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#### **Abstract**

NMU of prescription stimulant medications (RxStim) intended for treatment of attention deficit/hyperactivity disorder (ADHD) is a growing public health concern, particularly when used via non-oral routes of administration. However, the role of non-oral routes of administration for RxStim NMU in the larger substance abuse pathway is less well studied. The purpose of this study was to characterize RxStim NMU and investigate substance use trajectories among adults who reported non-oral RxStim NMU recruited from Reddit.

Eligible participants must have been located in the US, English speaking, age 18 y, and have reported RxStim NMU via a nonoral route (any route other than ingestion) within the past 5 y. Participants were recruited from Feb-Sep 2019 using banner ads on Reddit, the 5<sup>th</sup> most visited website in the US. Participants completed an online survey which captured demographics, lifetime RxStim NMU and illicit substance use; they were compensated for their time. For purposes of this study, NMU included ANY of the following: (1) use for any reason, even once, without their own prescription, (2) use in ways other than prescribed, and (3) use for the feeling or experience the medication caused.

Respondents (n=225) were primarily male (86.2%), 18-24 (48.0%) or 25-34 (43.1%) years of age, and Caucasian (78.2%), Black (7.1%) or Hispanic (5.3%). Lifetime diagnosis of ADHD was reported by 27.6%, with 53.2% diagnosed at age 11-19 and 35.5% at age 20+ years. RxStim NMU via snorting was reported by 99.1%, smoking 3.6% and injecting 6.2% (multiple routes could be reported). Almost all (n=222; 98.7%) also reported lifetime illicit drug use, among whom 182 (82.0%) initiated substance use by using an illicit drug (77.9% marijuana, 1.8% cocaine/crack, 0.9% inhalants, 0.9% hallucinogens, 0.5% methamphetamine/ amphetamines) prior to RxStim NMU. Forty (18.0%) respondents initiated with RxStim NMU; 14.4% then initiated marijuana use, 0.9% initiated cocaine/crack use, 0.9% initiated barbiturate use, and 0.5% initiated heroin, inhalant, methamphetamine/ amphetamine, and hallucinogen use. Average age of initial RxStim NMU was 18.7 (SD 3.7) years and most often was via swallowing (89.1%) followed by snorting (10.9%). Respondents began using marijuana at age 15.9 (SD 2.5), cocaine or crack at 19.7 (SD 3.3), and heroin at 20.9 (SD 5.5).

Engagement in RxStim NMU via a non-oral route of administration is most often preceded by marijuana use. Among this Redditrecruited population of non-oral RxStim nonmedical users, only 1 in 4 reported an ADHD diagnosis and <1 in 5 reported RxStim NMU as their first substance use experience; most of these then added marijuana and few moved toward cocaine/crack or methamphetamine. RxStim NMU via non-oral routes is associated with a larger pattern of risky substance use behaviors. Nearly all non-oral RxStim NMU is associated with concomitant drug use, especially marijuana.

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## The Rapid Mood Screener: A Novel and Pragmatic Screener Tool for Bipolar I Disorder

C. Brendan Montano, MD<sup>1</sup>, Mehul Patel, PharmD<sup>2</sup>, Rakesh Jain, MD<sup>3</sup>, Prakash S. Masand, MD<sup>4</sup>, Amanda Harrington, PhD<sup>5</sup>, Patrick Gillard, PharmD, MS<sup>5</sup>, Kate Sullivan, APN, RN<sup>6</sup>, Susan L. McElroy, MD<sup>7</sup>, T. Michelle Brown, PhD<sup>8</sup>, Lauren Nelson, PhD<sup>8</sup> and Roger S. McIntyre, MD<sup>9</sup>

<sup>1</sup>Montano Wellness LLC, Cromwell, CT, USA, <sup>2</sup>AbbVie Inc., Madison, NJ, USA, <sup>3</sup>Texas Tech University, School of Medicine at Permian Basin, Midland, TX, USA, <sup>4</sup>Global Medical Education, New York, NY, USA, <sup>5</sup>AbbVie Inc., Irvine, CA, USA, <sup>6</sup>Knoxville Behavioral & Mental Health Services, Knoxville, TN, USA, <sup>7</sup>Lindner Center of HOPE, Mason, OH, USA, <sup>8</sup>RTI Health Solutions, Triangle Park, NC, USA, and <sup>9</sup>University Health Network, Toronto, Ontario, Canada

Presenting Author: Roger S. McIntyre

### **Abstract**

Introduction. Approximately 70% of patients with bipolar disorder (BPD) are initially misdiagnosed, resulting in significantly delayed diagnosis of 7–10 years on average. Misdiagnosis and diagnostic delay adversely affect health outcomes and lead to the use of inappropriate treatments. As depressive episodes and symptoms are the predominant symptom presentation in BPD, misdiagnosis as major depressive disorder (MDD) is common. Self-rated screening instruments for BPD exist but their length and reliance on past manic symptoms are barriers to implementation, especially in primary care settings where many of these patients initially present. We developed a brief, pragmatic bipolar I disorder (BPD-I) screening tool that not only screens for manic symptoms but also includes risk factors for BPD-I (eg, age of depression onset) to help clinicians reduce the misdiagnosis of BPD-I as MDD.

