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# A Qualitative Analysis of Gabapentin Misuse and Diversion Among People Who Use Drugs in Appalachian Kentucky

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## A Qualitative Analysis of Gabapentin Misuse and Diversion among People who Use Drugs in Appalachian Kentucky

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### Abstract

Gabapentin, an anticonvulsant and analgesic for post-herpetic neuralgia, has been thought to have no abuse potential despite numerous published reports to the contrary. Gabapentin has been linked with impaired driving and opioid use, highlighting the need to understand more fully its risk profile. Thirty-three individuals reporting recent nonmedical use of gabapentin were recruited from two ongoing longitudinal studies of drug users in Appalachian Kentucky to participate in focus groups. Four sessions were held (2 in the community and 2 in jail settings), during which participants responded to questions regarding their personal experiences with gabapentin misuse. Focus group participants were similar to other gabapentin users in the larger cohort studies with respect to demographics and drug use behaviors. Overall, the sample reported having initiated gabapentin more than 10 years earlier after being prescribed it for a legitimate, though generally off-label, medical indication (e.g., pain, anxiety, opioid detoxification). Participants reported use of gabapentin in combination with buprenorphine, other opioids, cocaine, and caffeine to produce sought-after central nervous system effects (e.g., muscle relaxation, pain reduction, sleep induction, feeling drunk, and feeling “high”). Focus group responses highlighted the low cost of gabapentin for the purpose of getting high and noted increasing popularity in community, particularly over the last two years. Gabapentin was a prominent drug of abuse in two cohorts of

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primarily opioid-using individuals. Providers should be aware of gabapentin's abuse potential, and a reexamination of the need for scheduling is warranted.

### Keywords

gabapentin; off-label prescribing; opioids; drug abuse; qualitative analysis

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### Introduction

Although gabapentin has long been perceived as lacking abuse potential (Bonnet et al., 1999; Lavigne et al., 2012; Nunes, 2014), evidence has begun to accumulate to suggest otherwise (Baird, Fox, & Colvin, 2014; Smith, Lofwall, & Havens, 2015). Gabapentin is often prescribed for off-label indications (i.e., those other than as an anticonvulsant or an analgesic for post-herpetic neuralgia), in part, because of the belief that it does not have abuse liability due to its unscheduled controlled drug status. In fact, 83–95% of all gabapentin prescriptions are for off-label use (Hamer, Haxby, McFarland, & Ketchum, 2002; Radley, Finkelstein, & Stafford, 2006). The estimated prevalence of gabapentin misuse in the general population is 1% (Kapil, Green, Le Lait, Wood, & Dargan, 2014), but the estimate is much higher (i.e., 15% to 22%) in substance misusing populations (Baird et al., 2014; Smith et al., 2015; Wilens, Zulauf, Ryland, Carrellas, & Catalina-Wellington, 2015). Some studies have estimated that 40–65% (Kapil et al., 2014; Smith et al., 2015; Wilens et al., 2015; Wills et al., 2014) of cases of gabapentin misuse begin with a prescription for a legitimate medical indication. These misuse estimates, coupled with emerging evidence indicating the likelihood for significant abuse potential, raise concerns about gabapentin.

Although it appears that much of the misuse is linked to efforts to produce sought-after effects (e.g., dissociation, euphoria, and to potentiate the effects of medications used to treat drug dependence) (Baird et al., 2014; Reeves & Ladner, 2014; Schifano et al., 2011), gabapentin has also been linked to impaired driving (Peterson, 2009) and implicated in 1% of drug-related deaths in Scotland (Baird et al., 2014), highlighting the potential public health risk of gabapentin misuse. Our recent international review of gabapentin misuse and diversion (Smith, Havens, & Walsh, 2016), highlighted the many gaps in our knowledge regarding the drug, such as how and why individuals initiate gabapentin misuse and factors influencing continued misuse. Herein misuse refers to using a drug in a manner or for a purpose other than intended, such as taking unprescribed medication, taking a higher dosage than prescribed, or taking medication prescribed to another person (World Health Organization, 2015).

The purpose of the present qualitative study was to explore the factors that lead to gabapentin misuse and the factors that make misuse possible in the context of two samples of individuals who primarily use prescription opioids non-medically and who reported misusing gabapentin. Results from the present examination aim to explain the practice of intentional gabapentin misuse and inform prescribers and policy-makers.

