Merseyside Violence Reduction Partnership 2020-21: Evaluation of the Data Hub

Carly Lightowlers, Rebecca Bates, Zara Quigg

The Merseyside Violence Reduction Partnership 2020-21: Evaluation of the Data Hub

Carly Lightowlers[1], Rebecca Bates[2], Zara Quigg[2]

[1] Sociology, Social Policy and Criminology, School of Law and Social Justice, University of Liverpool, Liverpool L69 3BX, [2] Public Health Institute (PHI), World Health Organization Collaborating Centre for Violence Prevention, Liverpool John Moores University (LJMU), Liverpool, L2 2QP

May 2021

For further information contact Zara Quigg z.a.quigg@ljmu.ac.uk

About this report

Merseyside is one of the 18 areas allocated funding in 2019 by the UK Government to establish a Violence Reduction Unit. To inform the continued development of the Merseyside Violence Reduction Partnership (VRP), in November 2019 (Quigg et al, 2020) and July 2020, the Merseyside Academics' Violence Prevention Partnership (MAVPP)[1] were commissioned to evaluate the MVRP as a whole, and selected work programmes. This report forms one of a suite of outputs from this evaluation work programme, and specifically presents an evaluation of the Merseyside VRP Data Hub. Additional reports for 2020/21 explore:

- The overall development and implementation of the VRP (whole system evaluation; Quigg et al, 2021);
- The Mentors in Violence Prevention Programme (Butler et al, 2021);
- The 'new' VRP Sports, Arts and Culture work programme (Hough and Quigg, 2021); and,
- Support programmes for families of offenders (Ashton and Quigg, 2021).

Evaluation outputs are available on the Merseyside VRP website: www.merseysidevrp.com/what-we-do/

Acknowledgements

---

[1] MAVPP includes academic representatives from all Merseyside universities, who represent a range of disciplines including public health, criminology, policing and psychology.

Summary

The UK Government's 2018 Serious Violence Strategy encouraged a multi-agency, whole system public health approach to violence prevention (Home Office, 2018). To support local areas to adopt this approach it provided funding to Police and Crime Commissioners (PCC) in 18 local areas to set up a multi-agency violence reduction unit (VRU). In 2019, the Merseyside Violence Reduction Partnership (VRP) was established to prevent serious violence across Merseyside through the implementation of a public health approach, identifying the root causes of violence and providing a coordinated evidence-led approach to prevention.

As part of the wider VRP work programme, and to assist with developing problem profiles and understanding the drivers of serious violence within Merseyside, the Trauma and Injury Intelligence Group (TIIG) from the Public Health Institute within LJMU was tasked with developing a bespoke online Data Hub. The VRP Data Hub was established in March 2020 to support violence prevention through the development of a data repository that collates and analyses data on violence from multiple sources. The VRP Data Hub hosts and disseminates monthly data on police recorded crime, accident and emergency department (A&E) attendances, ambulance call-outs and Fire and Rescue Service call-outs. Bringing this range of data on violence together for interrogation in one place, helps ascertain the scale and nature of the problem in Merseyside and inform where the greatest need for intervention lies and in the long-term provides a platform to monitor and evaluate interventions.

This evaluation was conducted in 2020-21 comprising a survey (n=11) of registered users of the VRP Data Hub and semi-structured interviews (n=6) with key stakeholders and users. It explored the processes, outputs and impacts of the VRP Data Hub, to aid the VRP and Data Hub developers in identifying future priorities for the hub's development.

Overview of key evaluation findings

This evaluation highlighted merits associated with the Data Hub, such as its ambition and ease of use as well as making available a range of data on violence in one place. The development of the hub has allowed data on violence to be shared between organisations, but interviewees identified more could be done to engage and communicate between partners to promote the potential and development of the hub as well as increase take up and use. Survey respondents and interviewees alike appreciated its aims and utility in providing a more holistic and nuanced picture of violence across Merseyside, thus providing opportunities to intervene in an informed and meaningful way. However, they noted several further analytical functions and datasets that may be useful for the hub to host. Interviewees also raised uncertainty or doubt as to the detail behind some of the violence measures hosted by the hub, noting that partners' needs of such measures as well as temporal and bespoke geographic analyses within the hub differed. As such, the system's narrow focus on the VRP requirements was limiting its potential for wider use. The definition and operationalisation of violence was seen as a significant barrier to the hub's utility and representativeness. Data quality was also cited as a barrier.

Whilst the hub has been used to inform local violence prevention, to date such evidence and take up of the system has been slower than hoped (in part on account of the COVID-19 pandemic). So, whilst the Data Hub's potential is understood and commended, there is some way to go in its role out and development to realise this. At the time of writing, the VRP Data Hub has only been established for a year (during COVID-19) and there is scope to optimise and build on its current offering. Interviewees suggested there was scope for the VRP to be more 'data driven' and 'evidence led' and that the hub

and associated multi-agency data sharing were key to achieving this across the partnership. To ensure this ambition is released, the following are recommended:

Overarching recommendations
- Development of the Data Hub should remain a key priority for the VRP and its partners.
- Continue to develop the Hub to support VRP partners in accessing and interrogating multi-agency data based on their local needs.

Practical and aspirational developments for the VRP Data Hub
Ensuring the data are suitably representative
- Link data sources/indicators to the VRP logic model (short, medium and long-term outcomes), and VRP performance measures.
- Agree consistent definition and measure of violence in police data extracts and ensure these match the VRP definition of serious violence.
- Provide additional broader police data on violence beyond what is included in the VRP definition of serious violence.
- Scope price/funding and how useful hospital admission data on assaults would be.
- Continue ongoing work with partners to improve data quality and timeliness of data extracts.

Ease of data use and interpretation
- The VRP may wish to clarify the definition of serious violence used (see Appendix 8.2) to specifically detail whether non knife/gun offences homicides and assaults exclude domestic incidents.
- Clearly label and define the measures contained in Data Hub.
- Clearly define geographies and populations to which the data relate (e.g. denominators and age ranges).
- Provide a data definition/dictionary and clear data descriptors, sources and metadata.
- Ensure clear, user-friendly, landing page and interface (to encourage non-analysts to use).
- Offer summary and high-level trend data for non-analysts (e.g. managers/commissioners).
- Make clear whether data can be reproduced elsewhere (i.e. in the public domain).

Further developments
- Ongoing scoping of new datasets for inclusion; both for measuring violence (e.g. youth justice data) as well as its correlates (e.g. wider determinants of health, e.g. education).
- Scope the potential of mapping interventions and community assets as well as allowing analysis at lower-level geographies (e.g. wards within local authority areas).

Encouraging uptake and use of the VRP Data Hub
- The VRP to actively disseminate and promote the hub as a resource for partner organisations, and continue to raise awareness of how the hub can support violence prevention activity across Merseyside.
- The VRP steering group to actively promote the use of the hub in their respective organisations.
- Provide regular refresher and more specific role-based training and workshops on accessing and using the Data Hub to get feedback on the system as well as promoting what is available.

Contents

1. Introduction

1.1 Background

The UK Government's 2018 Serious Violence Strategy encouraged a multi-agency, whole system public health approach to violence prevention (Home Office, 2018). To support local areas to adopt this approach, it provided funding to Police and Crime Commissioners (PCC) in 18 local areas to set up a multi-agency violence reduction unit (VRU). Merseyside is one of the 18 areas allocated funding by the UK Government to establish a VRU. In 2019, the Merseyside Violence Reduction Partnership (VRP) was established, with the aim of preventing serious violence across Merseyside through the implementation of a public health approach, identifying the root causes of violence and providing a coordinated evidence-led approach to prevention.

As part of the wider VRP work programme, and to assist with developing problem profiles and understanding the drivers of serious violence within Merseyside, the Trauma and Injury Intelligence Group (TIIG) from the Public Health Institute within LJMU was tasked with developing a bespoke online Data Hub. The VRP Data Hub was established in March 2020 to support violence prevention through the development of a data repository that collates and analyses data on violence from multiple sources across Merseyside. Given most assaults are not reported to and are thus not known to the police (Elkin, 2019), data collected by other organisations such as health services can provide information that will not be picked up in existing datasets used by the police or other monitoring systems (Droste et al, 2014; Taylor et al, 2015; WHO, 2016). The VRP Data Hub hosts and disseminates monthly data from VRP partners to supplement police data, including accident and emergency department (A&E) attendance data, ambulance call-out data, and Fire and Rescue Service data. Bringing this range of health and crime data on violence together for interrogation in one place, helps ascertain the scale and nature of the problem in Merseyside and inform where the greatest need for intervention lies and in the long-term provides a platform to monitor and evaluate interventions. Working with these organisations to ensure that data is recorded accurately, of high quality and complete is essential to understanding the scope of violence.

1.2 Evaluation rationale, approach and methods

The evaluation explores the processes, outputs and impacts of the VRP Data Hub, to aid the VRP and Data Hub developers in identifying future priorities for the hub's development. The core objectives are to explore:

- The purpose and operation of the Data Hub;
- The acceptability and utility of the Data Hub; and
- Additional areas for development to add value from accessing and using the system and the wider data needs of partners to support them to implement a public health approach to violence prevention.

This report presents the findings of the evaluation to help inform future developments to enhance the quality and efficiency of the system, the strategic focus of VRP partners, available resources, and data sharing and access capabilities. The evaluation was conducted in 2020-21 comprising three main methods. A survey (n=11) of registered users of the VRP Data Hub, semi-structured interviews (n=6) with key stakeholders and users, and review of programme documentation and outputs. Ethical approval for the study was obtained by both LJMU and University of Liverpool ethics committees. Details of the full methods are provided in Appendix 8.1.

2. The Purpose and Operation of the VRP Data Hub

2.1 Aim and objectives

The VRP aims to reduce serious violence, and in line with Home Office guidance aims to:

- Reduce hospital admissions for assaults with a knife or sharp object and especially among those aged under 25.
- Reduce knife-enabled serious violence and especially among those aged under 25, based on police recorded crime data.
- Reduce in all non-domestic homicides and especially among those aged under 25 involving knives.

In its ambition to address the root causes of violence and promote protective factors, the VRP logic model details a range of outcome and impact measurements, beyond the core targets set by UK Government (see Quigg et al, 2020).

