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**Article**

# Investigating methods of sharing data between police, health, education, and social services: Semi-structured interviews with police service areas in Wales

**H Jones** , **A Bandyopadhyay, N Kennedy and S Brophy**
National Centre for Population Health and Wellbeing Research, Medical School, Swansea University, Swansea, Wales, UK

**J Evans**
Public Health Wales, Wales, UK

**MA Bellis**
Public Health Wales, Wales, UK

Faculty of Health, Liverpool John Moores University, Liverpool, UK

School of Medical and Health Sciences, Bangor University, Bangor, UK

**B Rowe**
South Wales Police, Wales, UK

**C McNerney**
ADR Wales, Swansea, Wales, UK

SAIL Databank, Swansea, Wales, UK

**S Moore**
Cardiff University, Cardiff, Wales, UK

**Corresponding author:**
H Jones, National Centre for Population Health and Wellbeing Research, Medical School, Swansea University, Data Science Building, Swansea SA2 8PP, Wales, UK.
Email: h.e.jones@swansea.ac.uk

## Abstract

The Crime and Disorder Act (1998) requires the police, local authorities, NHS, and other organisations to share intelligence and collectively work to reduce violent crime. This paper aimed to explore opinions on linking police data with other agency data. Interviews were undertaken with individuals from police forces in Wales, UK. Barriers to sharing data with other organisations involve differences in the systems used to store police data and uncertainties around what is allowed to be shared. Overcoming barriers would allow data linkage across organisations leading to deeper insights into the causes of violence, and therefore intelligence that supports crime prevention.

**Background:** The Crime and Disorder Act of 1998 requires the police, local authorities, the NHS, and other organisations to work together on collective approaches to reduce crime and to analyse shared data to inform resource allocation decisions. Data sharing has been conducted on a per-project basis, but it is rare for whole population data to be linked across organisations. The purpose of this study was to investigate the feasibility of linking national data from the police with national data from other agencies including health data from General Practitioners, hospitals, and Emergency Departments (EDs). In addition, this study explored the views and opinions from police service areas in Wales on using a single software system to cover all police service areas for public protection purposes and to facilitate sharing data with other agencies.

**Methods:** Semi-structured interviews were conducted with 36 individuals from the 4 police services in Wales along with representatives from the Violence Prevention Unit (VPU) and the Police Liaison Unit (PLU). The interviews were analysed using codebook thematic analysis to generate key themes from qualitative responses.

**Results:** Two key themes and seven sub-themes were developed from the qualitative data. The key themes include the following: (1) Opinions on the systems used in the police for public protection including thoughts on the current system and moving to using one system. (2) Opinions on data sharing including what data should be shared, benefits of data sharing, barriers to data sharing (within the police and across organisations), and overcoming barriers to data sharing. Interviewees identified that a proprietary relational database, Niche, was the most used system for public protection, was highly regarded, and individuals felt that if all forces moved to the same system this would be a positive development. However, work needs to be undertaken to ensure there is a minimum dataset entered in each area as there is high variability in data quality. Barriers included not knowing what was possible to share and fear of sharing. An unambiguous framework endorsed at a high level of what data should and shouldn't be shared was recommended to overcome this.

**Conclusions:** The main barriers to shared police data included a lack of clarity around data governance and what is appropriate to share. It was felt that sharing should be the default position and with support these barriers could be removed. Data sharing between agencies would require high-level support and unambiguous guidelines as to what data can be shared, with whom, and in what format.

## Introduction

The Crime and Disorder Act (1998) requires the police, local authorities, NHS, and other organisations to share intelligence and collectively work to reduce violent crime. More recently in 2021, the Police, Crime, Sentencing and Courts Bill (PCSC) seeks to place a duty on specified authorities (including chief officers of police) for a local government area to collaborate with the other specified authorities for that same area to prevent and reduce violence (Local Government Association, 2021). Violence has been further prioritised by HM Government in the Violent Crime Strategy (HM Government, 2018), and the UK government has allocated funds for the formation of Violence Reduction Units (Violence Prevention Partnerships, Violence Prevention Unit (VPU) in South Wales), in 18 police forces with the explicit purpose of promoting a Whole System Multi-Agency (WSMA) approach (Violence Reduction Unit Interim Guidance, 2020).

