National Violence Surveillance Data

Voluntary Compliance with the Code of Practice for Statistics

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November 2024

About the National Violence Surveillance Network

Understanding national and regional levels and trends in serious violence is necessary for the development and implementation of violence prevention policy and practice. Cardiff University's National Violence Surveillance Network (NVSN) has been designed, built, maintained and developed in collaboration with Emergency Departments (EDs) in England and Wales and provides robust and comprehensive information on community violence rates and trends. To drive change effectively, it is essential that NVSN is trusted by key stakeholders and users. A critical aspect of creating this trust is voluntary adherence to the UK Statistics Authority Code of Practice for Statistics, which ensures that this approach and NVSN processes and procedures are rigorous and transparent.

NVSN goals are to:

- Identify rates and trends in community violence in England and Wales from an ED perspective.
- Triangulate national violence measurement by adding NVSN data to data derived from the Crime Survey for England and Wales (CSEW) and police records.

In its 24th year, in 2024, NVSN consists of 219 EDs, Minor Injury Units (MIUs) and Walk-in Centres in England and Wales which provide data on violence-related attendances on an annual basis. In 2023, NVSN violence data included 50% of all violence-related ED attendances in England and Wales. Steady increases in coverage (from 31% coverage in 2019 to 50% in 2023) mean that NVSN data can identify regional variation reliably[1,2]. NVSN is a public health, harm-based source of information about serious violence, namely, violence which results in injury serious enough to require emergency hospital treatment. It is a reliable, valid and objective measure of violence rates and trends.

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https://www.cardiff.ac.uk/violence-research-group/research-projects/national-violence-surveillance-system

Voluntary statement of compliance

NVSN is committed to voluntary compliance with the three Code pillars detailed in the Code of Practice for Statistics. Although the NVSN does not generate official statistics, aligning NVSN methodology with these three principles helps ensure that users and stakeholders can engage in informed and objective ways with rates and trends in community violence in England and Wales from an ED perspective. Importantly, this perspective avoids the limitations of hospital admissions as a measure which include factors not linked to violence seriousness such as avoidance of ED waiting time breaches and variation in ED doctor training. An additional advantage of this ED measure is that an expanded ED dataset has been developed to drive violence prevention and is now included in the software used in every ED in England and Wales. These are Cardiff Model data, also known as Information Sharing to Tackle Violence (ISTV)[3].

The Code of Practice is built around three pillars: Trustworthiness, Quality, and Value. NVSN compliance in the context of these pillars is detailed below. This demonstrates commitment to the highest standards in the development and dissemination of NVSN ED data.

Table 1: Voluntary compliance with the Code of Practice for Statistics – NVSN, Cardiff University

Pillars	How we comply
Trustworthiness: confidence in the people and organisations that produce statistics and data	*NVSN Research Team* To fulfil the requirements in this Code of Practice, NVSN data need to be trusted and valued by stakeholders. This trust reflects the qualifications and expertise of the NVSN research team, the established partnerships between the research team and NVSN EDs, and their record of peer-reviewed reports published in high quality medical journals. For example, • Sivarajasingam, V., Page, N., Morgan, P. H., Matthews, K. G. P., Moore, S. C. and Shepherd, J. P. 2014. Trends in community violence in England and Wales 2005-2009. Injury 45(3), pp. 592-598. (10.1016/j.injury.2013.06.020) **Summary of the qualifications, specialties, roles and responsibilities of NVSN Team:** **Vaseekaran Sivarajasingam** PhD FDSRCS FDSRCPS FHEA Professor of Oral Surgery with clinical and research interests in trauma management, Founder and Director of NVSN, Lead author of NVSN reports since 2000.

Jonathan Shepherd

CBE FMedSci PhD FRCS HonFFPH

Professor of Oral and Maxillofacial Surgery and criminologist; report co-author, communication lead and honorary professor, Violence Prevention Unit for Wales. Professor Shepherd founded Cardiff University's Violence Research Group and co-founded its Security, Crime and Intelligence Innovation Institute. He chaired Cardiff's violence prevention board from 1997 to 2018.

Simon C Moore

PhD

Professor of Public Health Research, Director of the Violence Research Group and Co-Director of the Security, Crime and Intelligence Institute, Cardiff University. Professor Moore has expertise in the analysis and use of routine health and administrative data.

Nicholas Page

MSc PhD

Research Fellow, Centre for Development, Evaluation, Complexity and Implementation in Public Health Improvement (DECIPHer, Cardiff University), with interests in population health. Co-author of NVSN reports since 2012.