> *"Important for it [Data Hub] to be the engine room of the problem profile for the VRP."* Survey respondent

The VRP Data Hub aims to support violence prevention across Merseyside by providing partners with access to violence-related data from all Merseyside A&Es, the North West Ambulance Service (NWAS), Merseyside Fire and Rescue Service (MFRS) and recorded crimes by Merseyside Police (and in time other key data sources), presented in interactive tables, charts and maps.

The hub was designed to be a "bespoke robust, interactive, user-friendly web-based data repository and dashboard" which aggregates data from several sources. Through the Data Hub, the aim is to assist partners in understanding the extent and nature of violence, risk and protective factors, to use the data to target interventions based on local needs, and monitor and evaluate their effectiveness.

Interview data highlighted how the data on violence for some local authority areas of Merseyside had previously been collected and hosted by TIIG as part of their ongoing and pre-existing injury surveillance system (ISS). Building on this existing capability of using health data to monitor

> *"Ultimately if having a health led approach its health data you require. It can't just be police data led."* Interviewee

violence in the county, the commissioning of the VRP Data Hub ensured data collection now aligns with the aims of VRP and provided investment to allow for Merseyside-wide coverage and data access. This commissioning has allowed for further development and enhancement for the VRP – to ensure it is data led - but also for other violence prevention work.

2.2 Target population and case definition

In its Serious Violence Strategy, the Home Office defines serious violence as: *"specific types of crime such as homicide, knife crime, and gun crime and areas of criminality where serious violence or its threat is inherent, such as in gangs and county lines drug dealing."* Appendix 8.2 details the definition of serious violence used by VRP. In adopting a public health approach to violence prevention, the VRP's strategy has an emphasis on addressing the root causes of serious violence (e.g. adverse childhood experiences [ACEs], including domestic abuse) and promoting factors that promote against and mitigate the impacts of violence. With this in mind, the VRP remains flexible to respond to other

violence crime types (e.g. domestic abuse) based on the monitoring of intelligence and data (VRP 2021).

The VRP Data Hub covers the whole of Merseyside and similar to other multi-agency violence surveillance systems (e.g. Wales [Quigg et al, 2021]; West Midlands [Ahmed et al, 2020]) includes data from a range of partners as indicators for violence using various measures from these data sources. It currently comprises five key data sources:

1. NWAS: Ambulance service call-outs for violence related injury (where the call-out location is Merseyside).
2. A&E departments across the North West of England: A&E assault attendance data (where the patient's residence is Merseyside), including ISTV data from Merseyside A&Es[2] (see Box 2).
3. Hospital admissions data: hospital admissions for violence (including sexual assault)[3]. Admissions to any hospital in England (where the patient's residence is Merseyside) (accessed via Public Health England).
4. MFRS: incidents of deliberate fires attended by MFRS (occurring within Merseyside).
5. Merseyside Police: Police recorded violent crime in the forms of; Miscellaneous crimes against society, Possession of weapons, Violence with injury, Violence without injury.

Appendix 8.3 gives further detail on the coverage and breakdown available for each of these datasets.

Whilst included in some of the VRPs work (e.g. around preventing ACEs), the exclusion of domestic abuse within the definitional remit of the VRP was raised by several **interviewees** and is explored further in section 3.5 'Representativeness and sensitivity'.

Box 2: Information sharing for tackling violence (ISTV)

In 2010, following recommendations for the collection and sharing of assault data from the College of Emergency Medicine (Boyle et al, 2009), the Government pledged that they would "*make hospitals share non-confidential information with the police so they know where gun and knife crime is happening and can target stop-and-search in gun and knife crime hotspots*" (HM Government, 2010, p.13). In 2014, the Information Sharing to Tackle Violence (ISTV) programme was established to enable consistent and systematic data collection and sharing across A&Es in England (Teff, 2012). The programme mandated all Type 1 A&Es to collect key data items from patients presenting due to an assault, including the: time and date of the assault; time and date of attendance at the A&E department; specific location of the assault (free text, e.g. street name); and, primary means of assault (i.e. weapon or body part used).

2.3 The resources used to operate the system

A range of partners support the development, implementation and embedding of the VRP Data Hub through:

- Advocating for a public health approach to violence prevention that is data and evidence led;
- Collecting data, setting up data sharing processes between partners, and sharing data;

---

[2] Alder Hey Children's Hospital, Aintree University Hospital, Arrowe Park Hospital, Royal Liverpool University Hospital, Southport and Formby District General Hospital, and Whiston Hospital.
[3] Assault by bodily force, assault by sharp object, Assault by blunt object, Assault by unspecified means, Other maltreatment, Assault by other specified means, Sexual assault by bodily force, Assault by other and unspecified firearm discharge, Intentional self-poisoning by and exposure to non-opioid, Assault by drugs medicaments and biological substances (ICD-codes X85-Y09).

- Managing, cleaning, analysing and disseminating data;
- Promoting good data quality;
- Training partners in how to use the Data Hub; and,
- Promoting the use of the Data Hub for violence prevention (e.g. through communications and multi-agency events and meetings).

Partners currently contributing data to the TIIG ISS and the VRP Data Hub include all North West A&Es, the NWAS, Merseyside Police and MFRS. For the majority of data providers, data are already collected as part of their existing procedures, with data sharing for the purposes of the TIIG ISS/VRP Data Hub embedded into organisational work programmes (with any additional costs absorbed by the data provider).

The VRP have directly funded the TIIG team to develop, maintain and promote the Data Hub, including:
- Designing the Data Hub through consultation with local stakeholders. During the initial development (2019/20), three multi-agency workshops were held to explore partner views on the design of the Data Hub, and reflection on an initial version. Throughout 2020/21, TIIG have held regular meetings with the VRP and received feedback from users relating to enhancing the hub further.
- Producing the Data Hub; IT software is provided by LJMU.
- Regularly (monthly) updating the data in the Data Hub so that it is kept up to date, and converting free text assault location data collected within A&Es to enable hotspot mapping.
- Working with partners to identify potential data sources that could contribute to the hub, implementing appropriate information governance procedures and data sharing processes.
- Working with data providers to enhance data quality, particularly A&E attendance data.
- Providing training (via group and 1-to-1 sessions) on how to use the Data Hub to local partners including those based at Merseyside Police, Community Safety Partnerships and Local Authorities. Approximately ten such training sessions have been delivered during 2020/21.
- Promoting the use of the Data Hub during events, meetings and social media.

In March 2021, an 'end of year' online workshop was held with approximately 45 VRP partners to demonstrate progress made during 2020/21, how to use the Data Hub (including examples of existing use) and to identify partner views on areas for development. VRP team members support the promotion of the hub in VRP activities, including social media.

Interview data suggest that whilst some interviewees were familiar with the historic development of the VRP Data Hub and its links with TIIG, some were not and were confused by the staffing and hosting arrangements.

3. Attributes of the VRP Data Hub

3.1 Simplicity

The VRP Data Hub is delivered via four core components (Figure 1):

1. **Data collection and sharing:** All data providers collect data on violence and record this on their organisations IT systems, with pseudo anonymised data extracts sent electronically via a secure data sharing system to LJMU for inclusion in the TIIG ISS. Relevant data protection information-sharing agreements were established prior to data sharing commencing. This is with the exception of hospital admissions data which has been provided directly as an aggregated data analyses output from Public Health England.
2. **Data management, cleaning and analyses:** TIIG collate, clean and store all partner data on a secure IT system hosted by LJMU. Data are formatted for inclusion into the Data Hub.
3. **Data dissemination:** VRP partners can request access to the Data Hub via completion of a brief online application form that confirms their job role and organisation. TIIG team members grant access to all Merseyside partners working on violence prevention. TIIG have provided partners with secure data access to the hub since the end of March 2020. All data can only be viewed within the hub; at present, the data cannot be downloaded. Therein data is displayed using a variety of mediums including graphics, charts, tables and interactive maps, with the ability to break data down by age group, sex, local authority, and type of violence.
4. **Use of data in violence prevention:** Data users use the data to enhance understanding of violence across Merseyside, inform the development and targeting of interventions, and monitor and evaluate their impact (see Section 4).

Figure 1: Overview of the VRP data repository and hub
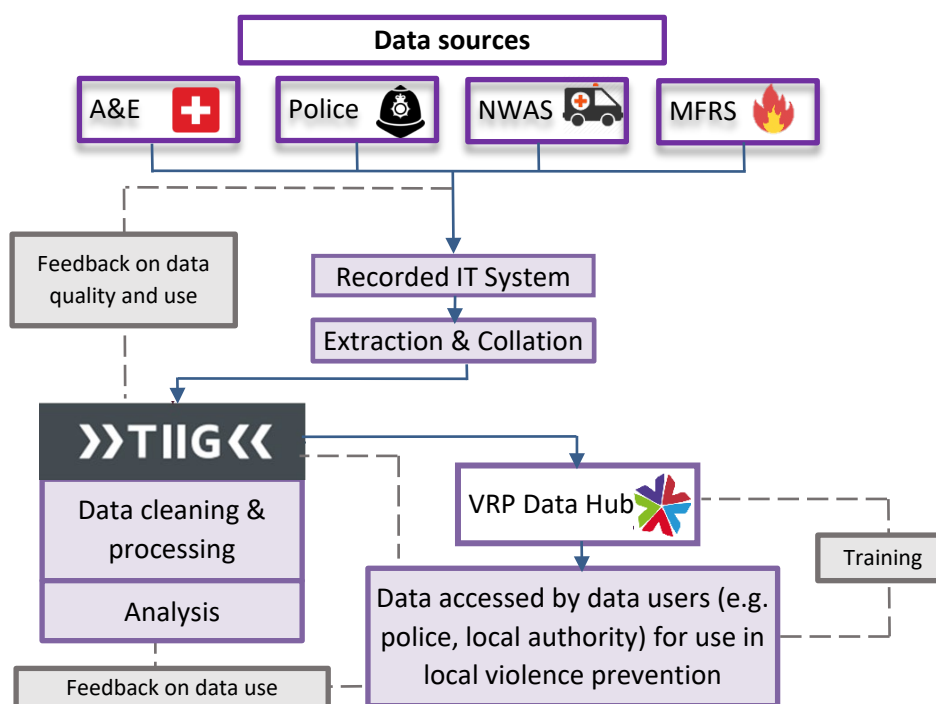
The Data Hub includes six core sections:

- **My hub dashboard:** The landing page provides an overview of the data available in the hub including for each data source: the period data are available for, what the data covers, and any data considerations. For example, identifying when data providers starting sharing specific data items into the TIIG ISS, and thus alerting users to potential gaps in data presented in the hub. A table, figure and map are also presented in the landing page, which data users can customise and set allowing them to see that same content each time they visit the hub, to meet their needs. For example allowing them to focus on a specific data source, analysis type or geography of interest.

