when to intervene when a young person was in crisis and was being supported by ED staff. In site 2, the CONNECT team complemented an existing support intervention delivered by clinically trained staff. While the focus of this existing service was on wider vulnerabilities for all patients and was delivered in a very different way, its presence meant that the ED had a system in place and a clinical lead whose time was protected to support it. They also became the main connection between CONNECT and the ED, ensuring that clinical and administrative staff were more familiar with the service and referral pathways. That said, it appeared to take several months to become embedded within the system here too.

"And for them to sort of take you on board and realise who you are and what you're doing, you know, really building relationships with people on the ground and the staff and the first couple of months were quite hard." Interview S

Referral mechanisms were established in site 2 but not in site 1, however, the scale of staff turnover and the use of locum staff reduced the opportunities for staff to develop working relationships with the clinical teams and also reduced the number of referrals that were passed on during times that the CONNECT staff were not present at the ED.

"That the staff in the hospital could fill these in for us and we could follow up. Then when we're back in hasn't really, it hasn't kicked off brilliantly because there's a lot of changeover of doctors and nurses. So some know about it and then maybe others don't." Interview P

Several less well considered pre-implementation factors were raised across several interviews. Having access to the appropriate hardware and software were both internal and external challenges. Internally, practitioners commented on the importance of having mobile phones ahead of delivery.

"The young people we're dealing with...it could be like half eight in a Saturday night...I didn't have a work phone initially for a few months, which wasn't great like." Interview P

Externally, having some mechanism to access ED related patient data was important to see who was in ED, the reason for their presentation, and injury histories. This access was not always available and often relied on the good will of ED staff to answer questions and/or provide information
.

Implementation (dose)

Brief intervention (ED):

On average, service users received 16.7 minutes of brief support from the practitioners in the ED, however, this ranged between 1 minute and 510 minutes. There was no statistically significant difference between the two sites. The time that was spent with those with more adverse injuries was higher than those without. For example, there was a statistically significant difference in the average time that was spent with those presenting with issues such as violence related injuries compared with those without.

Longer intervention (Community):

While 268 (23.6%) of all of those who were engaged during the brief intervention consented to community follow up, only 60 (22.39%) of those actively engaged and completed a baseline survey. On average, the longer-term group received 8.4 weeks of community-based support, ranging between 1 week and 26 weeks. The median duration was 5 weeks, however there was a statistically significant difference in the average duration of support offered between site 1 and site 2, with site two 127% higher at 12.47 weeks compared with only 2.8 weeks. As noted in table 6, the young people received a range of supports that were often overlapping. Although the mean number of supports provided was 1.25, 26.7% of the sample were supported with three or more areas.

While the baseline data implied that that those with greater levels of social support could be at reduced risk of violent victimisation, despite a small and negative correlation between lower levels of social support and longer support provided, this was not at the point of statistical significance, suggesting that even those with higher levels of social support were equally likely to have the same level of intensity of support as those with lower levels of social support. There was no evidence that there were any gender differences, however, older service users were also more likely to receive longer support. Those with more complex presenting needs (more frequent presentations to ED; more serious violence exposure; probable PTSD; probable depression; probable anxiety), were no more likely to receive above median level of support. That said, those reporting a greater number of exposures to difficult life events were more likely to experience longer levels of support implying that they had more acute needs and/or multiple needs requiring longer support.

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Implementation (fidelity)

Target group

The pre-post surveys confirmed that as for the longer-term support, the ages of those supported ranged between 15 and 26, broadly in line with the ToC. It was also evident that the team were well versed in the ToC. There was a clear sense across the team that the project was aimed at young people aged 15-25, and was originally aimed at violence-related injuries, and was primarily intended to reduce hospital recidivism.

"I mean, from what I've read before and from what I've been told, it was basically young people who present in Ed through violence victims or perpetrators that we'd be. We'd be the ones meeting them in the ED, engaging with them would have you to support them outside of Ed and in some cases maybe trying to break that cycle of return visits, repeat visits." Interview P

However, there was a similar consensus that as the project evolved, practitioners became aware that there were a range of vulnerabilities that brought young people into the ED and only by engaging with them, regardless of the reason for presentation, did they become aware that there were adverse-related injuries likely to lead to exposure to violence, or that violence was nested within the range of complex issues affecting them, and thus, rather than focus on violence-related injuries exclusively, the focus became more on adverse-related injuries.

"I had a young person who came in with a medical issue, it turned out that they were a victim of violence and domestic abuse." Interview S

Brief intervention

As noted, the original theory of change for CONNECT reflected the wider HVIP literature to provide intensive support but over a short period. With adequate community resources and accessible pathways, this could be more feasible, but as noted, community resources are often inadequate, and demand exceeds those available, leaving CONNECT workers in a difficult position to either close the cases and hope that referrals are picked up, or to extend support.

