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Integrated Through Risk?: How Actuarial and Epidemiological Approaches to Urban Violence Reduction Interact within a Multi-Agency Gangs Team

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Abstract

Despite the emergence of multi-agency initiatives that seek to integrate actuarial and epidemiological approaches to urban violence reduction, little work has compared and contrasted these approaches and considered associated implications for their integration. This article begins addressing this research gap with findings from the first academic analysis of an Integrated Gangs Team (IGT) in the UK. Drawing on interviews with IGT members, we demonstrate how discursive and epistemological differences between the actuarial and epidemiological approaches created tensions in the IGT's work, the practical accommodation of which consistently privileged the actuarial approach. This is further evidence, we conclude, of how deeply embedded actuarial models can neutralise challenges to their logic, even in the context of multi-agency integration.

Keywords: actuarial, epidemiological, risk, Gangs Violence Matrix, multi-agency partnerships

Introduction

There is a well-established criminological interest in the increasing reliance of urban violence reduction programmes on actuarial estimations of risk and risk-management tools (Cunneen 2020; Fraser et al. 2021; Goddard and Myers 2017). Scholars have also researched how an alternative approach to urban violence reduction, drawing on the principles of public health, uses an epidemiological framing to identify and work with people at risk of transmitting violence within urban settings (Akers et al. 2012; Butts et al. 2015). Despite the recent emergence of multi-agency violence reduction initiatives that seek to integrate actuarial and epidemiological approaches, the similarities and differences between the two approaches, and their interaction in integrated partnerships, are under-researched.

In this article we begin addressing this research gap by analysing how the actuarial and epidemiological approaches to violence reduction converge in both tension and accommodation in an Integrated Gangs Team's (IGT) attempts to reduce violence in a London borough. Our contribution to contemporary criminological debates is threefold. First, building on the literatures on urban violence reduction and multi-agency working, we advance theoretical understanding of the actuarial and epidemiological approaches to urban violence reduction, both individually and in terms of their interaction in a multi-agency context. Second, drawing on interviews with 23 IGT members, we develop the empirical research-base by presenting findings from the first detailed academic study of an Integrated Gangs Team in the UK. Third, we contribute new knowledge on how and why actuarial risk logics retain primacy within multi-agency urban violence reduction partnerships, and the implications of this primacy for optimising collaborative attempts to reduce urban violence.

The article is structured as follows. We begin by comparing and contrasting the actuarial and epidemiological approaches to urban violence reduction, and trace the emergence and evolution of multi-agency violence reduction partnerships. Next, we describe the IGT that provides our empirical focus, and the qualitative, interview-based research project that informs our analysis. The findings section examines how differences relating to four key attributes of the actuarial and epidemiological approaches to urban violence reduction – emphasis, epistemological scope, outputs, and measurable outcomes – manifested in the everyday rhythms and routines of the IGT's work, giving rise to conceptual and operational tensions that needed to be resolved through practical accommodation. We demonstrate how in each case these practical accommodations privileged actuarial logic, even where community intelligence highlighted shortcomings in the actuarial approach, and concerns about the link between actuarial instruments

and racial disproportionality were raised by IGT members. Our analysis shows how the actuarial approach's embeddedness in the IGT neutralises any direct challenge to its logics, processes and outputs and, in the context of attempted multi-agency integration, ensures that the epidemiological aspects of the partnership's mission are consistently marginalised. But further, we evidence how it establishes epistemological and operational boundaries that foreclose even the possibility of critical inter-agency discussion of the role of actuarial instruments in perpetuating racial disproportionality within the criminal justice system.

The Actuarial Approach to Urban Violence Reduction

Actuarial methods involve 'the mechanical combining of information for classification purposes, and the resultant probability figure' (Meehl 1954, quoted in Harcourt 2007: 16). In 1928, the Chicago sociologist Ernest Burgess devised a multi-factor test to gauge the likelihood of parole success that was rolled out across Illinois (Harcourt 2007). However, it was not until the 1980s, in the context of what Feeley and Simon (1992) term the 'new penology', that actuarial methods were adopted more widely in Western liberal democracies, including the United States, the United Kingdom and Canada (Örnlind and Forkby 2022).

Part of the wider emergence of the 'risk society' (Beck 1992), the 'new penology' embraced a risk-based, managerial approach to imprisonment and surveillance (Feeley and Simon 1992). Concerns with responsibility, guilt, intervention and treatment gave way to actuarial techniques of identification, categorisation and management of aggregates of individuals. Within these new regimes of 'actuarial justice', 'the language of risk and probability increasingly replaces earlier discourses of clinical diagnosis and retributive judgement' (Feeley and Simon 1992: 450). Actuarial models centred the predictive value of key risk factors; while some came to be based on causal knowledge of criminality (largely from the discipline of psychology) (Hannah-Moffat 2019), the models themselves overlooked the causal or explanatory mechanisms which connected factors and heightened risk. The abstract, 'abiographical individual' was the object of analysis, with categories like 'race', if considered at all, being of solely predictive rather than explanatory value (O'Malley 1992).

The impact on criminal justice practice was significant. Police officers became 'risk communicators' – brokers of expert risk knowledge operating within wider risk matrices (Ericson and Haggerty 1997). Their attempts to address urban violence were increasingly suffused by actuarial logic, with the 'gang' as a principal focus (Densley and Pyrooz 2020). The gang databases that had been pioneered by US police departments – the first of which was created by Los Angeles

County Police in 1987 (Carhart 2021) – evolved from paper-based files into computer databases incorporating increasingly multi-faceted risk assessments (Densley and Pyrooz 2020).