Methods. Existing questionnaires and risk factors were identified through a targeted literature search; a multidisciplinary panel of experts participated in 2 modified Delphi panels to select concepts thought to differentiate BPD-I from MDD. Individuals with self-reported BPD-I or MDD participated in cognitive debriefing interviews (N=12) to test and refine item wording. A multisite, cross-sectional, observational study was conducted to evaluate the screening tool's predictive validity. Participants with clinical interview-confirmed diagnoses of BPD-I or MDD completed a draft 10-item screening tool and additional questionnaires/questions. Different combinations of item sets with various item permutations (eg, number of depressive episodes, age of onset) were simultaneously tested. The final combination of items and

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thresholds was selected based on multiple considerations including clinical validity, optimization of sensitivity and specificity, and pragmatism.

**Results.** A total of 160 clinical interviews were conducted; 139 patients had clinical interview-confirmed BPD-I (n=67) or MDD (n=72). The screening tool was reduced from 10 to 6 items based on item-level analysis. When 4 items or more were endorsed (yes) in this analysis sample, the sensitivity of this tool for identifying patients with BPD-I was 0.88 and specificity was 0.80; positive and negative predictive values were 0.80 and 0.88, respectively. These properties represent an improvement over the Mood Disorder Questionnaire, while using >50% fewer items.

Conclusion. This new 6-item BPD-I screening tool serves to differentiate BPD-I from MDD in patients with depressive symptoms. Use of this tool can provide real-world guidance to primary care practitioners on whether more comprehensive assessment for BPD-I is warranted. Use of a brief and valid tool provides an opportunity to reduce misdiagnosis, improve treatment selection, and enhance health outcomes in busy clinical practices.

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## Psychiatry on a Shoestring: Developing New Standards of Care for a Severe, Prolonged, and Widespread Emergency

James E. Black, MD, PhD, MPH

University of Minnesota Medical School, Department of Psychiatry, St. Paul, MN,

Presenting Author: James E. Black

#### **Abstract**

**Study Objective.** The COVID-19 crisis has severely stressed our healthcare system and pushed our economy to the brink. This long emergency will probably cause years of severe suffering in every region. Health expenses greatly increased, supply chains were disrupted, and governments coped with much less revenue. Good clinicians plan for ALL contingencies, and we need to consider that the current disaster may get much worse. How can we adapt psychiatry to a long emergency? This goes far beyond previous work on crisis standards of care because the emergency is severe, prolonged, and widespread. If we had to spend much less on psychotropics, which meds stay on the formulary? If we have to close hospitals, which patients get a bed? What adaptations could be used if demand exceeds the supply of providers? Very little is known about how to make severe, permanent cuts to healthcare. Our previous systematic review found no scholarship addressing the ethics of severe and prolonged healthcare rationing. Global catastrophes need a global health policy, but this one has no experts. The present study starts the project by surveying experts with related experience that could be useful in future plans.

**Method.** We used purposive sampling to find 18 professionals with experience in healthcare rationing from underserved, indigenous communities, homeless programs, and African nations. We also interviewed ethicists, pharmacists, administrators, NGO clinicians, and military. Interviews were transcribed and coded using basic inductive techniques. Because so little is known about this topic, we used grounded theory, an iterative approach to guide further sampling, refine interviews, and make some preliminary conclusions.

Results. Participants all agreed this crisis planning is extremely important and complex. They described diverse concerns regarding ethical decision making, with some having confidence with top-down government policy, and others recommending a grassroots approach. Minority participants had less confidence in government. There was no consensus on any best ethical framework. Most had confidence that clinicians will ultimately do the right thing. Native American leaders had confidence in a holistic, preventive approach. All agreed that social justice should be central in measuring economic impact of long emergencies and choosing ethical options. We collected suggestions for innovative approaches to rationing.

Conclusions. This research program illuminates the difficult ethical questions about adapting psychiatry to a prolonged, widespread, and severe emergency. Our interviews identify areas where severe but ethical cuts can be made in medications, hospitals, clinical staff, and administration. Next steps include evidence-based formularies, utilitarian staff cuts, and ethical standards for closing beds or revamping state hospitals. Underserved and diverse communities with rationing experience must have a voice in the discussion.

# The Incidence and Economic Burden of Extrapyramidal Symptoms in Patients with Schizophrenia Treated with Atypical Antipsychotics

Aditi Kadakia, MS<sup>1</sup>, Brenna L. Brady, PhD<sup>2</sup>, Huan Huang, PhD<sup>1</sup>, Carole Dembek, MS<sup>1</sup>, G. Rhys Williams, DSc<sup>1</sup> and Justine M. Kent, MD<sup>1</sup>

 $^1\mathrm{Sunovion}$  Pharmaceuticals Inc., Marlborough, MA, USA, and  $^2\mathrm{IBM}$  Watson Health, Bethesda, MD, USA

Presenting Author: Aditi Kadakia

### **Abstract**

**Objective.** Extrapyramidal symptoms (EPS), including movement disorders, tremors, and muscle contractions are common side effects of atypical antipsychotic (AAP) drugs in patients with schizophrenia. This study examined the incidence and burden of EPS in patients with schizophrenia initiating AAPs.

**Methods.** Patients with schizophrenia initiating AAPs with no prior EPS were identified in the MarketScan Multi-state Medicaid database from 1/1/2012-12/31/2018. Incidence of EPS (identified via ICD-9/