

Using Mychart® to assess patient attitudes toward cannabis use



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Aims: Despite its prevalence, cannabis use gets little attention in medical care. We used the Epic patient portal (MyChart®) to invite primary care patients to complete a survey on willingness to be screened for cannabis use, have cannabis use documented in the health record, and to participate in health outcome studies.

Methods: Patients who were active MyChart users ($n = 250$; 50% women) were emailed an invitation to participate in an anonymous survey about marijuana use and medical care. The survey assessed gender, age, race/ethnicity, past year cannabis use and willingness to (a) be screened for cannabis use, (b) have screening information in the health record, and (c) participate in patient registries.

Results: 145 patients (58%) opened the email, 60 opened the survey, and 54 completed the survey; no one opted out from further research contacts. 57% of respondents were women and 61% were 56+ years of age. 75% reported no past year cannabis use and 16 reported use. Most respondents who used alcohol, tobacco, and marijuana indicated that they would report their use during a primary care screening; 4 marijuana users stated they would report no use. Few respondents disagreed with inclusion of information on marijuana use in the health record. Less than one-third declined to participate in health registries that assessed associations between cannabis use and health outcomes.

Conclusions: Our study documents the feasibility of using Epic's MyChart patient portal to invite patients to participate in research. Legalization of cannabis use in Oregon creates opportunities to assess patient use and include cannabis use information in the health record. Patients were willing to be screened, have cannabis use recorded in the medical record, and participate in patient registries.

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Neuropharmacological investigation of withdrawal-induced inhibitory control deficits among smokers with ADHD



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Aims: Smoking withdrawal negatively impacts inhibitory control and these effects have been shown to be greater for smokers with pre-existing attention problems. In the current study we investigated withdrawal-induced changes in inhibitory control using fMRI among smokers with ADHD and the role of dopaminergic neurotransmission in these changes by examining the effects of a pro-dopaminergic drug (i.e., 40 mg methylphenidate; MPH) on brain and behavior.

Methods: Adult daily smokers with ($n = 17$) and without ($n = 20$) ADHD were fMRI scanned under three counterbalanced

conditions: (a) smoking as usual + placebo; (b) 24 h smoking abstinence + placebo and (c) 24 h smoking abstinence + MPH. During scanning, participants completed a version of the Go/No-Go task that assesses sustained inhibitory control.

Results: Analysis of performance data identified a trend for a main effect of condition on inhibitory control, $F = 2.98$; $p = .057$ due to methylphenidate-induced improvements in performance in both groups. In the ADHD group specifically, MPH significantly improved inhibitory control during abstinence, $t = 2.3$, $p = .024$. Voxel-wise analysis of task-related BOLD signal identified a cluster in occipital cortex (peak voxel: $x = -28$, $y = -88$, $z = 26$; $p < .001$, $k = 28$). In this cluster, abstinence-induced decreases in activation observed among ADHD smokers were reversed by methylphenidate. Correlation between inhibitory control and occipital cortex activation across groups and conditions, $r = .35$, $p < .001$, suggests that abstinence- and MPH-induced changes in visual attention areas may be responsible for abstinence-induced deficits in inhibitory control.

Conclusions: These findings provide novel evidence that withdrawal-induced inhibitory control deficits among smokers with ADHD involve changes in visual information processing and are under the control of dopaminergic neurotransmission.

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Integrating opioid overdose prevention in the emergency department



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Aims: Currently, there aren't validated training or screening procedures. Our objective was to pilot and assess the feasibility of an ED-based OEND program using undergraduate, post-baccalaureate, and pharmacy student volunteers.

Methods: A multidisciplinary working group developed the protocol and performed regular iterative quality improvements to it. This group included representatives from emergency medicine, addiction psychiatry, pharmacy, public health, and the Poison Center and Health Department. The protocol was informed by reviewing known risk factors for overdose, proposed common data elements for substance use screening, and existing studies and clinical practice. Volunteers completed an initial training and reviewed a refresher video prior to their 8 h/week shifts in our high-volume municipal ED. Qualitative feedback solicited from the volunteers was used for continuous quality improvement.

Results: 946 (62%) of the 1533 adults approached agreed to be screened. Among those screened, 143 (15%) were identified as at risk of experiencing or witnessing an opioid overdose. Of those, 100 (70%) accepted training and naloxone kits. As the study progressed, we found that altering the order of screening questions, minimizing branching, and highlighting responses indicating positive screens ensured the volunteers completed and interpreted screenings accurately. Volunteers were highly engaged in the program, which was often described as "meaningful." Most quickly overcame initial difficulties with the subject matter.