While used sporadically in criminal justice settings since the 1980s, in England and Wales actuarial methods became embedded in these settings via a set of key political decisions and corresponding legislative requirements beginning in the early 1990s (Clift 2012). The Criminal Justice Act 1991 enshrined the principle of bifurcation, which meant, on one hand, significantly harsher sentencing and the withdrawal of the possibility of parole for those deemed 'dangerous' and, on the other, a reduction in the use of imprisonment for less dangerous offenders (Lacey 1994; Bottoms, 1977). *Risk* of future *harm* – to be measured by actuarial instruments like the Offender Group Reconviction Scale (OGRS), introduced in 1996 – became central to the mass incarceration of dangerous offenders (Clift 2012; Jennings and Pycroft 2012). The Criminal Justice and Court Services Act 2000 made multi-agency collaboration around risk assessment and management a statutory requirement, with a more comprehensive risk-management programme, the Offender Management System (OASys), being introduced a year later. A key outcome was the creation of Multi Agency Public Protection Panels (MAPPPs), wherein agencies collaborate to manage the *risk* of *harm* presented by offenders to increase public safety (Clift 2012). Integrated Offender Management (IOM), established in 2002 as the Prolific and Persistent Offender (PPO) programme and relaunched in 2009, aimed to promote collaboration by police, probation, and other agencies to deliver a local response to persistent offending by using a number of actuarial instruments including the OASys assessment, the National Probation risk-assessment tool, and the asset-assessment tool used by Youth Offending Services (Williams 2019). The Criminal Justice Act 2003 further embedded the risk-harm dyad by making risk assessments a statutory requirement for criminal justice practitioners (principally probation officers) (Clift 2012).

Against this backdrop, UK police forces were beginning to foreground 'gangs' in their intelligence work, building ever-more detailed offender profiles ripe for actuarialism's predictive potential (Bennett and Holloway 2004). By 1998, 48 Command Units had intelligence files on gangs (Stelfox 1998), and by 2002 some police forces had begun to add gang affiliation to Intelligence Control System (ICS) database entries (Bullock and Tilley 2002). The same year saw the London Metropolitan Police Service's (MPS) first borough-level gang-mapping exercises, followed by the MPS's first London-wide attempt to profile gangs in 2006 (Davies and South 2023). Actuarial, predictive formulae were increasingly applied to the profiles of gangs and gang members, with evidence of actuarial gang matrices operating within individual Borough Command Units at least two years before the MPS formally announced the creation of the central Gangs

Matrix (subsequently renamed the Gangs Violence Matrix or GVM) in 2012 (Armstrong et al. 2016).

The GVM is based on evidence and intelligence relating to violent offences, weapons offences and/or access to weapons – plus gang membership – giving its 'gang nominals' two scores: a 'harm' score, which gauges the likelihood of a nominal committing future violent offences; and a 'risk' score, which gauges the likelihood of a nominal becoming the victim of violent offences. A red, amber, or green (RAG) rating is then assigned to each nominal, with multi-agency plans – spanning 'disruption', 'enforcement', and 'diversion' activities – put in place for each nominal based on the level of harm and risk they present (Grace 2019).

The preoccupation with 'gangs' within risk-based approaches to policing urban violence has been problematised by evidence that the concept may not accurately reflect the dynamics of urban violence in the UK (Hallsworth and Young 2008; Ilan 2015; Smithson et al. 2013), while unduly racializing the problem (Joseph and Gunter 2011; Williams 2015). The GVM, in particular, has been publicly criticised on the grounds of both civil liberties (Amnesty 2018) and data protection (ICO 2018) concerns. Researchers have shown that its risk-management processes ignore the fluidity of young people's lives, entrench a 'governing through gangs' model (Fraser and Atkinson 2014), unfairly reify groups as 'gangs', and reinforce a tendency to devote disproportionate attention to racialised minorities (Fraser et al. 2021; Williams 2018). Their comments were consistent with wider critiques of actuarial tools in criminal justice, where risk assessments have been found to 'launder' racial inequality by masking its correlates – such as structural disadvantage, hyper-policing, and discriminatory treatment (Goddard and Meyer 2017) – behind a 'calculative rationality' which, despite claims to objectivity and neutrality, is shaped by discretionary judgements (Shaw and Moffatt 2013). Indeed, researchers have highlighted the role of discretionary judgements in establishing risk-based norms (Amoore 2013; Fussey 2014).

Taken together, these trends can produce a 'ratchet effect', whereby racial disproportionality among those profiled triggers increased criminal justice contact which, in turn, crystallises exaggerated perceptions of criminality (among police and the general public) and intensifies rates of racially disproportionate criminal supervision and incarceration (Harcourt 2007). Accordingly, it has been argued that the actuarial approach '*masks* race in its practices and *marks* race in its outcomes' (Cunneen 2020: 522, emphases in original).

The Epidemiological Approach to Urban Violence Reduction

The epidemiological approach to violence reduction is broadly consistent with public health principles and involves applying epidemiological methods with a clear emphasis on prevention (Akers et al. 2012). These methods include the data-led identification of protective and/or modifiable risk factors, and the scaling up of interventions that prove effective with respect to specific groups and/or risk factors, typically involving a combination of primary, secondary, and tertiary preventive measures (Gebo 2016). Primary measures seek to prevent violence before it occurs by addressing its 'root causes' through, for example, working in communities to instil anti-violence norms. Secondary measures target at-risk individuals through early intervention to contain the problem. Tertiary preventive measures seek to minimise the effects of violence, for example, by incarcerating offenders or issuing guidance on how to avoid criminal victimisation.

The application of epidemiological principles in the context of violence was pioneered in the United States by the Centers for Disease Control and Prevention (CDC). Encouraged by the US Surgeon General's identification in 1979 of violence as a priority (Dahlberg and Mercy 2009), in 1981 CDC epidemiologists began working with police in Georgia to investigate a spate of child murders. In 1985, the US Surgeon General first declared violence a public health problem and called for a concerted professional response (Dahlberg and Mercy 2009). Consequently, the CDC applied epidemiological methods to a series of child murders in Atlanta, Georgia, and suicides in Plano, Texas, identifying key modifiable risk factors in both cases.

