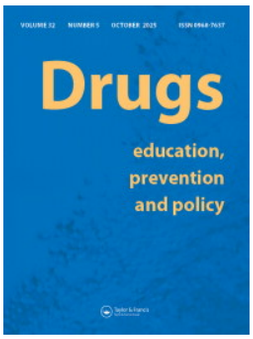

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"It has some major knock-on effects": ambulance clinicians' experiences of attending alcohol-related call-outs and perceived impact on the Scottish ambulance service (IMPAACT study)

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"It has some major knock-on effects": ambulance clinicians' experiences of attending alcohol-related call-outs and perceived impact on the Scottish ambulance service (IMPAACT study)

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ABSTRACT

Introduction: Alcohol consumption places a heavy burden on emergency services worldwide. In Scotland, around one in six ambulance call-outs is alcohol-related, yet little is known about frontline experiences. We aimed to understand ambulance clinicians' experiences of alcohol-related call-outs including any personal or professional impacts.

Methods: In-depth telephone interviews were conducted with 27 ambulance clinicians and 4 managers (May 2019–Dec 2021), varied in gender, role, Scottish region, and experience. Interviews were transcribed and thematically analyzed.

Results: Clinicians reported anxiety linked to the unpredictable behavior of intoxicated patients, alongside frequent experiences of aggression, violence, and sexual harassment. Many saw such incidents as routine. The repetitive nature of alcohol-related calls led to frustration and reduced morale. Senior staff empathized and stressed the pressure on staff time and on the service from such calls. Often, these calls were not perceived as clinical emergencies on arrival at the scene, and were seen as potentially delaying responses to other, more clinically urgent, calls.

Conclusions: Alcohol-related call-outs have a significant personal and organizational impact on ambulance staff and the Scottish Ambulance Service respectively. Improvements in care pathways, added funding to support treatment for alcohol dependence, staff training and uptake of incident reporting systems, may help manage these calls more effectively.

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Introduction

In the United Kingdom (UK), the alcohol per capita consumption (APC) is 10.8 liters of pure alcohol (rising to 17 for males) in 2024, and 78.3% of those aged over 15 are current drinkers. The rate of heavy episodic drinking (defined as consumed at least 60 grams of alcohol on one occasion in the last month) is high, at 33.6% of people over 15 years of age (rising to 45.5 for males); of these 2.6% of the population and 6.4% of males are heavy continuous drinkers (who are defined as having consumed at least 60 grams of pure alcohol per day in the last year) (World Health Organisation, 2024). The alcohol burden of disease arises both from acute and chronic alcohol consumption (Public Health Scotland, 2025). In Scotland, which is the focus of this paper, recent figures released by the National Records of Scotland show that there were 1,185 alcohol-specific deaths registered in Scotland in 2024, with male deaths accounting for two thirds of those deaths, and alcohol-specific deaths 4.3 times as high in the most deprived areas of Scotland compared to the least deprived (National Records of Scotland, 2025). Excessive alcohol consumption increases mortality and morbidity (including from cancer and other non-communicable disease) and impacts on the families of those affected as well as on wider society (Babor et al., 2022), including through impact on emergency services.

Estimates of the proportion of ambulance attendances which are alcohol-related vary widely, depending on contexts, methods and criteria used. In the USA, a prospective observational cohort study of 50,383 emergency calls found 30% to be alcohol related

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(Joseph et al., 2018). One of the most robust assessments used a novel algorithm to search free-text reports by clinicians in patient records and found that 16.2% of all ambulance call-outs (86,780 calls-outs) were alcohol-related in 2019, rising to 18.5% at weekends (Manca et al., 2021). The resulting economic cost of alcohol -related ambulance call-outs in Scotland would be GBP 31.5 million (Manca et al., 2021). An older study from 2012 in the North East of England estimated this cost at GBP 9.13 million for that region alone (N. Martin et al., 2012). Growth in demand for ambulances from 2008 to 2015 in Australia has also been partly attributed to drug and alcohol use (Andrew et al., 2020).

Ambulance clinicians have expressed fears about the potential long-term risks and pressures on the service of increased home drinking during the Covid-19 pandemic (Fitzgerald et al., 2022). In 2023/24, in Scotland, there were 19,710 patients in Scotland admitted to a general acute hospital with a diagnosis wholly attributable to alcohol (Public Health Scotland, 2025). Some studies have focused on the impact of alcohol-related injuries and incidents arising from the nighttime economy on emergency departments in the USA and Australia (Crilly et al., 2022; Joseph et al., 2018; Miller et al., 2012). For instance, in Australia, Crilly et al. reported attendance by patients with alcohol-related presentations who were younger, more likely male, presenting at weekends or night and conveyed to emergency departments often by ambulance or the police (2022). Similarly Miller et al.'s report in Australia, showed that emergency services in Victoria and New South Wales faced significant alcohol-related burdens, with most incidents occurring during late-night weekend hours and predominantly involving young males who required treatment for injuries, intoxication, and assault-related incidents. Joseph et al., in Denver (United States) reported that alcohol-related call-outs were more likely to involve males with traumatic injuries who required advanced monitoring and medication (2018). Other studies have highlighted the burden of repeat attendances at facilities by people with chronic alcohol problems (Hall et al., 2015; Hulme et al., 2020; Klein et al., 2018; Santana et al., 2022). (Brummer et al., 2022; Coomber et al., 2019; Luk et al., 2021; Scott et al., 2022). A survey of ambulance clinicians in Australia found that they perceived caring for patients intoxicated with alcohol and/or drugs to have become more frequent and a routine part of their practice (McCann et al., 2018a).