Conclusions: A multidisciplinary approach using supervised student volunteers may be a practical way to implement OEND

in EDs. Further study is needed to inform questionnaire development and ED workflow integration as well as to assess harm reduction-related outcomes. Our objective was to pilot and assess the feasibility of an ED-based OEND program using undergraduate, post-baccalaureate, or pharmacy student volunteers.

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Condom barriers among African American substance users: Age and gender differences



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Aims: Specific attitudes act as barriers to condom use. Substance using men report more sexual experience barriers than women (Calsyn et al., 2013). Such gender differences may also be moderated by age. This study explores barriers among African American substance users, a group at high risk for HIV. The first aim is to explore if gender influences barriers. It is hypothesized that African American male substance users will endorse more sexual experience barriers and that African American female substance users will endorse more partner barriers. The second aim is to explore whether age moderates gender differences in barriers. It is hypothesized that African American men will endorse more sexual experience barriers than women among younger but not older substance users. It is also hypothesized that women will endorse more partner barriers than men among younger but not older substance abusers.

Methods: This study is a secondary analysis of the baseline data from two Clinical Trial Network data sets assessing the efficacy of gender specific HIV prevention interventions (CTN 0018 and CTN 0019). Only African Americans are included in the current study ($N=273$).

Results: Men endorsed significantly more sexual experience barriers ($t(270)=3.87, p=.000$) and motivational barriers ($t(271)=3.45, p=.001$) than women. Age did not moderate the relationship between gender and any barriers. However, additional findings suggest that age significantly influenced certain barriers. The regression analysis suggested that as age increased, access/availability became more of a barrier ($b=.26, t(6)=4.07, p=.000$), and more motivational barriers were reported ($b=-.145, t(6)=-2.32, p=.000$).

Conclusions: Gender differences were noticed for sexual experience and motivational barriers. Age did not moderate the relationship between gender and barriers, but it seems to influence specific barriers including access/availability and motivational barriers. These findings suggest prevention should include making condoms feel better to men, making them more accessible to older adults, and addressing motivations for use for men and older adults.

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Systematic review: Do take-home naloxone programs effectively reduce opioid overdose deaths? A Bradford Hill analysis



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Aims: The aim of the present study was to carry out a systematic review to assess the effectiveness and safety of take-home naloxone. Naloxone is a potent antidote that rapidly reverses opioid-induced respiratory depression and prevents fatal outcome of opioid overdose, if administered in a timely manner. Take-home naloxone provision directly to opioid users for emergency use has been proposed and recently implemented in communities in Europe, Asia, North America and Australia, albeit mostly as pilot schemes and without formal evaluation. No evidence from randomized controlled trials has been published to date.

Methods: Replicating the search strategy previously reported by Clark et al. (2014), we searched PubMed, MEDLINE, and PsychINFO for English-language peer-reviewed articles using the Boolean search query: (opioid OR opiate) AND overdose AND prevention. Evidence was evaluated using the Bradford Hill criteria, a set of nine criteria to assess the causal effect of public health interventions when only observational data are available.

Results: A total 1397 records (1187 after removal of duplicates) were retrieved, with 22 studies meeting the search criteria for analysis. Due to variability in study quality, meta-analysis was dismissed in favor of narrative synthesis. From eligible studies, we find take-home naloxone meets at least seven of the nine Bradford Hill criteria (most strongly with 'Experimental Evidence'). Across all nine studies with systematic follow-up, one death was reported per 122 successful overdose reversals (0.8%; 95% CI: 0.4, 1.2).

Conclusions: Take-home naloxone programs fulfil the Bradford Hill criteria for causation. The evidence from non-randomized studies finds that take-home naloxone programs have a low rate of adverse events and lead to reduced over-dose mortality among program participants and in the community. Take-home naloxone provision should be the standard of care for the community-based prevention of heroin overdose.

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Treatment for alcohol use disorders in seriously mentally ill adults using the ethyl glucuronide biomarker



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Aims: Contingency management (CM) is a behavioral intervention in which participants receive reinforcers for engaging in a desired behavior. CM has been shown to reduce substance use in individuals with serious mental illness. The aim of this study was to determine if individuals suffering from co-occurring serious mental illness and alcohol dependence who were randomized to CM for alcohol-abstinence as assessed by the ethyl glucuronide (EtG) biomarker were more likely to attain at least 4-weeks of