- **Data Hub maps:** Customisable maps are also available to visualise different datasets (e.g. A&E, police, ambulance, fire and rescue) for different geographies (e.g. local authority, LSOA, MSOA and ward; hotspot locations for location of A&E assault attendances). Data is available both as counts as well as by rates (dependant on the data source). Maps can assist in identifying geographic 'hotspot' locations, examine patterns of violence in specific areas (e.g. a specific ward) and examine trends over time. Furthermore, maps can be overlaid with levels of deprivation, school locations, children centres, licensed premises and parks.

- **Data Hub charts:** The hub also contains charts containing numbers or rates of violence, which can also be customised for users own work.

- **Other supporting data:** This page points to other sources of secondary and administrate data, which includes relevant violence data (e.g. hospital admissions analysis carried out by Public Health England).

- **News and links:** This page features relevant news articles and organisations relevant to Merseyside VRP and violence prevention generally.

- **Report repository**: This page provides links to violence related reports and journal articles relevant to Merseyside VRP and violence prevention generally.
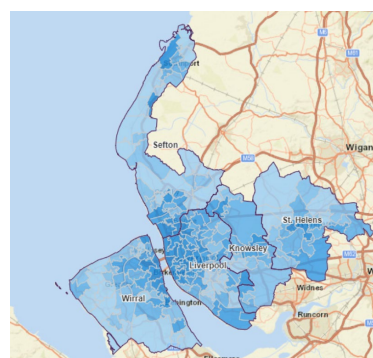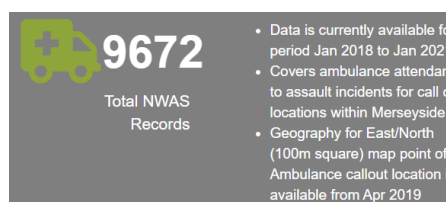
All but one **survey respondent** (n=10), were aware of and had accessed the VRP Data Hub as well as knew how to requisition access. Most had become aware of it directly through the VRP or an associated VRP Data Hub consultation workshop (n=9). Survey respondents saw the aims of the VRP Data Hub as being multiple (as visualised in Figure 2 below), but all respondents (n=11) agreed it was 'to identify and describe the population and areas most at risk of violence'.

Most (n=8) of the ten **survey respondents** who were aware and had accessed the VRP Data Hub rated their knowledge of the benefits of data contained within the hub for violence preventions as 'very good/good'. However, when rating their knowledge of how to use the hub, respondents responded in a rather polarised manner. Although no respondents rated this as 'very low', results clustered in the 'low' (n=4) or 'good' (n=4) categories rather than 'neither' (n=1) or 'very good' (n=1). When rating their knowledge of the functions available in the hub, there was a similar response profile (Very good - 1, Good - 5, Low - 4). Responses were more mixed in relation to their knowledge of the data available in the hub (Very good - 2, Good - 5, Neither - 1, Low - 2).

In relation to their knowledge around interpreting specific datasets, **survey respondents** who were aware and had accessed the hub (n=10) once more indicated mixed responses. On the whole respondents were more confident in interpreting police data (n=6 agreed or strongly agreed) than they were interpreting data on hospital admissions (n=5), A&E attendances (n=4), ambulance call outs (n=4) or fire service call outs (n=4).

Figure 2: Which of the following do you believe is an aim of the VRP Data Hub?[4]

To understand the nature/type (e.g. child, youth, intimate partner, sexual, elder) of violence — 72.7%

To quantify the extent of violence, including trends — 90.9%

To identify and describe the populations and areas most at risk of violence — 100.0%

To identify and describe the risk (and protective) factors for violence — 63.6%

To support the need, design and targeting of violence prevention approaches (i.e. strategies; interventions) — 81.8%

To monitor/evaluate the impact of violence prevention approaches — 81.8%

Other — 9.1%

Interviewees described the Data Hub as "a really good database", "easy to use" and "easy to find [their] way around it". The dashboard was mentioned specifically as easy to use, and many commended the support they had received in gaining access and getting started with the hub, which contributed to their experience of the hub. However, these comments were mostly offered by analysts, and the hub is intended as a user-friendly tool which can be used by analysts and non-analysts alike.

> *"I think it's quite easy to use given the range of datasets and categories on there. Having a session to show me how to use was really helpful. Once I had to start to use it for reports / specific goals it was easy to use."* User interview

Some **interviewees** raised uncertainty or doubt as to the detail behind some of the violence measures hosted by the VRP Data Hub. For example, what actually falls into the definition of an assault. One followed this up by saying that it wasn't always immediately clear which assault were being displayed on the dashboard; with difficulty specifically examining knife crime and serious violence under 25s within the hospital admissions data within the VRP Data Hub required for Home Office reporting (having instead to request this data from TIIG directly).

---

[4] Participants could select more than one option from a predetermined list.

3.2 Flexibility

Whilst the VRP Data Hub has only been live for one year (and of note launched during the COVID-19 pandemic), the hub has been and continues to be developed to meet local partner needs.

The hub aims to collate and host multiple datasets capturing violence across Merseyside including A&E, NWAS, police, fire and rescue, hospital admissions and walk-in centre data. These data sources were identified in a rapid scoping exercise early on in the hub development, to ensure relevant, high quality data was available and could be readily accessed via the hub to inform violence prevention. Subsequently identified datasets were sourced and the Data Hub was developed to incorporate these data sources. This development of the hub was done in close consultation with VRP stakeholders in regular workshops. Stakeholders included the police, clinical commissioning group (CCG), local authorities, CSPs and other organisations (see Quigg et el, 2020).

Interviewees used the VRP Data Hub mainly for strategic report writing, as well as local area profiles on a range of thematic areas relating to serious violence. Having both health and police data with which to perform analyses was seen as useful for triangulating insights, however,

> *"Sometimes needs of partners differ. Police have a specific set of needs."*
> User Interview

there were invariably limitations in the ability of the system to perform the specific analysis required and one suggested the VRP data was too specifically built round the VRP requirements but that requirements do potentially change. For example, some interviewees thought it would be useful to be able to 'drill down further' and perform specific trend and smaller area analysis for one local authority area only rather than for Merseyside as a whole (also explored further in section 3.5 'Representativeness and sensitivity'). Other interviewees highlighted how as part of the VRP Data Hub development they had fed back insights into the limited geographic precision pertaining to some data and that the Data Hub providers have since built on these recommendations; demonstrating the willingness of the team to adapt the system to user feedback and needs. The willingness of the team to review the functionality of the hub to ensure it met users' needs was also mentioned in relation to the data held on violence amongst those under the age of 25. Currently the date range for trend analysis available for Merseyside as a whole is not the same as for each local authority area therein; something the interviewee noted the TIIG team were looking into on their behalf.

In March 2021, the hub was enhanced to include a new mapping function which uses free text A&E assault location data to provide hotspots of where violence has taken place. Further, the charts page has been developed to allow users to interrogate data in more detail.

3.3 Acceptability

Intelligence from the hub is increasingly being shared across the Merseyside partnership to inform strategic decision making and ultimately how resources are to be invested in violence prevention. The learning gained from developing the VRP Data Hub is being shared more widely with other VRU's to support them in harnessing the most from data sharing opportunities. This has also served as an opportunity to learn from other VRUs as to how they may be using data from multiple sources.

During 2019/20 and 2020/21 local partners have supported the development of the hub through attendance at workshops and/or meetings. Further, existing data providers to the TIIG ISS have worked with TIIG to ensure data are submitted on a monthly basis and to improve their data collection and subsequently improve the quality of the data presented in the hub (i.e. A&Es). The year one

evaluation of the VRP identified VRP partners consistent belief that the VRP facilitated greater data sharing between agencies and drawing on data such as that contained in the hub helped identify the populations and areas of concern/in need of intervention and enabled them to track trends and patterns in violence (Quigg et al, 2020).

As of mid-April there were 127 registered users of the hub. The users of the hub have doubled since January 2021, when there were just over 50 registered users and comprise a range of users from the following organisations:

- Local Authority 30%
- Police 28%
- Academic 16%
- NHS Trust 13%
- Probation 3%
- Ambulance 2%
- Community group 2%
- Fire and rescue 2%
- NHS England 1%
- Communications 1%
- Combined Authority 1%
- Housing 1%

Between April 2020 and March 2021, the host webpage for the VRP Data Hub had a total of 2,107 page entrances (175.6 average per month) and 6,191 unique page views (515.9 average per month). On average, users access approximately three pages per session. Usage peaked following training/workshop sessions, e.g. during March 2021 (workshop held on 23rd March) there were 314 page entrances and 1,070 unique page views, the highest numbers over the 12 month period.

Most (n=9) **survey respondents** reported using the VRP Data Hub monthly or less (n=9). The most frequently used feature amongst survey respondents in the hub was the maps. The police data was the most frequently used dataset in the hub. This was closely followed by ambulance call outs, A&E admissions and hospital admissions (all used equally as frequently) and the Fire and Rescue data which was used slightly less frequently. However, up to three of the ten respondents who had used the hub had never used some of the datasets contained within the hub.

Of those **survey respondents** who were aware and had accessed the hub (n=10), most agreed or strongly agreed (n=8) that guidance material provided on the VRP Data Hub aides interpretation of the available data/outputs. Confidence in the quality of data on the VRP Data Hub was also high with most (n=7) agreeing or strongly agreeing. However, there was variation in confidence in different datasets as well as the extent to which the location, time and date details therein were complete enough to inform violence prevention. Confidence in how to interpret datasets varied amongst survey respondents, with the majority of people having confidence in their ability to interpret the police data (n=6 rating their knowledge as good or very good). This was followed by half of respondents rating their knowledge of how to interpret the hospital admission data as good or very good (n=5). Four respondents rated their knowledge as good or very good for interpreting the A&E data, the ambulance data and the fire service data.

