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Non-medical use of prescription opioids and pain in Veterans with and without HIV

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Abstract

Few studies have systematically evaluated non medical use of prescription opioids (NMU) among United States' military Veterans, those who report pain, and those with HIV. An increased understanding of the factors associated with NMU may help providers to balance maintaining patient access to prescription opioids for legitimate medical reasons and reducing the risks of addiction. We analyzed self-report data and electronic medical and pharmacy record data from 4,122 participants in the Veterans Aging Cohort Study. Bivariate associations were analyzed using chi-square tests, t-tests, and median tests and multivariable associations were assessed using logistic regression. Median participant age was 52 years; 95% were men; 65% were black, and 53% were HIV infected. NMU was reported by 13% of participants. In multivariable analysis, NMU was associated with being Hispanic (AOR 1.8); aged 40–44 (AOR 1.6); Alcohol Use Disorders Identification Test score ≥ 20 (AOR 2.0); drug use disorder (AOR 1.9); opioid use disorder (AOR 2.7); past month cigarette use (AOR 1.3); receiving a past-year VHA opioid prescription (AOR 1.9); hepatitis C (AOR 1.5); and pain interference (AOR 1.1). Being overweight (AOR 0.6) or obese (AOR 0.5) and having a higher 12-Item Short-Form Health Survey (SF-12) Mental Component Summary (AOR 0.98) were associated with less NMU. Patients with and without NMU did not differ on HIV status or SF-12 Physical Component Summary. Veterans in care have a high prevalence of NMU that is associated with substance use, medical status, and pain interference, but not HIV status.

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Conflicts of Interest

Dr. Fiellin has received honoraria for serving on an external advisory board monitoring diversion and abuse of buprenorphine from Pinney Associates. All other authors report that they have no conflicts of interest over the past five years to report as related to the subject of the report.

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Keywords

Analgesics; Opioids; Pain; HIV; Veterans

1. INTRODUCTION

In some patients, prescription opioid medications are indicated for treating acute and chronic pain. Recent trends indicate an increase in physician prescribing of opioid pain medications [14]. While it appears that most patients take prescription opioid medications responsibly, some do not. When prescription opioid medications are taken in doses or a manner other than prescribed or when someone other than the patient for whom the medication was prescribed takes the medication (non-medical use of prescription opioids or NMU), adverse health effects including substance-related disorders can occur [15].

Recent epidemiological estimates indicate that, among the adult United States population, approximately 4.5 million adults (4.6% of adults aged 18–25, 1.6% of adults aged 26 or older) engaged in NMU at least once in the past month [19]. Estimates based on data from the 2002–2004 National Survey on Drug Use and Health (NSDUH) suggest that of those adults reporting past-year NMU, approximately 13% met DSM-IV [1] criteria for the diagnosis of opioid abuse or dependence [3]. While NMU in the general population and among those with chronic medical conditions is an important health concern in the U.S. and elsewhere, it is an understudied area of investigation among Veterans and those with HIV infection [24]. Identifying individuals at risk for opioid-related disorders is an important component of fostering an appropriate balance between maintaining individual access to opioid analgesics for legitimate medical indications and reducing the societal burden of substance use disorders (e.g., healthcare costs, economic productivity) [6,10,23].

Extant research on NMU has been hampered by the interchangeable use of terms such as “non-medical use,” “abuse,” and “extra-medical use,” and the idiosyncratic operational definition of the term “non-medical use” [8,24]. The NSDUH, the largest and most comprehensive annual survey of drug use among the general population in the U.S., defines NMU as taking a prescription pain reliever “even once, that was not prescribed for you, or that you took only for the experience or feeling it caused” [18]. One potential drawback of the NSDUH definition is that it may not adequately assess underlying motivation for use (e.g., analgesia vs. euphoria) [7,24].

The purpose of the current study was to identify those United States’ military Veterans, with and without HIV, who are a high risk for NMU. Specifically, the aim of the study was to examine pain interference (i.e., interference in functioning due to pain), functional status, and psychiatric, medical, and substance use correlates of NMU among HIV-infected and HIV-uninfected patients receiving Veterans Health Administration (VHA) medical care. Given recent findings suggesting that chronic pain is associated with the abuse of prescription opioids and that greater pain interference is associated with increased risk of NMU among adults [2,16], we hypothesized that participants reporting NMU would be more likely to report greater levels of pain interference than those denying NMU. Because other investigators have found higher levels of substance use and psychiatric symptoms, and poor health status among those with NMU [3,4,16], we hypothesized that participants with NMU, irrespective of HIV infection status, would be more likely than those without NMU to exhibit lower functional status, and greater psychiatric, medical, and substance use comorbidity.