Information sharing is vital as it has been shown that often one agency does not have the whole picture. For example, 75% of those attending Emergency Departments with an assault-related injury are not found in police records due to fear of repercussions (Shepherd and Lisles, 1998). This means there is a real move to improve collaborations with the police to promote data sharing (ADR UK, 2022), and recent research has been undertaken to examine the best way of using police data to benefit from the 'big data' investments and more efficient decision making (Oswald et al., 2018).

Data sharing across organisations can help achieve important public benefits. An information sharing partnership in Cardiff, Wales, between health services, the police, and local government altered policing strategies to prevent violence and resulted in a reduction in violent injuries (Florence et al., 2011). They reported that information sharing was associated with a substantial and significant reduction in hospital admissions related to violence. Furthermore, a recent study (Kennedy et al., 2023) also gained insights from linking police domestic abuse data and health data. They reported that vulnerable individuals are detectable in multiple datasets before and after the involvement of the police. They concluded that by implementing these findings this could reduce future Emergency Department or hospital admissions and improve outcomes for those who are vulnerable. These findings suggest that data sharing can be a powerful tool.

Support for data sharing in the police has been growing in recent years, as research recognises the potential benefits of sharing data between police departments and other agencies (Brayne, 2017; London City Hall, 2018; Shorrock et al., 2020). The benefits and challenges of data sharing between police departments and other agencies have been explored (Hollywood and Winkelman, 2015) and highlight that effective data sharing can lead to better decision making, more efficient investigations, and improved public safety (GOV.UK, 2010). Moreover, data sharing can help police departments prevent and respond to crime more effectively. The potential risks and

challenges of sharing sensitive information must also be acknowledged including confidentiality and privacy (Brayne, 2017). The importance of considering the ethical and social implications of police data sharing argues that transparency and accountability are essential to ensuring that data sharing is used in the public interest. Overall, previous research suggests that data sharing can be a powerful tool for improving police work but also underlines the importance of careful consideration of the risks and benefits, as well as the need for transparency and a clear legal framework and an effective regulatory body in the use of shared data (Thomas and Walport, 2008).

The Police National Database (PND) is a national data store of operational policing information and intelligence provided by individual forces (Phythian and Kirby, 2022). The PND is a national information management system that improves the ability of the police to manage and share intelligence and other operational information, to prevent and detect crime and make communities safer. The PND offers a capability for the police to share, access, and search local information electronically. Different police forces use various records management systems. Niche is a police records management system adopted by several police forces across the UK (NicheRMS365). Niche is an operational database of crime, intelligence, and non-crime occurrences and is used to manage all aspects of crime recording, investigation, intelligence, and electronic case preparation.

The Secure Anonymised Information Linkage (SAIL) databank is a world-leading secured data linkage, management, and access system which holds vast amounts of routinely collected population-level data from a wide range of data providers including the National Health Service (NHS), Welsh Government, the Office of National Statistics (ONS), and other social care organisations (Ford et al., 2009). SAIL already hold datasets on looked after children, children in receipt of care, maternal and child indicators, child health, education, higher education and training, family justice data, and health (GP, hospital, A&E, and intensive care). Bringing data from the police together with these datasets would enable the police and public health services to offer more evidence-based prevention and identify vulnerable families much earlier (College of Policing, 2022).

Sharing police data with other organisations may help in crime prevention and reduction strategies, yet the sensitive nature of police data has been an obstacle in the past and the barriers to bringing together police data with other data sources are greater than in other sectors. The use of multiple systems to analyse and report data can also be a barrier as consistency of reporting and the format in how data is stored can vary. Therefore, a single version of a system may overcome these barriers. This study discusses unlocking police data and the potential in bringing together national data across organisations.