- One survey respondent asked "Can PH fingertips data which has been cleaned be introduced to the Data Hub so that more information is available in one place and you don't have to be

an analyst to use it? Currently, I don't feel it can be used without this contextual data to really direct intervention and prevention activity."

Most (n=8) of the ten **survey respondents** who were aware and had accessed the VRP Data Hub stated that they did not know whether their organisation deposited data into the hub.

I**nterviewees** also commented on the functionality of the VRP Data Hub and highlighted the mapping function as particularly useful for overlaying different datasets as well as the ability to then look at these geographically defined data in tabular form.

Many issues as to whether the VRP Data Hub hosted suitable data and functionality have been raised in earlier sections. Despite its widespread commendation there were aspects that were identified as areas which could be improved upon or further developed to suit all users' needs. These included:
- **Clear definitions of measures, particularly assaults**
  - o Defining and clearly labelling data and metadata to describe what actually falls into the definition of an assault and particularly the police definition of serious violence.
- **Consistency in age breakdown and flexibility in specifying ranges**
  - o Some of the age groups also do not accord with user needs. For example, on the VRP Data Hub some data contains a breakdown for those aged between 15 and 29 but users also sometimes needed look at some measures in under 25s.
- **Being able to specific date parameters**
  - o For example, to allow for analysis of bespoke time ranges and comparisons of similar periods in previous years in maps and tables.
- **Being able to download/extract data and charts**
  - o To enable users to manipulate and re-produce for own purposes.
- **Allowing users to look at more than one characteristic at a time in charts**
  - o For example, it's currently not possible to display breakdown by both age and sex, and, not easy to manipulate data for insights on factor such as age and weapon type.

One user interviewed commented that currently there is no way of identifying the same incident across multiple datasets held within the VRP Data Hub. Many incidents may feature in multiple datasets (e.g. police, ambulance and A&E data). Case and person identifiers to link these incidents were seen as potentially useful future development, although the interviewee understood this was likely aspirational at this stage in the hub's development.

"It's an incredible tool though – especially if you are not familiar with the data and numbers – even 20 mins can be useful to give a sense of the trends and scale of the problem in particular areas." User interview

3.4 Data quality and timeliness

Data is obtained, cleaned and updated monthly, it is then made available for users of the Data Hub approximately one month in arrears. Mapping for all datasets is also updated on a monthly basis. Most **survey respondents** agreed the data was available via the hub in a timely manner (n=8) and that it allowed them to access the data their organisation needs (n=8).

Within the hub, data from January 2018 has been used to develop a hotspot reference table based on free text assault location data from all Merseyside A&Es. Hotspots are coded to postcode level and

where required linked to What 3 Words[5] (e.g. for licensed premises where multiple buildings may share the same postcode). Maps using this data have now been made available for 2018 and 2019 with 2020 to follow. The TIIG team have also been working on hotspot maps using Eastings and Northings data from NWAS which depicts where the call out was made. They are currently in discussion with NWAS concerning the level of detail allowed for the maps. This is due to call outs including home addresses. Once an agreement has been reached the maps will follow shortly. Discussions with walk-in centres were temporarily put on hold during the early stages of the COVID-19 pandemic but have resumed at the time of writing as these data represent one of the priorities for the hub. TIIG are engaging data providers at present aiming to have these data available in the hub as soon as possible.

To ensure utility of the data, enable a reliable overview of violence trends, and identify hotspots effectively, providers need to collect data in a consistent manner and in sufficient detail. For example, as part of 'Information Sharing to Tackle Violence' (ISTV) (see Box 2) A&Es are required to collect additional data around violent incident attendances (NHS Digital, 2014) such as the date and time as well as specific locations of assault (e.g. name of street/pub/club/bar) and whether a weapon was used. However, as is often the case in administrative data capture, data quality and consistency in some of the ISTV variables can fluctuate. Unfortunately, this can undermine analytical insights generated from the data and makes them less reliable. To improve data quality and further support the VRP, TIIG has carried out data quality work with each A&E Trust, including regular meetings, training, and engagement events with A&E representatives to discuss data quality; providing monthly data quality reports; and, producing posters for A&E staff and patients, reiterating what data should be collected, and informing patients why it is being collected as well as to share best practice and discuss barriers to data collection. This has allowed A&E departments to improve data completeness in several sites; indeed, in one site data completeness rose from an average of 33% to 97% between April 2019 and February 2021 and in another from 17% to 81% (over the same period). Data quality is an ongoing issue, but this ongoing engagement has seen significant improvements in A&E data quality. Data quality should be explored across all data sources; data quality issues are not limited to A&E data – but police data too – further detailed in Section 3.5.

The ability to supplement police data with other sources was routinely commented upon by interviewees as important, as police data suffer a range of known limitations (ONS 2020a, 2020b). Indeed, interviewees raised how police data suffer from underreporting and where not always precise in their geographical recording either. An example was given whereby police might allocate a crime to the nearest big road. They contrasted this with the relative geographic precision recorded in the ambulance service data (pick up location).

Despite overall favourably opinions amongst **interviewees**, there were some limitations and barriers associated with the VRP Data Hub. Survey respondents added the following observations concerning timeliness and data quality:
- "For my role, I predominantly look at tactical issues that are the here and now. I am unable to use the Data Hub for tactical issues due to the data not being uploaded in time, however I am aware it is not an easy task and there is a lot of data to be uploaded."

---

[5] What three words allocates addresses to a grids of 3mx3m across the world. The purpose of this is to accurately highlight hotspot locations on a map, so please find the most appropriate location using what3words – this is particularly important where there might be several premises (e.g. pubs/bars) in close proximity.

- "I know from my own experience of analysing the police data that there are quite a lot of data quality issues. I'm sure there are data quality issues with the other datasets within the Data Hub and this would be something I think would need to be improved across the board."

Interviewees noted a temporal lag in data uploads as also hindering the potential timeliness of insights and ability to use for developing performance indicators. For example, it was noted that some data had been uploaded quarterly and that some were dated (e.g. Fingertips data). Timely data transfer and having a

"Sometimes a bit of a lag in updating the data – these delays are in part inevitable but clearly less timely as a result." User interview

dynamic and regularly updated Data Hub was valued. Indeed, real-time data transfer was cited as a potential future aspiration. It was also noted, however, that having data dating back to 2018 was useful for comparisons and trends. Data quality was also cited as a significant barrier to progress. It requires continuous and ongoing work with partners to maintain and improve data quality and this can be challenging to realise amongst staff when balancing the operational pressure of working, especially in high paced Blue Light services. The VRP Data Hub developers have done extensive work with data providers in the form of workshops, meetings, training and data quality reports "but it is intense and ongoing work (and COVID-19 has made this engagement even more challenging)" (*Interviewee*). Beyond this, obtaining data with high geographical precision is both intensive and challenging, especially when this is provided as free text. Moreover, it was noted that sometimes the success in securing data transfer and quality was down to the quality of relationships between organisations and key contacts therein.

3.5 Representativeness and sensitivity

The TIIG A&E dataset expands upon Information Sharing to Tackle Violence (ISTV) data requirements and includes a broader dataset that includes the ability to identify at-risk groups and communities.

Among those **survey respondents** who were aware and had accessed the VRP Data Hub (n=10), assessments as to whether the Data Hub provides a good picture of all violence occurring across Merseyside were mostly

"More information about risk factors in victims/patients" Survey respondent

favourable (n=8 agreed or strongly agreed) but one respondent indicated that they disagreed and another did not know. There was considerable variation in opinions expressed in survey responses as to whether the Data Hub provides a good picture of all risk and protective factors for violence occurring across Merseyside. It was noted by interviewees that whilst police will not always receive reports of violence (e.g. gang violence) the VRP Data Hub provided health data, such as ambulance call outs, which was seen as useful to supplement insights from police data. However, one survey respondent commented that *"analysts in Community Safety use more nuanced data than TIIG data (e.g. domestic violence, hate crime [and sub-categories], etc.) to really direct their work and I think that violence reduction would really benefit from more detailed data than I think is contained in the Data Hub"*.

Most **survey respondents** agreed (or strongly agreed) that the Data Hub helped them understand the nature/type of violence (n=8), allowed them to quantify the extent of violence, including trends (n=9) and identify and describe the populations and areas most at risk of violence (n=9). Most also agreed (or strongly agreed) that the Data Hub allowed them to describe the risk (and protective) factors associated with violence (n=8). And all suggested it helped them evidence the need for interventions

(n=10) and the need for funding (n=10) as well as assisting with research and analysis and most thought it was useful for developing a problem profile and/or informing strategic policy documents (n=9). There was less consensus amongst some other aspects of the hub; numbers of those believing the below functions were useful or very useful were as follows:

- Supporting the design and/or targeting of violence prevention approaches, n=7.
- Monitoring/evaluating the impact of violence prevention approaches, n=7.
- Merging with other data not contained in the hub, n=5.
- Informing engagement, communication and/or promotional materials, n=7.
- Improving multi-agency working, n=7.

Half of **survey respondents** (n=5) suggested they had data that was of potential use to the hub. Suggestions included "Liverpool Adolescent Services analysis for CCE/CSE and Troubled families data" and "data relating to a range of areas that include reconviction / offending rates / accommodation, employment, training, education, drug and alcohol use / mental health and relationships". The former was thought to be able to provide additional context to Blue Light data, in turn enabling "a more targeted approach to prevention and early intervention" as well as "a more targeted place-based model to emerge for violence prevention". It was acknowledged the latter would need to be agreed at a senior level within Probation.