"And then things deteriorated. He became homeless and everything's just got really messy, you know, at a time where I wanted to step away. It got really messy and I didn't feel I could step away then…Now, when these other services aren't there, that's just not going to work for him. So I wanted to make sure they're ready to go. And then I could step back." Interview P

For some CONNECT workers, fidelity to the model without appropriate adaptation to respond to the most difficult of cases in the absence of appropriate supports placed additional stress on them.

"Obviously you're wanting to signpost people, but the reality is we're, we're working in a system that's broken, especially with regards to mental health, like waiting lists for all services are eight weeks minimum. It could be 12. So if you're trying to support them, to engage in services, you can't just hand them over." Interview S

Implementation (practitioner-level support)

Across all of the interviews it was evident that despite having worked with vulnerable youth in community settings and supported young people with complex psycho-social issues, few had fully anticipated the level of need and intensity of support that they would require, but similarly, the type of support that the practitioners would require. Several practitioners described the collegial atmosphere that existed within their own staff team, but also the informal supports that were accessible within the ED. While these supports, as well as the routine operational supervision were appreciated, in some cases, they were not considered sufficient. Several practitioners talked about the blanket strains caused by ongoing and persistent adverse related injuries presenting to ED, but also in a small number of cases the vicarious trauma experienced. For these practitioners, having access to a clinically trained and trauma aware practitioner could have been of benefit.

"And I suppose the one thing I didn't really take into account was how you manage that trauma you're taking on. It's like you're taking away carrier bag off them and you're throwing it in your rucksack, so it's all that like secondary trauma. I've had a few days to really think about this and I think there needs to be an external mechanism for support. So it was nothing to do with your manager." Interview S

"You should be sort of, probably professional support around these sort of trauma type things available." Interview P

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Impact (outcomes)

The primary outcome was defined as a reduction in hospital recidivism and will be explored in greater detail in a separate paper. In line with the outcomes proposed by Monopoli et al (2023), a range of secondary outcomes were explored on the basis that improvements on these areas are likely to reduce the risks associated with further ED presentations. Between baseline and endpoint service users were less likely to self-report a likelihood of engaging in unlawful behaviour, were less likely to be exposed to violence, and were less likely to screen positively for probable depression (see table 7). There were largely no differences between the two sites, with the exception of social support. In site 1, there was a statistically significant difference in social support between baseline and endpoint. While there was no statistically significant change in employment status between baseline and end-point, it is worth noting that 18.8% of those who were unemployed at the start reported that they were employed at the end. It is interesting to note that aside from probable depression, there was no significant change in other mental health outcomes. This could reflect the limitations of these types of HVIP without adequate resources of specialist mental health and trauma-related services. As noted during interviews, referrals alone will not produce key outcomes. Evidence based supports with capacity to take referrals are required to see some key changes.

Table 7: Pre/pro-test data

Variable	Pre-test	Post-test	t	df	p
	M (SD)	M (SD)			
Likelihood of violence and offending	17.42 (3.94)	14.58 (3.94)	-2.54	25	.018
Exposure to violence	1.4 (1.13)	.49(.93)	-.56	56	<.001
Social support	8.54 (2.85)	9.15 (2.77)	1.04	25	.31
Anxiety	3.63 (2.14)	3.23 (2.01)	-.79	29	.438
Depression	4 (2.02)	2.8 (1.88)	-2.51	29	.018
PTSD	19.52 (10.02)	24.12 (8.64)	2.16	24	.041

As outlined in table 7, the review of ED data illustrated a range of other potential effects not easily quantified in the pre-post surveys, nor easily captured from interview data. These included the immediate (reduced distress in ED and increased insight into the injuries), short term (increased stability and informed supports), and longer term and more distal effects across other systems (e.g., reduced pressure on police and social services). For example, it is less well appreciated that those who present to ED with vulnerabilities similar to this sample often leave before being assessed. This may initiate a call to police who then need to locate them and return them to ED.

"I've noticed lots of times that when I've come on and looked and they're still on the system, but they've already left. But the one's I've been able to talk to stay. I think it's just, they know that somebody's there. I'll charge their phones for them as well or get them a cup of tea or go walk with them around, you know, on the grounds of the hospital. Just let the nurse know that they're with me so that they don't be taken off the system. That always helps as well. They just they do need company a lot of time." Interview E

By engaging young people during the initial presentation and reducing distress, it not only prevents recidivism, but facilitates timely treatment and the initiation of additional services. These insights could help to inform the type of metrics used and the designs employed to capture these more latent but potentially important effects.