The aim of this research is to explore what needs to be in place to enable data sharing across organisations on a national level to inform and improve public protection. Asking the questions whether it is feasible for different police service areas to use the same single version of a system or whether it is possible to select data for harmonisation in a core minimum dataset.

# Methods

## Participants and setting

34 interviews were conducted with 36 interviewees between the 6th of July and 4th of November 2021. A total of 29 individuals from the four police service areas across Wales were interviewed which included two Response Officers, two Domestic Abuse officers, two Analysts, and a Detective Inspector for Public Protection in each area. In addition, interviews were also held with two representatives from Welsh Government, one from South Wales Police Headquarters, two from the Police Liaison Unit (PLU), and two from the Violence Prevention Unit (VPU).

## Materials and Methods

We adopted semi-structured interviews including 21 questions within Wales's 4 police service areas and relevant questions selected for the additional interviews (please see the questions used in the Appendix). The interviews were conducted by a member of the research team via Microsoft Teams video except for one over the telephone and were recorded and transcribed by Underline Transcription.

## Thematic Analysis

Codebook thematic analysis was used to generate themes from open-ended questions (Braun and Clarke, 2006). Thematic analysis identifies and describes patterns across data. 'Codebook' approaches use a structured coding framework to develop and document the analysis. Analysis involved six phases: (1) data familiarisation and note taking; (2) systematic data coding; (3) creating initial themes from coded and collated data; (4) developing and reviewing themes; (5) refining, defining, and naming themes; and (6) writing the report (Braun and Clarke, 2006). All qualitative responses were independently analysed by the lead researcher who then discussed the findings with another member of the research team to ensure consensus and agreement of themes. This was to establish that important concepts within the data were not ignored and to achieve a richer understanding of the data through multiple perspectives.

## Feedback

Workshops with a combined attendance of 100 people including those from academia, Welsh and English Police services, Welsh Government, the Home Office, and the third sector discussed the results, their implications, and future directions for the project.

# Results

Two key themes were identified from the qualitative data which consisted of opinions of the systems used in the police for Public Protection and opinions on data sharing.

Opinions of the systems used included sub-themes of thoughts on their current system, the potential for police services adopting one combined system, and the quality of reporting. Sub-themes from opinions on data sharing include what data should be shared, benefits of data sharing, barriers to data sharing (a) within the police service and (b) across other organisations; and overcoming barriers to data sharing.

## Opinions of the systems used in the police for public protection

*Thoughts on their current system.* The systems used in the police for making safeguarding referrals (Public Protection Notifications [PPNs]) differ across Wales. Different police forces use different systems and forms to capture and input data onto systems in preparation for sharing which was described as 'not ideal' (Interview 20). There was high regard for the system Niche, 'it is user friendly' (Interview 14) and 'a very good intelligence tool' (Interview 23). However, even when different service areas used the same system (Niche) they used it differently, 'the level of detail that people put in varies widely' (Interview 7). Users liked that all the information is available in one place but there were concerns about the management of what information is inputted, 'I like the fact that anything and everything is all recorded in the one database. I don't like the fact that anybody and everybody can add data to it because it's not being managed as well as I would like' (Interview 25).

*All police forces using one system.* The idea of moving every service area to use one system was very well supported even among those who did not currently have the Niche system, 'it would be better if people used the same system, even it means changing systems to something else' (Interview 26). However, this would not be the complete answer as 'there is not one single instance of Niche' (Interview 34). It was highlighted that it would be useful if the various systems worked together, 'I would really appreciate it if all the Niche systems could talk to each other' (Interview 25). Eight interviewees comprising multiple response officers, a DI, and a representative from VPU all mentioned that using the same system would be helpful.

*Quality of reporting.* The quality of reporting was mentioned in 18 interviews. There needs to be a standard way of using Niche as currently there are large differences in the quality of inputting of the data. Interview 1 noted that 'the quality of the data will only be good as the quality to put it into the system'. This was highlighted again in Interview 14 that 'it is only as good as the information that's inputted'. This raises the question for policing on how they should best address compliance and data governance issues in this area.

