The links between drugs, alcohol, and serious violence: a review of evidence and practice in West Yorkshire

The Alcohol Harm Paradox: A Review of Evidence

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1 Introduction and Executive Summary

This Review of evidence and practice has been commissioned by the West Yorkshire Violence Reduction Unit (WY VRU) so that they and their stakeholders may better understand the context and interdependencies between substance use and violence among young people and how relationships between generations influence those links. The Review commenced during the development of an Adversity, Trauma and Resilience Strategy for Health and Care Services in West Yorkshire, led by the West Yorkshire Health and Care Partnership's (WYHCP) Improving Population Health Team and the Public Health Lead in the WY VRU. The rationale for the Violence Reduction Units in the UK was to take a 'public health approach' to tackling violence. This means looking not only at the incidences of violence but the conditions in society and the contributing factors in communities that enable violence to occur.

The context of trauma has been a useful lens to focus this Review as both cause and consequence of both substance use and violence. The WYHCP Adversity, Trauma and Resilience Evidence Review (Crowe et al., 2021) lays out clearly how trauma and adversity, occurring in childhood re-emerges not only in the life-course but in the life-cycle of an individual, and may be transmitted generationally as well as culturally. This Review takes that learning and primarily explores how earlier intervention to address trauma could be effective among vulnerable cohorts in the population. The trauma informed approach to the subject also elicited the gendered nature of trauma, how the experience of violence and the experience of services and support or consequences of punishment disproportionately affect women.

The recommendations made in this Review are proposed in the context that most—if not all—services and support will be moving towards individual and collective trauma informed approaches of service delivery with the aim of preventing further trauma.

The Review is structured in four parts:

1. Context and Literature Review – containing an Executive Summary, Overview of all Findings, Conclusion and Recommendations, References
2. Briefing on the Alcohol Harm Paradox – stand-alone paper with Literature Review, Findings and Recommendations, References
3. Briefing on the Impact of Covid-19 on Young People's Substance Use and Violence – stand-alone paper with Literature Review, Findings and Recommendations, References

1.1 Acknowledgements

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2 Review of Evidence from Young People and Family Services and themes from mapping service

2.1 Evidence Review: The Alcohol Harm Paradox

In England and Wales alcohol related mortality rates are 1.5-2x higher in low SES areas than more affluent ones (Probst *et al.,* 2014). Furthermore, despite having the lowest number of high-risk drinkers, the most deprived quintile of the UK population has 5.5x the mortality than the most affluent one (Department of Health, 2012), this disparity is called the 'alcohol harm paradox'. We found the paradox is a consequence of a combination of material, psychological and cultural-behavioural factors that cluster in lower SES communities, decreasing their resilience to alcohol-related harm. The alcohol harm paradox is a useful case study in understanding the multivariate landscape which contributes to persistent negative health outcomes for disadvantaged populations across the UK.

2.1.1 Recommendations from alcohol harm paradox paper

- Increase pressure for the **minimum unit price (MUP) of alcohol to be raised**, as MUP increases target the cheapest and strongest drinks preferred by harmful drinkers.
- **Reduce the retail sale hours and density of licenced outlets** by adding a public health assessment to the criteria for granting alcohol licences.
- Increase pressure for the **blood alcohol limit while driving to be brought in line with Scotland and other European nations**. England and Wales's limit is current 30mg/dl higher than Scotland and the rest of Europe, increasing this limit in line will influence drinkers to adopt less risky patterns of alcohol consumption.
- Public health campaigns such as 'Dry January' are effective but are disproportionately taken up by educated individuals from high SES backgrounds. Public **drinking abstinence campaigns could be developed that target a wider range of demographics** to have greater impact.
- **Increasing the provision of early brief interventions** (EBAs) across a wider range of services would help reach lower SES individuals who tend to engage less with primary services.

3 What is the Alcohol Harm Paradox?

Both internationally and in the UK, research has shown that similar—or even lower—levels of alcohol consumption in lower socioeconomic status (SES) communities lead to disproportionately higher levels of alcohol-related harm than more affluent ones (Bellis *et al.*, 2016). In England and Wales, studies have shown that alcohol-related mortality rates in low SES areas are 1.5-2x higher than those with high SES (Probst *et al.,* 2014). This disparity is further seen in research, with the most deprived quintile—despite having a lower percentage of high-risk drinkers—having 5.5x the

mortality rate than the most affluent quintile (Department of Health, 2012). This disparity in health outcomes is referred to as the 'alcohol-harm paradox'.

