



Topic Exploration Report ¹

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

- Determine the quantity of evidence available for a technology of interest.
- Identify any gaps in the evidence.
- Inform decisions on topics that warrant fuller assessment by Health Technology Wales (HTW).

Topic exploration report number	TER531
Topic	Interventions to prevent and reduce gang-related violence in children and young adults.
Summary of findings	<p>The involvement of children and young adults in gangs is a significant public health issue. Children and young adults involved in gang activity may be at risk of being abused or exploited, and in many cases gang membership is linked to an increased risk of violent offending, resulting in negative outcomes for themselves, their family, and the community. Interventions that target children and young people may be effective in preventing and/or reducing gang-related violence in children and young adults.</p> <p>Health Technology Wales identified one systematic review and meta-analysis, five systematic reviews and one rapid review. There is limited evidence available to assess the effectiveness of these interventions in preventing and reducing gang-related violence in children and young adults, with many sources unable to draw conclusions with confidence. There is some evidence to suggest that universal school-based interventions may be effective in reducing antisocial behaviour.</p>

¹ [Cyfieithu dogfennau HTW wedi'u cyhoeddi o'r Saesneg i'r Gymraeg](#)
[Translation of published technical HTW documents from English into Welsh](#)

Introduction and aims

Children and young adults involved in gang activity, where gang is loosely defined as a peer group, street gang or an organised criminal gang, are at increased risk of being abused, exploited, and perpetrating violent offences. Interventions delivered in the school, health care or community setting may be effective in preventing and reducing gang-related violence.

Health Technology Wales researchers searched for evidence on the effectiveness and cost effectiveness of interventions to prevent and reduce gang and serious violence in children and young adults.

Evidence overview

Guidance

HTW were unable to identify any relevant guidance.

Systematic Review and Meta Analysis

A systematic review and meta-analysis by Melendez, et al (2016) assessed the effectiveness of community-delivered positive youth development (PYD) interventions for reducing violence in young people. The study identified three randomised controlled trials for assessment. Relevant effect sizes were extracted from the studies and converted into standardised mean differences (Cohen's d). Meta-analysis indicated that PYD interventions had a statistically significant impact on violence outcomes in the short-term (Cohen's $d=0.076$ 95%CI 0.013 to 0.140) but this was not sustained across all time points (Cohen's $d=0.021$ 95%CI -0.050 to 0.093). The authors note that the lack of consistent reporting across trials limits the reliability of these findings, concluding that the effectiveness of PYD interventions remains unclear.

Systematic Review

A systematic review by Fisher, et al (2008) assessed the effectiveness of cognitive-behavioural interventions for preventing youth gang involvement in children and young people aged seven to 16 years old. The review identified no randomised or quasi-randomised controlled trials. Four evaluations of a Gang Resistance Education and Training (GREAT) intervention were identified but were later excluded based on study design. The review concluded that there is an urgent need for primary evaluation of the effectiveness of cognitive-behavioural interventions for gang prevention.

A systematic review by Higginson, et al (2015) assessed the effect of preventative gang interventions in young people in low-and-middle income countries. The review identified no studies eligible for assessment of effectiveness, and included four studies that assessed the success or failure of interventions. The review identified that preventative gang interventions may be more likely to be successfully implemented when they are appealing to youth, offer continuity of social ties outside of gang involvement, and the young person's agency is embraced. The review concluded that the lack of evidence prevented any conclusions from being made about which interventions were most effective in reducing youth involvement in gangs.

A systematic review by MacArthur, et al (2018) assessed the effectiveness of individual, family and school-based interventions targeting multiple risk behaviours in young people up to 18 years of age. Seventy studies were included, of which 53 aimed to address antisocial behaviour (defined in the review as including gang fights). The review identified evidence to suggest that universal school-based interventions may be effective in preventing engagement in any antisocial behaviour (OR 0.81 95%CI 0.66-0.98) at 12 month follow up. The review found that, for most outcomes, individual and family level universal interventions suggested little to

Evidence overview

no evidence of effect. However, the authors note this may be due to the low number of studies identified (n=4). The review concluded that universal school-based interventions may be effective in preventing engagement in tobacco use, alcohol use, illicit drug use and antisocial behaviour, as well as promoting physical activity among participants, but may not be effective in preventing other risk behaviours.

A systematic review by Mansfield, et al (2024) assessed the effectiveness and impact of arts intervention in preventing children and young people from involvement in violence and crime, including gang activity. The review included 43 studies, of which three were quantitative, 38 were qualitative and two were mixed methods. The review found insufficient quantitative evidence to report any effectiveness, either positive or negative, of arts interventions in at-risk children and young people. The authors note that there is very low confidence in their findings, primarily due to methodological limitations.