In the early 1990s the focus shifted to the mechanics of effective prevention, with the CDC publishing guidelines on applying the public health model to youth violence in 1993 (CDC 1993). Within a year, CDC-inspired violence reduction programmes were being implemented in schools and communities across the US (Dahlberg and Mercy 2009). By the mid-1990s an alternative evidence-based approach – problem-oriented policing – was being applied to urban violence. Operation Ceasefire, founded in Boston in 1996, focussed on the problems of gun trafficking and gang violence, using diverse multi-agency interventions to target and deter prolific offenders and gang members (Braga and Pierce 2005). Ceasefire Chicago, created in 1999 and directed by former WHO epidemiologist, Gary Slutkin, borrowed elements from Boston Ceasefire but cleaved more closely to public health principles. Indeed, while it used public health mainstays such as public education and community mobilisation around key risk factors (Butts et al. 2015), under Slutkin the programme's framing of urban violence became epidemiological in a *clinical* sense. That is, Slutkin conceptualised violence *as* an infectious disease, with its own aetiology, which is transmitted between individuals and within communities. The symptoms of exposure to violence

cab include aggression and impulsivity. The uptake of infection can be shaped by factors including dose, proximity, and age, and the severity of infection can be modulated by factors including poverty, poor education, and family structure (Slutkin et al. 2018). The task was to identify the causes of violence, and at-risk individuals, while staging interventions to limit contagion and stop violence spreading within urban communities (Slutkin et al. 2018). The development of this *clinical epidemiological* approach, which in its outlook and methods foregrounds the infected individual together with the (literal) mechanisms of contagion and courses of treatment, was presaged by the renaming of Ceasefire Chicago to Cure Violence (CV) in 2012.

For an individual to qualify as at-risk of spreading violence and hence reach the threshold for receiving 'treatment' via the CV programme, they must meet at least four of seven criteria (from gang-involvement to being aged between 16 and 25) (Butts et al. 2015). The more criteria applying to an individual, the higher their risk of perpetrating violence. While CV's work did not involve formal multi-agency interventions, it did conduct outreach work with a range of stakeholders well-placed to enhance community support and cultivate links with local police to access information on crime patterns. Crucially, CV operated independently of law enforcement agencies.

Meanwhile, the epidemiological approach to violence reduction had begun to gain traction globally. In 2002 the World Health Organisation (WHO) released a World Report on Violence and Health, and published its own typology of violence. WHO's causal model of violence, which encompasses individual, relational, community, and societal levels, could be characterised as epidemiological in a *methodological* sense, drawing selectively on epidemiological methods such as analysis of population-level data to identify risk factors and plan interventions, but stopping short of framing violence – either literally or figuratively – *as* an infectious disease.

One of the most high-profile adherents of WHO public health principles is the Scottish Violence Reduction Unit (SVRU). Founded in 2005 by Strathclyde Police, the SVRU bases its work on risk and protective factors, identifying at-risk individuals by developing a picture of violent crime via data inputs from a range of state agencies, before integrating individual risk factors such as poverty, housing status, employment status and environment (SVRU 2022). In using a combination of primary, secondary and tertiary interventions to target at-risk individuals (Roberts 2020; SVRU 2015), the SVRU's underlying model is epidemiological in a *methodological* sense, using population-level data to identify and address risk factors and broad, interrelated causes, but also in a *figurative* sense, working on the basis that violence '*shares many of the same features as infectious diseases*' (SVRU, 2022). The SVRU approach is not *clinical epidemiological*. It views violence as something

resembling rather than *constituting* an infectious disease, with no concomitant focus on mechanisms of contagion or individual-level treatment. Also, unlike CV, the SVRU incorporates a pure enforcement function involving police targeting of gang members through 'focussed deterrence' (SVRU 2022).

The epidemiological model – in its *clinical*, *methodological*, and/or *figurative* variants – has also faced criticism. Researchers have shown how epidemiology-inspired urban violence projects can overlook other factors that may have driven down violence, such as social welfare or poverty-reduction initiatives (Fraser and Irwin-Rodgers 2021), thereby marginalising consideration of the wider structural or political dynamics of violence by identifying it primarily with 'infected' individuals (Reimann 2019). The approach is also liable to racialize the problem of urban violence through its reified notion of the 'community' (Rosbrook-Thompson 2019), while Brotherton (2023) has pointed out that, though Cure Violence practitioners do not work directly with local police, the databases it produces are accessible to state agencies and may therefore nonetheless support police enforcement activities.

Multi-Agency Teams: Combining Actuarial and Epidemiological Approaches to Urban Violence Reduction

The 1998 Crime and Disorder Act created a statutory requirement for local authorities, police, and probation services to develop collaborative crime reduction strategies. This extension of multi-agency work formed part of the wider neoliberal strategy of 'responsibilisation' (Garland 2001), wherein links between state agencies are mandated while non-statutory public and private bodies are increasingly drawn into crime control strategies (Gough 2019). Given the majority of multi-agency work involved the collective management of risk, the new legislative requirements were consistent with a governance project that shifted 'the burden of risk away from the state and its (central) agencies' (Pratt 1997: 133).

Multi-agency collaboration can increase effectiveness through shared knowledge, easier access to services, and greater speed and efficiency (Souhami 2007). The co-location of agencies has potential to facilitate the immediate exchange of intelligence, greater coordination of management and intervention pathways, and the erosion of cultural barriers that might limit effective multi-agency interaction (Senior et al. 2011). Such practices are most fully developed in the Youth Justice System, where – at least in some areas – obstacles such as inter-agency conflict have been resolved through negotiation between professionals with diverse perspectives (Souhami 2008).

The basic principles of police-led integrated gangs teams – the first of which was created in Hackney in 2010 (Hackney 2018) – mirrored those of Integrated Offender Management (IOM), which marked an important transition from *co-ordinated* to *integrated* multi-agency partnerships. Like IOM, integrated gangs teams would focus on: targeting, selection and de-selection (using RAG ratings); joined-up working and agency engagement; co-location and information exchange; and support, intervention and disruption based on customised risk-management plans (Williams 2019: 64) including behavioural interventions designed to 'teach' not to 'treat' (Hannah-Moffat 2009: 2010).

Gangs teams expanded over time, adding agencies and increasing the scope of available intelligence around gang membership or affiliation (though each item must be 'verified' by a police officer) (Fraser and Atkinson 2014). Additionally, while the police-led structure and IOM-influenced mission of gangs teams had originally privileged actuarial gang matrices and risk-management, over time (as in other criminal justice settings) these were accompanied by public health-informed safeguarding, trauma-informed, and child-centred approaches (Case and Haines 2015; McAra and McVie 2007) alongside a desistance paradigm emphasising education, employment, family networks and alternative activities (Wigzell 2021).