2. METHODS

2.1. Subjects and Study Design

Data for the current study were drawn from the third wave of follow-up surveys from the Veterans Aging Cohort Study (VACS) [12], a National Institute on Alcohol Abuse and Alcoholism-funded longitudinal, prospective, eight-site, observational study of patients with and without HIV-infection receiving care in VHA general medical and infectious disease clinics. As of September 2006, VACS has enrolled 6,466 participants (3,239 HIV-infected and 3,227 HIV-uninfected). Participants are reassessed every year via self-report and information is recorded in VHA administrative databases. The third wave of follow-up surveys included 4,122 participants. The VACS has been approved by the institutional review board at the VHA at Yale University—the coordinating center—and at each of the VHA facilities and academic affiliates of the VACS study sites (i.e., Atlanta, Baltimore, the Bronx, Houston, Los Angeles, Manhattan/Brooklyn, Pittsburgh, and Washington, D.C.). All participants provided written informed consent, which allowed investigators permission to review participants' electronic VHA medical records. More detailed information concerning the VACS, including data collection procedures, are provided elsewhere [12].

2.2. Measures

2.2.1. Demographics—Participants provided information about their race/ethnicity, sex, age, education, annual income, height, weight, and marital/cohabitation status. Height and weight data were used to calculate body mass index (BMI; kg/m²).

2.2.2. Pain and Functional Status—Pain interference was assessed by the Pain Interference subscale of the West Haven-Yale Multidimensional Pain Inventory (WHYMPI) [13] and functional status was assessed by the standardized Mental Component Summary (MCS) and Physical Component Summary (PCS) scales of the 12-Item Short-Form Health Survey (SF-12) [20].

2.2.3. Substance Use and Substance Use Disorders—Data on licit and illicit substance use frequency and type were obtained via a self-report questionnaire. NMU was assessed by the following question, derived verbatim, from the NSDUH [18]: “Have you ever, even once, used one of the medications listed below that was NOT prescribed for you or that you took only for the experience or feeling it caused?” For each medication listed, respondents checked whether or not they had “used in the past 12 months.” The list was comprised of the following prescription analgesics: Buprenorphine, Codeine, Darvocet, Demerol, Dilaudid, Fioricet, Fiorinal, Hydrocodone, Methadone, Morphine, Oxycontin, Percocet, Percodan, Propoxyphene, Talwin, Tylenol with Codeine, Tylox, Ultram, and Vicodin. As done previously [3], we excluded respondents whose only past-year non-medical analgesic use was Fioricet and/or Fiorinal because these medications are not opioids. Alcohol use was assessed by the Alcohol Use Disorders Identification Test (AUDIT) [17].

Data regarding recorded substance use disorders were collected from the VHA electronic medical record system using International Classification of Diseases, Ninth Revision (ICD-9) codes [21] (questionnaires and ICD-9 coding are available at <http://www.vacohort.org>). Drug abuse and dependence and opioid abuse and dependence were collapsed into drug use disorder and opioid use disorder, respectively. All participants were administered the AUDIT and were grouped into alcohol-related categories in a hierarchical fashion based upon their AUDIT responses. We used the AUDIT cutoffs of (a) < 8 (“possible low risk of alcohol-related problems”), (b) 8–15 (“possible medium level of alcohol problems”), (c) 16–19 (“possible high level of alcohol problems”), and (d) 20+ (“possible alcohol dependence”). Participants who indicated that they did not use alcohol in

the previous year skipped out of the AUDIT and were given an AUDIT score of 0. Data concerning past-year VHA prescription for opioid medication were retrieved from the VHA Pharmacy Benefits Management (PBM) records system.

2.2.4. Medical Status and Psychiatric Disorders—Data regarding specific medical conditions (hypertension, diabetes, vascular disease, hepatitis C, and HIV [including CD4 and viral load]) and specific psychiatric disorders (major depression, bipolar disorder, schizophrenia, post-traumatic stress disorder [PTSD], and anxiety disorder) were collected from the VHA electronic medical record system using ICD-9 codes [21]. Overweight was defined as a BMI of 25 to 29.9. Obesity was defined as a BMI equal to or greater than 30.