Damian Farnell

PhD, MInstP, MIPEM, FHEA

Reader in Applied Mathematics. Dr Farnell has expertise in biostatistics and data science, medical image analysis, artificial intelligence, and quantum many-body theory.

Role: data cleaning & analysis; production of tables and figures in the annual report; statistical modelling; proof-reading annual report and other publications.

Bo Guan

MSc, PhD, FHEA

Lecturer in Accounting and Finance at Cardiff Business School. Dr Guan has extensive knowledge and expertise in NVSN data preparation, data cleaning and analyses (2021- present).

Governance

Professor Sivarajasingam, Professor Moore and Dr Farnell have governance roles within NVSN to ensure data accountability, integrity, quality checking (including detecting outliers), informed decision-

making and continue to maintain and build strong collaborations with NVSN EDs in England and Wales.

Data handling, protection and information security

NVSN, based in Cardiff University's Security, Crime and Intelligence Innovation Institute, is subject to robust data protection and information security procedures, outlined in the Cardiff University Data Protection Policy. Cardiff University is registered with the Information Commissioner's Office (ICO) as a Data Controller (Registration number Z6549747)[4].

This policy applies to all members of the NVSN team and provides clarity on requirements under data protection legislation which includes the UK General Data Protection Regulations (UK GDPR) and the Data Protection Act 2018 (DPA 2018). This compliance provides trust in NVSN data by the regulator (ICO) for data protection and privacy in the UK.

Because NVSN data are obtained from ED patients, stringent data security is needed. NVSN processes ensure that these data are treated with the utmost care, integrity and confidentiality:

- NVSN members who handle or have access to personal data under the control of, or on behalf of, Cardiff University comply with the relevant provisions of data protection legislation in relation to processing of personal data.
- Personal data means any recorded information about a living individual who can be identified from that data or from that data and other available data. This includes information held in paper and electronic records, and digital files.
- Processing refers to any operation involving personal data (including to collect, access, maintain, handle, copy, pseudonymise, anonymise, analyse, disclose or delete) as well as simply storing or hosting personal data.
- Secure storage of violence data – access to NVSN data is strictly limited to the NVSN research team.
- All data processing steps are performed using methods detailed in peer-reviewed journals and in NVSN reports; statistical computer code (STATA) is available upon request.
- Processing personal data – the NVSN team receives mostly anonymised but otherwise complete data and publishes these in aggregate form. Personal data are processed in accordance with data protection principles which state that personal data shall be:

	- lawfully, fairly and transparently processed - processed for specified purposes - adequate, relevant and not excessive - accurate and up to date - not kept longer than necessary - appropriately secured and protected from unauthorised access, loss or disclosure - Data transfers – the NVSN team does not transfer personal data to countries or organisations based inside or outside the UK unless adequately protected and in line with the general principle for transfers according to Article 44 of the UK GDPR. No such data transfer has been requested or taken place since NVSN was formed in 2000. - The NVSN research team: - Complete Cardiff University's annual mandatory annual Information, Security and Research Integrity training. - Complete data protection impact assessments. - Have not knowingly or recklessly exposed personal data to unauthorised access, alteration, disclosure or loss. - Have not disclosed personal data (including verbal disclosures) to a third party either by action or inaction where it is known that the third party is not entitled to receive that data. - Have not accessed personal data records for private interest and/or gain. - Have sought advice from their line managers and/or University IT and/or the University's Data Protection Officer, where there is uncertainty about appropriate security or data protection measures. - Have acknowledged that unauthorised processing of personal data is a potential disciplinary matter which may be considered under the relevant disciplinary code and that serious breaches may constitute 'good cause' for dismissal and/or constitute a criminal offence.

	In the last 24 years, NVSN team have not suffered personal data losses or unauthorised disclosures or data breaches. This is evidence that NVSN processes are trustworthy. If any of these are identified, reports to Cardiff University's IT Service Desk will be submitted to assist data protection officers in addressing such incidents according to the University's information security incident management procedure. By adhering to data protection and information security, safeguarding and security of NVSN violence data in England and Wales is assured. *Ensuring openness and transparency* Openness and transparency are critical to building trust. The NVSN team is committed to releasing statistics and analysis in an open and transparent manner. NVSN statistics are therefore published in a standard format and disseminated and communicated through Cardiff University's communications and public relations team. NVSN Report is published annually in April (since 2000). Publication follows three months of data collection, processing, analyses, insight generation, report writing, review and revision. NVSN reports are also shared with Home Office officials, the ONS Crime Statistics team and other national agencies on request. Annual NVSN reports are routinely shared with the BBC and the Press Association, initially under embargo, i.e., with stipulation that the provided data will not be published until a specified date and time. This arrangement allows journalists to prepare accurate and comprehensive reports, as they have enough time to analyse the information, conduct necessary research, and seek clarification. By coordinating the release of NVSN Report in this manner, all stakeholders receive the data simultaneously, promoting fairness and preventing premature disclosures. Adhering to embargo agreements fosters a respectful and collaborative relationship between NVSN Team and the media. By these means, the NVSN team ensures that NVSN data are accessible, transparent and inclusive. In due course NVSN data will be included in Cardiff University's research data repository, thus supporting open access (see also Research Value section below). Data repository also provides a secure storage and integrated digital preservation system, ensuring the long-term curation of NVSN datasets throughout their retention period.
Quality: data and methods that produce quality assured statistics	UK EDs and their affiliated MIUs are required to collect data on patients attending. These data are routinely collected and represent a true, contemporaneous record of each NHS patient. These data are entered into the hospital Patient Management System (PMS) and include date