Early research focused on the differentiating factors which may cause the disparity. Summarised in a paper by Smith and Foster (2014), it is widely believed that a combination of cultural-behavioural, psychological and material factors contribute to alcohol-related harm. These factors tend to cluster within lower SES individuals putting them at disproportionate risk compared to those from higher SES backgrounds.

Cultural-behavioural: Greater chance of partaking in other adverse health behaviours, e.g. smoking, lack of exercise, more dangerous drinking habits, e.g. heavy episodic or 'binge' drinking.

Psychological: Stress response, coping strategies, adverse childhood experiences.

Material: Type of work, inadequate nutrition, access to healthcare, alcohol availability.

4 Cultural-Behavioural factors

Variation in cultural behaviour is often referenced as a cause of inequalities in alcohol-related harm; however, the connection between the two is often debated. Studies show that individuals from low SES groups tend to engage in higher levels of episodic drinking (Caldwell *et al.*, 2008; Lewer *et al.*, 2016). Building on these findings, a paper by Katikireddi *et al.* (2017) compared alcohol-related harm between SES groups while controlling for individual differences in critical factors attributed to causing the alcohol-harm paradox, pulling data from the Scottish Health Survey. They found that the health inequalities were still present even when controlling for level of consumption, drinking patterns, and other harmful behaviours. This evidence suggests that cultural-behavioural factors alone are not enough to explain the health inequalities between high and low SES groups.

However, a recent literature review by Probst *et al.* (2020) aimed better to refine the causal relationships of alcohol-related harm inequalities. Further supporting the paradox, they found that the quantity of alcohol consumed in low and high SES groups had little explanatory value. One notable finding was that differences in drinking patterns, specifically tendencies of heavy episodic drinking, accounted for 15-30% of the healthcare inequalities. This work highlights how, even though healthcare inequalities are multifaceted, focusing on policies tackling harmful drinking behaviour may be a powerful route to effect change; we will further expand upon this later in the report.

5 Psychological factors

While tackling episodic drinking may be one of the most impactful ways to address harm inequalities, it still only represents 15-30% of the problem. Another focus of this report is the

psychological factors that may feed into the paradox. A significant harm of alcohol use is the psychological and physical harm to the user and those around them. Alcohol is currently a leading risk factor for ill-health, early mortality and disability among those aged 15-49 (Boyd, 2020). It has also been linked to an array of conditions that may be further exacerbated by alcohol, including cancer, liver disease and depression (Boyd, 2020).

As well as harming themselves, alcohol users can also harm those around them; in forms of violence they can perpetuate to society and their families. The Association of Police and Crime Commission estimated that the cost of alcohol-related crime at £11.4bn per year (2020). Written evidence provided by the APCC stated that in 2017/18, 39% of violent offences committed in England and Wales were committed under the influence of alcohol (Boyd, 2020, p. p30). These crimes may interact with other causal factors in the alcohol paradox. For example, studies have shown that alcohol availability is significantly linked to adolescent violent behaviours in the US, even when controlling for demographics and individual alcohol use (Resko *et al.*, 2010). Alcohol outlet density and availability in the UK is disproportionally high in low SES communities (Boyd, 2020). In Scotland, high alcohol density areas have 4x the crime rate than low alcohol density areas (Boyd, 2020, p. 31).

Alcohol-related violence is not limited to the community. Evidence from County Durham Public Health showed that 25-50% of those who had committed domestic abuse had been drinking alcohol at the time of the assault; in some studies, this figure increased to 75% (Boyd, 2020). Furthermore, a Home Office review (2016) listed substance use as a factor in over half of domestic homicide cases. It is believed that this problem may have only become worse during COVID-19. Compared to pre-pandemic levels, initial research has shown that the frequency of heavy episodic drinking increased 1.5x over lockdown (Niedzwiedz *et al.*, 2021), and this drinking occurred primarily in the home. Successive lockdowns isolated victims from identification, intervention, and support. More research is required to assess the impact on victims.