Meanwhile, reflecting the application of public health principles in other multi-agency contexts where police played a central role – for example, on exploitation within drug-dealing 'gangs' (Davies and South 2023) – some teams began borrowing more explicitly and extensively from the epidemiological model. Closer integration of epidemiological principles was prompted by the opening of 18 new public health-inspired Violence Reduction Units (VRUs) across the UK in 2019 (Home Office 2019), with many local authorities launching new violence reduction strategies with the support of VRUs, and repositioning and/or renaming gangs teams accordingly. For example, one multi-agency gangs team aligned its mission with the corresponding local authority's violence reduction strategy, moving to prioritise early detection and prevention. Crucially, though, as the partnership still uses enforcement action against those likely to cause *harm* to others, actuarial risk management remains a key feature of its work (hackney.gov.uk 2022).

While there are no published studies of integrated gangs teams, wider research on integrated working within the Criminal Justice System has found that, notwithstanding commendable aims, success has been limited (Pamment 2019). Indeed, from its inception multi-agency working has faced challenges around precisely those areas presented as offering the greatest potential benefit (Nash 2006; Nash and Williams 2008). Research has highlighted problems rooted in silo-working and clashes between organisational cultures, especially in relation to perceived

police dominance and a consequent favouring of enforcement/disruption strategies (Senior et al. 2011; Williams 2019). The frequent co-location of multi-agency working in local police stations has also presented challenges, including: vetting procedures preventing third-sector practitioners from working on police premises (Senior et al. 2011); concerns over some clients' willingness to attend meetings/interventions on police premises (Williams 2019); ambiguity over the appropriate line management of co-located staff; and disagreement over which agency databases is most accurate (Williams 2019).

Background and Methods

The Integrated Gangs Team (IGT) that provides the empirical focus for this article was created in 2017. Following an increase in knife crime and robbery offences involving victims and perpetrators under the age of 18, and the high-profile murders of four young people across the borough in 2015, the IGT extended the remit of the existing '18-24 Team' (created in 2012). Seeking to incorporate best practice from integrated gangs services across London, the IGT would target young people on the periphery of gangs as well as with those whose gang membership was 'well-established' (via inclusion as a 'nominal' in the GVM). Accordingly, the 18-24 cohort of gang members – henceforth referred to as the 'main' cohort – was extended by lowering the age limit to 10, and a new 'prevention' cohort was created for young people identified as involved in low-level crime as gang *affiliates* and at risk of becoming entangled in more serious, violent crime as gang *members*. Consistent with the evolution of multi-agency attempts to reduce urban violence in the UK, the integration of actuarial and epidemiological principles was a guiding concern, as clearly signalled by the GVM-centred IGT's incorporation into the local authority's Violence Reduction Strategy, its flagship public health policy, which twice refers to serious violence as 'contagious'.

Co-located in a local police station, the IGT's membership included a Business Support Coordinator, a Team Manager, five case workers, specialist social workers, and a gangs and Child Sexual Exploitation (CSE) analyst. The Metropolitan Police Service (MPS) contributed Detective Sergeants and Detective Inspectors plus 28 Police Constables and Detective Constables. Other members included a National Health Service (NHS) psychologist, an expert on gang-affected young women, and representatives from Victim Support and Probation.

The research presented in this article resulted from discussions between a local authority, the London Metropolitan Police Service – including core IGT members – and criminologists at a nearby university. The aim was to explore ways of collaborating to address serious youth violence in the borough and improve outcomes for young people. Funded by the Metropolitan Police

Service, the research involved face-to-face, semi-structured interviews with 23 IGT members in 2018 and 2019. Interviewees included 10 men and 13 women, six police officers and 17 non-police members. At least one member from each of the IGT's core agencies was interviewed. The semi-structured nature of the interview process created a flexible space wherein power dynamics and ways of working, including how agencies and individuals approach urban violence and accommodate inter-agency tensions, emerged as key themes. Interviews were recorded, digitally transcribed and then analysed thematically to identify the core and axial categories that inform our empirical analysis (Cresswell 1994). Understanding that the analysis of semi-structured interview data can be generative as much as it is extractive, and aware of the researcher's active role in interpreting data to produce research findings, the research team repeatedly revisited and re-analysed data, inter-coded each other's interviews and reflected, both individually and collectively, on emergent themes and categories.

At a high level, practitioners' broad affinities tended to accord with their professional background. Police officers' frequent reference to 'enforcement' as their primary function, alongside phrases approximating to 'risk-management' and statements regarding their 'ownership' of the actuarial 'risk' represented by the borough's gang 'nominals', indicated an affinity with the actuarial approach. In contrast, practitioners from health, social services, and youth services settings tended to express their views in ways consistent with public health principles by foregrounding 'safeguarding', being 'trauma-informed' and/or 'child-focused', with some using explicitly epidemiological language such as referring to the impact of exposure to violence. That said, our analysis cautions against any simple dichotomy of participants between police-equals-actuarial and non-police-equals-epidemiological. Non-police practitioners seldom advocated for enforcement over safeguarding. However, police officers – while generally predisposed to a more actuarial, enforcement-oriented approach – at times offered nuanced responses expressing a desire for the public health approach to prevail. We include illustrative quotes of this nature to capture the complexity of practitioners' positioning vis-à-vis the actuarial approach and clinical, methodological, and figurative variants of the epidemiological approach to violence reduction. As in other multi-agency settings (Senior et al. 2011; Williams 2019) there were signs of an imbalance of power between members of the IGT. Our analysis illustrates how the privileging of the actuarial approach shaped power dynamics within the team while limiting the application of epidemiological principles across the IGT's two cohorts.