## Methods

This study stemmed from findings from two ongoing cohort studies in Appalachian Kentucky, which are described in detail elsewhere (Havens et al., 2013; Staton-Tindall et al., 2015). Briefly, the first cohort comprised 503 active male and female people who use drugs (PWUD) participating in an ongoing community-based study of social networks and HIV/HCV risk in Appalachia (Havens et al., 2013). The second cohort consisted of 400 rural Appalachian women serving time in jail who agreed to participate in an ongoing study examining the relationship of drug use and HIV/HCV risk behaviors (Staton-Tindall et al., 2015). Data from both studies independently noted a rapid increase in the unintended/non-medical use of gabapentin among the participants. Specifically, within one of these samples a nearly 3000% increase in gabapentin misuse from 2008 to 2014 for the explicit purpose of getting “high” was observed (Smith et al., 2015). This led the principal investigators of the two studies (Jennifer R. Havens and Michele Staton) and the first author to design a qualitative study to provide a detailed perspective on the unexpected rise in gabapentin use. Here, the qualitative findings are presented from four focus groups conducted among cohort participants. The University of Kentucky Institutional Review Board approved the protocol. Participant confidentiality was strongly protected; each study obtained a Certificate of Confidentiality and only study staff were present during the focus groups, including in the jail setting. All participants agreed to be audio recorded and were compensated for their time.

### Participants

Individuals were recruited from two ongoing cohort studies of recently active drug users in Appalachian Kentucky to participate in a focus group session. Eligible participants were individuals who reported gabapentin use at their most recent follow-up study visit; for those in the jail cohort, subjects were responding to drug use prior to incarceration. Research assistants from both cohort studies selected individuals to recruit for the focus groups if they believed that the participants would be open to sharing their experiences. A total of 33 subjects participated in one of four focus group sessions.

### Data Collection

Focus groups were moderated by the first author using a semi-structured list of questions and follow-up probes. Questions were developed by the authors (Rachel Vickers Smith, April M. Young, Michelle R. Lofwall, Michele Staton, Jennifer R. Havens) drawing on the current published and community based interviewers’ local knowledge regarding gabapentin misuse and were intended to explore this further. Each session lasted 30–60 minutes and was digitally audio-recorded. Data collection was continued until thematic saturation, which occurred after the completion of four focus groups. Focus groups were conducted from March to September 2015.

### Analysis

Descriptive statistics were derived from the last follow-up visit in the cohort studies. Group comparisons used Fisher’s exact tests and independent samples t-tests. The audio recordings were transcribed verbatim by the authors (Rachel Vickers Smith and Alexa Quiroz). Two

authors were designated as readers (Rachel Vickers Smith and Elaine M. Boland), each of whom independently created a list of codes based on the semi-structured focus group questions using a directed content analysis approach (Hsieh & Shannon, 2005). The readers convened and discussed the lists and developed the initial draft of the codebook, which included codes, sub-codes, definitions, and exemplars. Each reader then coded the first transcript independently. Subsequently, the readers reconvened and reviewed the entire transcript together, discussing and coming to a consensus on discrepant coding situations, addressing the need for additional codes in the codebook, and redefining existing codes. The first draft of the codebook was then revised and used to code the next transcript and to re-code the first transcript. This iterative process of reading, coding, resolving discrepant assignments, revising the codebook, and re-coding previously coded transcripts was continued until all of the data were coded. SPSS version 24 (IBM Corp., Armonk, New York) was used to analyze the quantitative data and MAXQDA version 11 (VERBI GmbH, Berlin, Germany) was used to analyze the qualitative data. Several quotes presented herein were grammatically edited to make them more readable or to remove the brand names of drugs.

## Results

The focus groups consisted of five males and 27 females. Participants in the focus groups were primarily white, in their mid-thirties, on average, and the majority was unemployed (Table 1). Over half of the focus group subjects from both cohorts reported recent (i.e., past 30 day) nonmedical use (i.e., unprescribed or more than prescribed) of prescription opioids (jail group: 73%; community group: 67%), though individuals from the jail cohort reported less drug use than the community group for all other drug types except cocaine (18.2% vs. 4.8%, respectively). Focus group participants were more likely to report recent nonmedical prescription opioid use than their respective cohorts (jail cohort: 73% vs. 36%,  $p = .02$ ; community cohort: 67% vs. 41%,  $p = .02$ ); there were no significant differences for other types of drugs. Individuals who participated in the focus groups were not significantly different from other recent gabapentin users in their respective cohort study with regard to demographics and substance use. Based on information gathered in the focus group sessions, participants varied on their preferred drug of abuse; several preferred opioids, while others preferred cocaine, and others gabapentin.