and time of attendance, date and time of discharge, and patient gender and date of birth. The reason for attendance, including whether attendance was due to violence-related injury is recorded. These data and Cardiff Model (ISTV) data are mainly recorded by ED receptionists. Additional data can be recorded, for example by triage nurses, throughout patients' journeys through the ED. These ED data are included in the statistical return that all EDs are required to submit to the Department of Health and Social Care in England and the Government in Wales. They are therefore the only routinely collected data describing patients who attend ED for injury caused by violence.

The annual NSVN process starts with Freedom of Information requests to all NHS Trusts and Health Boards with EDs in England and Wales. The data requested anonymised data on patient date of arrival and gender for those patients coded as attending ED due to violence. No personal data are requested. These anonymised data are aggregated by age groups (0-10, 11-17, 18-30, 30-50, 51+) and geographic region.

The mathematical methods used to weight observations are open, transparent, subject to peer review and have been published[5].

ED attendances are categorised by gender and five age groups: 0-10, 11-17, 18-30, 31-50, and 51 years and over. To mitigate biases stemming from the inclusion criteria used to recruit EDs, the sample population is weighted; total annual attendances across all EDs (A_1) in England and Wales are compared with total annual attendances within the ED sample (B_1), yielding the coverage ratio (CR), i.e., representing the national representativeness of the sample, $CR = B_1/A_1$. For example, CR in 2023 was 0.5. Comparative national violence statistics are derived by multiplying the number of individuals injured in the sample by 1/CR. Using the total national resident population, national violence related injury rates by age and gender are estimated using the equation:

$$V = \frac{n}{CR \times N}$$

Where V denotes the likelihood of sustaining injury in violence, n represents the number of injured persons attending EDs in the sample, and N signifies the total resident population. Negative binomial model is fitted to the daily data for the number of assaults at each ED, where probability weights are used to adjust for differences in population and sample profiles over strata of gender and age band. 95% confidence

	intervals are derived. These data are then used to obtain estimated number of assaults in the England and Wales population via a simple linear scale.
	Feedback received on NVSN publications are considered by the NVSN research team and incorporated. For example, confidence intervals were included in the 2024 NVSN Report as recommended by the Office for Statistics Regulation.
	Limitations of NVSN data All assumptions and risks associated with violence rate estimations are included in annual NVSN reports. All those attending EDs with any injury are asked if they had been injured by someone else. All ED violence-related attendances are recorded by ED staff and stored for later retrieval. It is recognised that ED violence data represent a proportion of overall violence; violence not serious enough to result in ED treatment are not, of course, included. Equally, violence serious enough to cause death may be missed in ED records if victim was not initially brought to ED. If a patient or those who accompany them are unwilling or unable to disclose cause of injury, the patient is not counted in NVSN violence data. Assault as the cause of injury may be under recorded at ED reception.
	Convenience ED sampling for NVSN Report means not all EDs participate in violence data sharing - 50% of violence-related attendances in England and Wales were not included in the 2024 NVSN Report (relating to 2023 violence-related attendances). EDs may drop in and out of the sample from one year to the next. This can lead to underrepresentation of certain regions or populations. Hence, regional analyses of violence-related NVSN ED attendances are not carried out.
Value: statistics that support society's needs for information	Public, public service, statistical and research value have been the central motivation to collate and publish NVSN data since its inception in 2000. This follows the discovery and subsequently in further police-ED data matching carried out by Cardiff University's violence research group, that police ascertainment of UK violence which leads to emergency hospital treatment is limited to less than half such violence.
	The Cardiff Model for Violence Prevention. Cardiff University. https://www.cardiff.ac.uk/documents/2665796-the-cardiff-model-for-violence-prevention

