

# Violence and injury observatories

Surveillance systems that collate data on violence from multiple sources and share it with agencies that aim to reduce violence in the adult population. This summary is part of the [Crime Reduction Toolkit](#), which presents the best available research evidence on what works to reduce crime.

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Effect scale	Quality of evidence				
	Effect Impact on crime	Mechanism How it works	Moderator Where it works	Implementation How to do it	Economic cost What it costs
 Overall reduction	 Very strong	 Low	No information	 Low	No information

## Focus of the intervention

Violence and injury observatories are information centres that create 'public health'-style surveillance systems to support implementation of violence reduction measures in high violence settings. The centres:

- collate data from a range of sources on violence in the adult population
- carry out advanced analyses of violence and injury patterns
- share information and knowledge with violence prevention stakeholders such as health services and law enforcement within the target area

Centres may also use their data repositories to:

- improve knowledge about public safety

- measure the level of violence in a given region over time
- monitor and evaluate the impact of interventions

Violence and injury observatories can be implemented in a range of settings, including hospitals, cities and entire nations. They can collate, analyse and disseminate knowledge from an array of sources on a range of violence-related issues, such as:

- unnatural deaths
- violent crime reported to and recorded by the police
- unreported violent crime from victim surveys
- violent incidents recorded by emergency medical services
- non-fatal trauma recorded by hospitals
- factors associated with violence (such as those found in census data)

An example of such an approach in England and Wales is the [Cardiff Model for Violence Prevention](#), which has been endorsed by the World Health Organisation as well as the US Centers for Disease Control and Prevention (CDC).

There are two types of violence and injury observatory, which can be distinguished by the data they use. Violence observatories (VOs) draw on data from police and clinical sources (covering both violent crime and violence-related injuries), while injury observatories (IOs) rely only on clinical data.

This summary is based on one systematic review covering 14 studies, focusing on the effect of violence and injury observatories on violence-related outcomes including homicide, assault and injury. Due to differences in the model of intervention covered by the primary studies, as well as the outcomes they reported, the review carried out a meta-analysis of seven of these studies, which form the basis of the Effect, Mechanism, Moderator, Implementation and Economic cost sections below. Of the seven studies included in the meta-analysis, three were based on evidence from the United Kingdom, two from Colombia, one from Brazil and one from Uruguay. The review conducted a subgroup analysis of the two types of observatory model. The analysis for VOs focused on homicide as an outcome, while the analysis for IOs focused on assault.

## Effect – how effective is it?

Overall, the evidence suggests that violence and injury observatories have reduced violence-related outcomes in the settings where they have been implemented.

The meta-analysis found that, overall, there was an 82% reduction in violence-related outcomes following the introduction of violence and injury observatories. All seven studies included in the meta-analysis found a reduction in violence-related outcomes compared to pre-intervention periods where data was available (or extrapolated from other cities with a similar population).

Both types of observatory – VOs and IOs – were found to have resulted in statistically significant decreases in violence-related outcomes. Subgroup analysis showed that introduction of VOs was associated with a decrease in rates of homicide, and IOs with reduced levels of violent assault. In the four studies focusing on VOs, rates of homicide fell on average by 94%. In comparison, in the three studies focusing on IOs, rates of assault decreased by 20%. The review conducted a sensitivity analysis by language of publication, region and type of report which yielded the same results.

## How strong is the evidence?

The review was sufficiently systematic that most forms of bias that could influence the study conclusions can be ruled out.

The evidence is taken from a meta-analysis of seven studies. The review demonstrated a high-quality design in terms of having a transparent and well-designed search strategy, a valid statistical analysis, consideration of inter-rater reliability and the influence of statistical outliers.

However, the review did not sufficiently assess publication bias (how the results of studies influence the decision if and where to publish). Furthermore, several of the primary studies included in the meta-analysis were non-randomised and lacked a control population.

## Mechanism – how does it work?

Violence and injury observatories are assumed to reduce crime by facilitating the collection and deliberate sharing of data and encouraging cooperation between agencies involved in violence prevention. These may include the police, emergency medical services, fire and rescue and clinical services as well as other agencies which protect public safety. By collating and sharing violence-related data, violence and injury observatories are thought to promote a wider understanding of

patterns of violence and injury in particular settings and enable the development and monitoring of violence reduction interventions. However, these assumptions were not empirically tested.

## **Moderators – in which contexts does it work best?**

The review did not examine under what conditions or for what population groups violence and injury observatories might work best.

## **Implementation – what can be said about implementing this initiative?**

The review suggested that implementation of a violence and injury observatory relies on collaboration between governmental and nongovernmental agencies involved in violence prevention and with responsibility for producing, maintaining and sharing violence-related data. Furthermore, violence and injury observatories do not consider violence or injury purely from a clinical perspective but foster a broader, public health approach incorporating data from multiple sources.

## **Economic considerations – how much might it cost?**

The review did not mention the costs or benefits of violence and injury observatories, and no formal economic analysis was provided.

## **General considerations**

- The meta-analysis included just seven studies, therefore, caution should be applied when interpreting the results.
- Four of the seven studies included in the meta-analysis drew upon evidence from South American countries such as Brazil and Colombia. Caution should be taken when applying the evidence to other geographical contexts, including the UK. In particular, the four studies focusing on the VO model used homicide rate as an outcome measure – similar effects may not be seen in a UK context.

- Some of the technical reports included in the meta-analysis drew upon study designs which lacked control populations. Additionally, the meta-analysis featured non-randomised studies which did not report withdrawals or dropouts, nor noted any blinding. This means there could be other explanations for the results shown rather than implementation of the violence and injury observatories.
- The review noted the political context of study locations which may have influenced the results (for example, drug-related violence) and publication bias in the South American literature which favoured publication in technical reports.

## Summary

Overall, the evidence suggests that violence and injury observatories have reduced violence-related outcomes in settings where they have been implemented.

Violence and injury observatories are assumed to reduce rates of homicide and violent assault by encouraging collaboration between stakeholders involved in violence reduction and facilitating a comprehensive, deliberate approach to the collation and sharing of data.

Further research is needed to examine the mechanisms by which violence and injury observatories reduce violence, the contexts in which they work and the economic costs and benefits.

## Reviews

### Review one

#### Reference

- Jabar A and others, '[Is the introduction of violence and injury observatories associated with a reduction in violence-related injury in adult populations? A systematic review and meta-analysis](#)', BMJ Open, 2019, 9:e027977.

## Additional resources

Droste N, Miller P and Baker T. 2014. '[Emergency department data sharing to reduce alcohol-related violence: A systematic review of the feasibility and effectiveness of community-level](#)

[interventions'](#), Emergency Medicine Australasia, 26(4), pp 326–335.

[The Cardiff Model for Violence Prevention](#). 2022. Cardiff University Crime and Security Research Institute/Violence Research Group.

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## Tags

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