The following main themes, with subthemes, emerged in the qualitative analysis: (1) initiation, (2) motivation for continued use, (3) characteristics of misuse, (4) prominence of gabapentin, and (5) perceptions of providers' behaviors.

### Initiation

**Time since initiation**—The majority of responses expressed introduction to gabapentin more than 10 years earlier (i.e., around 2005). Several reported initiating use of the drug 5–10 years previously, and few initiated it within the preceding two years.

**First source**—The most common initial source of gabapentin was through a prescription from a doctor for one or more of the following indications: neuralgia (including diabetic nerve pain), other unspecified pain, lupus, depression, anxiety, insomnia, epilepsy, and to

help with opioid detoxification. As described by one individual, “That’s how everybody got introduced to gabapentin, it’s through doctors.” Several others reported that a family member or friend gave them gabapentin for the first time. One woman described her initiation experience:

My mother-in-law gave them to me [because] I couldn’t sleep – I was withdrawing on oxycodone back then and couldn’t sleep. She give me a couple and I was out like a light, slept the whole night. And I loved them after that.

One individual noted first trying gabapentin while incarcerated.

**Reasons for first use**—Primarily for early initiators (e.g., those beginning more than 5 years earlier), many started taking gabapentin because their doctor prescribed it to address their presenting symptoms, as this woman expressed:

I was put on it by a psychiatrist for anxiety in 2005 ... that’s what they prescribed it to me to begin with and I’ve been on it ever since ... but that is legitimately how it started, but then there ain’t no legitimate reason to abuse it, you know, and I was abusing it.

Another common response was that people began trying gabapentin after learning of it by word of mouth. As one woman put it:

I mean it’s like more and more and more ... as years went on, people just started [gabapentin]. You’d hear other people talking about taking them, and I was like ‘well, let me try it’ [and it] went from there.

**Physical experience**—Initial experiences with gabapentin included a range of effects such as muscle relaxation, pain reduction, hallucinations, sleep induction, feeling drunk, and feeling “high.” One woman recounting her first experience said, “I got it for lupus, but I had never tried it. My mom actually gave it to me first, before I had it prescribed to me, and it made me high as all get out.” Another woman described her initiation:

I actually started taking them to get off of drugs because I was really in pain and they did help my pain. Like she said they relax your muscles and your bones - that’s the way I got off the opiates.

Perceived reported effects were varied and somewhat contradictory. Several participants described a gabapentin high as being similar to an opioid high; one likened the high from snorting gabapentin to that of a “shot of cocaine.” Other effects that were described included increased energy, increased appetite, a “mellow” feeling, and “nodding.” There tended to be few negative effects associated with gabapentin use; one woman reported that gabapentin made her “twitch” and several others indicated that, on occasions, they felt like they were “smothering” or “couldn’t move,” though these were not their typical experiences and the individuals did not elaborate on the circumstances surrounding the events (e.g., dose, route, concomitant substance use). However, a considerable number of respondents recounted painful gabapentin withdrawal experiences, which they described as being similar to, but not as long-lasting as, opioid or depressant (e.g., alcohol, alprazolam) withdrawal.

## Motivation for Continued Use

Focus group members identified several reasons for continuing to use gabapentin, though the primary reason was its pharmacodynamic effects. Participants talked about gabapentin saying that, “they make you feel so much better” and describing it as “very helpful.” A common response was that gabapentin worked better for easing pain than opioids. Several others reported that gabapentin was effective in helping to withdraw from several substances such as cocaine, buprenorphine, and oxycodone, though participants also noted that they could still get “high” from gabapentin. “You can use them to get high on if you want to, ease pain, it’s just all the above,” said one individual, and another describing her use of gabapentin as follows, “It’s just the way an addict takes them. If I want to get high off of them, then I’ll get high off of them, but if I don’t I won’t.”

Participants highlighted the low cost of gabapentin for the purpose of getting high, which seemed to facilitate its continued use. One participant said, “That’s a lot of reason is why people does them is because it’s a cheap high,” and another noted that not only was it cheap, but nearly “always available.” Gabapentin does not seem to be a “party drug,” however. As one man said, “We don’t gather, all of us don’t gather round and say “hey {single clap} let’s do some [gabapentin].””