CONCLUSIONS

Young people are at elevated risk violence and its harms (Hillis et al., 2016; Fowler et al., 2009). Several high-level international policy frameworks such as the SDGs and UNCRC compel a response. Despite the burgeoning field of community-based violence prevention, some spaces such as EDs remain under-explored. Since the 1990's HVIPs have provided a distinct focus for preventative work (Wortley and Hagell, 2021) given that the recipients of ED support are those most likely to have been seriously injured or harmed as a result of violence. The immediacy of such presentations provides a space not easily available in the community to engage youth when they are often most vulnerable and in crisis in what has been coined as the 'reachable moment'. However, most evaluations thus far have been limited to the USA context (Abbleby, 2023; van Godwin et al., 2023). Despite guidance being available, there is a need to appreciate and adjust for context. For instance, NI continues to be affected by enduring paramilitary violence in the communities that these EDs serve. This specific type of violence creates distinct challenges for EDs (who deal with the injuries), but also for the staff (who may need to negotiate personal safety challenges).

Over the course of one-year, 1416 vulnerable youth were supported by four CONNECT workers operating across two EDs in Northern Ireland. A small majority of these youth were repeat ED attenders (54%)-both illustrating the additional needs as well as the additional pressure that those needs placed on the health system. An important feature of this specific approach to HVIP is that all staff were professionally accredited youth workers. While there is no comparative data, it is at least conceivable that this design is important for a number of reasons. Firstly, HVIPs require a relational approach with children and young people who are often acutely vulnerable and in distress. Professional youth workers are more likely to be trained and experienced in this way of working. Indeed, relational approaches are at the core of youth work methodology (National Youth Agency, 2020) and the element of critical reflection appears to be fundamental to HVIPs internationally. Youth workers are particually well placed to provide safe spaces for such critical reflection to take place (Harland & McCready, 2012). Professional youth work is in fact underpinned by learning environments that engage, stimulate and motivate young people, while also supporting them to explore their fears and aspirations and reflect on their experiences-good and bad (Jupp-Kina & Gonçalves, 2021). In areas where harm clusters, it may be these young people that could benefit most from the type of social support provided by CONNECT workers (Harland & McCready, 2014; Walsh, 2023). Further, it is in these areas where professionally qualified youth workers not only know how to engage vulnerable youth, but have an intimate understanding of the community context and resources that could be tapped into as a means of supporting these young people in a more sustainable way. Thus, CONNECT is not only about connecting with young people, but about connecting those same young people to the communities they often feel so removed from.

This study answered some questions around the characteristics of children and young people most likely to benefit from a service such as CONNECT. Males were signifyingly more likely to present with violence-related injuries than females (65% v 35%). In addition to the brief intervention offered, 60 youth received longer-term support in the community. On average they were 21.46 years old and as a group, were characterised by a range of complexities (e.g., low educational attainment, unemployment and mental health). It was evident that in addition to the additional healthcare usage, this group were also likely to have engaged with the justice system. Indeed almost half (49%) had contact with the justice system in the three months prior to CONNECT and there was a correlation between the number of ED presentation and police contacts, implying that pressure on one system was mirrored by pressure on another. Put another way, failure to understand and respond to the needs presenting in one system placed additional pressure on other systems. Despite the array of issues, few reported having access to positive social supports. This was demonstrated to be even more important focus given that lower levels of support were associated with higher rates of serious violent victimisation. Thus, the role of the CONNECT worker appeared to be highly important.

While there are currently few process evaluations (Appleby, 2023), there is guidance related to establishing effective HVIP (cf. Karraker et al., 2011; NHS, 2022), and there is evidence that the CONNECT programme was informed by this evidence, ensuring that there was a broad coalition of ED staff on board and aware of the programme; that there was a focus on recruitment; that the operating days/times reflected the ED data; and that there was a key person in the ED to liaise with-particularly during the initial implementation.

Aligned with previous studies (e.g., Snider et al., 2009; Monpoli et al., 2021), CONNECT evolved with regard to the target group and the outcomes that it measured. For instance, initially, the target group were defined as youth who were presenting to ED as a result of a violence-related injury. It became apparent that many present to the ED for a number of reasons, and while violence may not be the presenting injury, violence is often the underlying or co-occurring issue. Snider et al (2010) provides important insights from the perspectives of service users around what they value. These include intervention activities such as housing and employment support, connecting service users to community activities, and just 'being there' as a form of social support during difficult times. Other outcomes that were not initially