## Opinions on data sharing

*What data should be shared.* Various sources of information were identified as data that should be shared. Valuable information could come from A&E departments which would hold 'data on an assault that's taken place' (Interview 1). This interviewee also suggested 'safeguarding material within education systems would really benefit us as well, like

attendance rates, any sort of concerns that are raised' and 'information held by health' surrounding 'public protection, around child protection'. Data from children's services 'if there are children on the CPR if there's an allocated social worker' (Interview 23) would be valuable to share. 'I would like to know GP information so you know whether there's any injuries' (Interview 23).

*Benefits of data sharing.* The benefit of data sharing within the police service and across other organisations was mentioned in 10 interviews. It was felt that data sharing is beneficial as it 'makes our reports more robust' (Interview 7) and 'the more information you've got and the more information you have, the better equipped you are to make decisions' (Interview 35).

*Barriers to data sharing.* Barriers specific to police data were discussed in Interview 1 where 'the restrictions that the police data sometimes comes with and the unique data that we collect perhaps limits some of the user-friendliness and cross pollination with the agencies'. The main barriers to sharing across organisations were data protection, 'a sort of fear of disclosing information that you shouldn't be' (Interview 5), and knowing whether information can be shared, 'there is a hesitancy to share for fear of getting into trouble' (Interview 34). This fear of sharing was mentioned by four interviewees including a response officer, an analyst, a member of the PLU, and a representative from Welsh Government.

*Overcoming barriers.* Guidelines were suggested as a way to overcome the issues around data sharing, 'clearer guidance around what we can and can't share. Sometimes it is sort of down to the individual to make those decisions and it is not always easy as every case is different' (Interview 11). 'Data sharing protocols are incredibly important in setting out exactly what data can be shared, how it's shared and who has access to that data' (Interview 32). 'The default position should be, we will share information. We are committed to the robust, transparent, regulated sharing of information for a whole range of purposes' (Interview 34). 'If you've got the high level buy-in from the chief officers, or chief execs, and you know you've got their support in doing so, that nervousness would then be removed and that would remove that massive barrier' (Interview 34).

This work demonstrated that the main barriers to sharing data within the police are not physical barriers, for example, there is support from the police to use the same data software systems across police service areas and to define a minimum dataset for data collection. Instead, the barriers are due to a lack of clarity as to what is appropriate to share.

## Feedback from workshops

From the workshops, some officers felt that there was already substantial sharing of data and that multi-agency data is shared in Multi Agency Safeguarding Hubs (MASHs) and at strategy meetings. MASHs are centres that bring together different agencies involved in safeguarding vulnerable children and adults (Department for Education, 2018). It was

suggested that some officers who were interviewed were not aware of what happens after an incident. In addition, there was a concern around previous data scandals, how they are handled, and a loss of public trust. This was especially a concern that vulnerable individuals might not present to other services if they thought their data would be shared with the police. This highlights that there need to be measures in place to ensure there is no misuse of data. It was stressed that there are significant issues relating to confidentiality, data privacy impact assessments, lawful bias for sharing (GDPR), and information governance issues that need to be resolved. There was a concern that data could be used for performance/compliance management by agencies. Some officers also reported that they did not feel it was possible to combine and compare data.

## Discussion

This research indicates that sharing police data for public health benefit is feasible and many of the problems originally identified as barriers may be overcome. There is strong support among those working in the police service areas in Wales to move to use the same software system across all areas and to define a minimum dataset for data collection so that variability in how data is collected is reduced.