Several responses indicated gabapentin misuse as a detoxification agent (i.e., to come down from or off of another substance like cocaine, buprenorphine), or to help manage mood and pain.

## Characteristics of Gabapentin Misuse

**Dose and frequency**—Responses indicated that one can build a tolerance to gabapentin. Individuals described using the effects of tolerance to help achieve a high, “You wait a few days and don’t take any, and then you take some – you feel good.” A range of doses was described from supratherapeutic doses (e.g., 120 tablets over 3 days) to within therapeutic range (e.g., “I can’t take more than 2 cause if so, I can’t even walk”).

**Route of administration and concomitant substances**—Participants reported predominantly oral administration, though several individuals described they had snorted it – one described a painful experience (“they set you on fire”), while the other said snorting it gave a high that was similar to snorting cocaine. No one voiced injecting gabapentin. A common technique was to break the gabapentin tablets in half or chew them up before swallowing because that makes them “kick in quicker.”

Many respondents described a preference for taking gabapentin with caffeine (e.g., coffee, caffeine pills, energy drinks, caffeinated pain relievers), saying that “it makes them better.” One participant stated, “[it’s] like you did a big 30 [oxycodone immediate release 30 mg tablet] without doing a 30.” Other commonly indicated combinations were mixing gabapentin with buprenorphine (for enhancement of the buprenorphine effects), marijuana, opioids, alprazolam, and cocaine (“it’s a good buzz together,” regarding taking gabapentin after cocaine: “[gabapentin] gradually brings you down to normal”).



**Physical effects**—A variety of somewhat discordant effects were reported. Many respondents reported that gabapentin gave them energy (“it just keeps you wanting to move”) and increased their appetite, while others likened it to alcohol (“makes you feel like you drunk an 18-pack of beer”), describing depressant effects (“relaxes your body” and “helps with rest”).

### **Prominence of Gabapentin – Current and Trends**

Though many respondents have known about and have used gabapentin for many years, a common theme reported was the rise in popularity in the community, particularly over the last two years. While the consensus suggested gabapentin was easy to obtain, there were also concerns about running out of the drug as a result of their using more than prescribed and sharing it with others. To put the popularity of gabapentin in perspective, one individual said, “They’re actually harder to find than 30s [oxycodone immediate release 30 mg tablet] now,” a commonly available and preferred drug of abuse in the area.

Interestingly, several individuals observed that “younger” drug users (i.e., adolescents) were choosing gabapentin. Participants expressed concern that their access to gabapentin was being threatened by the current “craze”: “And then ... all these younger people are abusing [gabapentin] so now that puts us in a messed up situation” and others expressed concern about gabapentin becoming a scheduled drug, as one man stated, “And that’s why they [gonna] make them schedule[d]...cause everybody’s getting them.”

### **Perceptions of Providers’ Behaviors – Helping Versus Barriers**

There were mixed reports on individuals’ experiences obtaining gabapentin from a healthcare provider (e.g., physician, pharmacist). While some said that they faced no resistance in being prescribed gabapentin by a provider, others believed that their providers made access to gabapentin more difficult. For instance, when asked if they thought doctors recognized that people were using gabapentin to get high, several participants responded “no” and one said, “I don’t feel like they do because they’re still writing them like crazy. That’s the one thing that they will write.” Another participant reported easily getting a prescription for gabapentin: “Yeah, all I done was walk in and said, “Hey, I need some gabapentin.” They’s like, “What milligram?” I was like “800s.””

Conversely, other participants reported difficulty in obtaining a gabapentin prescription or getting the prescription filled, saying that the doctors and pharmacies “make a bigger deal out of [gabapentin] than what it is.” One woman said, “Tell them that it worked for you before, and because of the gabapentin epidemic, they’re calling it, they won’t write them for you” Another reported:

I have been to doctor X and he give me everything under the sun, and I went there trying to get gabapentins. Did this, dealt with this man for six months, and he still would not come off with the gabapentin – not one.

## Discussion

The current study aimed to characterize the factors involved in and the motivations that may underlie the observed recent rise in gabapentin misuse through the qualitative analysis of focus group data from males and females who abuse drugs in rural Appalachia. The study explored constructs that influence and inhibit gabapentin misuse among Appalachian drug users.