However few studies have sought to understand the experiences of ambulance clinicians in dealing with these alcohol-related call-outs. It has been reported that alcohol-related incidents can be challenging because alcohol is often a factor in incidents of violence toward emergency staff and sexual harassment of staff (Brummer et al., 2022; Coomber et al., 2019; Luk et al., 2021; Scott et al., 2022). A small number of systematic reviews have explored instances of violence against ambulance staff and emergency services first responders, but include few UK studies (Murray et al., 2020; Pourshaikhian et al., 2016). Very few UK studies have examined ambulance clinicians' experiences of responding to alcohol-related call-outs, including experiences of aggression or sexual harassment. In one survey, 47% of ambulance staff (n = 168) in the Northeast of England reported having been physically assaulted by intoxicated members of the public whilst on duty, whilst 45% reported having experienced some form of sexual assault or harassment reported incidents of sexual harassment (Newbury-Birch et al., 2017).

Moreover, the attitudes of ambulance or emergency personnel specifically vis a vis intoxicated patients are scarcely researched, with only a handful of studies from Australia (McCann et al., 2018a, 2018b). McCann et al.'s survey and qualitative study found that paramedics hold more stigmatizing attitudes toward patients with mental health problems when alcohol and other drugs (AOD) problems are also present. Their studies also found that paramedics express mixed views about whether caring for mental health and AOD patients fits within their core role. While there is indication that caring for these patients has become routine work, perspectives on the scope of practice in this area vary considerably among paramedics (2018a;2018b). Understanding ambulance clinicians' experiences of and attitudes toward alcohol-related call-outs, and how this may affect the care they are able to provide to patients is crucial, since alcohol-related call-outs are becoming an increasing part of their daily work. This will lead to understanding how the ambulance technicians themselves may be personally affected by this type of call-outs versus others, but also to understand if there are lessons to be learnt on how such calls can be better handled and any stigma avoided with regards to intoxicated patients. With so few studies available, we lack deeper insight which in-depth qualitative studies such as ours can provide.

The aim of this study was to explore how frontline ambulance clinicians in Scotland experience alcohol-related call-outs, how they feel about these calls, and their perceptions of the personal and professional impact of these calls on them personally as clinicians and on the Scottish Ambulance Service (SAS) as a whole. A secondary aim was to explore the

insights of senior staff of SAS on the main themes arising from the research with frontline clinicians.

It is important to note that this research was conducted during the Covid-19 pandemic period, and that we also reported pandemic-specific data and analyses in a separate paper (Fitzgerald et al., 2021).

Methods

This paper reports on data from a wider study (known as the IMPAACT study, "*The Impact of Minimum Pricing of Alcohol on Ambulance Call-outs in Scotland*") which examined the impact of alcohol and minimum unit pricing of alcohol (MUP) on the ambulance service in Scotland. In a previous quantitative paper from this study, Manca et al. described the volume of call-outs where alcohol was a contributing factor (2021). Another qualitative paper from the study by Martin et al. describes the different types of alcohol-related call-outs encountered by ambulance clinicians (2025; in review). For this study ethical approval was granted by the University of Stirling (NICR 19/20 056) in September 2019. Research and development approval was granted by SASin October 2019 (HIPS 18/57).

Our qualitative approach is that of a thematic qualitative study, and we are using a constructivist paradigm, which means that we perceive reality as socially constructed through human interpretation, interaction, and shared meanings, rather than existing independently. Therefore, we see knowledge as subjective and context-dependent, with researchers emphasizing understandings of multiple perspectives and the ways people make sense of their experiences (Clark et al., 2021). For this reason, the qualitative method we selected was that of semi-structured interviews, as we were conscious that this would be the best method for ambulance technicians to express their own views, perceptions and tell their own experiences (whereas, for instance focus group discussions would have been less suitable). The research team built in reflexivity from data collection to reporting and writing, as suggested by Braun and Clarke's framework for thematic analysis (Braun & Clarke, 2021). This means researchers remained aware of any personal biases, bracketing those in order to conduct the interviews. We had frequent analysis meetings as a team, continually questioning our own assumptions and interpretations of the results; we continued to meet as we were writing, applying our reflexivity throughout, and aware of our positionality as alcohol researchers (Braun & Clarke, 2021; Clark et al., 2021). We have added as a supplementary file 1 our Standards for Reporting Qualitative Research (SRQR) checklist.

Sample

SAS is part of the National Health Service (NHS) and despatches free emergency medical assistance or clinical advice to over five million people across Scotland. In 2023, it counted over 5800 staff members (from frontline to managerial, dispatch and admin staff), and made over 400,000 journeys to provide care to patients (Scottish Ambulance Service, 2023). Frontline clinicians in SAS are made up of predominantly two roles: paramedics, who hold a registration with the Health and Care Professions Council and have an advanced skill set which includes extensive patient assessment, intravenous cannulation, electrocardiogram procedures and administration of medication; and ambulance Technicians, who are trained in basic clinical examination and can perform immediate life support and other interventions. Therefore, we aimed to sample frontline ambulance clinicians in both these roles, prioritizing a spread across the three SAS regions of Scotland (North, East, West). Gender and length of service was also recorded. Senior staff (those with leadership, clinical leadership, training roles) were then interviewed to incorporate higher level discussions. We conducted 31 in-depth qualitative telephone interviews with frontline clinicians (n = 27) between May 2019 and December 2021 and with senior staff (n = 4) in May and June 2022.