NVSN data on violence in England and Wales supports society's needs for information in the following ways:

Public value *(Improving knowledge and understanding)*
- Published annually, these data provide the public with a valid and reliable measure of overall violence and violence by age group and gender.
- Triangulation of these data with CSEW and police data shows consistently that trends in violence according to NVSN and CSEW data are almost identical. In contrast, trends derived from police data which are subject to wide variations in the extent to which violence is reported to police, are not consistent with these two measures. For a public worried about violence and whose freedom is constrained by fear of violence, this consistency is reassuring.
- To provide this reassurance, annual NVSN reports are shared with key public media outlets, principally the BBC and the Press Association, which disseminate findings responsibly. A typical list of published media reports, in 2023 as an example, are appended. The value of these data is exemplified by annual national BBC headlines summarising key findings.

Public service value *(Improving societal benefit)*
- NVSN data provide the NHS and public health departments in England and Wales with a reliable measure of the burdens of violence on emergency health services. This allows patient and public health services to be adjusted, costed, and streamlined accordingly.
- NVSN data are a foundation of a now established method of preventing violence. Since at least 50% of violence which leads to emergency hospital treatment is not known to (ascertained by) police these data, together with anonymised contextual data on violence location, weapon and assailants, enable the NHS to contribute uniquely to violence measurement and prevention by identifying trends, informing targeted interventions, and collaborating with community partners in statutory community safety partnerships to address the root causes and determinants of violence. These granular data comprise unique information on which violence prevention can be organised more effectively and efficiently than is possible based on police data alone. This strategy is known as the Cardiff Model for Violence Prevention, now widely implemented in the UK and in other countries including Australia, the United States and Jamaica[6].

- NVSN data provide police command units and forces with anonymised information that complements intelligence available from their own sources.
- NVSN data are valued by other sectors, local government and education for example, as a measure of safety.

Statistical value *(Improving wider stakeholder involvement)*
- Summaries of annual NVSN findings are included in annual crime statistics published by the ONS.
- ONS has used NVSN data to estimate the burdens of violence on women and girls[7].

Research value *(Understanding correlations and causality)*
- NVSN data are used by epidemiologists and other researchers to study, and therefore identify, risk factors for violence, for example social and material deprivation, unemployment, crowding, impulsivity and alcohol intoxication.
- NVSN data are also used to evaluate the effectiveness of violence prevention interventions; these include public space CCTV, alcohol duty increases, and targeted policing[8,9,10,11].
- Cardiff University's Research Data Repository supports open access to research data. NVSN data will be published in Cardiff University's repository which aligns with FAIR (Findable, Accessible, Interoperable, Reusable) principles. As a framework for data sharing, FAIR principles have gained traction with funders, publishers and organisations.

Sustainability value
- NVSN has been developed, refined, and maintained with minimal resource. NVSN processes are established and replicable.
- Sustained collaboration and feedback on NVSN Report from ED data providers helps identify key metrics of interest, data presentation preferences, and areas requiring deeper analyses. For example, 2021 NVSN Report focused on impact of COVID on community violence and ED attendances.

References

1. Violence in England and Wales in 2019. An Accident and Emergency Perspective. https://orca.cardiff.ac.uk/id/eprint/140396/

2. Serious Violence in England and Wales in 2023. An Accident and Emergency Perspective.

https://orca.cardiff.ac.uk/id/eprint/168721/

3. Emergency Care Data Set (ECDS)
   https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/emergency-care-data-set-ecds

4. Cardiff University Data Protection Policy.
   https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection

5. Trends in Violence in England and Wales 2010-2014.
   https://emj.bmj.com/content/33/12/923.3

6. The Cardiff Model for Violence Prevention.
   https://www.cardiff.ac.uk/documents/2665796-the-cardiff-model-for-violence-prevention

7. Child physical abuse in England and Wales: year ending March 2019.
   https://orca.cardiff.ac.uk/id/eprint/128925/

8. Alcohol prices, the April effect, and the environment, in violence-related injury in England and Wales.
   https://orca.cardiff.ac.uk/id/eprint/158167/1/s10198-023-01583-w%20%281%29.pdf

9. Preventing violence-related injuries in England and Wales: A panel study examining the impact of on-trade and off-trade alcohol prices.
   https://orca.cardiff.ac.uk/id/eprint/91404/

10. Price of beer and violence-related injury in England and Wales.
    https://orca.cardiff.ac.uk/id/eprint/38374/

11. Effect of urban closed-circuit television on assault injury and violence detection.
    https://orca.cardiff.ac.uk/id/eprint/757/

Appendix – Coverage of NVSN (2023) Report findings (attached separately)