2.3. Data Analysis

Data analysis proceeded in a stepwise fashion. First, we evaluated bivariate associations between each independent variable of interest and past-year non-medical use of prescription opioids (NMU) using chi-square tests, t-tests, and median tests for non-normally distributed data. Then, multivariable associations were assessed using two separate logistic regression models, one for the overall sample, and the second for those with HIV-infection. In the HIV-specific regression model, the independent contributions of CD4 count and viral load with respect to NMU were examined. All independent variables were introduced into logistic regression models; categorical variables were transformed into sets of binary dummy variables. Since the CD4 count was not normally distributed, we used the square root of the CD4 count to make the distribution more normal. All analyses were performed using SAS version 9.1 (SAS Institute, Cary, NC).

3. RESULTS

3.1. Demographics

Thirteen percent of the sample (525/4,122) endorsed non-medical use of prescription opioids (NMU). In multivariable analysis (Table 1), NMU was associated with ($p < .01$) being Hispanic (AOR 1.8, 95% CI 1.2–2.6), and being between the ages of 40–44 (AOR 1.6, 95% CI 1.1–2.3).

3.2. Pain and Functional Status

While in the univariate model, patients with NMU exhibited higher pain interference and lower functional status ($p < .01$ for all comparisons), in the multivariable model, NMU was associated ($p < .0001$) with pain interference (AOR 1.1, 95% CI 1.04–1.21) and SF-12 Mental Component Summary (AOR 0.98, 95% CI 0.98–1.00), but not SF-12 Physical Component Summary (Table 1).

3.3. Substance Use and Substance Use Disorders

As summarized in Table 1, participants with NMU were more likely than those without NMU to have an AUDIT score >20 (9% vs. 3%), an alcohol or drug use disorder (47% vs. 21%), an opioid use disorder (31% vs. 8%), to report last month cigarette use (61% vs. 42%), and to have been prescribed an opioid medication by a VHA physician in the past year (9% vs. 5%) ($p < .01$ for all comparisons). In the multivariable model (also Table 1), NMU was associated with increased prevalence of an Alcohol Use Disorders Identification Test score ≥ 20 (AOR 2.0, 95% CI 1.3–3.1), a drug use disorder (AOR 1.9, 95% CI 1.02–3.75), an opioid use disorder (AOR 2.7, 95% CI 1.9–3.9), past-month cigarette use (AOR 1.3, 95% CI 1.01–1.62), and past-year VHA opioid prescription (AOR 1.9, 95% CI 1.3–2.8).

3.4 Medical Status and Psychiatric Disorders

Findings from the univariate analyses revealed that while participants with and without NMU did not differ on rates of hypertension, diabetes, vascular disease, schizophrenia, or anxiety disorder, in comparison to those without NMU, participants with NMU were more likely to have hepatitis C (57% vs. 33%), major depression (15% vs. 9%), bipolar disorder (7% vs. 4%), and PTSD (14% vs. 10%), and they were less likely to be overweight (33% vs. 36%) or obese (21% vs. 26%) ($p < .01$ for all comparisons) (Table 1). In the multivariable model (also Table 1), NMU was associated ($p < .01$) with hepatitis C (AOR 1.5, 95% CI 1.2–1.9). Participants who were overweight (AOR 0.6, 95% CI 0.4–0.9) or obese (AOR 0.5, 95% CI 0.3–0.8) were less likely to report NMU. In the multivariable model, NMU was not associated with any psychiatric disorder.

3.5 HIV-infection

As summarized in Table 1, in comparison to participants without NMU, those with NMU were more likely ($p < .01$) to have HIV (60% vs. 52%); however, in the multivariable model, HIV status was not associated with NMU. Among HIV-infected individuals, those with NMU were less likely than those without NMU to have a viral load less than 500 (44% vs. 52%; $\chi^2 = 9.2$, $p < .01$) but did not differ on square root CD4 levels (20.0 vs. 19.5, $p = 0.29$). In the HIV-specific multivariable model, NMU status was not associated with viral load less than 500 (AOR 0.7, 95% CI 0.5–1.0) or square root CD4 (AOR 1.0, 95% CI 0.9–1.0).