Recruitment and data collection

This study had an extended period of data collection in two phases which can be explained by the immense impact of the Covid-19 pandemic on the SAS, which made it difficult to recruit and interview participants. SAS staff in frontline clinician roles (est. n=>2,000) were invited to take part via email. This email stated simply that we were interested in exploring the experiences of SAS ambulance clinicians dealing with alcohol-related call-outs. Ambulance clinicians are extremely busy and their shift patterns makes organizing interviews slightly more challenging. Whilst we did not originally aim for a balanced sample by gender, the balance of genders of those who took part reflects that of the SAS as a whole, which has more male than female staff. Senior staff in relevant roles were identified through discussions with SAS collaborators and an advisory group, and 4 were directly invited for interview and agreed to take part. Recruitment for those interviews took place at an incredibly busy time for SAS Senior staff (toward the end of the acute phase of the Covid-19 pandemic), making it difficult to recruit more. Participants were provided with an information sheet and gave consent prior to interview.

Interviews were conducted by AB, NF, IU, and AF (we use authors' initials here), all working from the same topic guide, which they discussed prior to conducting interviews, to ensure a shared approach and understanding. NF, IU, and AF are very experienced qualitative health researchers and interviewers, who had worked on previous studies together. Since AB was an early career researcher, she received training for interviewing from NF, IU and AF, and shadowed other researchers on her first interviews. The researchers listened to the first few interview recordings and gave each other feedback to ensure consistency throughout. Interviews were audio-recorded and lasted 81 minutes on average. The participants had no previous knowledge of the researchers prior to the interview, which helped avoid any bias (Clark et al., 2021).

A semi-structured interview guide was used, covering the following topics with the frontline staff: contextual factors; how they handle different types of alcohol-related call-outs; type and severity of call-outs in different populations and areas; the impact of Covid-19 on call-out types and responses; staff safety and challenging behaviors or situations experienced at alcohol-related call-outs; risk management including withdrawal from scenes and police involvement; any gender differences in staff experiences of harassment and aggression; organizational and systemic impacts of alcohol-related call-outs; management of such call-outs at service-level; any effects on SAS morale, staff attitudes, response times or resource allocation; and finally overall perceived service effectiveness and areas for improvement, with regards to alcohol-related call-outs. We drew on expertise in the Team (particularly DF, an ambulance technician and researcher) and a clinical advisory group made up of experienced ambulance clinicians from across the UK to help design the topic guide. In the interviews, we also asked ambulance clinicians specifically - but not exclusively - about the following alcohol-related call-outs types: *(a)* drunkenness/intoxication from a night out or party (including falls and injuries); (b) people experiencing homelessness; (c) problem drinking/alcohol dependence/co-morbidities (inc. mental ill health); (d) domestic violence. We report on this in details in a separate paper (Martin et al., 2025; in review).

We first collected data with frontline staff and analyzed the data. Thereafter the topic guide for the senior staff interviews was refined to include findings from the frontline staff interviews. Senior staff were given a brief description of the themes emerging from the early findings from the frontline interviews and of previous quantitative findings regarding the total volume of alcohol-related call-outs (Manca et al., 2021). A separate topic guide was created for senior staff interviews focusing on their perceptions of: the level of such call-outs and the burden on SAS; consequences for SAS of aggression and harassment of staff; views on staff handling of such call-outs, capacity assessments, available pathways; views on the benefit of potential training for staff around alcohol; potential policies that may address the burden of alcohol-related call-outs on the service.

Data analysis

Frontline interview recordings were professionally transcribed by a professional transcriber, de-identified and imported into the NVivo 12 software for data management and to support the analysis. Recordings and transcripts were uploaded to the secure server system of the University of Stirling for data protection. Our analysis drew on Braun and Clarke's thematic analysis process (Braun & Clarke 2006) which consists of 6 main steps: familiarization with the data, generation of codes, combining codes in larger themes or categories, reviewing the themes, and determining their significance and finally reporting on findings. In this study, we pragmatically used both a deductive and an inductive approach to our analysis, which means that the codes were derived from careful reading of the data and also informed by the topic guide questions and our research questions. Two researchers (AF, AB) first reviewed a selection of those transcripts and developed an initial draft thematic coding framework.

The coding framework covered three main categories emerging within the data: Category 1) Call-out reasons, which captured the various circumstances that prompted emergency responses, which also included the broader patterns of how alcohol-related incidents unfold, all of which are reported on in a separate paper (Martin et al., 2025; in review). Category 2) The Clinical handling of such call-outs (the practical medical and procedural aspects of managing alcohol-related emergencies), as well as training-related considerations, which have also been reported on in a separate paper (Mitchell et al., 2024; in review). Finally, Category 3) of the coding framework focused on staff experiences of attending at alcohol call-outs, documenting how staff felt about those call-outs and interacted with patients; sub-themes included challenging behaviors and aggression, positive experiences, gender-specific experiences and the impact on both the emergency service itself and other services. It is on that analytical category (Category 3) only that this paper focuses on.

At the first step of the analysis, AF and AB independently tested the coding framework by coding the same three randomly selected transcripts and later

refining the framework further in meetings with the rest of the team. The remainder of the coding of all transcripts was undertaken by IU, JM and DM. The analysis was a collaborative process involving the research team who met numerous times and participated in a process of sense-checking, and iterative interpretations of the data, with input throughout from NF and IU, to further the analysis and discuss any coding dilemmas. The next stage of the analysis was conducted by IU and JM who summarized the coded data using the framework matrix function in NVivo 12. Each analytical category (1,2,3) and associated sub-themes were analyzed and mapped out for each of the respective papers mentioned.

For this present paper on staff experiences of alcohol related call-outs (coding framework Category 3), IU mapped and grouped the relevant sub-themes from the matrix in a detailed analytical memo, which later formed the basis of the results. The coding and analysis of the frontline interviews took place prior to the four interviews with senior staff. The relevant data from the senior staff interviews for this paper were coded and the senior managers views were brought to bear on the themes previously raised in the frontline interviews, to offer some triangulation of the data.