A systematic meta-review by Matjasko, et al (2012) assessed the findings of 37 meta-analyses and 15 systematic review to assess the effectiveness of youth violence prevention programs. Findings were mixed, with six meta-analyses and six systematic reviews demonstrating strong effects across a diverse range of interventions. The authors claim 'most' reviews yield moderate or weak effects, with one specific type of intervention ('Scared straight' and similar) possibly yielding an iatrogenic effect on youth offending. The review concluded that multi-component (usually cognitive and behavioural) interventions which target specific and indicated populations have larger effect sizes than those which do not. The authors recommend future work should be undertaken to explore these findings.

Rapid Review

A rapid review by O'Connor and Waddell (2015) was commissioned by the Home Office and sought to identify effective and ineffective interventions for preventing gang involvement and youth violence internationally. Of the 67 programmes identified, all were implemented in the USA and 33 were implemented in the UK. A total of 54 were assessed as being effective. The review found no gang-specific programmes that were implemented in the UK with robust evidence of their impact on gang involvement, and very few that were implemented internationally with robust evidence.

Areas of uncertainty

There is a significant lack of evidence on the effectiveness of interventions on preventing and reducing gang-related violence in children and young adults. Specific areas of uncertainty include:

- Whether effectiveness varies depending on the type of intervention administered.
- Whether effectiveness varies depending on the setting that interventions are administered in.
- Whether gang characteristics are barriers to the collection of data and measurement of routine outcomes.

Literature search results

Health technology assessments and guidance	
No evidence found.	
Evidence reviews and economic evaluations	
<p>Fisher H, Gardner FE, Montgomery P. (2008). Cognitive-behavioural interventions for preventing youth gang involvement for children and young people (7-16). Cochrane Database Syst Rev. (2): CD007008. doi: 10.1002/14651858.CD007008.pub2</p> <p>Higginson A, Benier K, Shenderovich Y, et al. (2015). Preventive Interventions to Reduce Youth Involvement in Gangs and Gang Crime in Low- and Middle-Income Countries: A Systematic Review. Campbell Systematic Reviews. 11(1): 1-176. doi: 10.4073/csr.2015.18</p> <p>MacArthur G, Caldwell DM, Redmore J, et al. (2018). Individual-, family-, and school-level interventions targeting multiple risk behaviours in young people. Cochrane Database Syst Rev. 10(10): CD009927. doi: 10.1002/14651858.CD009927.pub2</p> <p>Mansfield L, Daykin N, O'Connell NE, et al. (2024). A mixed methods systematic review on the effects of arts interventions for children and young people at-risk of offending, or who have offended on behavioural, psychosocial, cognitive and offending outcomes: A systematic review. Campbell Syst Rev. 20(1): e1377. doi: 10.1002/cl2.1377</p> <p>Matjasko JL, Vivolo-Kantor AM, Massetti GM, et al. (2012). A systematic meta-review of evaluations of youth violence prevention programs: Common and divergent findings from 25 years of meta-analyses and systematic reviews. Aggress Violent Behav. 17(6): 540-52. doi: 10.1016/j.avb.2012.06.006</p> <p>Melendez-Torres GJ, Dickson K, Fletcher A, et al. (2016). Systematic review and meta-analysis of effects of community-delivered positive youth development interventions on violence outcomes. J Epidemiol Community Health. 70(12): 1171-7. doi: 10.1136/jech-2015-206132</p> <p>O'Connor MR, Waddell, S.. (2015). What works to prevent gang involvement, youth violence and crime: a rapid review of interventions delivered in the UK and abroad.</p>	
Individual studies	
Not searched.	
Ongoing research	
Not searched.	

Date of search	06/03/2024
Concepts used	Youth violence, young people, adolescents, young adults, gang membership, gang affiliation, gang activity, gang, violence, crime, criminal behaviour, antisocial behaviour

Proposed research question and evidence selection criteria (if selected)

Proposed Research question	What is the effectiveness and cost effectiveness of school-based interventions for the prevention and reduction of violence in children and young adults?
-----------------------------------	--

	Inclusion criteria	Exclusion criteria
Population	Children and young adults in full-time education (Five to Eighteen years old)	
Intervention	School-based violence prevention interventions	Community-based interventions
Comparison/ Comparators	Standard practice	
Outcome measures	Youth violence and recidivism rates, behavioural outcomes, engagement with education, quality of life, cost effectiveness	

Proposed speciality	Public health
----------------------------	---------------