Findings

All interviewees expressed support for the IGT's mission, highlighting co-location as a particular strength because of the levels of interaction and agility it enabled. The diversity of the IGT membership was also flagged as a key strength, with several participants arguing that discussion among diverse agencies offered important additional context that could inform police decision-making and activities. IGT members were also frank, however, about power imbalances between agencies and the implications for decision-making. It is these power asymmetries, their origins and implications, the tensions they produced, and how members accommodated them that provide the most fertile ground for research and analysis. We focus on how four key differences between the epidemiological and actuarial approaches to urban violence reduction – relating to emphasis, epistemological scope, outputs, and measurable outcomes – manifested as tensions within the IGT and its work, along with the practical accommodations developed to address them.

Emphasis: Gangs and the Construction of IGT Cohorts

There was consensus across the IGT about the importance of extending the age range of the 'main' 18-24 cohort to include gang members as young as 10-years-old, as well as the creation of the new 'prevention' cohort of at-risk, gang-affiliated young people. At-risk young people were added to the 'prevention' cohort through analysis of the local authority's social care database. As a social worker explained:

> …our list of young people that's at risk was used to get the IGT to open the doors to the cohort of at-risk children.

More specifically, the IGT sought to identify young people whose vulnerability had already resulted in their involvement in low-level 'gang-related' crime. The process entailed social workers identifying vulnerable young people and grouping them together as an 'at-risk population'. IGT members could then use police data to identify those young people who were exhibiting patterns of low-level offending 'in the context of a gang' which, without the right interventions, might escalate into more serious 'gang-related', violent crime.

The IGT therefore had an actuarial emphasis on offending that occurred in a 'gang' context. Whereas successful epidemiological programmes (such as Cure Violence and the SVRU) have incorporated gang involvement as one of many possible risk factors with respect to urban violence, here it was enshrined as *the* defining criterion for inclusion, thereby extending the rationale of crime control and 'governing through gangs' across both the 'main' and 'prevention' cohorts. This defining emphasis on gang membership for the 'main' cohort, and gang affiliation

for the 'prevention' cohort, established the parameters for all subsequent multi-agency working (see also Senior et al. 2011; Williams 2019). As we will see, it also exemplified the role of discretionary judgements in the creation of risk-based norms, corresponding intelligence frameworks and the subsequent categorisation and treatment of young people (Fussey 2014).

Evidencing the actuarial significance of the link between gang involvement and violent crime, especially when compared with other key risk variables like housing, education, intergenerational trauma, or mental health, might seem a key requirement of initiatives like the IGT. However, by making gang involvement the defining criterion for inclusion, its statistical correlation with violent crime became embedded as an assumption requiring no further interrogation in conceptual terms or substantiation through risk-modelling. This defining criterion therefore lacked its own actuarial validation, despite its organising function in a multi-agency team. Its embeddedness also limited discussion of the widely researched problems of defining 'gangs', the significant differences between gang membership and gang affiliation, and the role of discretionary judgements in determining gang involvement (Joseph and Gunter 2011; Smithson et al. 2013; Wood et al. 2017).

The emphasis on gangs spanning the two IGT cohorts did create a discursive space – further facilitated by co-location – within which different partners might deepen their understanding of each other's framing of risk and urban violence. As detailed below, these framings were typically risk of infection via exposure (a *clinical epidemiological* approach) for those recruited to the IGT from medical and social services roles, risk of violence spreading *like* an infectious disease (a *figurative epidemiological* approach) for IGT case workers seconded from Youth and Youth Offending Services, and actuarial risk-management for those whose work principally entailed enforcement (the police). The first two sets of practitioners had an opportunity to incorporate, alongside their primary focus on prevention and safeguarding, a wider appreciation of 'gang' violence as an organising concern and, in doing so, interface with the GVM's actuarial estimates. The latter could extend their horizon of risk beyond actuarial judgements on the perpetration of gang violence, developing a more nuanced view of gang members as victims as well as offenders, and therefore amenable to prevention and safeguarding interventions. At times there were obvious signs of a collective risk consciousness, with effective collaboration between IGT members shaping operational responses which successfully integrated both approaches to violence reduction. In other instances, such as the possibility of urban violence being unduly racialised, the underlying tensions between the epidemiological and actuarial approaches were more intractable, revealing conceptual, operational and power differences within the group.

Indeed, despite universal support for basic epidemiological principles, interview data clearly indicated that the police 'owned' the domain of actuarial risk-management together with the IGT's 'main' cohort, and that the gang members in this cohort were constructed largely in actuarial terms. This framing reflected the fact that the IGT was created with funding secured as a result of a spike in violent crime, meaning that power and priority leant toward enforcement, alongside the reduction of actuarial risk over the short-term. As two senior police officers explained:

> Politically and within the police, people work in relatively short posting periods or election runs. So that's the [aim in the] longer term, to really demonstrate what the public health approach is.

> Local authorities have taken more responsibility...most police officers do think that the risk is well and truly ours, but other people are now helping us manage that risk.

The police's ownership of actuarial risk had implications for the evaluation of the IGT's work, while seemingly contradicting the assertion that actuarial strategies shift the burden of risk-management away from central state agencies (Pratt 1997).

Though the police were vocal advocates of safeguarding work, safeguarding activities were in practice undertaken by other IGT members. As one police officer put it:

> …at strategy meetings, where you all go along, it's definitely more about safeguarding ...that is where we don't get too involved. We're more trying to focus on the criminality aspect.

In sum, if the IGT had multiple agencies involved in 'rowing', the primacy of the actuarial approach and the corresponding emphasis on gang membership simultaneously set the direction of travel and ensured that the task of 'steering' remained with enforcement-oriented members.

Epistemological Scope: Trauma and the Aetiology of Urban Violence

A further tension between the two approaches related to epistemological scope. While the actuarial approach was geared principally to statistical probability and prediction, the epidemiological approach could offer an aetiological account of violence. It was with respect to the 'prevention' cohort that something resembling a public health aetiology centring on trauma and exposure to violence was most evident. The IGT's psychologist estimated that 90 per cent of the prevention cohort had experienced significant trauma, citing exposure to domestic violence as a key precursor of urban violence. An IGT social worker echoed this view, stressing the importance of 'breaking down these myths and actually saying, 'These are children that have lived a lot of trauma''. The

importance of trauma for understanding the aetiology of violence was substantiated by an analysis of the borough's 25 'most prolific offenders' undertaken by Youth Offending Services (YOS) in 2018. As the IGT's Community Safety Manager explained:

> …nearly all of them had [experienced] domestic violence…pre-birth or up to two, to the point where Children's Social Care got involved. And then having unsettled families, going to live with grandparents, then coming to attention again when they're about 11 and involved in unsocial behaviour. And then it escalating, till they end up in the IGT.