In WY-FI's *Future Demand briefing* Doyle *et al.* (2019), highlighted how an individual's experience of multiple service needs in their 20s and 30s is rooted in some form of multiple disadvantage in a person's youth, including poverty, adverse childhood experiences, or complex trauma. The Children's Commissioner for England estimates that 472, 000 children currently live with an adult dependent on alcohol or drugs (Boyd, 2020, p. 15). In West Yorkshire, a recent report by WY.FI (2021) provided a snapshot of the potential number of children in need in 2019/20 and is recreated in table 1 below. The report estimated a total of 17,588 children who may be in at risk. It noted that the evidence showed that the majority of adults who are experiencing multiple disadvantages—such as substance use—live with children (Doyle *et al.*, 2021).

Table 1:

A snapshot of the potential number of children in need in 2019/20 (Children's Services Assessment)

District	**Number of children in need episodes**	**Primary Need at initial assessment**		**Number and % of WY-FI beneficiaries claiming Family Tax Credit**
		Family dysfunction (% of total)	Abuse or neglect (% of total)	
Bradford	5315	105 (2%)	4680 (88%)	62 (31%)
Calderdale	1427	115 (8%)	1130 (79%)	36 (25%)
Kirklees	2259	300 (13%)	1219 (54%)	30 (27%)
Leeds	5559	242 (4.35%)	3582 (65%)	41 (16%)
Wakefield	3028	449 (15%)	1985 (66%)	48 (34%)
Total	17588	1211	12596	217

(Doyle *et al.* 2021, p. p7)

Research has shown that a significant portion of alcohol use may be intergenerational. The links between the alcohol using parent and its effects on the child were summarised by Boyd (2020). They highlighted how trauma—both pre and postnatally—can significantly increase the likelihood the child will experience adverse healthcare outcomes later in life.

Adverse childhood experience (ACE) is the umbrella term used to encapsulate stressful and traumatising events in a child's life which negatively impact their development. These events include abuse, neglect and household dysfunction (Finkelhor, 2020). A systematic review by Hughes *et al.* (2017) found children with four or more ACEs were significantly more likely to suffer poor physical/ mental health and engage in problematic drug and alcohol use. Studies have shown that growing up with alcohol-abusing parents increases the risk of experiencing an ACE (Anda *et al.*, 2002). The National Association for Children of Alcoholics states that children with an alcohol dependent parent are five times more likely to develop eating disorders, twice as likely to develop alcohol dependence/addiction, and three times as likely to consider suicide (Boyd, 2020, p. 15).

Another possible factor in intergenerational alcohol use is prenatal alcohol exposure; the long-term consequences are called Foetal Alcohol Spectrum Disorders (FASDs). FASD can affect many aspects of neurological processing, including social skills, academic achievement, memory and decision making (Boyd, 2020), and is the leading cause of non-genetic learning disability worldwide (Boyd, 2020, p. 24). The condition is notoriously misdiagnosed as the symptoms are consistent with more

prominent neurological disorders; furthermore, McQuire *et al.* (2019) found that 17% of children in the UK may have symptoms consistent with the condition.

FASDs then present as a possible aspect of the generational impacts of alcohol. A literature review of features and symptoms of adult FASD by Moore and Riley (2015) found 60% of adult FASDs reported some form of present or past alcohol/drug dependence. A study by Barr *et al.* (2006) found that exposure to one or more binge-alcohol sessions prenatally was associated with two times the risk for developing a substance dependence/abuse later in life. Although the relationship between FASDs and alcohol use is only correlational, it reinforces the notion that the alcohol-harm paradox is not a simple causal relationship but a complex entanglement of a multifaceted array of contributing aetiological factors.

6 What are the evidence-based approaches for minimising the effects of the alcohol paradox?

It is important to remember that the taxpayer pays the lion's share of the cost of alcohol-related harm. The evidence shows that the unaccounted costs of alcohol sales are estimated at £27-52bn, far exceeding the £12bn recouped in revenue from duties on the product (HMRC, 2019).