Results

Participants characteristics are presented in Table 1. In total, 118 staff contacted the research team to express interest, and up to three further emails were sent to gather details in line with our sampling strategy as described above. This resulted in the recruitment of 27 frontline and 4 senior SAS staff.

In the results, we report on the lived experiences of frontline clinicians in SAS who attend alcohol-related call-outs. Participants described their feelings and attitudes toward call-outs, experiences of aggression, violence, and sexual harassment, and perceived impact on SAS. In all sections below, we highlight, where relevant, if clinicians' reports of their own experiences differed according to their role, gender, or experience. Senior staff views on the findings are interspersed throughout the results. Participants quotations are labeled with the unique participant number, followed by their gender and role.

Ambulance clinicians' feelings and attitudes regarding alcohol-related call-outs

Nearly half of the ambulance clinicians interviewed directly expressed a sense of frustration about dealing with all types of alcohol-related call-outs. Many felt that dealing with such calls diverted them from other patients and that they were sometimes not clinical emergencies which required an ambulance response.

> You're aware that elsewhere in the city is some poor 80 year old lady with a broken hip who's been stuck on the floor for five hours and is now going to have to wait even longer because you've been sent to this [alcohol-related call]…because half the time the person [patient at the alcohol-related call] won't even be injured and we'll assess, and they will decline any level of further assessment or help (Int26; male paramedic)

Closely related to this was the frustration of feeling like a "taxi service" rather than using medical skills on some of these calls, particularly on calls involving younger or older people intoxicated on a night out.

> you don't really feel very necessary, you probably don't really use any of your actual technician skills you are just a taxi service basically to take them to A&E most of the time (Int1, female technician)

Another significant source of frustration involved having to deal with repeat callers who were described as suffering from alcohol dependence or alcohol use disorders (AUD) and mental ill health. In this case the clinicians' frustration was born out of a sense that there is no resolution when responding to those calls, because the patient is conveyed repeatedly to hospital, but then returned home, with no pathway for the treatment of the root cause of their drinking. For those reasons, ambulance clinicians know they'll be attending to the same patient again at some point, with no ability to change the outcome for the patient. For some of the ambulance clinicians, this added to a sense that this may be misusing resources.

> it's the predictability of, you know, you just need to understand that, combined with the futility of there's really nothing we can do to make it different or better or, there's nowhere we can take you, nobody's going to do a surgery and fix it tonight sort of thing…It's just that kind of feeling that even after you bring them

Table 1. Sample characteristics.

In our sample we had:					
Gender	8 Female	23 Males			
Role	17 Paramedics	10 Technicians	4 Senior staff		
Region	14 from the East	7 from the West	7 from the North	3 National	
Years of service in Ambulance Service	4 with 1–3	7 with 4–6	4 with 7–10	8 with 11–20	8 with 21+

> into A&E you can see yourself doing it again next week and the week after (Int14, male technician)

Some of our participants expressed sympathy and sadness toward those patients' types, who often require repeated call-outs, but also as the quote above demonstrate, a sense of helplessness in those situations.

Overall, the feelings of frustrations related to alcohol-related call-outs were related to a feeling that ambulance resources were being misused in some ways. They were also related to the system's inability to provide appropriate care pathways for some of the patients encountered (especially those with dependence issues, AUD and with mental ill health). Alcohol-related call-outs were also perceived by our participants to be more numerous in certain geographical areas (such as the largest cities), around particular events (such as football matches) or even at particular times of the year (Christmas/Hogmanay, which is the Scottish celebration of New Year). For some this was leading to feelings of 'dread,' as expressed below.

> We kind of dread the football matches and we think, oh no, where are they playing? Are they playing at home this day? Or we dread New Year, or we dread the Christmas season, where we're having the office parties and you're thinking, oh, here we go. (Int4, female technician)

Many participants also described experiencing general feelings of anxiety when responding to alcohol related call-outs, with some describing them as "stressful," generating "nervousness" and "background anxiety." These reports were common across the participants, of diverse gender, role, and levels of experience. The sense of anxiety seemed particularly prevalent for staff attending weekend alcohol related call-outs at pubs or nightclubs. They reported that the noise, the crowding and surrounding level of intoxication meant that such calls were difficult to manage. A few clinicians felt they had to carry out rapid risk assessments on arrival at those call-outs, looking for additional "signs of aggravation, danger…[and] threat" (Int24, male technician). A few reported having had to remove patients, where that was possible, from the disruptive environment, to assess and treat them properly. Others, as outlined here, describe the stress of such call-outs leading to feelings of burnout.

> Personally my heart sinks, really a heart sink, I am totally burned out with it…a call into a busy nightclub it just fills me with dread actually because one you can't hear a thing that is going on, they never, ever put the music off, so and then you've got people grabbing your shoulders and pulling you this way, pulling you that way. Sometimes people are helpful, occasionally you will get somebody who is actually sensible and will be really helpful that happens occasionally but not often enough (Int26, male paramedic)

Aggression and violence directed at ambulance clinicians responding to alcohol-related call-outs

Most participants we interviewed reported incidents of aggression or violence experienced when responding to alcohol-related call-outs. Those included incidents of passive aggression, verbal abuse, physical abuse (e.g. spitting, biting, punching, kicking) and more rarely assault with a weapon. As one technician explained:

> I will say the only times I've been physically threatened if not assaulted have always been drunk patients…It's a transformative element… It can make them aggressive; it can make them combative, belligerent …I've been punched, I've been kicked, I've been bit. I've been chased with knives due to drunk people. (Int14, male technician)

As expressed above, the unpredictability of intoxicated patients was an additional factor adding to the challenge of dealing with these incidents.