Survey respondents were generous in the text responses as to how the Data Hub could be improved to allow for further insights and to ensure representativeness of the data. Their remarks included:

- "Greater partnership cooperation is needed to ensure that there are key data streams identified and used to support the Data Hub, e.g. Troubled Families data. This would help us determine a better understanding of the where / who surrounding our SV [serious violence] problem."
- "Additional tags or indicators which are collected at point of interaction with Blue Light services and would enable the data to be drilled down to a level which can then be used to identify whether appropriate early intervention and prevention services are available within the hotspot. In addition, looking at other health related data, such as mental health crisis call outs (SAMHI Index), drug and alcohol call-outs/admissions (pre-violence as an early indicator for emerging issue), density of social service/early help referrals, place-based data on NEET, permanently excluded, etc. As per previous comment, overlaying data on top of assets such as children's centres, schools, community centres/hubs, police/MFRS stations, walk-in centres, sports/leisure facilities, children's care residential facilities, GP surgeries, etc."

Some **interviewees** added they wanted to be able to "drill down further" into the data and perform specific trend and smaller area analysis for one local authority area only rather than for Merseyside as a whole. This was a feature of particular value to local authority users, who did not often have a Merseyside wide focus or remit. Linked to the flexibility of the system, interviewees gave feedback that being able to extract data from the hub will assist with them being able to make more flexible use of the data, based on their specific needs. The TIIG team are currently looking into options to allow for different tiered permissions and access to different disaggregation of data and downloading extracts.

Issues associated with defining and operationalising violence were raised by several **interviewees**. This was done almost exclusively with reference to the absence of domestic abuse falling within the definitional remit of the VRP (albeit covered in the ACEs/trauma work of the VRP). Whilst the adopted definition accords with the

> *"Sometimes there is a bit of debate as to whether the VRP should or shouldn't be looking at it [domestic abuse]."* User interview

Home Office guidance and focus of the VRP on knife crime and non-domestic homicides, this narrowly conceived definition of violence was seen as problematic by some. One interviewee qualified this as domestic violence was more prevalent/more of a problem than knife crime in the county. Whilst others commented that other VRUs had included domestic abuse within their remits and saw the omission of domestic abuse as a missed opportunity to understand some of the complexities associated with violence, especially as it relates to ACEs and the overlap in this regard. This also constrained the utility of the Data Hub; constraining its use to VRP related analysis and reporting. However, those from other organisations (especially Local Authorities) usually had broader remits, when considering crime and violence, which also encompassed domestic abuse, other forms of criminal and/or anti-social behaviour (ASB) and acknowledged the broader potential of the VRP Data Hub for understanding trends therein. An interviewee also remarked, that with some VRUs including domestic abuse and others not, there was a lack of consistency in approach and thus constraining the ability to compare VRU areas and understanding what works in violence prevention. A survey respondent also commented that one of the limitations of the VRP Data Hub was "the limited sources of data still available for the Hub" and that the focus was still mainly "on police data, which doesn't give the complete picture of SV [serious violence]." Moreover, the focus on young people was also thought to be erroneous by one interviewee; whilst they understood the need to intervene, they noted that most violence involved adults.

Accepting the definition agreed upon by the VRP, other interviewees raised changing definitions over the lifetime of the VRP as presenting a challenge in ensuring the data contained in the hub were relevant and accurate. For example, differing extracts of police data based on varying definitions and offence types had been provided to TIIG for inclusion in the hub on occasion. Work is ongoing to rectify this, as it will have a detrimental impact on the accuracy of the data contained in the hub if not resolved, and in turn potentially present misleading insights about the prevalence of 'serious violence' in Merseyside and trends over time therein.

It is essential that the VRP Data Hub clearly label and define the measures contained therein, so there is little room for ambiguity, and these are clearly communicated to all partners to ensure they are familiar with what is and what isn't contained within each measure. The concerns raised by interviewees related specifically to police data and the offences that fall within the VRP definition of violence, however it has relevance to all the included data sources. This is particularly important to get right, as the VRP definition of violence has evolved and been re-defined at points in the VRP development and differs markedly from other sources of data on police recorded violent crime such as the open police data (data.police.uk) and Home Office definitions of violence on which the Office for National Statistics (ONS) may routinely report (see ONS 2020a).

As well as challenges associated with the police data, one interviewee mentioned that hospital admissions data – that met the need to monitor changes in 'hospital admissions for assaults with a knife or sharp object and especially among those victims aged under 25' as per the Home Office definition - has also been a challenge to get hold of, not least as there were cost implications. This was a key frustration, as reducing such hospital admissions is one of the key outcome measures of the VRP

(see section 2.1). Currently this measure / this data are only available for the hub on an aggregate local authority and annual level, with a significant time-lag in the data available. Whilst A&E data provides an indication of attendances and can potentially also identify if attendees are admitted to hospital, these data are coded differently to official hospital admissions statistics.

Interviewees also commented on how the COVID-19 pandemic has interfered with trends in violence and the challenges in being able to make sense of VRP activity in this context. During which certain forms of violence, for example night-time economy assaults had 'plummeted'. They acknowledged it would be difficult to tease out the impact of the VRP on trends in violence. These changes in the form of serious violence during the pandemic are also interesting to reflect on with reference to interviewee's comments on the definition and operationalisation of violence as mentioned in section 2.3, as the data will be limited in their ability to chart the change in form and prevalence of violence. Despite representing a loss in data and thus insights, it was however remarked by one interviewee that there is the potential to remove lockdown periods from analyses. It was also noted that whilst TIIG held data on violence that included domestic violence the VRP Data Hub itself did not.

Geographic resolution and prevision were also raised by **interviewees**, with the relative strengths and limitations of different datasets being acknowledged. One user suggested the NWAS data were particularly useful in offering an insight into where the violence is happening (as this was based on place of pick up rather than the hospital data which is based on the home address of the person in attendance); rather than simply being able to ascertain the places in which violent perpetrators or victims live as in some datasets. Developments in the A&E data using the 'what 3 words function' was also seen as positive in this regard. Another suggested they would we value the ability to interrogate specific locations with local authority areas, such as city centres and wards.

## 3.6 Stability and security of the system

Data sharing agreements are in place, between the Public Health Institute (TIIG) and Merseyside Police, NWAS, NHS trusts (A&Es), and MFRS.

There is approved access including a username which allow TIIG to see who is accessing the hub. This is also an important aspect of the Data Hubs security as individuals can only gain access to the hub if they have been granted approval by the TIIG team. In order to be granted approval an individual needs to fill in a short request form, stating their job role and organisation. Once granted access individuals will not have access to raw data. All data included in the hub is confidential and anonymised. As these data comprise secondary administrative data shared for the purpose of crime prevention and is anonymised prior to uploading into the Data Hub, informed consent from the individuals to whom these data pertain is not required. Care is also taken to ensure the data available limits the opportunity for any individuals or households to be identifiable. However, there is currently no guidance on how to use the data and permissions for re-use or further publication. As such it is not clear whether it is permissible to reproduce the data insights obtained within the hub elsewhere, i.e., documents that may subsequently be available in the public domain.

However, in terms of technical infrastructure associated with the Data Hub, all i**nterviewees** suggested they hadn't encountered any problems accessing the system and had been able to requisition access to the system with little effort.

4. Utility of the VRP Data Hub

A key aim of the VRP's overarching strategy is to ensure that all decisions are based upon the best available evidence. The VRP uses their Problem Profile as well as the VRP Data Hub to target their activities, and also aim to ensure appropriate monitoring and evaluation processes are in place for their activities, for internal performance monitoring and external evaluation of VRP funded interventions (envisaged to be implemented in 2021/22).
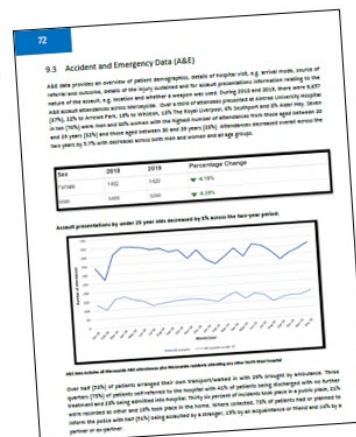
The development of the Data Hub has allowed data on violence to be shared between organisations. In turn it is hoped this will encourage shared learning, improved multi-agency working and better targeting of resources. Whilst the value of the Data Hub was acknowledged by interviewees and survey respondents, ongoing work is required to maintain the Data Hub, and sustain high quality data transfer between partners. Whilst it is acknowledged that the VRP Data Hub is not widely used across all partners yet and work is ongoing by the TIIG team to examine usage and enable "directed promotion and training to take place to ensure that best value is realised" (VRP update report). TIIG have also delivered presentations to the VRP Steering Group and workshops for practitioners to promote the hub and "encourage greater awareness and usage" (VRP update report). It is acknowledged in VRP update reports and the interviewees for this evaluation that further promotion of the VRP Data Hub and its potential for wider uptake and use by VRP representatives beyond TIIG staff is needed.

A report on the Data Hub, a year on from its launch, spotlights how the hub has been used to "hot spot areas for violence, at risk groups and to target interventions and strategies accordingly" (Germain, 2021). It has also been used for the VRP's problem profile, annual report and Home Office quarterly report (Germain, 2021). Thus far the Data Hub has been used to inform:
• Local Authority Strategic Needs Assessments on Violence.
• Presentations (recently included in presentation to Home Office Minister).
• Data sharing - reports provided to Community Safety Partnerships (CSPs).
• The VRP problem profile / response strategy / direction of expenditure.
• Evidence of VRP performance against Home Office success measures.

Interviewees pointed to other uses including use of hub data in disarm and SIA (Strategic intelligence Assessment) reports as well as other strategic analysis and reporting, such as those offering intelligence overviews of serious violence in policing areas in the form of crime series or emerging issues. It was acknowledged that this is where its strength lay as data were not updated quickly enough to be used for tactical purposes. Whilst it pre-dated the Data Hub, TIIG data had been used to inform the location of bleed control pack locations in Merseyside based on patterns in the data on knife related violence, which exemplifies how the data can be used to make resource related decisions.

Those **survey respondents** who were aware and had accessed the VRP Data Hub (n=10), highlighted different ways in which the hub had been used in their organisations (see Figure 3). Narrative

responses indicated examples and the ways in which the hub had been useful / provided benefits, including:

- "To help me identify the top wards across Merseyside in which SV [serious violence] is the highest. Helped me to target interventions for the Sports and Culture sectors."
- "Used [by] VRP data analyst rather than myself to identify key wards."
- "To inform analysis, such as deciding on funding areas, and to update monthly reports to the Home Office."
- "Creation of our Problem Profile."
- "I used the Data Hub to provide a multi-agency overview of serious violence for a strategic profile. I was able to overlay datasets to understand where the risk areas are and if there are risk areas that are not shown in the police data and would not be represented with just one type of data set."