4. DISCUSSION

Overall, we found associations between NMU and demographic, substance use and substance use disorder, medical status, and pain interference variables. In comparison to those without NMU, Veterans with NMU were more likely to be Hispanic, be between 40 and 44 years old, have an AUDIT score ≥ 20 , have a drug use disorder, have an opioid use disorder, report past-month cigarette use, have been prescribed an opioid medication by a VHA physician in the past year, have hepatitis C, and exhibit greater pain interference, and they were less likely to be overweight or obese or report a higher SF-12 Mental Component Summary. In the multivariable model, there was no association between NMU and HIV status or NMU and SF-12 Physical Component Summary.

The proportion of Veterans who reported past-year NMU (13%) is noticeably higher than the corresponding proportion of respondents aged 12 or older who endorsed non-medical use in the 2002–2004 NSDUH (ranged between 4.7% and 4.9%) [7,22]. Similar to findings on adult respondents from the 2002–2004 NSDUH, NMU was not associated with sex, but it was associated with Hispanic ethnicity [3]. In contrast to the NSDUH finding that younger adult respondents (specifically, those aged 18–25 years old) were more likely than older respondents to endorse non-medical use, in the current study, we found that Veterans in care who reported past-year non-medical use—as compared to those who denied NMU—were more likely to be between the ages of 40–44 [3].

Our hypothesis that, in comparison to those denying NMU, Veterans reporting past-year NMU would be more likely to exhibit greater levels of pain interference was supported: NMU was associated with greater pain interference in both univariate and multivariable analyses. Previous reports that documented an association between “prescription drug abuse” and pain status in Veterans [2] and between NMU and pain status in the general U.S. population [16] have relied on a single item of pain interference from the Health Survey Short-Form 12 (SF-12) [20]: “During the last month, how much has pain interfered with your normal work (including work outside and inside the home)” [2,16]. In contrast, our study employed the Pain Interference scale of the West Haven-Yale Multidimensional Pain

Inventory (WHYMPI) [13], a widely-used, reliable, and validated measure of pain interference. Our finding regarding the association between NMU and pain interference highlights the complexities involved in the clinical management of pain. Further research on NMU in Veterans might benefit from an investigation of variables that might mediate or moderate the relationship between NMU and pain interference.

Our hypothesis that participants with NMU would be more likely than those without to exhibit greater substance use morbidity was supported. Our findings extend previous research identifying substance use disorders (alcohol abuse/dependence and opioid abuse/dependence) that distinguish Veterans in care with and without NMU [3,4] by documenting that in addition to alcohol abuse/dependence and opioid abuse/dependence, NMU among Veterans is also associated with (a) possible problematic drinking levels as indicated by AUDIT scores, (b) drug use disorder, and (c) past month cigarette use. The proportion of participants reporting NMU who met criteria for opioid abuse/dependence (31%) is noticeably higher than that reported in the general population (20%) [16]. This finding combined with those regarding the comparably higher prevalence of alcohol dependence and drug use disorder among participants with, as opposed to those without NMU, supports recent guidelines issued by the U.S. Department of Veterans Affairs and the U.S. Department of Defense as well as those issued by the American Pain Society and American Academy of Pain Medicine regarding the routine assessment of alcohol and substance use disorders when prescribing opioids for pain [6,9]. While Veterans reporting NMU were more likely to have had a past-year VHA prescription for opioid medication (9 % vs. 5%) and NMU was associated with past-year VHA prescription in the multivariable model, it is important to note that the preponderance of those reporting NMU had not received—based on pharmacy records—a VHA prescription for opioid analgesics in the previous 12 months.

Our hypothesis that participants reporting NMU would be more likely than those denying NMU to exhibit higher rates of medical morbidity was supported. While both study groups reported similar rates of hypertension, diabetes, and vascular disease, NMU was associated with increased prevalence of hepatitis C. Our hypothesis that participants reporting NMU would be more likely than those denying NMU to exhibit lower functional status was partially supported. NMU in our sample was associated with lower SF-12 Mental Component Summary but was not associated with SF-12 Physical Component Summary. Thus, while prior research found an increased likelihood of self-reported fair/poor health status among adults in the general population reporting NMU [3], in the multivariable model there was no association between NMU and functional status related to physical health among our Veteran sample.