One of the IGT's objectives was to apply this trauma-informed, epidemiological model to both of its cohorts. Such a move would compensate for the actuarial model's incapacity to explain violence or establish causal links between risk factors, thereby accommodating the tension between the epidemiological and actuarial approaches with respect to epistemological scope and, more specifically, explanation and causation vis-a-vis violence. Nevertheless, working in a multi-agency setting presented some significant challenges to the vision of universalising a trauma-informed approach. As a senior IGT practitioner put it: 'We're expected to work in a child-focused way, in a trauma-informed way. Police aren't…that's not how they were trained'.

Another social services practitioner expressed frustration at some police colleagues' apparent indifference to childhood trauma:

> …attitudes within the police certainly could change. What they don't see is the trauma that young kids see. I have to say, 'actually, they witnessed dad beating the hell out of mum, or they have come from a war-torn country and they've witnessed half their family blown up, so what do you expect?'

Non-police members of the IGT confirmed that their MPS colleagues ultimately 'owned' the actuarial risk represented by the 'main' cohort and maintained the IGT's emphasis on gang involvement above other variables, including trauma. As a senior local authority professional described: 'if you've got a gang nominal, the response from them [the police] is going to look different and perhaps we will have less influence on them'. Consequently, police perspectives, GVM risk/harm scores and 'RAG' ratings (see above) dominated discussion of the individuals in this cohort. This asymmetry in emphasis and epistemological scope sidelined questions about the aetiology of violence which were clearly being asked in relation to the 'prevention' cohort. Where a trauma framing was used for members of the 'main' cohort, it related to recent instances of violent victimisation on the street, rather than earlier, formative exposure to violence at home.

These findings illustrate not only that urban violence programmes aligned with the epidemiological approach have their own distinctive characteristics (Fraser and Irwin-Rogers 2021), but also how the application and interpretation of epidemiological principles can vary

between practitioners working within the same programme. The unequal power dynamics and associated levels of contact between the IGT's various practitioners and members of the 'prevention' and 'main' cohorts meant that epidemiological principles were applied at best unevenly. Whereas elements of epidemiological methodology were used to construct the 'prevention' cohort (through the social care database based on risk and protective factors), the 'main' cohort was constructed using actuarial logic (through the GVM). Additionally, while the IGT's health professionals sought to apply a *clinical epidemiological* approach to all young people, their efforts were constrained by lack of access to the 'main' cohort. As we will see, the IGT's case workers – who operated across both cohorts – tended towards a *figurative epidemiological* approach, representing violence as something that spreads *like* a contagious disease, but favouring non-clinical interventions associated with desistance, including education, employment and diversionary activities (Wigzell 2021).

Here too, then, the tension relating to trauma and, more broadly, the epistemological scope of the two approaches to violence reduction, was addressed via practical accommodation that privileged the actuarial model, the enforcement element of the IGT's mission, and the IGT members responsible for enforcement activity. The power dynamics here resembled those in other multi-agency settings wherein seemingly opposing youth justice imperatives vied for dominance (Souhami 2008) and had important inter-agency implications. One outcome was that staff whose work was informed by variants of the epidemiological approach felt that their views and contributions could be marginalised relative to those of enforcement-oriented colleagues.

Outputs: The GVM and 'Race'

For a senior member of the IGT, the GVM's actuarial outputs were not flexible enough to reflect the dynamics of young people's lives:

> It is complicated, because young people one day might reduce their risk and the next day their risk is really high. I think we probably need to get better at ... reflecting on what our weaknesses are.

In recognition of the fluidity of serious youth violence, IGT case workers supplemented actuarial outputs with weekly qualitative appraisals based on community engagement. These appraisals represented violence in *figurative epidemiological* terms – that is, as something that spreads *like* an infectious disease, most prolifically within violence 'hotspots':

> I produce a snapshot every week of what's happening…if there's any tension…gang tension, youth violence ... So I'm going out to these hotspot areas ... we're in the community with the youth all the time.

This kind of community engagement – typical of epidemiological urban violence programmes (Brotherton 2023; Fraser and Irwin-Rogers 2021) – was sensitive to changes not captured in recorded offences, suspected offences, or more static forms of intelligence on gang membership or affiliation. It highlighted how continual fluctuations in the risk of urban violence can shape gang activities and the wider dynamics of youth crime. Two case workers elaborated on their use of dynamic expert risk knowledge (Ericson and Haggerty 1997) in scrutinising and challenging the GVM's outputs:

> …as professionals you'd look at the Matrix and tell what's happened with each of them and who's at risk more than others…[we] don't take it as read that red nominals are necessarily the most risk.

> We were like, 'they shouldn't be on there…that's not the top person', and we've been able to get people taken off when their risk reduced and influence how the police react to them. Because, initially, if you were top 50, you get proactive tasking. If an IGT worker is engaged with a young person [and] they're going to college, you don't want them getting stopped and searched all the time.

These practitioners' risk knowledge could in certain circumstances mitigate the impulse to enforcement flowing from the consideration of actuarial outputs in isolation by, for example, having nominals removed from the database once police colleagues agreed that their (actuarial) risk/harm scores had fallen sufficiently. The case workers' capacity to influence risk assessments undoubtedly enhanced the IGT's work, resulting in a more nuanced understanding of risk relating to individual nominals and making appropriate interventions more likely. It seemed to be an example of inter-agency tensions making a productive contribution to integrated work (Souhami 2008). But this capacity was limited: where case workers' risk knowledge and intelligence outputs problematised the centring of gang involvement and/or the workings of the GVM, even if that knowledge was acted upon at the individual case level, any wider critique at system level was rendered invisible. This practical accommodation reflected the normalisation of 'governance through gangs', especially through actuarial technologies like the GVM, and how such normalisation neutralises any direct challenge to those technologies' underlying logics, processes and outputs (Fraser and Atkinson 2014). It further illustrated how the more progressive, non-risk focused imperatives favoured by some of the IGT's case workers, such as intervention appropriateness and a young person's level of engagement/motivation (Pamment 2019), were subordinated to GVM outputs.