When **survey respondents** that had used the hub, were asked if they plan to use the hub in the future, most said they would (n=8), even if they had not embedded its use into their organisations processes. Whilst some (n=2) respondents were unsure whether they would make use of it in the future, none suggested they would not be using it. Indeed, support for the development of the hub was overwhelmingly supportive (n=8 strongly agreed with the remainder (n=2 agreeing).

Figure 3: How participants used the VRP Data Hub in their organisations

Most **survey respondents** (n=8) agreed the VRP was facilitating multi-agency data sharing for the purposes of violence prevention across Merseyside. Barriers/challenges experienced by survey respondents when using the VRP Data Hub included time to access the hub and not accessing it regularly. It was commented that those in analytical functions would perhaps do so more frequently. However, another survey respondent suggested the "the data hub should be a data intermediary, opening the various data ecosystems to *facilitate the flow of data between different stakeholders, whether they are analysts or not*" (emphasis added). The same survey respondent went on to remark that *"currently, it is only really accessible to analysts and so an easy access summary overlaying the data sources within the hub with the likes of MH [mental health] crisis, troubled families, fingertips data, etc. to produce a higher-level summary which community partners could access would help unlock the potential of this data for all."*

Thoughts offered by **survey respondents** as to how data sharing for the purposes of violence prevention could be improved included the below comments, which point to the potential for ways in which the hub can be used more effectively and optimised:

- "I think data sharing is essential for violence prevention as when I have been able to merge the datasets it gives a richer picture of the violence across Merseyside and allows for any risk areas not identified in police data to be highlighted and can confirm that the risk areas we know about through police data are also reflective in the other datasets."

- "Uncovering risk factors which different areas have in common would enable a cross-boundary partnership approach which is driven by the data. By sharing data, partners will gain a more holistic understanding of what resources are needed and where they would have the most impact. Not only this, but data sharing can enable more effective baselines from which progress (or regression) can be measured."

- "1) Encouraging more analysts from the partnerships to use and contribute to the hub would help improve it.
  2) Periodic meetings of all analysts accessing the hub, with the TIIG would be useful to take it forward.
  3) Greater buy-in from the [VRP] Steering Group to drive it within their own organisations. This should help data sharing and use of the hub".

Interviewees offered reflections on the utility of the VRP Data Hub commonly citing the triangulation of a range of data sources as its main benefit. One interviewee articulated the purpose of the hub as being a way of identifying violence that is not reported to the police but that may come to the attention of A&E, hospital and ambulance services – providing more information and supplementing the police data. Interviewees commented

> *"Police data is only one aspect."*
> Interviewee
>
> *"Having ambulance and A&E to confirm or back up insights from police data is really useful"*
> User Interview

on the VRP Data Hub as being particularly useful for analysis and reporting associated with annual reports and problem profiles.

Interviewees highlighted how having data all in one place is one of the main benefits of the Data Hub. One commented that traditionally there had been reliance on police data, and there had been worries about data quality in relation to health data. However, as so much violence goes unreported to the police, it was acknowledged that such data – where the quality can be achieved - can help us understand the true extent of violence.

There was a recognition, amongst some **interviewees**, that the VRP was underutilised, especially its ability to inform interventions, including their development and evaluation. There were, however, aspirations for the VRP to become 'more data driven' and evidence based in their approach to commissioning interventions and evaluating their success. Especially in considering future bids for funds from the VRP, which would be expected (to some extent) to use evidence to justify their approach and show how their requests addressed those areas of greatest need / offered tailored responses to local problems. (It was acknowledged that until now local authority areas had had relative freedom to determine how they used the funds available to them. Moreover, the need to think 'beyond the data' to also give due consideration to qualitative data and context was also acknowledged, so as to avoid being too reductionist in examination of data. After all, it was noted that different areas would have different issues and what may work in one area may not work in another.) The VRP Data Hub was seen as integral in this regard and was seen as an opportunity to 'work smarter' and target efforts for greater impact. Seeing take up and use of the VRP Data Hub increase and the data it contains feature in needs assessments and reports across the county were identified as measures of success. This was seen to be happening as the VRP Data Hub information and data was starting to feature in local authority needs assessments and similar documentation. Though one user, with a wider remit for community safety, was not sure how they would use the hub, although thought it was a step in the right direction and towards a more public health approach – namely, for identifying trends and hotspots and targeting intervention/tactics etc.

An interviewee commented on the benefit associated with the police leading the initiative as they have a broader geographic remit spanning the whole of Merseyside. This ensured data was captured to cover the whole of Merseyside. However, as noted previously, this also constrained some insights those working at local authority area level might find useful.

Some concern was voiced by interviewees about being able to make sense of the data and trends in violence during the pandemic; as it would be difficult to tease out any impact of VRP activities on potential decreases in violent crime in this context, when external factors relating to the pandemic and associated lockdown restrictions have so radically impacted crime trends, including violence - especially domestic violence (Langton et al. 2021; Stripe 2020; UN Women 2020; WHO 2020), as well as trends in hospital and A&E attendance. Although it was also acknowledged that this was a challenge faced by all – both nationally and in other VRU areas.

5. Key facilitators and areas for transformation

The VRP itself has reflected on their understanding of serious violence in Merseyside and consequently aspires to be more data driven and evidence led in commissioning activities and allocating resources (VRP update report; interviewee). Key to achieving this will be more effective and efficient use of the available data as well as recruitment of further analytical staff (in 2021/22). Yet the VRP acknowledges "usage levels of the VRP Data Hub are still not at the level that we would like or indeed to represent good value given the significant finance and resource that VRP has invested in this and so we have met with TIIG leads to agree a strategy to enhance usage and better market the value of this excellent tool" (VRP update report). It is acknowledged that – whilst data from the hub is starting to appear in local authority strategic needs reports etc. - take up has been slow and the Data Hub is not a finished article, rather as an interviewee noted, *"a lot more work to be done in terms of data quality and further datasets"* to realise the potential the hub offers for understating the wider context and violence in the county.

Indeed, the two main barriers in the VRP data repository development, as identified in the first evaluation reports (Quigg et al, 2020: p) were identified as: "1) **ensuring data collected and shared is good quality and useful**; and, 2) **accessing new datasets**". Ongoing data quality work by TIIG has both sustained and improved the data capture by A&E departments and there now ought to be a focus on extending this model to other organisations as their datasets become available. Whilst TIIG have been successful in identifying and collecting new datasets, there have been difficulties encountered, particularly in accessing Merseyside walk-in centre data, due to provider capacity issues – particularly impacted by the COVID-19 pandemic - and heightened by some change in providers.

> *"We launched just as C-19 hit and many in public health were taken off their usual duties – lower rate of use as doing C-19 related duties instead. Time it hit was inopportune for promoting it."*
> Interviewee

The 'One Year On' report on the Data Hub, highlighted some priority areas for the financial year 2021/22, including promotion of the hub to ensure partners are aware and know how to use it, providing a summary of trends in violence derived from the hub data, and scoping the inclusion of further datasets (Germain, 2021). TIIG are exploring the potential to include probation and educational (e.g. persistent absenteeism and exclusions) data, both of which were raised by interviewees for this evaluation too.

Despite, concerns about data quality raised in earlier reports on the Data Hub and by some interviewees as on ongoing area of work to hone and improve, a survey respondent noted how the Data Hub facilitates cleaner and more uniform data collection than before the hub existed. However, commenting on the **available information contained in the hub**, they added that 'Blue Light data' does not allows give sufficient information about other causal factors, for example indicators of drugs/alcohol, domestic violence, mental health, or whether an incident was gang-related, amongst others. As such, it was considered worthwhile exploring the ability to host supplementary datasets on 'community assets' in the Data Hub. For example, data on "schools, community centres, youth centres, Police and Fire stations, sports facilities and parks" which could be mapped and thus given an indication as to where the asset gaps lie; in turn, offering insights into how these could either prevent or exacerbate instances of violence. Such mapping of community assets such as youth/community

centres and projects could also highlight blind spots in coverage potentially mirroring areas of highest violence. Other datasets which interviewees thought might be useful to include included youth justice / young offender and domestic violence as well as antisocial behaviour data. (With the latter giving a broader sense of the issues facing a community and addressing these preventing violent escalation.) Others mentioned contextual data sources to enhance understanding of the context of violence, including deprivation, school exclusions and attendance, employment, drug and alcohol use as well as mental health, as it was acknowledged that violence overlapped with many of these variables. An interviewee also noted it might be useful to include a map of where we have interventions (noting the challenges associated with where they are registered and where they operate).

As well as gaps in data provision **interviewees** raised challenges in conducting analyses using the existing datasets contained in the Data Hub which met with their local needs. Interviewees gave examples where the functionality to disaggregate data in the hub or query it in ways needed was limited. Many voiced how it would be useful to incorporate such functionality so that they could tailor analytical outputs to their needs. In particular, the Merseyside wide focus limited the ability for local authority areas to drill down further into the data as it pertained to their jurisdiction. However, other examples relating to the charts and mapping functions were also given. For example, charts only allowing a breakdown of the outcome variable of interest by one characteristic at a time, e.g. they do not permit a simultaneous breakdown by both age and sex. And not being able to specify particular time ranges or months to compare in maps or tables. Not being able to export the data was also raised; with this feature being a useful area for development to allow users to manipulate and produce their own tables and charts.