> The thing is that you don't know how they are going to turn, 'cause one minute they can be nice and the next minute they can be…It's almost like the flick of a switch and they can just turn so nasty. (Int4, female technician)

Some of the ambulance technicians felt increased anxiety from such unpredictable behaviors. As one expressed intoxicated patients can become "combative and argumentative or just inhibited' (Int14, male technician). Another paramedic explained:

> There is always an unpredictability anyway in the job that we do, but you know when somebody has got alcohol onboard it just makes it that little bit harder to deal with and you just have to be on your guard a little bit more (Int 27, female paramedic)

A few reported alcohol related call-outs taking place at pubs or bars at times, which required police presence because of the potential for heightened levels of aggression. Experiences of aggression were commonly reported by our participants, particularly in big cities, and locations with high volumes of calls. As one clinician explained: "*big stations like your Edinburgh and your Glasgow stations then its 100% a daily occurrence*" (Int25, male ambulance clinician).

As a result, the aggression and violence seemed to have become normalized amongst our participants. Regardless of how many years' experience clinicians had, they tended to brush off incidents of aggression, as exemplified in the below quote:

> I've had, you know, the usually swearing and arms flailing, and the occasional fist thrown but nothing to…, I've never been struck… but luckily never been assaulted (Int27, female paramedic)

Throughout their career, some ambulance clinicians explained how they had learned to de-escalate incidents and amend their behavior to take into account the level of impairment of intoxicated patients:

> I've been able to either diffuse it or use some other strategies to get what I wanted done … Don't keep pressuring them, again it's about this processing information, they maybe just need a few minutes quiet to let that information process (Int23, male paramedic)

It is worth noting that despite some of the levels of aggression experienced, and the daily frustrations expressed, some participants still reiterated their unwavering duty of care to all their patients, regardless of the circumstances. One stated: "*I find it difficult not to treat someone even though they are quite abusive and highly intoxicated*" (Int17, male paramedic).

Sexual harassment directed at ambulance clinicians on alcohol-related call-outs

Most of the ambulance clinicians we interviewed - whether male or female- reported that they had experienced sexual harassment responding to alcohol related call-outs or had witnessed colleagues experiencing sexual harassment. The harassment was more common amongst female clinicians – 6 out of the 8 interviewed - although 13 out of 19 male clinicians also reported either direct experience of this or witnessing such harassment on their female colleagues.

> I can feel a bit uncomfortable because, just because of the comments that some people can make, they can start making comments about your appearance and just being very forward and quite difficult to manage (Int1, female technician)

> I've actually been groped by female alcohol patients. I've been pinned to the back of ambulance wall once, while there were two drunk women in the ambulance. They tried to strip my uniform off (Int22, male technician)

Most participants with those experiences attributed these harassing behaviors to high levels of intoxication.

However, similarly to those who experienced verbal or physical aggression, ambulance clinicians who experienced sexual harassment from some intoxicated patients tended to brush this off:

> I would just take it with a pinch of salt and just brush it off because as long as they're complying and doing what we want them to do, to me that just goes over my head and I just go along with it sort of thing. (Int 19, female technician)

Senior staff interviewed, when presented with those accounts from frontline staff, recognized and empathized with these difficult and disturbing experiences, and admitted it can take a heavy personal toll on staff, especially given workload pressures.

> Nobody goes to work to be shouted at or assaulted, whether it's physical you know, sexual, you know whatever else it might be… In terms of the impact on staff so there is the impact in terms of if someone is assaulted they don't come to work to be assaulted, it has an impact on them mentally as well as physically, they become anxious about going to alcohol calls, they have to go home to their families and decompress, there is less time to do that on station than there used to be so it's harder to sit with your mates and have a cup of tea and just unwind. (Int 29, Senior staff).

The same manager as in the quote above also stressed the existence of the SAS incident management system called Datix, which is used to report those incidents. However, another manager described Datix as somewhat "cumbersome" in nature (Int28, Senior staff), with incidents taking quite a long time to input in the system at the end of shifts, which they suggested could potentially deter some staff from using it to report incidents (Int28, female Senior non-clinical role).

Ambulance clinicians' perceived impact on the ambulance service of alcohol-related call-outs

Ambulance clinicians expressed that they felt that the number of alcohol-related call-outs was increasing, with some describing such incidents as "inevitable" (Int2, male paramedic) or "routine" (Int15, female technician). Some felt that such calls give rise to a "defeated attitude" amongst staff (Int2), reducing staff morale. Overall, such call-outs were described as "a drain on the service" (Int22, male technician), with many participants using the terms "huge" or "massive" to describe the impact e.g. "huge strain on resources". These clinicians explained that this type of call-outs adds significantly to an already problematic workload, particularly at ambulance stations where fewer ambulances are available.

> You get tied up with drunks for long, long periods of time…back and forward, back and forward and you can have an evening…you can have an evening of drunks … obviously it's a huge drain on resources, dealing with alcohol day in day out (Int 08, male technician)

Furthermore, the workload relating to alcohol was also perceived as being increased by repeated call-outs to the same patients, for instance those with alcohol dependence or AUD.

Furthermore, alcohol-related call-outs were seen to take significantly longer to attend than others, as intoxicated patients were at times difficult to assess due to their intoxication, which impaired their capacity to consent to treatment and complicated their clinical management.

> The jobs themselves [at alcohol related call-outs] I think often take a lot longer than other jobs so if you go to someone who's got chest pain, you go in, you do your assessment, you do an ECG, take them to hospital. From the point of getting the job to point of hospital maybe an hour and a half. You go to someone who's got chest pain and is an alcoholic that could potentially go up to two hours, two and a half hours because it's really hard to do the assessment, it just slows everything down. And you've got the ones that don't want to travel, and they have to travel or they're being awkward, or you end up with the police there as well. (Int 11, male paramedic)

In addition to the effects on time resources and other resources, several ambulance clinicians expressed that alcohol-related call-outs place a significant burden on SAS.