A systematic review in 2015 examined alcohol control policies and interventions to reduce socioeconomic inequalities. They found that initiatives addressing neighbourhood planning, zoning, and licensing are among the most effective approaches to reduce socioeconomic disparities in alcohol-attributable outcomes (Roche *et al.*, 2015). Furthermore, an early review of harm reduction alcohol interventions found that decreasing alcohol availability and increasing cost was highly cost-effective (Anderson, Chisholm and Fuhr, 2009, p. 2). This report has collected the evidence for these policies and summarised it below.

6.1.1 Minimum Unit Pricing

Minimum unit pricing (MUP) aims to set a floor price for alcohol, and it is designed to target the cheapest, strongest drinks preferred by harmful drinkers (Institute of Alcohol Studies, 2020). An MUP of 50p per unit was implemented in Scotland in 2018, and its effects have begun to be analysed. A report from the Institute on Alcohol Studies (2020) into the impact of MUP on alcohol consumption and alcohol-related harm. The report noted that alcohol sales and consumption had dropped by 4-6% and 7-8%, respectively; promisingly, most of this reduction was seen amongst the heaviest drinking groups. However, MUP's impact on alcohol-related harm was inconclusive. Alcohol-related deaths fell by 7%, although this reduction also occurred in England. However,

hospital admission due to alcohol in Scotland remained flat for 12 months after MUP, while increasing in England over the same period. Although these initial findings were promising, the report called MUP's evidence of harm reduction '*limited and ambiguous so far*' (p13).

6.1.2 Reduced retail sale hours and density of outlets

The Boyd (2020) report for the Commission on Alcohol Harm recommended reducing alcohol availability by further regulation of the provision of alcohol licences as a possible preventative measure. The report defined alcohol availability as a function of the number of shops selling alcohol in an area and the amount of time alcohol is on sale. Research has shown that local availability of alcohol is directly associated with an increase in consumption and alcohol-related harm (Livingston *et al*., 2007). The availability of alcohol is disproportionately concentrated in areas of low SES (Romley *et al.*, 2007), and evidence provided by Niven Rennie from the Violence Reduction Unit in Scotland indicated that communities with a greater density of alcohol outlets had 4x the crime rate than that of low-density areas (Boyd, 2020, p. 31). Reducing SES inequalities in the availability of alcohol is a step in reducing the healthcare inequalities seen in the alcohol-harm paradox.

The CAH report (2020) recommends adding a public health assessment to the criteria used to grant alcohol licences. In England and Wales currently, four objectives are used for assessing applications for alcohol licences, none of which address the impact granting the request will have on public health (Boyd, 2020). However, this alone may not be enough, as data from Scotland—which already has the provision in place— shows that 97% of alcohol licence applications are still granted, questioning the provisions effectiveness (Boyd, 2020, p32). To further tackle this issue, the report recommends a justification of a need for another licenced venue in the area alongside a public health assessment.

Reducing alcohol availability is a promising solution for local authorities to consider as its implementations can be authorised locally. Cornwall County Council has run one pilot scheme to develop further a proprietary tool to inform licencing decisions. The tool uses local data, including hospital admissions, referrals into alcohol treatment, violence, anti-social behaviour, and traffic collisions. He said it has "*allowed us to begin to get involved in a few cases: revocations and objecting to extensions*" (Boyd, 2020, p. 34). While the scheme's effectiveness is not fully assessed yet, approaches such this can hopefully help reduce the environmental injustices in alcohol availability in lower SES groups and help reduce the healthcare inequalities.

6.1.3 Drink Driving

The current limit on acceptable blood alcohol while driving in England and Wales is 80mg/dl, 30mg higher than both Scotland and other European nations whose legal limit is 50mg/dl (Boyd, 2020,

p27). While blood alcohol levels <50mg/dl may induce some impairment of motor coordination, blood alcohol of between 50-150mg/dl have been shown to alter mood and impair concentration and judgement (Vonghia *et al.*, 2008). Furthermore, a survey by Drink Wise found that 30% of over 50s believed that they had driven over the limit in the last 12 months (Boyd, 2020, p27).

Reducing the legal drink driving limit in England and Wales in line with, or even lower than, Scotland and other European nations was recommended in the Alcohol Harms Commission report (2020). The benefits of such a policy were summarised in a quote from Public Health England saying, "*reducing drink-driving is an intrinsically desirable societal goal and is a complementary component to a* ***wider strategy that aims to influence drinkers to adopt less risky patterns of alcohol consumption***" (p27).