Overall, the main barriers to sharing within the police were the different systems or versions of the same system that do not communicate well and uncertainty about what is feasible and allowed to be shared. However, this may be overcome with bringing in a single version of a system across the police service areas in Wales (e.g. Niche is the most widely used system). In North Wales, the police service is part of the North West collaborative with Merseyside and Cheshire constabulary. In South Wales and Gwent, the police service areas are already in a collaboration and can access each other's Niche data, but this is not across all of Wales. The PND, that all police forces have access to, allows information to be shared within the police across the different forces. However, for data sharing across other organisations a secure data linkage and management system like SAIL would facilitate multi-agency working using police data and GP, A&E, education, and additional sources of information. In addition, there is a recommendation of a minimum level of data that should be entered to give consistency in data quality. For sharing within the police, a top-down recommendation to share data and an unambiguous framework of what should be shared and what should not be shared would facilitate data sharing with other agencies.

There are already multi-agency structures that require elements of data sharing which include MASHs. MASH should enable agencies such as health services, social care, police, and education to share information and coordinate their efforts in identifying and responding to cases of abuse or neglect (McManus, 2023). These should reduce duplication of effort and provide a more effective and coordinated response to safeguarding concerns. There is however no systematic approach to collecting and sharing data even in MASH areas. In fact, the data underpinning this study comes from an area which has a well-established MASH and yet even in an MASH area the issues identified here continue.

A strength of this research is that individuals from varying ranks within each police service area were invited to interview; therefore, a range of views and experiences of working within public protection at different levels was given. For example, those from the VPU said governance was the biggest barrier and stressed the need for the buy-in to make changes happen while those in Welsh Government underlined the importance of relationships between services, building trust, and the need for data-sharing protocols. If standardised protocols for sharing police data were put in place, there would be consistency between ranks in knowing what to share and the value of sharing between agencies.

A major barrier involves the use of multiple software systems. Each police service area has purchased different software systems for collecting the same type of data. For example, PPN data is collected using a different system or version of a system in each of the police service areas of Wales (North Wales, South Wales, and Gwent having a varying version of Niche and Powys have a different system). In addition, there are different datasets within each area using different software systems which are not linked together. The datasets are normally developed locally in discussion with force analysts, and there is no nationally agreed dataset to report back on to the Home Office. Even within each service area the datasets are not linkable, for example, the data from PPN referrals, that held on the Police National Computer (PNC), and those entered into systems for Multi-agency Risk Assessment Conference (MARAC) partnership discussions are not possible to link without creating an additional process that overcomes numerous barriers for data extraction. Furthermore, some systems are proprietary, such as mobile phone examination software can require permission from the data software provider to access and decode the data. This can make data sharing even more challenging.

## Recommendations

Recommendations from the workshops concluded that future directions should focus on showing the benefits of data sharing. There needs to be consultation with the public to ensure public trust in any data sharing proposed. Future work should be undertaken to agree what information should be shared, agree standards for this data and in what format it should be collected, and clarity around how data can be shared while meeting data protection regulations.

This work demonstrated that the main barriers to sharing are not physical barriers, for example, there is support from the police to use the same data software systems across police service areas and to define a minimum dataset for data collection. The main barrier to sharing datasets across agencies is a lack of clarity around data governance and what is appropriate to share. Another factor adding to not knowing what is possible to share is that members of the police sit within their own siloed departments which drives the creation of systems to achieve the objectives of each department not what would achieve the greatest benefits across policing and multi-agency safeguarding. A mapping exercise would be beneficial to establish what shared policing objectives and priorities could be met or improved. However, this is something that only organisations such as the NPCC (National Police Chiefs' Council) or College of Policing could achieve with any degree of success

or authority. Not knowing what is possible to share can be overcome by an unambiguous framework endorsed at a high level of what data should be shared and what data should not be shared. Data sharing would require high-level support and unambiguous guidelines as to what data can be shared and in what format.

In conclusion, if data sharing of whole datasets from the police service areas across all of Wales were to move forward, then there would need to be high level buy-in and clear guidelines as to what is expected to be shared and what should not be shared. Sharing this data may help with policy and practice as well as interventions for vulnerable children and families.

## Declaration of Conflicting Interests

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## ORCID iDs

H Jones ⬤ https://orcid.org/0000-0003-4312-476X
S Moore ⬤ https://orcid.org/0000-0001-5495-4705

## Supplemental Material

Supplemental material for this article is available online.

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