Some case workers expressed concern that use of the GVM could perpetuate racial injustice by obscuring the role of discretionary judgements – based on police officers' own forms

of expert risk knowledge – at individual and institutional level. Here a case worker reacted to their police colleague's defence of the GVM:

> [They] said the Matrix…was just a tool to group young people. They don't necessarily need the Matrix, because they know who the people are. But when you say you 'know who these people are', what is it that you know? That you see them on the street more often than this person? So, when you feed a tool with the information…What happens when you dismantle the tool? Maybe you're left with something which is a little bit rotten.

Having alluded to the possible role of racial bias in GVM protocols, the case worker suggested that the borough's 'gang' problem had been unjustly racialized. Their comments should be set in the context of the GVM's well-documented issues with racial disproportionality; while young people from Black, Asian and Minority Ethnic (BAME) backgrounds comprised 38 per cent of the borough's overall population, nearly 71 per cent of gang nominals on the local police's GVM were from BAME backgrounds.

> When you use the word 'gangs', it becomes more associated with Black and ethnic minorities. This is a diverse borough, and a lot of the high-value offences are done by working-class white boys, but these aren't necessarily highlighted. There is a narrative which leads towards the separating of people by those in power and it's problematic because you're able to say, 'Well, he is the problem' or 'He fits the profile of somebody who is the problem.'

The tension here concerned how the GVM and its various outputs (risk and harm scores, RAG ratings and rankings) could incorporate individuals' expert risk knowledge regarding 'race', gang affiliation and gang activity in the borough, while obscuring their subjectivity and replaying those knowledge claims as a neutral, objective part of the actuarial calculus (Shaw and Hannah-Moffat 2013). However, one senior officer rejected the possibility that considerations of 'race' or ethnicity played any role in the GVM:

> At no point is anybody's ethnicity ever discussed…It's 'are you part of a gang and are you committing violence?' [These] are the only two reasons why somebody should ever go on or come off the Matrix.

This officer's dismissal of the significance of 'race' and/or ethnicity aligns with the stated logic of actuarialism. The GVM's outputs were the result of statistical calculations and had purely predictive value. The instrument's inability to address explanatory or causal relationships with respect to violence meant it could not accommodate questions about the lived realities of racial prejudice and the complex ways in which disproportionality is reproduced. In effect, these were questions being asked in a different epistemological register. Here, then, we see how appeals to the actuarial logic of the GVM can neutralise questions about racial and ethnic injustice.

Yet even some of the IGT's police officers were critical of what they perceived as a lack of clarity and transparency around the instrument:

> It's quite complicated and I don't think any of us know exactly what it's scored on.

> …a computer is going to be different to a human brain, and sometimes there's people on the Matrix who I think, 'actually, they shouldn't be there'. But the top 50 nominals, and my view of them…I would say what's on the Matrix is going to be 99 per cent accurate.

In the absence of clarity over how the GVM worked, this officer endorsed its accuracy towards the higher end of the risk scoring because it was consistent with what they 'knew'. This resort to their own expert risk knowledge as a yardstick for the accuracy of GVM outputs is particularly significant in the context of a racially disproportionate cohort of young people on the GVM and a paucity of open, critical discussion of 'race'/ethnicity in relation to gangs. It also substantiates the case worker's concern that police officers' discretionary judgements, disguised by the GVM's abstract, actuarial outputs and subsequently – and tautologically – validated according to their own expert knowledge of urban violence in the area, may inadvertently contribute to further racializing the 'gang' issue. It was a concrete instance of the way that risk-management instruments can *mask* 'race' and *mark* racialized groups (Cunneen 2020).

Measurable Outcomes: Actuarial Measures and Racial Disproportionality

With respect to measurable outcomes, actuarial logic was once again privileged, largely due to concerns about financial sustainability and the GVM's embeddedness in assessment measures. The IGT's performance was measured against the 12 objectives of the local authority's Youth and Community Service. The first two objectives, focussing on arrest rates, established an enforcement-led orientation. The third objective was to 'Reduce young people's involvement in gangs/Reduce MPS Gang matrix risk level of individuals in scope'. While this service-wide objective signalled the embeddedness of the GVM across police *and* local authority assessment practices, it was noteworthy that the corresponding metric was identified as 'the number of young people (still) listed on the Gangs Matrix and a reduction in nominals' harm scores'. The identification of *harm* simultaneously as the key metric of risk and the key indicator of effectiveness foregrounded the perpetrator rather than victim as the normative locus of intervention, and enforcement rather than prevention or safeguarding as the normative mode of intervention.

Some significant improvements were recorded across these measures: in 2018/19 there was an 8.5 per cent reduction in the number of 'knife crime with injury' offences where the victim was under 24 years old, a 67 per cent reduction in cohort arrest rates, and a 67 per cent reduction

in harm scores for individuals leaving the 'main' cohort. These outcomes provide statistical evidence of the IGT's impact on recorded serious youth violence in the borough. Nevertheless, some members took issue with the extent to which the GVM dominated evaluations of the IGT's performance. As a local authority manager stated:

> …for me it's not about the Matrix, going from red, amber, green. That is only one indicator of positive outcomes.

This comment underscored the contested nature of 'success' in a multi-agency context, together with the question of who, ultimately, is responsible for success or failure (Williams 2019). While non-actuarial objectives – some of which aligned with the epidemiological approach – did feature in the IGT's standardised performance measures (see below), the emphasis on actuarial impact left another non-police IGT member at pains to highlight the IGT's safeguarding work:

> … it's about safeguarding young people…how they're being exploited, and often forced to do things…(it's) really important that it's seen as a safeguarding issue.

For a local authority service manager, the IGT's impact on communities was also overlooked in the context of evaluation: 'we need to evidence the success of the team as a whole. What difference are we making in communities?'