> I think when we are stretched to the limit, resources-wise, we are getting these calls through. We feel that they are having a massive impact on our staffing, our resources …sometimes we can go to two and three and four alcohol-related call-outs in a row. It gets to the stage where you're thinking, oh no, not another one. (Int4, female technician)

This sense of a 'knock on effect' from this type of calls was echoed by one Senior staff who highlighted the potential impact on individual staff and the service as a whole in the long term:

> I think it ranges from you know, staff developing PTSD you know, going off with mental health problems because they can't face being at their work just after an accumulation of months you know, or years…So you know it can lead to high sickness absence for us and then I suppose ultimately if people just, it gets too much for them they leave the service (Int28, Senior staff)

Senior managers' views on addressing the issues raised by frontline clinicians

When the main findings for this paper were discussed with the senior managers to get their own views, all empathized with the challenging situations faced by frontline ambulance clinicians, and reflected on the impact on the service. Some also discussed potential solutions to alleviate the burden on SAS.

With regards to the safety and well-being of clinicians facing aggression or harassment, all senior managers acknowledged that this was a major concern for the organization, and had a significant impact on staff (echoing the same feeling of anxiety expressed earlier), especially given current heavy workloads:

> So, what I would say is I mean if you'd asked me 5 years ago what's my priority, I'd be talking about patient safety and clinical quality etcetera. Now you will immediately say patient safety and staff wellbeing, staff welfare and wellbeing (Int 30, senior staff)

> In terms of the impact on staff so there is the impact in terms of if someone is assaulted they don't come to work to be assaulted, it has an impact on them mentally as well as physically, they become anxious about going to alcohol calls, they have to go home to their families and decompress, there is less time to do that on station than there used to be so it's harder to sit with your mates and have a cup of tea and just unwind. (Int29, Senior staff)

Senior managers described this as a priority to address in organizational terms, and mentioned the current investment that SAS is making in building new programmes to address the issues:

> we've got new wellbeing leads and we're trying to work really hard across the organisation to put wellbeing right at the front of everybody's mind. So, it's definitely something I think we could influence now. (Int28, Senior staff).

Another senior manager described the staff support which is currently available in their own geographical area:

> So, we can refer to occupational health…we've got help services so staff can refer themselves for counselling as much as we can refer them for counselling. We've also got access to the ambulance service charity if someone wants to speak to someone from an ambulance service background…we've got a listening service through the local chaplaincy service …So there is support there and we always try and encourage people to talk about it. (Int28, senior staff)

However, this same manager (Int28) reported that the recent increase in the volume of ambulance calls in general had made informal debriefing and support from colleagues in some crew rooms less possible, and that some of that peer support had been eroded (a sentiment echoed by Int29 also).

One senior manager ventured that since the reporting of incidents of violence and harassment tends to often take place after a call has been attended to (when the clinicians return to their station), it may be better, to protect staff, if such incidents could be flagged earlier on to the control room. They argued

that if this was done during the calls at the very time the incident happens, it may be better. In that way, colleagues could check on the wellbeing of the clinicians much earlier on, and followup with them earlier on also:

> So, you know, but that involves someone going back to a station, logging onto a computer and then recording an incident [of aggression etc.]….And it's kind of that back-up way of finding out that someone's had, an incident… However, at the point of something happening, if they [clinicians] let our control room know something has happened, our control room should really be asking for someone to do a check on their wellbeing at that time. (Int28, senior staff)

Finally, two of the senior managers alluded to SAS adopting more of a focus on public health in their new strategy to address the issues raised in this paper. They advocated for the need for more 'upstream' action, to lower the levels of addiction and harmful consumption of alcohol in the general population.

> We are moving more towards what, I want to say a public health perspective. So, whilst we are not always just about being reactive in the future, it's more about what can we do to support people that is not taking them to hospital, [but] putting pathways in place to support different medical conditions. (Int28, senior staff)

> We do some upstream work, but not as much as we really would like to do, resourcing is a big issue about you know, the kind of the education of young people in terms of the consequence of alcohol indulgence, overindulgence, to try to kind of like encourage them to take more care of themselves and to respect emergency responders too. As I said, we're kind of really keen to kind of try and do some more kind of upstream work (Int 31, Senior staff).

Discussion

This paper reports in detail on ambulance clinicians' direct experiences, and views of attending alcohol-related call-outs in Scotland. Our interviewees reported that these call-outs frequently generated feelings of anxiety and frustration for them and were perceived by some as a diversion from attending to other patients whom they see as more legitimately in greater need of emergency medical care. Some of our participants were more likely to feel this way about patients who become intoxicated during a night out in a bar or club, who can at times be more abusive, and those who may be at times simply be looking to them to be conveyed ('taxied'). This adds nuance to the existing literature which has revealed the sometimes negative and stigmatizing attitude of ambulance staff toward intoxicated patients (Glencorse et al., 2014). Glencorse et al. 's survey study with 589 paramedics from the Northeast Ambulance Service reported among their participants a lack of perceived competence, confidence and optimism regarding managing patients with alcohol problems. The authors noted that 77% of respondents expressed that they did not have sufficient counseling materials to address the issues, and 72% reported a lack of training (2014). Responses to McCann et al.'s qualitative study with 73 Australian paramedics also demonstrated explicit stigma toward patients with mental health and/or and AOD problems (2018b). The authors attributed this to the lack of services available for affected patients. They explained also that coupled with stigma, this may work to reinforce paramedics' own views that having to deal with those types of patients diverts resources and detracts from what they see as their core mission (caring for patients in need of urgent medical care).