The individuals participating in this study were more likely to report recent nonmedical prescription opioid use than their cohort counterparts that did not participate in the focus groups, though focus group participants did not differ from cohort members who also reported gabapentin use. Other researchers have also recently identified a correlation between the use of opioids and gabapentin (Baird et al., 2014; Bastiaens, Galus, & Mazur, 2016; Smith et al., 2015; Wilens et al., 2015). This is particularly important as the overdose risks of gabapentin may be substantially increased in individuals using more than one class of central nervous system depressant drug, particularly in the presence of alcohol (Goodman & Brett, 2017). A number of hypotheses have been adduced to explain the association between opioids and gabapentin, such as common co-prescription of gabapentin with opioids for pain patients (Smith et al., 2016), using gabapentin to potentiate the effects of opioid-use treatment to achieve a “high” (Baird et al., 2014), or users substituting gabapentin for opioids because the latter are harder to access through prescriptions and more expensive to buy illegally (Bastiaens et al., 2016). These hypotheses warrant testing in human laboratory settings that would allow an exploration of the additive or synergistic effects of opioids and gabapentin.

Many study participants reported having initiated gabapentin after receiving a prescription from their doctor. Though some individuals may have been prescribed gabapentin for one of its two FDA-approved indications (e.g., as an adjunctive anticonvulsant or an analgesic for post-herpetic neuralgia), it appears that the majority received the prescription for an off-label use (e.g., the treatment of anxiety, non-herpetic pain, drug withdrawal). Because of the opioid epidemic, there have been large-scale efforts aimed at reducing opioid prescribing. For example, an entire section of the 2016 Centers for Disease Control and Prevention guidelines for the treatment of chronic pain was dedicated to pharmacologic alternatives to opioids for pain management and gabapentin was recommended as a first-line treatment (Dowell, Haegerich, & Chou, 2016). Overall, despite growing evidence that gabapentin has abuse potential, it appears as though the majority of policy makers and prescribers within the US are unaware of the risk although Kentucky was the first state to add gabapentin to Schedule V in July 2017. Of note, in 2014 Public Health England released advice for gabapentinoid (gabapentin and pregabalin) prescribers highlighting their abuse and diversion potential (Public Health England and NHS England, 2014). The Advisory Council on the Misuse of Drugs (ACMD) in the UK recommended gabapentinoids to be controlled substances and this suggestion is currently under review (Newton, December 15, 2016). Unfortunately, since gabapentin’s approval in 1993, there has been no additional human laboratory research to assess its abuse liability, which is especially important among high-risk populations such as drug users. Interestingly, gabapentin’s close structural relative, pregabalin, is classified as a Schedule V drug in the US, acknowledging it has abuse

potential. Further, the physical experiences described in pregabalin misuse reports mirror many of those described herein such as euphoria, increased energy, hallucinations, drowsiness, and feelings of drunkenness (Schifano et al., 2011). The evidence that gabapentin has psychoactive effects (Baird et al., 2014; Kruszewski, Paczynski, & Kahn, 2009; Schifano et al., 2011; Smith et al., 2016; Smith et al., 2015), and the potential to alleviate opioid (Salehi, Kheirabadi, Maracy, & Ranjkesh, 2011) and benzodiazepine (Crockford, White, & Campbell, 2001) withdrawal, effects that were echoed by focus group participants in the present study, suggests there is a need to examine whether gabapentin is appropriately labeled and controlled.

## Limitations

Several limitations exist in the present study. It is unclear the extent to which interpersonal dynamics influenced what was shared within the focus groups. Difficulty in analyzing such data can arise particularly when an individual dominates a session or when a normative view of gabapentin use is formed within the group (Smithson, 2000). However, these concerns were mitigated by our highlighting diverse responses within the analysis. Further, we conducted multiple focus groups in different locations (both community and jail settings) and found that the same themes emerged throughout, which supports the validity of our findings. Importantly, only five males participated in the focus groups, thus it is unclear whether conclusions were gender-biased. However, in a recent article published from findings in the community sample under examination here, females were significantly more likely to report gabapentin use than males (78% vs. 61%) (Smith et al., 2015), thereby providing more confidence in our internal validity of gender representation. Conversely, in a recent review, gender did not tend to impact the likelihood of gabapentin misuse (Smith et al., 2016), therefore, more qualitative research among male gabapentin users is needed. The study was conducted in rural Appalachian Kentucky among individuals already participating in HIV/HCV-risk related research studies, thus generalizability may be limited, although it should be noted that this is one area of the country where the prescription opioid epidemic first began. Further, one cohort from which focus group participants were recruited represented females in jail, which also limits generalizability. Additionally, research assistants approached individuals they thought would be likely to want to participate in the focus groups and the focus group members were open and willing to speak about their experience. Therefore, participants may not be representative of all gabapentin users in the parent studies.