Other comments and suggestions on the hub reflected on what other information could be contained in the hub, data sharing and transfer as well as communication and engagement amongst partners. Common amongst these reflections was the need to **engage and communicate between partners to promote the potential and development of the hub**, as well as ensure engagement and an ongoing feedback loop between partners' use of the hub and ongoing activities. These included hosting

"I am really proud of what we have managed to achieve in a relatively short amount of time. I just think we need to make sure that people are aware of it, people are using it and are giving us that feedback so we can keep developing it further." Interviewee

information about interventions, evaluations, and best practice on the hub to help advise and guide others; showcasing how partners (beyond the police) are using the hub; and ongoing **engagement** also key to "keep the hub in people's minds". Clearly there are many areas for improvement which the Data Hub and associated team can pursue, as outlined, above and in earlier sections. However, without effective communication of the hub's existence, value and how it is being used this effort will not realise the hub's potential. It is also vital that the TIIG team tasked with developing the hub are also kept informed of the VRP's activities so that they can tailor the hub to the needs of the VRP and associated partners and keep it updated and relevant (ensuring a continual feedback loop). Whilst there are always areas for improvement there has nonetheless been much to celebrate in getting the hub up and running in such a challenging context where health and policing partners have seen radical changes to their public health and policing priorities. Moreover, a single point of contact in the TIIG team was deemed to work well and existing relationships via TIIG, as well as good multidisciplinary working amongst partners in Merseyside, were seen as key to the successful and timely development of the Data Hub. These processes and relationships were also seen as key to being able to ensure the hub's sustainability. However, where the flow and transfer of data and its quality is also down to the

quality relationships amongst those in specific roles, this can make the flow of data (and its quality) vulnerable when post holders move on.

Recommissioning and sustainability was raised by some **interviewees**, with many noting that it was a useful tool, that they hoped would continue to be funded. It was noted that whilst the pre-existing system (TIIG ISS) existed in Merseyside, the Home Office funding provided an opportunity to get the Data Hub off the ground and revive and develop on some of the existing data capture that had been happening previously. It was also noted that the Data Hub had potential value beyond the VRP remit too, suggesting that, if this is an effective model of working and tool to help inform violence/crime prevention and/or health promotion, in a context of diminishing resources, it should continue to be commissioned. Ensuring its sustainability is a challenge that is yet to be tackled, as there remain pertinent questions that remain unanswered in this regard; not least "who eventually takes on the Data Hub and funding it?" Whilst it was acknowledged that the hub needs to become embedded into working practices across the county, in order to secure investment in this regard, there were – as yet – no clear plans for what happens if and when national Home Office funding end. Early thoughts on how this could be done included the suggestion that local authorities could "each throw in £X/year (annual fee) to keep it up and running". However, the VRP was not in a position, at the time of writing to explore this, as further evaluation of the Data Hub would likely be required to get a sense of how the hub is being used and how useful it is.

6. Conclusion and recommendations

This evaluation highlighted merits associated with the VRP Data Hub, such as its ambition and ease of use as well as making available a range of data on violence in one place. Survey respondents and interviewees alike appreciated its aims and utility in providing a more holistic and nuanced picture of violence across Merseyside, thus providing opportunities to intervene in an informed and meaningful way. Whilst the hub has been used to inform local violence prevention, to date this is limited and take up of the system been slower than hoped (in part on account of the COVID-19 pandemic). So, whilst the Data Hub's potential is understood and commended, there is some way to go in its role out and development to realise this. At the time of writing, the VRP Data Hub has only been established for a year and there is scope for it to optimise and build on its current offering.

Interviewees suggested there was scope for the VRP to be more 'data driven' and 'evidence led' and that the hub and associated multi-agency data sharing were key to achieving this across the partnership. A quarterly VRP Home Office return testifies that "much work is being done to enhance the knowledge and understanding of the Data Hub to better inform practitioners and encourage greater awareness and usage i.e. numerous workshops are running across the partnership towards this aim" (VRP update report). However, to ensure this ambition is released, the overarching recommendations of this evaluation are as detailed below.

> ***Overarching recommendations***
> - Development of the Data Hub should remain a key priority for the VRP and its partners.
> - Continue to develop the hub to support VRP partners in accessing and interrogating multi-agency data based on their local needs.

That being said, this evaluation identified some fundamental aspects of the Data Hub that need addressing if it is to effectively inform strategic decision marking, chart progress against objectives in preventing violence and assist in tailored and targeted intervention to prevent violence. Notably, these include ensuring the correct definition and measures are captured in the data deposited in the hub (that is, ensuring the data are suitably representative), as well as ensuring data are easily understood by users. The former pertains particularly to the need to ensure the correct police data extracts are provided for uploading in the hub to ensure consistent and comparable 'serious violence' measures therein over time. It also includes ensuring the ability to measure hospital admissions for assaults accurately to measure key outcome measures against which the VRP performance will be assessed.

The research conducted as part of this evaluation also points to some clear potential recommendations for promoting and optimising the VRP Data Hub; both in terms of practical and aspirational developments for the Data Hub and ways in which the VRP can encourage uptake and use of the Data Hub to. We are also able to draw out recommendations concerning the future of the VRP Data Hub and its sustainability moving forward. We detail these in turn below.

Recommendations: Practical and aspirational developments for the VRP Data Hub

Ensuring the data are suitably representative
- Link data sources/indicators to the VRP logic model (short, medium and long-term outcomes), and VRP performance measures.
- Agree consistent definition and measure of violence in police data extracts and ensure these match the VRP definition of serious violence.
- Provide additional broader police data on violence beyond what is included in the VRP definition of serious violence.
- Scope price/funding and how useful hospital admission data on assaults would be.
- Continue ongoing work with partners to improve data quality and timeliness of data extracts.

Ease of data use and interpretation
- The VRP may wish to clarify the definition of serious violence used (see Appendix 8.2) to specifically detail whether non knife/gun offences homicides and assaults exclude domestic incidents.
- Clearly label and define the measures contained in the Data Hub.
- Clearly define geographies and populations to which the data relate (e.g. denominators and age ranges).
- Provide a data definition/dictionary and clear data descriptors, sources and metadata.
- Ensure clear, user-friendly, landing page and interface (to encourage non-analysts to use).
- Offer summary and high-level trend data for non-analysts (e.g. managers/commissioners.)
- Make clear whether data can be reproduced elsewhere (i.e. in the public domain).

Further developments
- Ongoing scoping of new datasets for inclusion; both for measuring violence (e.g. youth justice data) as well as its correlates (e.g. wider determinants of health, e.g. education).
- Scope the potential of mapping interventions and community assets as well as allowing analysis at lower-level geographies (e.g. wards within local authority areas).

Reiterating one of the observations from the first VRP evaluation report (Quigg et al, 2020), TIIG will need the continued support of the VRP and its steering group, to work with partner organisations to demonstrate why the inclusion of their datasets is important as well as showcasing the benefits of sharing these. As such promotion of the hub beyond across all VRP partners is key to ensuring its success; ensuring people know about it and how to use it. Given, the number of users more than doubled during a two-month period within this evaluation, expansion could be considerable with further sustained promotion; for example, using a regular newsletter or similar output. Further work by the VRP steering group, however, is also required to promote the hub in their respective organisations to ensure uptake beyond policing partners.

> ***Recommendations: Encouraging uptake and use of the VRP Data Hub***
>
> - The VRP to actively disseminate and promote hub as a valuable resource for partner organisations, and continue to raise awareness of how the hub can support violence prevention activity across Merseyside.
> - The VRP steering group to actively promote the use of the hub in their respective organisations.
> - Provide regular refresher and more specific role-based training and workshops on accessing and using the Data Hub to get feedback on system as well as promoting what is available.
>
> Several potential opportunities for assisting with the above have been identified as:
> - Ask partners to consider the hub data in justifying requests for funding interventions.
> - Routinely present hub data at VRP meetings and associated documentation; adopting an evidence-based approach and leading by example.
> - Have the Data Hub as a continuous agenda item to facilitate feedback and its promotion as jobs/roles change across the VRP and partner organisations
> - Conduct a flagship piece of research or analysis (associated with an intervention) to showcase the hub's potential and use as a local case study with which to promote the hub.
> - Conduct a VRP output data audit to showcase what data and tools are readily available online tools (e.g. Fingertips) and disseminate short report and links to user guides across VRP partners.

Reiterating the recommendation in the initial evaluation (Quigg et al 2020), "future work is needed to maintain the data repository and hub, and good data quality across data providers." Opportunities to address are currently being developed via new commitment to analysis and evidence-based work based on current recruitment of three posts for VRP Evidence Hub Manager, Analyst and Researcher roles. These are aimed at enhancing the VRP's analytical capability and supporting them in embedding a public health approach to reducing serious violence. It is envisaged that the successful applicants will work as part of the co-located VRP team.

However, some thought is also needed as to monitoring and evaluating the hub further (given implementation lag on account of the pandemic and limited ability to recruitment to this research) and the future of the Data Hub and its sustainability.

> ***Recommendations: Future and sustainability of the VRP Data Hub***
> - Continue to monitor and evaluate the processes of developing the hub, and outcomes and impacts.
> - Explore future commissioning options and sustainably embedding into local budgets.

7. References

Ahmed K et al. (2020). *Evaluation of West Midlands Injury Surveillance System: Report*. West Midlands, Public Heath England.

Ashton SA, Quigg Z. (2021). *Merseyside Violence Reduction Partnership 2020-21 – support programmes for the families of offenders.* Liverpool. Public Health Institute, Liverpool John Moores University.

Butler et al, (2021). *Evaluation of the Mentors in Violence Prevention (MVP) programme across Merseyside – Interim Report*. Liverpool. Public Health Institute, Liverpool John Moores University.

Droste N et al. (2014). Review article: 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): 326-335.

Elkin M. (2019). The nature of violent crime in England and Wales: year ending March 2018 (online). Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/thenatureofviolentcrimeinenglandandwales/yearendingmarch2018 Accessed 20/1/21.

Germain J. (2021). *VRP Data Hub – one year on report.* Liverpool. Public Health Institute, Liverpool John Moores University.

Hough J, Quigg Z. (2021). *Merseyside Violence Reduction Partnership 2020-21 – Sports, Arts and Culture work programme.* Liverpool. Public Health Institute, Liverpool John Moores University.

HM Government (2010). *The Coalition: our programme for government.* London: Cabinet Office.

Langton, S., Dixon, A. & Farrell, G. (2021). Six months in: pandemic crime trends in England and Wales. Crime Science 10, 6. https://doi.org/10.1186/s40163-021-00142-z

Merseyside Violence Reduction Partnership (VRP) (2021). Merseyside Violence Reduction Partnership Annual Report 2021. VRP.

Office for National Statistics. (2020a). User guide to crime statistics for England and Wales. London: Office for National Statistics. Available at https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/methodologies/userguidetocrimestatisticsforenglandandwales Accessed 25/3/21.