CONCLUSIONS

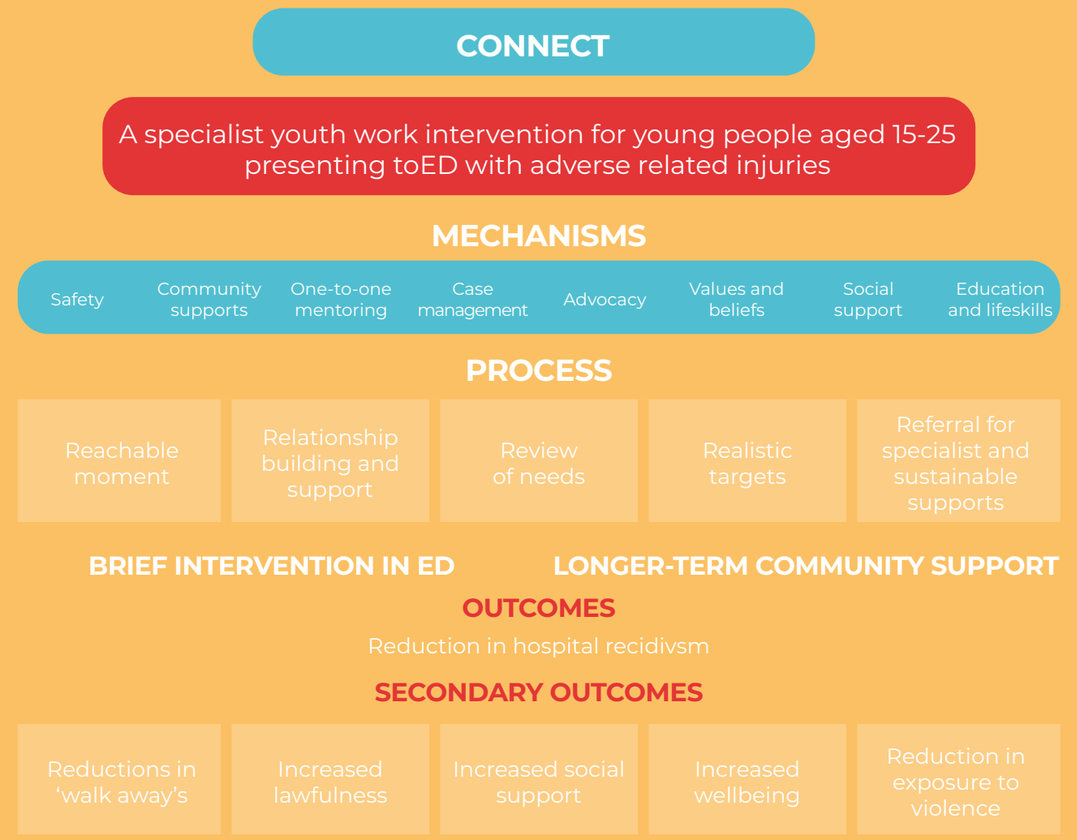
anticipated were later explored. For example, 'walkaways' place further pressure on the system and often extends to pressure on the police. Facilitating timely treatment can reduce pressure on its own and finding ways of capturing this could prove useful more widely.

While the CONNECT team were highly informed by the HVIPs, the evidence in this study cautions against complacency. A planned and purposeful recruitment strategy can contribute to more effective delivery-but only in the short term. Data demonstrated that while the focus on complexity tends to be on service users, this belies the needs of practitioners who are continually responding to the complex lives, and some of whom may be dealing with their own traumatic experiences. Despite the dedication, professionalism and care intended, there is a need for HVIPs to more consciously adjust for this in order to promote the wellbeing of staff and to enhance retainment. Several ways were proposed, including having access to a specialist with experience in psychological trauma and other forms of off-line supervision.

While not the primary focus of the study, several outcomes were explored and it appears that CONNECT is addressing several evidence supported factors likely to reduce pressure on the health and justice systems. These included unlawful behaviour, exposure to violence, and probable depression.

Increased social support was also observed, a factor implicated in both reduced stress and reduced violence (Walsh, 2023).

The data implies a need to consider how the process could be informed by a more methodical and evidence informed process for unpacking and responding to complex and overlapping needs. The processes did not appear to actively involve the young person in decision making, an element central to the theory of change. Relatedly, it could enhance delivery as well as evaluation if the CONNECT workers had access to data. While CONNECT staff are physically integrated into the EDs, they are not well embedded into the organisational structures. Having honorary status that would facilitate access to ED systems could enhance the service further, and while there are no doubt issues regarding access, if this can be overcome in other jurisdictions, they could prove useful examples.



While the initial ToC was heavily informed by the evidence emerging from several decades of HVIPs, this study illustrates that it could benefit from refinement. In particular, the needs that CONNECT staff extended beyond violence, albeit that violence was often central to the lives of the service users (see fig. 3). Thus, the proposed refinement of the purpose of the service aligns more closely with HVIPs that aim to address adverse related injuries rather than violence alone.

To conclude, violence remains a significant issue among children and young people in Northern Ireland, and violence is often interconnected with a range of harms. Not all children and young people are at equal risk of exposure, and not everyone is at equal risk of the effects. Violence appears to cluster significantly. As a society, we are compelled, not least but policy commitments, to understand and respond to these harms. How this is achieved has remained elusive. Public health approaches have emerged as an evidence-based framework with sign

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