## Conclusions

Despite limitations, this study provides a valuable in-depth look into the experience of gabapentin misuse within a sample characterized by its only hypothesized risk factor: a history of or current substance (i.e., opioid) abuse (Mersfelder & Nichols, 2016; Smith et al., 2016). It is necessary for prescribers to understand how individuals begin and continue their misuse of gabapentin and to focus on prescribing the drug only for individuals for whom it is medically indicated. Our findings also underscore the need for more rigorous studies to elucidate the abuse potential of gabapentin and warrant thought toward the drug being scheduled nationally given its apparent abuse potential.

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Table 1

Sociodemographic characteristics and drug use behaviors of focus group participants and their cohort counterparts.

	Jail cohort – FG (n=11)	Jail cohort – GBP users <sup>a</sup> (n=101)	Jail cohort <sup>b</sup> (n=393)	Community cohort – FG (n=21) <sup>c</sup>	Community cohort – GBP users <sup>a</sup> (n=157)	Community cohort <sup>b</sup> (n=361)
<i>Sociodemographic characteristics</i>						
Race						
Caucasian	11 (100)	101 (100)	393 (100)	18 (81.8)	152 (96.8)*	456 (94.8)*
African American	0 (0)	0 (0)	0 (0)	3 (13.6)	3 (1.9)*	15 (3.1)*
Other <sup>d</sup>	0 (0)	0 (0)	0 (0)	1 (4.5)	2 (1.3)*	10 (2.1)*
Age – mean (SD)	35.3 (8.4)	35.5 (8.5)	34.3 (8.2)	32.1 (10.3)	39.3 (8.9)	38.1 (8.4)*
median (IQR)	35.0 (15.0)	34.0 (12.5)	33.0 (11.0)	39.0 (15.0)	39.0 (12.5)	37.0 (11.0)
Employment status						
Employed <sup>e</sup>	3 (27.3)	10 (10.0)	79 (20.1)	1 (4.8)	42 (26.7)*	115 (31.8)
Unemployed	7 (63.8)	68 (67.4)	271 (68.9)	13 (61.9)	69 (43.9)*	143 (39.6)
<i>Recent drug use</i>						
Alcohol to intoxication	2 (18.2)	17 (16.8)	37 (9.4)	21 (100)	156 (99.4)	358 (99.2)
Heroin	0 (0.0)	11 (10.9)	26 (6.6)	20 (95.2)	151 (96.8)	352 (97.8)
Prescription opioids	8 (72.7)	58 (57.4)	140 (35.6)*	14 (66.7)	85 (54.1)	148 (41.0)*
Legal buprenorphine	0 (0.0)	18 (17.8)	38 (9.7)	1 (4.8)	10 (6.4)	15 (4.2)
Illicit buprenorphine	1 (9.1)	46 (45.5)	93 (23.7)	3 (14.3)	49 (31.2)	67 (18.6)
Benzodiazepines	3 (27.3)	57 (56.4)	122 (31.0)	7 (33.3)	66 (42.0)	98 (27.1)
Cocaine	2 (18.2)	19 (18.8)	39 (9.9)	1 (4.8)	22 (14.0)	38 (10.5)
Methamphetamine	2 (18.2)	32 (31.7)	92 (23.4)	20 (95.2)	153 (98.1)	356 (98.9)
Marijuana	4 (36.4)	51 (50.5)	121 (30.8)	21 (100)	154 (98.7)	355 (98.6)

SD: standard deviation; IQR: interquartile range; GBP: gabapentin. FG: focus group. Note: recent drug use is defined as any use in the past 30 days; comparisons were made between the focus group participants and (1) other GBP users from their cohort and (2) the rest of their cohort (including other GBP users).

<sup>a</sup> Individuals from the cohort that reported recent gabapentin use, but did not participate in a focus group.

<sup>b</sup> All cohort members excluding those that participated in a focus group.

<sup>c</sup> One participant did not complete quantitative survey.

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<sup>d</sup>Includes: American Indian, Hispanic – Mexican, and biracial.

<sup>e</sup>Includes full and part time work.

\*  $p < .05$