Our hypothesis that participants reporting NMU would be more likely than those denying NMU to exhibit higher rates of psychiatric morbidity was not supported. In univariate analyses, those with and without NMU did not differ on rates of schizophrenia or anxiety disorder, but in comparison to those without NMU, patients with NMU were more likely to have major depression, bipolar disorder, and PTSD. However, in the multivariable model, NMU was not associated with any psychiatric disorder. Epidemiological surveys of the general U.S. population have documented an increased likelihood of higher levels of panic, depressive, and phobic/agoraphobic symptoms as well as the presence of a (non-specified) mood disorder among those with NMU in comparison to those without NMU [3,16]. The extent to which differences between our findings and those reported in previous studies reflects Veteran characteristics or study assessments/measures is unclear. Further research that includes multiple sources of information regarding psychiatric comorbidity in Veteran populations may reveal different results.

Whereas univariate analyses documented that in comparison to those without NMU, those with NMU were more likely to be HIV-infected, in the multivariable model, NMU was not associated with HIV status. In univariate analyses, among HIV-infected individuals, those with NMU were less likely than those without NMU to have an undetectable viral load (less than 500); however, neither undetectable viral load less than 500 nor CD4 count among HIV-infected Veterans was associated with NMU in a separate multivariable model. The association between opioid use disorders, particularly injection opioid drug use, and HIV status has been previously documented [5]. Our findings suggest that in comparison to Veterans without NMU, those with NMU exhibit a higher prevalence of opioid use disorders. However, among those with HIV, NMU does not confer additional risk in terms of HIV infection status, namely viral load or CD4.

Our study has several limitations. Our study included self-report data, which may be subject to recall bias or under-reporting of certain behaviors due to social desirability. Whereas the NSDUH has a purposeful community sampling strategy and includes adolescents and adults, the current study sample was comprised primarily of older Veterans in medical care and thus restricted age-related comparisons of NMU.

While the definition of NMU that was employed in this study is widely used, it has limitations, including the non-specificity of motivation concerning non-medical use and the potential that the intended effect of prescription opioid analgesics (i.e., pain relief) might be interpreted by some respondents as “the experience or feeling” caused by the medication and thus might be mistakenly endorsed as NMU [7,11,24]. Future research on NMU might benefit from (1) separately assessing the components of the NSDUH definition (i.e., assess separately prescription opioid medication that (a) was not prescribed by a physician, (b) is taken for (i) the experience it caused or (ii) for the feeling it caused); (2) specifying the context or motive for NMU (e.g., to experiment, to relieve pain, to sleep better, to decrease anxiety); (3) inquiring about the frequency of the NMU (e.g., monthly, weekly, daily); and (4) comparing different assessment methods such as interviews versus self-report.

Despite these limitations, the study has several strengths: Unlike prior published studies on NMU, this study collected detailed information on pain interference, used a Veteran sample, included participants with and without HIV infection, had access to data from participants’ medical and psychiatric records, and through pharmacy records could determine which participants had received a past-year prescription for opioid medications. Previous studies on NMU have had limited information on respondents’ prescribed medications and have not systematically assessed pain status. As a result, few studies have been able to examine the relationship between NMU, pain, and pain treatment [2,16].

In summary, we found participants reporting NMU, as compared to those denying NMU, were more likely to have substance use/substance use disorder, hepatitis C, and pain interference (but not HIV or psychiatric) comorbidity. Given the medical and psychiatric risks associated with NMU, Veterans in care with NMU, especially those with elevated pain interference, are a particularly vulnerable clinical population; they necessitate greater vigilance by providers than those without NMU regarding assessing and addressing medical and substance use disorder status.

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Table 1

Variables distinguishing 4,122 veterans with and without non-medical use of prescription opioids (NMU) and adjusted correlates of NMU