What our study adds is detailed descriptions of the causes of frustrations engendered by alcohol-related call-outs: the sense that the calls are not necessarily of a medical emergency nature, that clinicians sometimes feel they are seen as a taxi service rather than an emergency service, and that for those with AUD and mental ill health, they feel they cannot bring resolution to repeated calls. Furthermore we also add knowledge on why alcohol-related call-outs create heightened anxiety for ambulance clinicians. The anxiety is due to the barriers and risks associated with helping patients in alcohol heavy environments (bars, pubs, nightclubs, football matches), at particular times (e.g. weekend, nights, Hogmanay celebrations) and to the increased number of these calls (e.g. in bigger cities). Related to this, the link between alcohol and sports in Scotland (e.g. rugby, football) has been made, as well as the need to protect public health, and for policies to control alcohol sponsorship of sporting events (Bandura et al., 2024; Purves et al., 2022).

Conversely, ambulance clinicians interviewed in our study appeared to have more empathy toward people suffering from alcohol dependence or AUD and mental ill health, whom they viewed as more genuinely unwell. However, dealing with them also generated frustrations (e.g. relating to repeat calls and the lack of adequate treatment and care pathways to bring a positive outcome to such patients). However, our findings add details to the literature on the way in which ambulance clinicians perceive intoxicated patients. For instance, even where aggression violence may be present, or regardless of the complex needs of the intoxicated patients involved, some of our interviewees clearly restated their duty of care, even when

intoxicated patients are abusive to them. Ambulance clinicians in our study had mixed feelings of empathy, helplessness and frustration toward patients suffering from alcohol dependence or AUD and mental health issues, rather than just expressed feelings of stigma or negativity. A strength of our study is the unique range of deeper emotions and reactions identified amongst ambulance clinicians. Ultimately each experience may be reflective of personal experiences and workplace cultures, as well as of some of the public stigma which exists in society toward people with AUD and AOD problems. More research is needed in the UK, to fully understand the attitudes of emergency service responders to different types of intoxicated patients, and how specialized training may improve the clinical management of these patients, as well as reduce frustration and stigmatization.

Another key finding from our study is that alcohol-related call-outs exposed our participants not only to anxiety (e.g. about responding to call-outs in bars or nightclubs), but also to aggression and sexual harassment. This was perceived as having a significant impact on staff and on SAS. We add evidence here to a growing body of literature - including systematic reviews - which has highlighted that alcohol intoxication is an important factor in the levels of violence experienced by emergency personnel (Chakraborty et al., 2022; Coomber et al., 2019; Lawn et al., 2020; Luk et al., 2021; Murray et al., 2020; Savoy et al., 2021; Tay et al., 2021; Touriel et al., 2021). For instance, Chakraborty et al.'s review of 22 studies of violence and sexual harassment directed at nurses and doctors found that such incidents were common, particularly in emergency departments, with alcohol and drug-related intoxication identified as one of the causes (2022). Murray et al.'s review of 104 papers and found that between 57 and 93% of Emergency Medical Service (EMS) responders were exposed to at least one instance of verbal or physical violence in the past 12 months (2020). Lawn et al. reviewed 39 qualitative research articles and reported how attending to traumatic incidents, including those involving drugs and alcohol, negatively impacts on the emotional, mental, and physical well-being of ambulance clinicians (2020). Moreover, another large quantitative study by Coomber et al. from Victoria (Australia) offered a retrospective analysis of 205,178 ambulance call-outs involving alcohol and drugs, and found that alcohol was the substance most likely to be involved in incidents of violence and aggression (2019). Further studies from Switzerland and Australia also reported a high incidence of sexual assaults and harassment particularly directed at female ambulance clinicians (Boyle & McKenna, 2017; Savoy et al., 2021). A few studies echo our findings on the normalization and under-reporting of such incidents (Abbott & Whitley, 2023; Campo & Klijn, 2018; Capasso et al., 2021; Mausz et al., 2022). Mausz et al., in their survey study with 196 paramedics in Canada similarly pointed to widespread and chronic incidents of violence, leading to normalization with an underlying sense that alcohol-related violence is somewhat 'unpreventable' (2022).

Nonetheless, our paper fills a significant gap in the literature in the UK, as it is the first qualitative study to focus on ambulance technicians' experiences of alcohol-related call-outs and to describe in depth the degree of aggression and sexual harassment which ambulance clinicians are exposed to. Other UK studies have sought to capture this issue more quantitatively. A 2022 survey of 145 ambulance staff in the Northeast of England found that 40% of respondents reported having been threatened on at least six occasions by an intoxicated patient or member of the public whilst on duty (NHS North East Ambulance & Balance, 2022). In that same survey, 38% reported having experienced sexual harassment or assault from people under the influence of alcohol whilst on duty, and 36% of staff stated that they did not report any violent incidents or injuries to the police. Though it was not within the scope of our own study to explore the reasons why clinicians may under-report such incidents, it is possible that the frequency of such incidents may have led to staff normalizing them. In Scotland, the frequency of such call-outs (86,780 call-outs related to alcohol in 2019 (Manca et al., 2021) is likely to contribute to staff burnout, incidents of PTSD, and ill health more generally. Some sporting events and other alcohol-heavy events, for instance, generate significantly more alcohol-related call-outs and may contribute, and thus need to be addressed. Moreover, successful strategies to reduce incidents of aggression and harassment, and to protect staff from burnout, need further research and exploration.