In line with the differences in emphasis explored above, there were corresponding divergences across the IGT's various partner agencies with respect to defining and measuring success. For example, rather than focusing on actuarial measures like recorded crime or risk-management outputs, Victim Support used a seven-point 'Star Project Programme' system to measure outcomes relating to education, work and wellbeing. Similarly, the Youth and Community Service's 12 objectives that formed a key part of the IGT's quarterly reporting also included items that were consistent with a broad public-health framing, such as the number of young people supported into education, training or employment, and into safe/stable accommodation.

So the epidemiological approach to violence reduction did find expression in some of the IGT's performance measures, even if enforcement-led and/or actuarial outcomes were privileged. The desire to avoid an overly narrow actuarial approach was articulated by a senior police officer, who said: 'Success for me is less people getting harmed on the streets. It's not about locking more people up'. Their views chimed with those of the senior officer, quoted earlier, who spoke of needing longer time frames to be able to evidence the efficacy of the epidemiological approach. The difficulty was that in order to secure ongoing funding for the IGT – thereby creating the space to develop and deliver the epidemiological elements of its mission – the group's success needed to be demonstrated in more immediate enforcement and actuarial terms. That said, one senior

police officer set the IGT's running costs in a clear financial context: 'It's about 500-grand a year [to run the IGT]. It's a lot cheaper than investigating a murder, which is £1.8million(ish)'.

While the primacy of the actuarial approach marginalised open discussion of racial disproportionality in relation to outputs, IGT reporting on measurable outcomes did engage with the issue. Annual reports underlined the extent of racial disproportionality among IGT cohorts: in addition to the statistics for BAME young people cited above, the 2020/21 annual report noted that young people from Black backgrounds were overrepresented to the greatest extent: 47 per cent of those in IGT cohorts, and just 12 per cent in the overall borough population. Regular reporting on these measures could inform a conversation which explored IGT case workers' concerns about the perpetuation of racial disproportionality. However, once again reflecting the primacy of actuarial logic, reports on disproportionality were provided as ancillary, ethnic monitoring information outside the formal framework of measurable outcomes and did not therefore constitute a performance indicator. Earlier we saw how the limited epistemological scope of actuarial models supported a police officer's dismissal of the significance of racial identity in determining who is and isn't added to the GVM. Here the dominance of actuarial discourse in the context of evaluation effectively closed the loop on consideration of possible causal connections between the GVM and the disproportionality evident among IGT cohorts. Framed in this way, any racial disproportionality must be incidental or extraneous to the GVM and its protocols.

Conclusion

IGT members shared the vision of integrated violence reduction work. Nevertheless, our findings demonstrate that a shared concern with 'risk' is not necessarily a gateway to integration. Divergences relating to emphasis, epistemological scope, outputs, and measurable outcomes manifested as tensions in day-to-day collaboration between IGT partner agencies. These tensions were addressed via practical accommodations which ultimately privileged the actuarial approach. The value of the epidemiological approach was evidenced by its capacity to influence risk assessments and subsequent interventions. This influence, however, came from a position of structured subordination that did little to challenge the primacy of actuarial logic and its operational imperatives.

Regarding the emphasis of the IGT's work, gang involvement was established as the defining criterion for inclusion in an IGT cohort without demonstrating actuarially the significance of its link to violent crime. Yet this defining emphasis set the parameters for all subsequent multi-

agency interactions and interventions, ensuring that enforcement-oriented IGT members (the police) 'owned' the risk and ultimately the decision-making power.

The privileging of the actuarial approach in the context of epistemological scope meant that, despite widespread support for a trauma-informed outlook, in practice it was applied unevenly. That is, discussion of gang members in the 'main' cohort was dominated by actuarial categories and outputs, rather than consideration of the impact trauma may have had on their personal journeys. There was recognition across the IGT that actuarial outputs were not flexible enough to reflect the dynamic realities of young people's lives, and qualitative intelligence from case workers was used to provide context and at times shape decision-making. The influence of this intelligence was nonetheless restricted to individual cases, neutralising any wider critique of the gang-centred nature of the GVM at system level. The narrow epistemological scope of actuarial discourse and, more specifically, its inability to properly accommodate questions of causality, also limited consideration of the mechanisms behind racial disproportionality. This carried through into an evaluation regime that acknowledged racial disproportionality across IGT cohorts but, by situating this outside the formal framework of measurable outcomes, marginalised the possibility of disproportionality being reproduced or exacerbated by the privileging of an actuarial instrument.

Our findings show that, while inter-agency tensions in the context of integration can be productive (Souhami 2008), the limits of this productivity may be predetermined by imbalances of power that foreclose the possibility of truly open (and open-ended) engagement between professionals and professional perspectives. In turn, unequal power dynamics can limit the reach and application of some of the principles that are supposedly being integrated – in the IGT's case, the principles associated with the epidemiological approach to violence reduction. Our research demonstrates how dissenting views can be neutralised (Fraser and Atkinson 2014) by limiting the scope and impact of criticisms of actuarial tools. These limits are reinscribed by evaluation regimes which acknowledge the existence of racial disproportionality but distance such disproportionality from actuarial tools, discourse, and logic – effectively closing the loop on critical discussion of 'race' and the twin 'masking-marking' impact of actuarialism (Cunneen 2020). Indeed, it may be partly for these reasons that, despite the MPS' recent decision to scrap the GVM in favour of an alternative actuarial instrument, the Violence Harm Assessment (VHA) (Kelly 2024), campaign groups have contended that the VHA is likely to reproduce the racial disproportionality evident in the GVM (Liberty 2024).

In conclusion, what is being 'integrated' in the IGT is more than simply personnel drawn from different institutional settings and cultures. Moving from accommodation to a fuller

integration would require a shared commitment to resolving the epistemological, discursive differences between the epidemiological and actuarial approaches to violence reduction, along with the operational tensions and power imbalances to which those differences give rise. This would require a frank and open discussion of the barriers to integration and agreement on how best to remove them. Such a resolution is challenging, given that some barriers are structural, reflecting the embeddedness of actuarial models at the level of systems and operational logics. But the shared vision that drives the IGT and animates its staff provides a compelling reason to try.

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