Variable	NMU		χ^2	P	Adjusted odds ratio (95% CI)	P
	NMU+ N=525	NMU- N=3597				
Demographics						
Race/Ethnicity			33.49	<.01		
Black	69.9%	64.2%			1.1 (0.8–1.5)	.23
White	15.6%	23.4%			Reference Category	
Hispanic	12.9%	8.3%			1.8 (1.2–2.6)	<.001
Other	1.6%	4.1%			0.4 (0.2–0.9)	<.01
Sex (male)	95.4%	94.6%	0.70	.40	1.1 (0.7–1.8)	.69
Age			40.25	<.01		
<35	0.6%	3.4%			0.3 (0.1–1.1)	.08
35–39	3.6%	5.0%			1.3 (0.8–2.3)	.34
40–44	13.1%	11.1%			1.6 (1.1–2.3)	<.01
45–49	25.3%	21.0%			1.2 (0.8–1.6)	.39
50–54	29.1%	22.2%			1.2 (0.9–1.6)	.20
55+	28.3%	37.3%			Reference Category	
Education			12.54	<.01		
Less than high school	10.7%	8.1%			1.0 (0.7–1.5)	.91
High school or GED	37.9%	32.6%			Reference Category	
Post-high school	51.4%	59.3%			0.9 (0.7–1.2)	.59
Annual income			38.35	<.01		
0 to \$5,999	27.2%	19.1%			1.0 (0.6–1.7)	.82
\$6,000 to 11,999	29.1%	23.7%			1.0 (0.6–1.7)	.76
\$12,000 to \$24,999	23.8%	28.5%			1.0 (0.6–1.6)	.59
\$25,000 to \$49,999	14.9%	19.8%			1.0 (0.6–1.7)	.99
\$50,000 and over	5.0%	8.9%			Reference Category	
Married/Cohabiting	27.8%	30.3%	1.36	.22	1.2 (0.9–1.6)	.09
Substance Use and Substance Use Disorder						
Alcohol use levels			64.04	<.01		

Variable	NMU		χ^2	P	Adjusted odds ratio (95% CI)	P
	NMU+ N=525	NMU- N=3597			Reference Category	
AUDIT <8	75.2%	85.8%			1.2 (.9–1.7)	.49
AUDIT 8–15	13.1%	9.9%			1.4 (.7–2.9)	.87
AUDIT 16–19	2.7%	1.5%			2.0 (1.3–3.1)	.04
AUDIT 20+	9.0%	2.8%			0.7 (0.4–1.4)	.34
Alcohol or drug use disorder	47.0%	21.0%	169.55	<.01	1.9 (1.02–3.75)	.04
Drug use disorder	44.6%	17.1%	211.44	<.01	2.7 (1.9–3.9)	<.0001
Opioid use disorder	30.7%	7.8%	252.19	<.01	1.3 (1.01–1.62)	.04
Past month cigarette use	60.6%	41.8%	65.36	<.01	1.9 (1.3–2.8)	.001
Past-year Opioid Prescription	9.1%	4.8%	16.95	<.01		
Medical Status						
Hypertension	43.4%	42.0%	0.36	.55	1.2 (0.9–1.5)	.16
Diabetes	18.9%	20.8%	1.02	.31	1.0 (0.8–1.3)	.98
Vascular disease	1.7%	2.7%	1.76	.18	0.7 (0.3–1.4)	.29
Hepatitis C	56.8%	32.7%	114.92	<.01	1.5 (1.2–1.9)	<.01
HIV	60.0%	51.6%	12.97	<.01	0.8 (0.6–1.0)	.07
Weight (body mass index)			22.24	<.01		
Underweight (<20)	10.3%	6.0%			Reference Category	
Normal weight (20–24.9)	35.6%	31.2%			0.6 (0.4–0.9)	.01
Overweight (25–29.9)	33.0%	36.4%			0.6 (0.4–0.9)	<.01
Obese (≥ 30)	21.1%	26.4%			0.5 (0.3–0.8)	<.005
Psychiatric Disorder						
Major depression	14.5%	8.6%	18.30	<.01	1.0 (0.7–1.4)	.85
Bipolar	7.2%	3.9%	12.14	<.01	1.2 (0.8–1.9)	.39
Schizophrenia	4.0%	3.4%	0.56	.46	0.9 (0.6–1.7)	.89
PTSD	14.1%	9.5%	10.78	<.01	0.9 (0.6–1.3)	.51
Anxiety disorder	6.1%	4.6%	2.39	.12	1.0 (0.6–1.5)	.89
						P
Pain and Functional Status			Z	P		
Pain interference (median)	2.7	0.9	7.36	<.0001	1.1 (1.04–1.21)	<.005

Variable	NMU		χ^2	P	Adjusted odds ratio (95% CI)	P
	NMU+ N=525	NMU- N=3597				
Functional status (SF-12)						
MCS (median)	40.8	48.7	-7.69	<.0001	0.98 (0.98–1.00)	.02
PCS (median)	38.5	42.8	-4.99	<.0001	0.99 (0.98–1.01)	.62

Note: AUDIT=Alcohol Use Disorders Identification Test; SF-12=12-Item Short-Form Health Survey; MCS= Mental Component Summary; PCS=Physical Component Summary