6.1.4 Public health campaigns, the impact of Dry January

A prominent public health alcohol-harm reducing campaign in the UK is Dry January. First introduced in 2014, the campaign has increased in popularity every year, with 82,000 people participating in 2019 (de Visser, 2019). Research has shown that alcohol abstinence, even for one month, can produce numerous physiological benefits (Coghlan, 2014; Mehta *et al.*, 2018; Munsterman *et al.*, 2018) and increase general wellbeing (de Visser and Nicholls, 2020). Dry January provides a clear window into the effectiveness of public health campaigns and their ability to enact change.

An evaluation of Dry January 2019 de Visser (2019) compared survey results of official registrants to those of the general population. This was done to see the impact of Dry January's 'supported version' provided to registrants, compared to the general health promotion occurring across the country, to see if the benefits were experienced equally. The paper found that 6-months on from completing the challenge, individuals who signed up to the service had reduced their likelihood of engaging in harmful drinking, had better ability to refuse alcohol, and had improved wellbeing than when they first engaged with the service (de Visser, 2019). However, 41% of respondents who did not receive the official support but still took part reported engaging in more harmful drinking behaviour after 6-months (de Visser, 2019). Of those that took part unofficially, the most common reasons for doing so were '*that they believed they could do it alone*' and that '*they were unaware of the available support*' (de Visser, 2019). This evidence points to the need to communicate better the benefits of seeking support when attempting to reduce alcohol consumption.

The Study also included a demographic breakdown of those taking part in Dry January. Those who registered for support were mainly female, university educated and had an average income of £30-60k. Those in the unsupported group were more likely to be male, have a GCSE to A level education and earn less than £30k (de Visser, 2019). This information, coupled with the data about the

campaign's success for those who are supported may be another example of the inequality in harm and effectiveness of treatment between socioeconomic groups.

A recent qualitative review of the staff and users of Forward Leeds by Headley *et al.* (2021) highlighted some of the barriers facing the uptake of the available interventions in West Yorkshire. Testimony from both the staff and service users noted that the stigma surrounding a 'drug and alcohol service' may be preventing those with alcohol problems from engaging with services (p29). The report recommended simple changes, like changing the name to an 'alcohol and drugs service' or removing the phrase all together could help boost engagement with groups who are hesitant to access Forward Leeds services.

6.1.5 Early Brief Interventions (EBA's)

Early brief interventions are a short, evidence-based, structured conversation about alcohol consumption. Its aim is to get individuals to consider changing their drinking behaviour in order to minimise their risk of alcohol-related harm. In their review, Anderson, Chisholm and Fuhr (2009) note that implementing EBA in healthcare was estimated to reach only 30% of the population. This may be due to evidence suggesting lower SES groups tend to engage less with primary services (Giesbrecht and Bosma, 2017). Probst *et al.* (2020) recommend that any future policy that hopes to use EBA's to affect change needs to ensure equal access to screening and services, or else it may further exacerbate healthcare inequalities.

While EBA's can reduce alcohol-related harm to the individual, they can also be used to reduce alcohol-related harm to those around the drinker as well. A survey conducted by Adfam found that '*awareness amongst professionals on the needs of families affected by drugs and alcohol was inefficient*' (Boyd, 2020, p. 22). The CAH report (2020) found that in part, the inaction from professionals was due to the confusion about whose responsibility it was to intervene. The report recommends a shift in thinking that family alcohol support is not just an issue for addiction services. By improving awareness and competency in dealing with substance use in a broader range of professionals e.g. teachers, prison services and mental health services; this could reduce the risk of ACE's in childhood by addressing the parental addiction as soon as it is noticed.

6.2 Need for future research

This report focused on general definitions of factors contributing to and approaches to deal with the alcohol-harm paradox. Some of the approaches are implementable locally; however, some would require national pressure for policy change.

More research is required to provide specific demographic advice to West Yorkshire. Work focusing on community-level analysis will help identify critical areas in need of focus in West Yorkshire and help to tackle alcohol harm without widening the socioeconomic inequalities.

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