Our study adds another layer of details to the literature, in that clinicians directly attributed the aggression and violence they experienced to the "transformative element" of alcohol consumption. One stressed that it is alcohol that can make patients "turn nasty". Whilst other studies have pointed to how experiences of aggression have been normalized by clinicians, we found that some clinicians expressed how they have amended their practice so as to de-escalate such incidents and even that they ignore sexual harassment behaviors from intoxicated patients, in some cases, so long as patients comply with treatment. These pragmatic strategies may have negative repercussions on clinicians and services over time, and merit

further investigation. Greater workplace support may be necessary, but also more effective population-wide policies, which have the power to reduce alcohol consumption overall and, over the longer term, chronic alcohol problems (Babor et al., 2022). The UK has amongst the most liberal regime for alcohol premises licensing in the developed world, especially in England and Wales with 24 hour rapid alcohol delivery (United Kingdom Government, 2024), and little local control of premises opening hours. Current policy proposals suggest further weakening licensing authorities powers over the late-night sale of alcohol, which is likely to add to the burden on ambulance services (United Kingdom Government, 2025).

In the same way as the issues we raise are multi-faceted, the solutions to easing the burden and impact of alcohol on SAS which we describe in this paper, are likely to be multi-faceted (Maguire, 2018). Considering the direct impact reported here on staff, attention needs to be paid to how to support those who experience harm during alcohol-related call-outs. Some steps have been made in this direction since our data were collected. In 2021, SAS published a Wellbeing Strategy (Scottish Ambulance Service Board, 2021) which included mental health first aid training, peer support networks, trauma support interventions and consistent and effective debriefing systems. Actions include a trauma risk management programme (TRIM), which offers peer support for SAS staff who have experienced a traumatic, or potentially traumatic, event at work. Through the programme, it was described that training had been delivered to 60 staff "to offer peer support and assessment" (Scottish Ambulance Service, 2023, pp-4-5). SAS latest annual report (2023/24) also states "managers and staff have been trained to use the Service's risk management system - Datix for the management of Adverse Events, Feedback and Risks" (p.40). Our findings suggest that there have been difficulties for clinicians in reporting incidents on the existing systems, which in turns may mean that the extent of those incidents may not be fully captured. The impact of these initiatives by SAS is unknown as of yet, but a gap remains around training and support specific to alcohol e.g. understanding alcohol dependence, related stigma and the complex needs of patients affected by AUD and AOD and mental ill health combined. We discuss those specific issues further in a separate paper (Mitchell et al., 2024; in review). Furthermore, there is a need for increased availability of appropriate treatment services and pathways through which staff could refer patients with alcohol dependence issues. However, the impact of all these initiatives should be robustly evaluated. It would also be valuable to review how other ambulance services in jurisdictions with similar circumstances manage these types of call-outs and support staff.

Finally, beyond relatively downstream actions to manage the impact on staff, effective population-wide alcohol policies have the power to reduce alcohol consumption and, over the longer term, chronic alcohol problems in our societies. There is strong evidence that better regulation of alcohol pricing, availability and marketing can protect public health as well as frontline services and thus reduce the burden and cost impact of responding to alcohol-related ambulance call-outs (Babor et al., 2022; Fitzgerald et al., 2022; Pettigrew et al., 2023; Scott et al., 2022). On the other hand, educational approaches, such as that mentioned in the final quote from the senior staff above, are not considered as effective. Our findings raise the question of what an emergency service like SAS can strategically do, in terms of informing policymakers and the public about the impacts on the service, to ensure that the uptream drivers of alcohol-related call-outs are addressed through effective prevention and public health policies.

Strengths and limitations

This paper fills an important gap in the UK literature reporting on frontline ambulance clinicians' experiences of attending alcohol-related call-outs, which constitute a high proportion of all ambulance call-outs. This is especially important at a time when the ambulance service is under continuing pressure (Fitzgerald et al., 2022). Our sample was diverse and included participants from both rural and urban areas of Scotland, with varying years of experience, and clinical role (e.g. technician, paramedic) as well as input from senior management. However, it is possible that ambulance clinicians who had an interest in the topic and were feeling frustration from attending at such calls (including after the covid 19 restrictions lifted), were more likely to have come forward for interview. We conducted this qualitative study during the Covid 19 pandemic, when ambulance technicians were at their busiest and recruitment was difficult. As with most qualitative studies, our sample is small in line with the level of funding and scope of the study. Future research would benefit from a larger sample, stratified by gender, years of service, and regions and potentially covering the whole of the UK.

Conclusion

Frontline ambulance clinicians in Scotland reported general feelings of anxiety and frustration from attending

alcohol-related call-outs. Participants perceived some of those calls as a diversion from other emergent call-outs and reported being exposed to different degrees of aggression and sexual harassment with a significant impact on them and on SAS. They also expressed empathy for some of the patients and a sense of helplessness that the current the system is unable to provide appropriate care pathways for some of the patients encountered at alcohol-related call-outs who suffer from dependence, AUD and mental ill health. Alcohol-related call-outs have become more frequent and add to the burden on the ambulance staff. This burden on services could be alleviated downstream by more resources, improved care pathways, a more effective use of reporting systems, and enhanced support and training for staff. This may enable ambulance clinicians to better deal with such calls, be more protected, and better meet the needs of the patients involved. To address any issues of stigmatization which could influence care practices, more professional training, educational and counseling materials around AOD andADU should be made available to staff and through the entire service. Finally, upstream solutions, such as better regulation of alcohol sales (especially late at night), marketing and pricing, would address the root cause of alcohol-related harms at a population level, and could be expected to reduce the demand for ambulance services.

Disclosure statement

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Ethical approval

For this study ethical approval was granted by the University of Stirling (NICR 19/20 056) in September 2019. Research and development approval was granted by SASin October 2019 (HIPS 18/57).

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