Office for National Statistics. (2020b) Crime in England and Wales QMI. London: Office for National Statistics. Available at https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/methodologies/crimeinenglandandwalesqmi Accessed 25/3/21.

Quigg et al. (2020). Evaluation of the Merseyside Violence Reduction Partnership 2019-20 (final report). Liverpool: Public Health Institute, Liverpool John Moores University.

Quigg et al. (2021). Evaluation of the Wales Violence Surveillance and Analysis System. Liverpool: Public Health Institute, Liverpool John Moores University.

Quigg et al. (2021). *Merseyside Violence Reduction Partnership 2020-21 – Whole System Evaluation.* Liverpool: Public Health Institute, Liverpool John Moores University.

Taylor A et al. (2016). Using ambulance data to reduce community violence: critical literature review. *European Journal of Emergency Medicine*, 23:248–252

Teff M. (2012). *Information sharing to tackle violence. Guidance for community safety partnerships on engaging with the NHS.* London: Department of Health.

The Royal College of Emergency Medicine. (2017). *Guideline for information sharing to reduce community violence*. Available from:
https://www.rcem.ac.uk/docs/RCEM%20Guidance/QEC%20Guideline%20Information%20sharing%20to%20reduce%20Community%20Violence%20(Sept%202017).pdf Accessed 25/3/21.

Stripe N. (2020). Coronavirus and crime in England and Wales: August 2020. https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/coronavirusandcrimeinenglandandwales/august2020 Accessed 25/3/21.

United Nations Women. (2020). The Shadow Pandemic: Violence against women during COVID-19. https://www.unwomen.org/en/news/in-focus/in-focus-gender-equality-in-covid-19-response/violence-against-women-during-covid-19 Accessed 25/3/21.

World Health Organization. (WHO) (2020). Joint Leader's statement - Violence against children: a hidden crisis of the COVID-19 pandemic. https://www.who.int/news-room/detail/08-04-2020-joint-leader-s-statement---violence-against-children-a-hidden-crisis-of-the-covid-19-pandemic Accessed 25/3/21.

8. Appendices

8.1 Methods

The evaluation was conducted in 2020-21 comprising two main methods. A survey (n=11) of registered users of the VRP Data Hub and semi-structured interviews (n=6) with key stakeholders and users. Ethical approval for the above research was obtained by both LJMU and University of Liverpool ethics committees.

The **online survey** was disseminated (alongside a participant information sheet and consent sought in completing the online survey) amongst registered users of the VRP Data Hub (n=55) to explore awareness, perceptions and use of the VRP Data Hub, including the data available and analyses/outputs produced, and broader VRP data sharing systems. The survey aimed to identify:

- Which partners currently use the system, how, why and the impacts for local partners and communities.
- The acceptability and utility of the current system, areas of good practice and areas for development considering the data available, analyses/outputs produced, and data/outputs sharing pathways.
- Additional collaborators who would value from accessing and using the Data Hub (and reasons why).
- The data needs of partners to support them to implement a public health approach to violence prevention.
- What data organisations may contribute to the Data Hub and VRP data sharing systems (considering the VRP logic model), and the potential for inclusion of such data in the Data Hub, considering barriers and facilitators.

Take up of the online survey was limited, and whilst the survey was open for approximately five weeks (between the 18th January and closed 26th February 2021) and reminders sent inviting users to partake, the final sample comprised only 11 responses. Speculatively, the low response rate could be due to other pressures and demands on time of those approached during the third national lockdown underway during the period of data capture. It could also be indicative of how relevant those feel the hub is to their work and remit in their roles. Indeed, this is to some extent borne out in the profile of the respondents; with those directly associated with the VRP making up the majority of respondents followed by those working in the police and local authorities. This clustering notwithstanding the respondents occupied a wide range of roles and remits within their respective institutions and they had remits across all five local authority areas.

All but one survey respondent (n=10), were aware of and had accessed the VRP Data Hub as well as knew how to requisition access. Therefore, most follow-on questions about the hub were asked only of these 10 respondents who were aware and had accessed the hub.

Semi-structured interviews were conducted online with key stakeholders involved in the development, implementation and management of the Data Hub and VRP data sharing systems (n=2), and selected end users (n=4). End users across a range of partner organisations were identified using purposive sampling via the survey[6] and/or the VRP (as a gatekeeper). The interviews explored partners

---

[6] Near the end of the survey, participants were asked if they would be willing to take part in an interview. Those providing permission were asked to share their contact details – via a separate survey link (that was not linked to the main survey).

understanding, perceptions and actual or envisaged outcomes of the VRP Data Hub and VRP data sharing system. The final sample comprised; the commissioner, developer and four users of the VRP Data Hub. Of the users, two were police analysts and two were from (different) local authorities. Interview participants are not named in our report on these findings, so as to protect confidentiality.

8.2 VRP definition on serious violence

The local definition of serious violence used for recording purposes by Merseyside Police, and subsequently adopted by the VRP:

All knife crime or firearms-enabled offences including the following categories;

- *Attempt murder*
- *Assault with intent to cause serious harm (wounding with intent to do gbh (s18 assault)*
- *Causing bodily injury by explosion, torture*
- *Business and personal robbery*
- *Threats to kill*
- *Assault with injury*
- *Racially or religiously and other form of hate aggravated assault with injury*
- *Assault with injury on a constable*
- *Rape*
- *Sexual assault against male*
- *Sexual assault against female*
- *Endangering life*
- *Homicide*

Non knife or firearm offences as below:

- *Homicide plus attempt murder*
- *Assault with intent to cause serious harm (wounding with intent to do GBH (s18 assault)*
- *Causing bodily injury by explosion, torture*
- *Arson with intent to endanger life*
- *Assault with injury on a constable (only including cause GBH with intent to resist, prevent*
- *Arrest, wounding with intent to do GBH and wounding with intent, prevent arrest)*
- *All other robbery.*

8.3 Data quality

Table i: Summary of data included in the VRP data repository and hub

Data source	Summary/ total number of records	Violence definition	Demographics	Geography	Time frame	Further details
North West Ambulance Service call outs	Ambulance call outs Total records: 9533	Assaults Assaults with a firearm Sexual assaults and Knife crime	Age group: 00–04, 05–14, 15–29, 30–59, 60 plus, 999-Unknown Sex: Female, Male, Not Known, Other or Not Specified	By local authority: Knowsley, Liverpool, Sefton, St. Helens, Wirral	By month Jan 2018-onwards, and by time of day.	No further details
A&E data	Emergency department's attendances Total records: 13404	Broken down by assault weapon: Any blunt object, Bottle, Combination of body parts, Explosive, Feet, Firearm, Fist, Glass, Head, Knife, Other, Other bladed or sharp object, Other weapon, Patient asked but does not know/refuses to say, Pushed, Unknown	Age group: 00–04, 05–14, 15–29, 30–59, 60 plus, 999-Unknown Sex: Female, Male, Not Known, Other or Not Specified	Local authority: Knowsley, Liverpool, Sefton, St. Helens, Wirral	By month Jan 2018-onwards, and by time of day.	**Attendance category:** including first attendance, Planned follow-up at ANOTHER Emergency Care Dept, Unplanned follow up, etc. **Arrival mode:** Brought in by Emergency Ambulance, Air/Helicopter, Other: Patient arranged own transport/walk-in, Other: Police transport , Other: Public transport/taxi, etc. **Outcome:** Admitted to a hospital bed, Discharged no follow up treatment needed, discharged, follow up with GP, Left department before being seen for treatment, etc. **Assault location:** Home, Public place, Inside licensed premises, work, etc.

Data source	Summary/ total number of records	Violence definition	Demographics	Geography	Time frame	Further details
Hospital admissions data	Data provided by Public Health England for people admitted to hospital for a violence related injury	Assault by bodily force, assault by sharp object, Assault by blunt object, Assault by unspecified means, Other maltreatment, Assault by other specified means, Sexual assault by bodily force, Assault by other and unspecified firearm discharge, Intentional self-poisoning by and exposure to non-opioid, Assault by drugs medicaments and biological substances. (ICD-codes X85-Y09)	Age groups: 0-9, 10-19, 20-29, 30-39, 40-49, 50-59. 60+ Sex: Male and Female Ethnicity: Asian, Black, Chinese & Other, Unknown, White and White (mixed)	Merseyside residents admitted to any hospital in England	A three year snap shot 2016-2019 and a trend summary 2011-2019	Arrival hour, day of the week and month of admission, length of stay Admissions relating to alcohol, substance misuse, mental health

Data source	Summary/ total number of records	Violence definition	Demographics	Geography	Time frame	Further details
Police	Violent crimes recorded by Merseyside Police

Total records: 100558 | Miscellaneous crimes against society, Possession of weapons, Violence with injury, Violence without injury

Also divided by domestic incidents (domestic and non domestic) | Victim/Offender Age group: 00–04, 05–14, 15–29, 30–59, 60 plus, 999-Unknown

Sex: Female, Male, Not Known, Other or Not Specified

Ethnicity: African, Bangladeshi, Caribbean, Chinese, Indian, Not Stated, Other, Other – Arab, Other – Gypsy, Other - Irish Traveller, Other –Yemeni, Other Asian, Other Black, Other Black – Nigerian, Other Black – Somali, Other Mixed, Other White, Other White – Czech, Other White – Polish, Other White – Slovakian, Pakistani, White and Asian, White and Black, African, White and Black Caribbean , White British, White Irish | Local authority: Knowsley, Liverpool, Sefton, St. Helens, Wirral | By month Apr 2018-onwards, and by time of day. | Data separated by victim and offender |

Data source	Summary/ total number of records	Violence definition	Demographics	Geography	Time frame	Further details
Merseyside Fire and Rescue Service	Deliberate fire incidents recorded by Merseyside Fire and Rescue Service Total records: 12383	Data available on: primary fire (yes/no); motive (deliberate – others property; deliberate – own property; deliberate – unknown other); cause (e.g. bombs and explosives; cooking appliance); spread item (e.g. clothing; gas); and other tags (e.g. safeguarding issue, suspected domestic violence)	None	Local authority: Knowsley, Liverpool, Sefton, St. Helens, Wirral	Oct 2020 onwards	Location of incident is reported at LSOA level